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ABSTRACT

Despite pervasive negative impacts, the research into problem gambling is limited with relatively little understanding of the factors that lead to the development of gambling problems and relapse. In addition, there is limited understanding about the relapse process itself and the existence of risk factors, their strength and importance, and their mechanisms of action and interaction.

This thesis reports on the findings of research that investigated relapse in Electronic Gaming Machine (EGM) gambling, which is the most prevalent form of problem gambling in Australia. This qualitative research study used a combination of focus group methodology and face-to-face in-depth interviews to provide knowledge about the predictors, protective factors, and processes involved in episodes of relapse. This knowledge was acquired from problem gamblers (PGs), significant others, and workers with direct experience of gambling relapse. The study describes the processes involved in relapse and concludes by providing a framework for conceptualising this complex social behaviour. In-depth interviews were used to examine and complement the focus group findings and to test the framework derived from the initial focus group exploratory study with individual PGs, to further examine if the process identified by the focus group participants actually reflected the experiences of these individuals.

In this research, relapse is defined, from the perspective of PGs. They see relapse occurring when gambling causes harm that is recognised by them and when realise that they have lost control each time they gamble. This research provides new knowledge regarding the risk factors and processes involved in relapse. It provides a framework for conceptualising relapse described as the “push” towards relapse and the “pull” away from relapse. The research established that each relapse episode comprised a sequence of mental and behavioural events, which evolved over time and were modified by factors that “push” this sequence towards relapse. In this process, participants identified two separate categories of erroneous cognitions leading to an urge to gamble and subsequent relapse. The first have been well

recognised in the literature where exciting erroneous cognitions about the outcomes of gambling added to the risk of relapse.

However, little importance has been given in the literature to the second category, that of facilitatory erroneous cognitions. Participants referred to this phenomenon as “gambling sense”, which acted upon critical thought and the capacity for self-observation, resulting in impairment of cognition such that the capacity for moral judgement became distorted. “Gambling sense” facilitated erroneous logic by permission-giving, reality-denying, memory-defying, and excuse provision for gambling losses. This then acted as a means of reducing the PGs’ capacity for vigilance in order to allow “free reign” as it were, for the exciting erroneous cognitions to dominate decision-making. Once these two categories of erroneous cognition were acting in unison, they completely counteracted the “pull” away from relapse. This then enabled the urge to emerge fully, without any personal sanction or scrutiny for this gambling behaviour being possible, because their memories about previous harm were no longer consciously available to be taken into consideration during their gambling behaviour and decision-making. The PGs described this as being “in the zone”.

All PGs developed this altered state of consciousness during relapse, which enabled and prolonged the relapse episode. The “zone” appeared to be a dissociative phenomenon precipitated by the EGMs, which may well only be found in EGM gambling. When in the “zone”, it was found that the PGs’ capacity to reflect on the harms of their gambling was absent. This inability to self-observe appeared to limit the PGs’ ability to learn from these harms resulting in repeated relapse.

When the relapse episode ended, as the money had been exhausted, all participants experienced intense negative affect filled with grief, shame, anxiety, and guilt, with much self-recrimination. This state of despair, when all the available money had been spent and the “zone” had ended, often acted as a trigger; planning the next gambling episode (or relapse) became an immediate solution for the PG. This immediate solution enabled the PG to get away from these negative feelings and the reality of their desperate lifestyle. In this desperate situation, all that the PGs could

do to make themselves feel better would be to fantasise about and plan the next episode of gambling. This coping strategy could be seen as “relapsing in fantasy”, which had the effect not only of making them feel better, but also of preventing the PG from experiencing distress from the harms of their behaviour. Learning from these consequences was not possible at this time.

However, some PGs were able to maintain awareness about what they had done. They began to experience the pain and disappointment with themselves and the harm they had done to those who were dependent on them, or to whom they owed a duty of care. Learning how to stop gambling could therefore occur under such circumstances. For these PGs, their vigilance and motivation to commit to change could be strengthened. This was much enhanced when the PG had positive social support, and people or groups available to them to assist with developing cognitive and behavioural strategies to enable them to manage the urge to gamble, and to “pull” away from the temptation and the urge to succumb by relapsing. For others, urge extinction became the key factor that protected against relapse, indicating that an apparent “cure” was possible for EGM gambling for these PGs. This process of reappraisal of personal gambling behaviour pulled the PG away from relapse, which resulted in an increasing commitment to change. This was a very prolonged process for many. It developed over time and was affected by, but was independent of, each episode of relapse.

These findings provide insight into therapeutic approaches for PGs and, on face value, may have medico-legal and public health implications for the EGM industry. This altered state of awareness (“the zone”) may affect the PG’s capacity to execute the valid financial transaction that is required in the act of gambling when in such a state of impaired cognitive functioning.

Declaration

“I certify that this thesis does not incorporate without acknowledgement any material previously submitted for a degree or diploma in any university; and that to the best of my knowledge and belief it does not contain any material previously published or written by another except where due reference is made in the text.”

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Note on Informant Anonymity

In this thesis, I have quoted participants directly from their transcribed recordings. In some instances, I have added punctuation and removed any redundancies in the spoken language to enhance readability. Given the personal content of the gamblers' interviews, I have used pseudonyms and have changed certain details in the narratives to conceal their identities.

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CHAPTER ONE

INTRODUCTION

This thesis increases our understanding of a dynamic relapse process in Electronic Gaming Machine (EGM) gambling with respect to how people relapse, why people keep relapsing over time, and how they stop relapsing back to problematic gambling behaviours.

Relapse is complex and may refer to a range of different meanings, such as:

- Relapse when a decision has been made to abstain, e.g. for those attending a support group such as Pokies Anonymous, or when people promise their partner or therapist they will not gamble again. This may happen after a substantial financial loss where the PG has a temporary “flight into health” and tries to abstain.
- Relapse when the Problem Gambler (PG) knows that they no longer have control, yet they continue to gamble even when they know they should not, e.g. they try to get themselves banned from hotels, take only limited cash, and let others hold their credit cards. This awareness may well be denied but be acknowledged to have been present when the PG later starts to make conscious efforts to stop gambling.
- Relapse for some happens frequently despite ongoing harm and appears to become a habit. At this time, one gambling episode runs into the next. At times, the next gambling episode is not so much a relapse, but a desperate defence against despair and suicide and on the surface the PGs “do not care and just want to gamble.” The essential feature of this type of relapse is the subjective awareness by the PG that she/he has lost control. At this time there is an intense negative affect experienced after all accessible money has been lost during the gambling episode. This negative affect triggers planning for the next gambling episode which lessens this negative affect. However, the

PG has in this mental process already relapsed in fantasy by imagining, planning and deferring the next relapse.

These findings contribute to knowledge in the area of problem gambling by providing a better understanding of the definitions of relapse as seen by the study participants, and the processes occurring during relapse. Definitions that are based purely on quantitative methodology (Battersby et al. 2009) miss the richness of qualitative investigation. Qualitative investigation enables the understanding of the complex world of human experiences and behaviours from the perspective of those involved (Krauss 2005), and needs to be considered when trying to understand such a complex problem. Therefore, the definition of relapse that has emerged in this study is based on the perceptions of those with firsthand experience of the phenomenon.

This thesis presents the findings of a research process that investigated relapse in EGM gambling as a complex social and behavioural phenomenon in established PGs who participated in EGM gambling in spite of being aware that they repeatedly suffered harm in doing so. This phenomenon is separate from the gambling behaviours that occur when people are developing problem gambling behaviour. This qualitative study used a combination of focus groups and in-depth interviews to provide knowledge about predictors, protective factors, and the interactive processes involved in episodes of relapse. During the analysis, the findings were compared with the literature and discussed with expert clinicians and supervisors. This knowledge was acquired from PGs, partners of PGs, and professionals working with problem gamblers, all of whom had direct experience of gambling relapse. The research describes the processes involved in repeated relapse and concludes by providing a framework for conceptualising this problem. The framework for the relapse process was developed in the first part of the research and was strengthened in the second stage in which the processes described by the focus group participants were described in more detail by the individual PGs who were interviewed. No assumptions about causality were made about any of the factors, their interplay, and whether or not the factors were risks or could be protective of relapse. This thesis is designed to provide a rich description of the processes of relapse derived from the data provided by the focus group and in-depth interview participants.

Over the last 14 years, the researcher has worked at the Statewide Gambling Therapy Service (SGTS), using Cognitive Behavioural Therapy (CBT) to treat a significant number of PGs with gambling and gambling-related problems, such as anxiety disorders and depression. The basis of this treatment approach is described in Battersby et al. (2008), and applied to a rural community in South Australia (Oakes et al. 2008; Oakes et al. 2010; Riley, Smith & Oakes 2011). Manuals for urge exposure and response prevention (the primary treatment approach used by the clinicians at the SGTS) have been developed for both an outpatient program (Battersby et al. 2012) and an inpatient program (Battersby, Oakes & Harris 2012). Predictors of treatment drop-out and treatment outcomes for this program have been reported in Smith et al. (2010a).

This thesis was undertaken by the researcher while working at the SGTS (www.sagamblingtherapy.com.au) which is situated in the Flinders Medical Centre, and the Gambling Research Centre (GRC) at the Flinders University of South Australia.

This centre is an active clinical research group (Battersby et al. 2008; Oakes et al. 2008; Oakes et al. 2010; Oakes et al. 2002). The researcher has been trained in CBT and is a graduate of the Master of Mental Health Sciences program offered by the Faculty of Health Sciences at Flinders University:

(<http://www.flinders.edu.au/medicine/sites/psychiatry/mhs-postgraduate-programs.cfm>).

The researcher is a mental health nurse, team leader, senior therapist at the SGTS, and lecturer in the Department of Psychiatry at Flinders University. The relapse processes in problem gambling became an area of growing interest for her when she was involved in a four-part research project on relapse, funded by Gambling Research Australia (GRA), to investigate the factors associated with relapse.

The first component of that project was a literature review, which identified many aspects of the phenomenon of relapse that remain poorly understood; in particular, the ways in which these aspects interact with one another to result in relapse

(Battersby et al. 2009). The second component was a Delphi study, which explored consensus on the definition and potential predictors of relapse (Battersby et al. 2009). The third component was the focus group study, which aimed to describe the phenomenon of the relapse process as perceived from a number of subjective perspectives (Battersby et al. 2009). The final component of the project was a clinical prospective study of predictors of relapse to identify the predictors of relapse in problem gambling using a quantitative methodology. Specifically, the goal was to model the odds of a study participant experiencing a relapse in problem gambling following a period of remission as a function of potential predicting variables. It was established that gambling urge and cognitions were significant predictors of gambling relapse (Smith et al. 2010a).

Research into relapse in problem gambling has received little attention both in Australia and internationally. This is the case especially in relation to the complexity of the ways in which the many variables/ factors associated with relapse interact to result in repeated relapse behaviour. A systematic review conducted by Delfabbro (2007) provided some insight into the Australian and New Zealand gambling research conducted between 1992 and 2008. Gambling was reported to have effects upon the welfare of PGs who experienced significantly higher levels of depression, anxiety, suicidal ideation, and dissociation (Delfabbro 2007). Despite these and other pervasive negative impacts (Productivity Commission 2010), research into problem gambling is limited. There is limited understanding of the factors that lead to the development of gambling problems and relapse, and a solid empirical basis for effective clinical intervention is lacking (Sodano & Wulfert 2009). Johansson, Grant, Kim, Odlaug, and Gotestam (2009) argued that little is known about the development and maintenance of pathological gambling, including the existence of risk factors, their strength and importance, and their mechanisms of action. It was suggested that there is a need for empirical research on the development and maintenance of pathological gambling, particularly through epidemiological and prospective longitudinal studies (Johansson et al. 2009). The argument in this thesis is that a detailed description of this complex behaviour is required to inform such important research questions in order to identify the key factors and processes that are central to this self-sustaining, complex, and paradoxical behaviour.

Most treatments for problem gambling are based on extrapolation from other addictive behaviours, predominantly from the alcohol and drug literature. Such analogical reasoning is not necessarily applicable to problem gambling, as there are no psycho-active substances involved in this complex social behaviour, other than CNS neurotransmitters (Aasved 2002). Relapse is the central issue for the management of problem gambling, as it maintains the problem behaviour despite the PG experiencing significant harm. Whilst much is known about the factors associated with persistent problem gambling in which repeated relapse is the central behavioural abnormality, little is known about the ways in which these variables interact to maintain what is a grossly paradoxical behaviour that many PGs loathe, but continue to pursue, at the expense of family, significant others, occupation bankruptcy, their incarceration, or even their lives (Volberg 2002).

This research comprises an examination of the textual data arising out of five focus group discussions and nineteen in-depth interviews, which provided information from a diverse range of participants about their direct and indirect personal experiences of relapse in problem EGM gambling. The purpose of this exploratory research was to examine the contributors, precipitants, and protective factors for relapse in EGM problem gambling, and to describe the process (es) of relapse in order to better understand relapse in problem EGM gambling.

The aim of the research is to describe the relapse process in problem EGM gambling. The specific objectives were to:

- Review the current literature regarding relapse in problem gambling
- Conducted five exploratory focus groups in order to identify dominant themes and patterns of relapse arising out of the views of PGs, significant others, and therapists, all with first-hand experience of gambling relapse
- Review and refine the findings derived from the focus groups using in-depth interviews from representative groups of PGs to generate theories about relapse in problem EGM gambling

Therefore, this research seeks to understand the relapse process in EGM gambling with respect to how people relapse, how it is that people continue to relapse over time, and how they stop relapsing to problematic gambling behaviours. This study seeks answers from PGs themselves and those closest to them, to provide insight into the relapse process for PGs and to inform the development of more effective relapse prevention strategies.

Chapter One provides the background to, and the purposes of, the study, indicating the current limitations of our understanding of gambling relapse, highlighting the importance of the study, and stating the problem to be addressed.

Chapter Two comprises the literature review, which examines the factors that predict relapse or are protective against relapse in PGs. Definitions are also provided for problem gambling and gambling relapse.

Chapter Three gives detailed reasons for using the research design and a qualitative methodology. It describes the specific methodology of both the focus group study and the in-depth interviews, including the recruitment of participants, the consent process, development of the interview guides, the researcher's role in the study, data analysis, and the generation of themes.

Chapter Four brings together the results of the focus group study and the in-depth interviews, representing the central data set from each of the two studies. The chapter presents the factors that push the gambler towards relapse and explores the relapse process with a focus on the factors that pull the gambler away from relapse. The altered state of awareness (the "zone") that develops during relapse is described, as well as the acute crisis that confronts PGs when the money is gone and gambling has to stop, ending the relapse episode.

Chapter Five provides a discussion of the findings of this study and its limitations.

Chapter Six explores the implications for future research, clinical practice, and public health, and thus concludes the research.

CHAPTER TWO

LITERATURE REVIEW

This chapter meets the initial aims of the research by reviewing the current literature regarding relapse in problem gambling. It helps to provide a conceptualisation of problem gambling and relapse by providing definitions for, and a review of, the current literature examining problem gambling and relapse. A scoping review of the literature in the area of problem gambling is provided, examining studies related to the process of relapse in problem gambling.

The structure of this chapter is presented in a manner, which enables the reader to examine the factors associated with the process of relapse in problem gamblers (PGs). Factors associated with the increased risk of relapse are presented first. As this area of research is limited, the factors that increase the risk of problem gambling itself are also presented as those factors that may also be associated with the relapse process. The process of change associated with recovery from gambling is reported in order to further examine this complex phenomenon. Finally, the presence of an altered state of awareness often referred to as the “zone” during gambling, is described. See Appendix 1 for a glossary of terms.

2.1 Search Strategy

A range of topic areas are highlighted and discussed separately to explore relapse and problem gambling behaviours. The search strategy employed in this literature review is described below, and a summary of the search strategy conducted for the literature review is described. The aims of the literature review were to examine the current literature in relation to relapse in problem gambling. To meet the aims of the study, the researcher used the databases presented in Tables 1 to 5.

The researcher interpreted the subject of gambling relapse quite broadly, because the purpose of this review was to cover the spectrum of gambling relapse from a clinician’s perspective, looking particularly at clinical practice and relapse. It was important to consider all the factors associated with relapse in problem gambling, as

there is such a paucity of literature on gambling relapse. In addition, the factors that promote and reduce problematic gambling behaviours have been examined to help understand the relapse process. The inclusion criteria for the literature review included original studies on issues related to gambling relapse. The literature was reviewed using searches performed in the following electronic databases.

Table 1. Databases

PsycInfo
PubMed
CINAHL
SCOPUS
Health Business fullTEXT Elite
Psychology & Behavioral Sciences Collection
Web of Science
Google Scholar
Embase

Synonymous or alternative terms were sought for the two concepts of interest: *gambling* and *relapse*. Thesaurus terms were used where available, as well as natural language terms (keywords). The terms, which were used, are shown in Tables 2 to 4. Synonymous/ alternative terms were first combined using the OR Boolean operator. Following this, the search strings for both independent concepts (gambling and relapse) were combined using the AND operator.

The search results were appraised for relevance to the focus of this study. Non-English, animal, and laboratory experimental studies were excluded. All non-gambling studies and single case studies were dismissed, and those studies deemed to be not relevant were also excluded. The search focused on studies using specific methodologies. As the study progressed, additional searches were conducted after consultation with the literature review. The terminology used was adapted for the different databases (see tables below).

Table 2. PubMed Searches

GAMBLING +	
Gambling[mh]	Relaps*[tiab]
Gambling[tiab]	Treatment outcome[mh]
Gambler*[tiab]	Patient acceptance of health care[mh]
Betting[tiab]	Recidivis*[tiab]
	Patient dropouts[mh]
	Dropout*[tiab]

[mh]= a term searched as a MeSH heading

[tiab] = a term searched for within titles and abstracts only (no equivalent MeSH heading) *= truncation mark in this database

Table 3. Scopus Searches

GAMBLING +	
Gambling	Relaps*
Gambler*	“Treatment outcome”
Betting	“Patient acceptance of health care”
	Recidivis*
	Dropout*

Note: Also used citation searching in Scopus

Table 4. PsycINFO Searches

GAMBLING +	
Gambling .mp.	Relaps*
Gambler*	Recidivis*
Betting .ti,ab.	Dropout*
	Treatment outcomes/
	Treatment compliance/
	Attrition

.mp. =term searched in title, abstract and subject heading

.ti,ab. = denotes a search on title and abstract fields (no equivalent subject heading)

/ = subject heading search

Reference lists of the retrieved documents were hand-searched to identify additional publications, and other focused searches were conducted to explore the different factors associated with relapse and/ or gambling as shown in Tables 5 and 6. These searches were conducted in Scopus, Google Scholar, and PubMed using the term Relapse and or Gambling, and:

- Research terms: helped to identify and familiarise the researcher with the kinds of research methodologies used to underpin this study.
- Environmental Terms: included environments and accessibility to gambling opportunities and incentives and inducements. These are characteristics in a gambler’s surroundings that increase their likelihood of relapse. A gambler may have many environmental factors that influence relapse.
- Personality Traits: this search looked at different personality types to examine how these factors impact on gambling and relapse.

Table 5. Search Terms Research, Environmental and Personality

Research Terms	Environmental Terms	Personality Terms
Focus group(s)	Advertising	Extraversion
Grounded	Electronic Gaming Machines	Personality disorder
Grounded theory	Environment	Personality traits
In-depth Interview	Gambling availability	Psychological arousal
Interpretivism	Gambling venues	Impulsivity
Structured interview	Incentives	Reward dependence
Qualitative	Peer	Sensation seeking
Qualitative research	Pokies	Extraversion
Qualitative studies	Social	

- Clinical terms: such as dissociation, “zone”, abstinence, urge, and cognitions were included to ensure a comprehensive search was conducted, exploring factors associated with clinical practice, gambling, and relapse.
- Comorbidity Terms: such as depression and anxiety were used to find studies that examined how comorbidities influenced gambling and gambling relapse.

Table 6. Search Terms - Clinical Comorbidity and General

Clinical Terms		Comorbidity Terms	General Terms
Abstain(ing)	Genetic	Stress	Religion
Abstinence	Outcome expectancies	Alcohol	Financial
Altered State of Awareness	Prognosis	Anxiety	Gamblers Anonymous
Cognitions	Relapse prevention	Co-morbidity	Relationships
Conditioning	Reinforcers	Drugs	Religion
Cues	Theory	Depression	Spirituality
Craving	Treatment	Disability	Support
Dissociation	Urges	Emotional states	Financial
Disability	Zone	Grief	Gamblers Anonymous
Erroneous beliefs	Genetic	Negative affect	Relationships

The literature review meets the initial aims of this research by reviewing the current literature regarding relapse in problem gambling. Multiple database searches were conducted to identify recent and relevant publications. All identified documents were examined and those that were relevant were retrieved for inclusion in the review while others were excluded. The search strategy described above helped to direct this study in a systematic manner, and ensured that the literature search was comprehensive. This organised approach diminished the possibility of missing important information.

2.2 Conceptualising and Defining Problem Gambling and Relapse

In the literature, many terms describe ‘problem’ gambling. Some of these terms are ‘problem’, ‘pathological’, ‘compulsive’, ‘addictive’, ‘excessive’, and ‘disorderly’ gambling (Neal, Delfabbro & O’Neil 2005). There are a number of definitions used for problem gambling: some have been categorised as a mental health problem, an addiction, an economic problem, and a continuum of gambling behaviour expressed in terms of harm to the individual and to others, and as a social construct. While in some of the literature, PG is the abbreviation used for problem gambling, in this thesis, the abbreviation PG is used for problem gambler.

A threshold of gambling problems defines problem gambling behaviour. For example, Neal, Delfabbro and O'Neil (2005) used a continuum to define problem gambling using a threshold approach. This threshold is dependent upon levels of gambling severity. Cultural, social, and environmental factors, and the ways a PG talks about their problem gambling behaviours, are taken into account on this continuum. This encompasses a range of gambling behaviours to include social or recreational gambling with no adverse impacts, through to increasingly intensified forms of gambling with adverse consequences for the individual, his or her family, friends and colleagues, or for the community. At the severe end of the continuum is pathological gambling, in relation to the diagnostic criteria, where the adverse consequences are significant. Using this continuum approach may lead to problems for the diagnosis, objective measurement, and for research and replication, which limits the ability to form a basis for the planning of public policy (Neal, Delfabbro & O'Neil 2005).

Dickerson (1991) also defined problem gambling on a continuum with varying degrees and forms of gambling, from occasional non-problematic gambling to extreme over-involvement, with related problems and a sense of impaired control. Delfabbro (2008) suggested conceptualising problem gambling as lying on a continuum, with regular gamblers moving in and out of problem gambling over time. It was proposed that this pattern of behaviour was due to gamblers' regaining control, as gambling was used in the short-term to deal with stress, or the gambler experienced life changes that took the place of their gambling (Delfabbro 2008). Placing gambling on a continuum may ensure that gamblers who drift in and out of problematic behaviour are identified as PGs. This continuum highlights the ongoing struggle that gamblers have in order to maintain abstinence as they drift into and out of problem gambling behaviour, and also indicating that relapse is a significant problem.

In the updated Diagnostic and Statistical Manual (DSM) of Mental Disorders, Fifth Edition (DSM-5), pathological gambling has been termed a gambling disorder, and changed from an impulse control disorder to a substance-related and addictive disorder (Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition

[DSM-IV]). A mental health approach is used to define problem gambling using the DSM-5 criteria for gambling disorder. This criteria includes the following: 1) needing to wager larger amounts; 2) experiencing restlessness or irritability when restricting gambling; 3) repeated inability to control or stop gambling; 4) preoccupation with gambling; 5) gambling in response to negative affect; 6) gambling to recoup losses; 7) lying about gambling; 8) jeopardizing relationships, work, or educational opportunities due to gambling; and 9) relying on financial bailouts from others to relieve financial pressures related to gambling. The presence of four or more of these criteria in a 12-month period meets the criteria for a gambling disorder. Gamblers, who meet less than four criteria, are classified as problem gamblers (American Psychiatric Association 2013).

The inclusion of pathological gambling in the section on impulse control disorders, not otherwise specified (American Psychiatric Association 2000) had little in common with these disorders, such as trichotillomania. This delayed both the research and treatment of gambling disorder. The recent inclusion of gambling disorders as a substance use and related disorder in the DSM-5 will help to increase awareness and identification of this disorder (Petry and Blanco 2013).

Gambling and substance use disorders share similar symptoms including withdrawal symptoms, loss of control and tolerance (Toce-Gerstein, Gerstein et al. 2003). Furthermore, there is a familial overlap between PG and substance misuse (Black, Monahan et al. 2006). However, there are differences between PGs and substance abusers including the phenomena of chasing and a lack of ingestion of a substance in those with gambling problems. In addition, substance users often experience significant relief once the acute effects of withdrawal subside. However, the adverse effects of gambling are long-term, especially related to financial matters (Petry 2006). A better understanding of the parallels between pathological gambling and substance use disorders could improve diagnosis and treatment (Petry and Blanco 2013) and therefore reduce relapse.

Treatment for addictions advocates the use of self-help groups such as Gamblers Anonymous (George, Ijeoma et al. 2013) and Alcoholics Anonymous where

maintaining abstinence is essential to recovery (Galanter, Dermatis 2007). These programs have implications for treatment outcomes as full recovery may not be possible and relapse may be an ongoing problem if abstinence cannot be maintained. Furthermore, if reducing gambling rather than abstaining from gambling was a treatment goal available it is possible more PGs would seek treatment (Slutske, Piasecki et al. 2010) and have the opportunity to recover reducing relapse

Defining problem gambling as a mental health problem enables a clinical diagnosis to be made, research to be conducted, and public policy to be planned. However, these authors argued that little evidence exists for any underlying pathology or the cultural, social, and environmental factors that support this category (Neal, Delfabbro & O'Neil 2005). This definition takes into account the impacts of problematic gambling behaviour across many domains of the PGs life, which highlights the diverse problems associated with gambling. This is important at a policy level in relation to research and interventions.

Blaszczynski and Nower (2002) state that:

the defining feature of a PG is not only the emergence of negative consequences, but also the presence of a subjective sense of impaired control, construed as a disordered or diseased state that deviates from normal, healthy behaviour. Impaired behavioural control, defined by repeated, unsuccessful attempts to resist the urge in the context of a genuine desire to cease, is the central diagnostic and foundational feature of pathological gambling (p. 97).

This definition suggests that the urge to gamble plays a significant role in problem gambling behaviour, as the gambler repeatedly tries to resist the urge to gamble, and yet continues to gamble.

In Victoria, the recommended definition of problem gambling is defined in terms of harm for the individual and any other person affected by that individual's gambling. For example, "problem gambling refers to the situation when a person's gambling activity gives rise to harm to the individual player, and/ or to his or her family, and

may extend into community behaviour” (Dickerson et al. 1997, p. 106). Delfabbro (2008) raised the concern that one form of harm related to gambling is guilt, which is considered to be subjective. This may not diminish objective harm, but individual differences are observed in contrition or regret. Therefore, a definition based on harm alone may only provide a linear and objective view of gambling, rather than understanding the complexity of problem gambling behaviour, thus limiting the research possibilities and difficulties in identifying suitable interventions, particularly in relation to policy.

Interestingly, Gamblers Anonymous defines pathological gambling as a disease: “Compulsive gambling is an illness, progressive in nature, which can never be cured, but can be arrested” (Gamblers Anonymous 2001). This definition suggests that problem gambling is a permanent and irreversible condition making the gambler powerless to see any hope of recovery from their disease or ongoing risk of relapse.

The definitions used in the literature include problem gambling and pathological gambling, as defined below.

“Problem gambling is characterised by difficulties in limiting money and/ or time spent on gambling, which leads to adverse consequences for the gambler, others or for the community.” This definition is employed for this study as it contains reference to both gambling behaviours and to harms (Neal, Delfabbro & O’Neil 2005) and is succinct whilst taking into consideration individual and societal harms.

Pathological gambling is a clinical syndrome consisting of five or more of the following diagnostic criteria, unless better accounted for by a manic episode (DSM) IV (American Psychiatric Association 2000). This is a key reference for mental health professionals (Reilly & Smith 2013). These defining criteria appear more comparable to addictive disorders such as alcoholism or drug dependence.

Table 7. Pathological Gambling Criteria

Preoccupation with gambling
Needing to gamble increasing amounts of money to achieve desired excitement
Repeated unsuccessful efforts to either control, cut back or stop gambling
Restlessness or irritability when attempting to cut back or stop gambling
Gambling as a way to escape problems or relieve dysphoric mood
Gambling to recover losses from previous occasions of gambling
Lying to a significant other to conceal the extent of involvement with gambling
Losing or jeopardising a significant relationship, job, educational, or career opportunity because of gambling
Relying on others to relieve a desperate financial situation caused by gambling

(American Psychiatric Association 2000).

In the International Classification of Diseases of the World Health Organisation (WHO), pathological gambling is coded under the heading of Habit and Impulse Disorders, with the following criteria:

- Repeated (two or more) episodes of gambling over a period of at least one year
- These episodes do not have a profitable outcome for the person, but are continued despite personal distress and interference with personal functioning in daily living
- The person describes an intense urge to gamble which is difficult to control, and reports that he or she is unable to stop gambling by an effort of will
- The person is preoccupied with thoughts or mental images of the act of gambling or the circumstances surrounding the act (Geneva World Health Organisation 1992).

These criteria reflect the PGs' inability to control gambling despite continued distress impacting on their daily life, which suggests that relapse is a significant problem.

Therefore, the significant features of PGs are the negative consequences and impaired control over their gambling behaviours, where the gambler makes many repeated attempts to resist the urge to gamble despite a genuine desire to stop gambling. This is the central diagnostic feature of pathological gambling (Blaszczynski & Nower 2002). These aspects of pathological gambling portray the gamblers' struggle to maintain abstinence, despite the negative consequences they endure.

In this thesis, those studies that have specifically defined their participants through the Diagnostic and Statistical Manual (DSM) IV for 312.31 criteria for Pathological Gambling, the term pathological gambling will be used. It provides a clinical focus that is measurable and which allows gamblers to be categorised using diagnostic criteria for research purposes. Where other criteria have been used for defining participants outside the diagnostic criteria of the Diagnostic and Statistical Manual (DSM) IV, the broader term of "problem gambling" has been used.

Proposed Models of Problem Gambling

Griffiths (2005) argued that addictions are part of a biopsychosocial process consisting of distinct common components such as salience, mood modification, tolerance, withdrawal, conflict and relapse. A number of researchers have reviewed the literature and used clinical experience to develop a framework for problem gambling behaviour. The current models of problem gambling focus primarily on the development of problem gambling, not the processes of relapse.

A model of gambling among adolescents included cognitive, dispositional, and social factors that together explained a multidimensional phenomenon of gambling behavior. This model takes into account distinct factors including probabilistic reasoning (relying on probabilities) the economic perception of gambling, the tendency to seek intense experiences, dispositional thinking styles, and social proximal models (Donati 2013). These factors suggest that adolescent gambling behavior is complex.

Dannon et al (2006) used their clinical research experience and reviewed relevant data to recommend 3 subtypes of pathological gamblers: the "impulsive" subtype, the "obsessive-compulsive" subtype, and the "addictive" subtype. Sharpe (2002) also examined diverse areas of research into gambling behaviour to provide an understanding of problem gambling behaviour arguing that biological, psychological, and social factors may interact in the development and maintenance of problem gambling. The author suggested that those with a particular genetic make-up who demonstrate impulsive traits and are positively disposed towards gambling, or used gambling to escape, were more likely to have the highest vulnerability towards problem gambling. Furthermore, early gambling experiences were considered to contribute to the development of beliefs, such as the "gambler's fallacy", which lead to persistence in gambling. Cognitive biases result in attention to positive consequences (wins) rather than negative outcomes (losses) leading to an overestimation of winning. These experiences may establish patterns of behaviours such as irrational beliefs, cognitive biases, and gambling-related arousal, which contribute to gambling behaviour. These gambling behaviours, certain beliefs or expectations, and arousal may become associated with each other as patterns of gambling develop and can become more automatic. Once the gambling-related cognitions and arousal become activated, these were found to form a physiological state associated with gambling urges. Whether individuals acted upon these urges was found to depend upon their available coping strategies; those with poor coping strategies were considered more likely to fail to resist the urge and thus to engage in gambling behaviour. Once gamblers begin to use gambling to fulfil different functions in their life, the behaviour becomes reinforcing and gambling more entrenched (Sharpe 2002). This model suggests an interaction of a number of factors in the development and maintenance of problem gambling behaviour. However, the model does not explain what happens to the gambler after the development of their urge. Nor does it explain why PGs continue to gamble and fail to learn from the harm associated with their gambling, when it becomes entrenched, resulting in repeated relapse. It also raises the question of how PGs are able to break the repeated cycle of gambling and to begin the process of change.

Using the same methodology, Blaszczynski and Nower (2002) developed a pathway model of problem gambling behaviour. In this model, there were three distinct subgroups of gamblers. These included PGs who were: 1) behaviourally conditioned; 2) emotionally vulnerable; and 3) antisocial and impulsive. In this model, gamblers gambled to relieve aversive affective states by providing escape or arousal. Once initiated, a habitual pattern of gambling fostered behavioural conditioning and dependence in which emotionally vulnerable gamblers gambled to manage their negative affective states. The principles of learning theory and cognitive processes are therefore considered important in understanding the loss of control experienced by pathological gamblers.

The authors described a second subgroup of gamblers with identical ecological determinants, conditioning processes, and cognitive schemas as the first group. This sub-group of gamblers experienced pre-morbid anxiety and/ or depression, affective instability, a history of poor coping and problem-solving skills, and negative family background experiences, developmental variables, and life events. These gamblers pursued gambling as a means of emotional escape through dissociation, or as a medium aimed at regulating negative mood states or physiological states of hyper- or hypo-arousal.

The third group of gamblers had a biological vulnerability toward impulsivity and antisocial personality disorders. They were highly disturbed with substantial psychosocial interference from gambling and were characterised by signs suggestive of neurological or neurochemical dysfunction. This proposed model has provided a conceptual framework integrating research data and clinical observation, but is open to empirical testing (Blaszczynski & Nower 2002). This model points out the complexity of conditioning processes and cognitive distortions in the development and maintenance of problem gambling behaviours, as PGs continued to gamble to relieve aversive affective states. Nevertheless, this model needs to be empirically tested. It relies on research data and clinical observation to inform the proposed model and lacks the rich experiences provided by gamblers with intimate experience of problem gambling behaviour.

Similarly, experience and learning were also considered to have significant roles in the development of problem gambling behaviours. Wulfert, Blanchard & Martell (2003) suggested that a cognitive behavioural perspective of pathological gambling develops from a complex history of reinforcement. For example, some forms of pathological gambling were shaped and maintained by the associated excitement. This is particularly the case when gambling becomes a means for individuals to cope with, or to escape, aversive interpersonal or intrapersonal events. The authors' also suggested that a cognitive perspective explained how excessive gambling was mediated by cognitive biases such as irrational or superstitious beliefs. Furthermore, it was suggested that PGs ignored basic statistical concepts and instead relied on intuitive judgments to mediate their decisions. For example, PGs temporally discounted their gambling losses and cognitively framed their gambling in strings only ending after a win. It was considered that these conditions reinforced gambling behaviour (Wulfert et al. 2003). These strong affect regulation expectancies are associated with more severe gambling problems (Shead & Hodgins 2009), suggesting a complex interplay of factors that reinforce gambling behaviour, which may also add to the risk of relapse.

Similarly, Rugle (1993) proposed a framework for pathological gambling. It was proposed that these gamblers had deficits involving biological vulnerabilities and learnt dysfunction, resulting in gaps in their ego and identity constructs combined with inadequate cognitive and emotional frameworks. These deficits made it difficult for individuals to manage many aspects of their lives, including negative affect, interpersonal relationships, intimacy, and behavioural consistency (Rugle 1993). This proposed model highlights gambling behaviour as a complex non-linear process involving factors that together can increase a gambler's vulnerability to relapse. The model also fits with the recent conceptualisation of relapse in alcohol dependence (Witkiewitz & Marlatt 2007; Witkiewitz & Marlatt 2004). These authors suggest that relapse is not a linear process, as in the case of alcohol, but rather dependence relapse results because a large number of factors come together to make relapse more or less likely (Witkiewitz & Marlatt 2007). Genetic variants, such as the DRD2 gene, that have been shown to play a role in pathological gambling (Comings et al.

1996) need to be considered in future studies for the role they may play in gambling relapse.

These models suggest that a number of factors play a role in the development and maintenance of pathological gambling. These include biological and psychopathological vulnerabilities, gambling-specific triggers, gambling environments (including accessibility), negative emotional states, reinforcement models, gambling urges, and erroneous cognitions. However, there is a necessity for the development of well-specified theories of the underlying mechanisms, which can be tested against empirical data, as there are scarcely any computational models of problem gambling. Further research is needed to explore how these theories interact with the process of relapse (Gobet & Schiller 2011) and which factors work together to enable the PG to begin the change process and to halt the cycle of repeated relapse. For example, the transtheoretical model of change involves a series of 6 stages of change: pre-contemplation, contemplation, preparation, action, maintenance and relapse (Prochaska & DiClemente 1982). This model of self-change may increase the effectiveness of treatment programs for PGs. For example, by helping the worker understand which stage the person is at and therefore adjusting their practice to better suit the person's readiness stage and therefore their treatment needs. As the PG commits to move through the stages of change and engage in treatment this approach may reduce the risk of relapse. However, this model suggests a linear process, which has been challenged by Robert West, for example. He has gone on to develop PRIME theory as a consequence (West 2005).

In the following section, gambling relapse is defined and conceptualised to clarify the difference between continuous gambling and relapse.

2.2.1 Relapse in Problem Gambling

A number of diverse definitions of relapse in problem gambling have been used in this area of research. Definitions of gambling relapse still require consensus among researchers as to whether it is to be conceived as a process or an outcome; whether to relate relapse to a gambler's goal intentions; as the key dimension of problem gambling; as thresholds for recovery; and to distinguish lapses from relapses. A

consistent definition for relapse is required that is observable and measurable and which can generalise findings to the differing PG presentations. The following definition was identified by Battersby et al. (2009): “Relapse is the re-emergence of gambling that may cause harm to the individual, significant others, or the community after a period of abstinence or controlled gambling” (p. 16).

2.3 Factors Associated with Relapse

This section addressed the first aim of the study by reviewing the current literature regarding factors that increase relapse in problem gambling.

The potential predictors of relapse identified in this study included dis-inhibition, impaired decision-making, self-efficacy, impulsivity, availability of gambling, co-morbid psychiatric disorders, and substance use, which shows the complexity of the relapse process. However, there is clearly a considerable overlap in these “factors”, and there is no logical explanation or conceptual model that demonstrates the ways in which these factors interact to result in relapse. Negative affect therefore encompassed emotions that impact on the PGs’ mood, causing an aversive emotion. For example, feeling bored may cause a shift in the PGs’ mood resulting in negative affect.

The following section comprises a review of the literature examining the factors that are predictive of relapse in PGs, and the factors that increase the risk of gambling that may be associated with relapse. However, it is not clear if the factors that increase problematic gambling behaviours act in similar ways to increase the risk of relapse. In addition, the factors that reduce relapse in PGs are examined, as are factors that reduce problem gambling behaviours. However, these factors may not act in the same ways to reduce relapse as they do in reducing the risk of gambling, and thus require further examination.

Few empirical studies have evaluated the phenomenon of relapse directly in problem gambling (Ledgerwood & Petry 2006). The following studies provide an understanding about the risk factors for relapse in PGs. However, these studies

explore factors in isolation, rather than seeking to understand the complexity of how they interact and influence the process of relapse. These factors include mood disorders, psychological distress, alcohol use, social isolation, relationship problems, gambling cognitions, gambling urges, and gambling availability.

2.3.1 Negative Affective States and Relapse

The presence of negative affective states including stress, conflict, emotional highs and lows, boredom, and the need to escape from these emotions, increased the risk of relapse. Gambling provided the PG with time out from these distressing emotional states.

For example, the presence of an alcohol-use disorder where depressive symptoms are common (Agyapong 2013) may diminish the PGs capacity to make informed decisions about gambling (Productivity Commission 2010), which, for many, was seen as an immediate coping strategy to alleviate a negative affective state. Furthermore, negative emotions associated with mood disorders also increased the risk of PGs relapsing back to gambling behaviour, particularly if the PGs did not have positive social support. Without positive support to assist PGs to deal with their negative emotions, they may be more vulnerable to relapse as a coping mechanism. Relapse may be a significant problem for PGs who use alcohol and have associated depressive symptoms.

Alcohol and substance use was found to increase the rates of relapse in PGs in a study by Maccallum and Blaszczynski (2002). The authors examined the rates of substance use problems using a semi-structured interview schedule with a sample of 75 poker-machine pathological gamblers. They determined that the rates for substance use disorder within their sample of treatment-seeking pathological gamblers were higher when compared to the general population. Nicotine dependence was the most common substance related disorder, with thirty-seven per cent of participants meeting the criteria for this disorder. Alcohol abuse was the next most common disorder, with 16.00% of the sample meeting criteria for this disorder during the 12 months prior to assessment. Few subjects met diagnostic criteria for abuse and dependence disorders for substances other than alcohol and tobacco

(1.3% -5.3%), and no subject met criteria for a 12-month opiate disorder. The authors pointed out that PGs should be screened for both alcohol and substance use in routine clinical assessments as failure to identify and treat comorbid substance-use disorders may lead to higher relapse rates (Maccallum and Blaszczynski 2002). These findings suggest the risks of relapse are complex and increased when comorbid substances use is involved.

Similarly, Thomas et al. (2011) reported that avoidance coping motivated gambling. The authors examined the predictors of problem gambling in (n=347) EGM gamblers, and looked at the relationships between a number of antecedent factors such as stressors, coping habits, and social support through the use of questionnaires. Gambling motivations and gambling behavior were examined. The authors reported that stressors were positively related to general avoidance coping and that gambling was motivated by avoidance. Both avoidance coping and avoidance-motivated gambling were positively related. Avoidance-motivated gambling was also positively related to the frequency of EGM gambling and gambling severity. A combination of continuous non-skill games, flashing lights, and the comfortable EGM environment, enabled a physical and cognitive escape. There appears to be an interaction between gambling environments, EGM machine design, and cognitive escape for those who have emotional vulnerabilities to relapse. This suggests that the risk of relapse for PGs who experience negative emotional states is increased when confronted by the enticing features of a gambling environment.

Similar findings were reported by Hodgins et al. (2010), who followed up (n=101) pathological gamblers who had recently quit gambling. Quitting was defined as 'no gambling in the past 2 weeks, but some gambling in the past 4 weeks'. Relapse was a problem for these gamblers, as only two of the 101 participants remained abstinent throughout the 5-year follow-up period. Among these participants, 51% and 72% had a mood disorder at some stage in their life. Sixty-two per cent had alcohol abuse or dependence problems and 79% had a lifetime alcohol use disorder. Sixteen per cent experienced drug abuse or dependence over the 5-year follow-up period, and 55% experienced a lifelong drug use disorder. A lifelong history of a mood disorder predicted a longer time in reaching continuous abstinence. The presence of an

alcohol diagnosis and a mood disorder increased the odds of a gambling relapse, particularly when support ended during treatment follow-up (Hodgins & el-Guebaly 2010). Relapse was associated with negative emotional states such as mood disorders and dependence on alcohol or drug use. The risks for relapse increased without support during recovery. For example, support may play an important role in the PG's ability to experience and deal with negative emotional states. This, in turn, may reduce the likelihood of the PG using drugs or alcohol as a coping strategy, adding to the guilt and shame they experience with their problem gambling behaviour. These findings highlight the complexity of relapse as more than one factor may be involved.

Likewise, in this study, an increased risk of relapse was associated with high levels of distress and a poor quality of life. Sander and Peters (2009) investigated psychological distress, quality of life, and the success of a cognitive-behavioural treatment program with 281 pathological gamblers. Only 147 participants were seen in the follow-up. For those in follow-up, relapse was associated with higher psychological distress at the end of treatment, especially for those with a poor quality of life. Quality of life was a mediator between psychological distress and abstinence from pathological gambling (Sander & Peters 2009). The findings from this study suggest that gamblers need to have ongoing support at the completion of their treatment. The presence of co-morbid mental health conditions and high levels of stress add to the gambler's risk of relapse. Therefore, social support plays an important role in enabling gamblers to maintain abstinence during their recovery. However, it is not clear how support enables a gambler to manage their problem gambling behaviour, and what happens to increase the gambler's risk of relapse when support is withdrawn.

The distress associated with negative affect is also associated with an increased risk of relapse. For example, Daughters, Lejuez, Strong, Brown, Breen and Lesieur (2005) focused on whether negative affect and the ability to tolerate distress are associated with relapse. Of the 32 participants meeting the criteria for the study, 16 successfully sustained a past quit attempt for a period of 3 months or more (delayed relapsers), and 16 did not at any stage achieve complete abstinence from gambling

for a period longer than 2 weeks (immediate relapsers). Compared to the delayed relapsers, the immediate relapsers displayed higher levels of negative affect and stress reactivity. Immediate relapsers are less likely to persist on the psychological stressor, suggesting that the ability to tolerate the initial discomfort of an abstinence attempt may play an important role in gambling treatment outcomes (Daughters et al. 2005). In this study, relapse is a significant risk for those who find it difficult to tolerate distress, particularly when it is associated with abstinence. However, negative affective states, such as grief and loss, may be more difficult for PGs to experience in comparison to boredom.

There is a diverse range of negative affective states such as unstructured time, boredom, and 'trying to fit in', which may increase the risk of relapse. For example, Hodgins et al. (2004) examined precipitants of gambling relapse in a sample of pathological gamblers attempting to quit, and compared the prospective and retrospective reports of mood states associated with these relapses. Relapse rates were high, with only 8% of the participants completely free of gambling at 12 months duration. The relapse precipitants included cognitive factors such as cognitions about winning, and emotional factors such as feeling the need to make money. Men attributed relapses to the need to make money, unstructured time, and boredom. Women reported gambling more often to deal with negative emotions or situations. The 'need to fit in' was associated with minor relapses. The authors admit that it is not possible to understand the process of relapse when considering only one precipitating factor; relapse was found to be complex, involving more than one precipitating factor (Hodgins & El-Guebaly 2004). Negative affective states, for example emotions such as being bored and situations like having unstructured time, contributed to the increase in a gambler's risk of relapse in this study.

Similar findings were reported by Echeburúa, Fernandez-Montlalvo & Baez (2001) who conducted a study with (n=69) pathological gamblers who dropped out of treatment or relapsed within one year of follow-up. The participants were treated with stimulus control and in vivo exposure with response prevention and a program based on relapse prevention. The authors reported heavy drinkers with poor satisfaction with treatment, and those with high levels of neuroticism had a high

probability of therapeutic failure at 12 months follow-up. Total drop-outs in all phases of the study numbered 10. It was suggested that gamblers who were heavy drinkers, who had poor satisfaction with treatment and a high level of neuroticism, had a high probability of therapeutic failure at 12 months follow-up (Echeburúa, Fernández-Montalvo, & Báez 2001). This study highlights the ongoing risk of relapse for gamblers, particularly if they do not complete a course of treatment and drink alcohol heavily.

Furthermore, high levels of distress during treatment increased the risk of premature drop-out and relapse, as the gambler had not completed the course of treatment. This was illustrated by Jiménez-Murcia, Álvarez-Moya, Granero, Aymani, Gomezpedra et al. (2007), who investigated the effectiveness of group Cognitive Behaviour Therapy (CBT) with (n=290) pathological gamblers. Abstinence rates were 76.1% at the end of therapy and 81.5% at 6 months follow-up. Psychopathological distress and obsessive-compulsive symptoms, according to the Symptom Checklist -90- Revised (Derogatis 1977), were factors predicting relapse and drop-out. The general level of distress, and higher levels of obsessive-compulsive symptomatology, predicted a poorer response to treatment and a higher probability of relapse and drop-out (Jiménez-Murcia et al. 2007). High levels of distress are predictive of a poor response to treatment, which leads to gamblers dropping out of treatment and possibly relapsing.

Relapse is a significant risk for gamblers even when they receive an intervention such as relapse prevention skills. Despite the difficulties experienced by problem gamblers, particularly those who experience negative affective states, providing gamblers with relapse prevention skills may not be effective in reducing relapse. For example, Hodgins, Currie, el-Guebaly and Diskin (2007) reported that providing relapse prevention bibliotherapy did not improve treatment outcomes. The authors investigated a relapse prevention program for (n=169) gamblers who returned to gambling after a serious attempt to quit. At 6-months follow-up, 78% of participants relapsed at least once. At 12 months, 77% of participants had gambled since the 6-month interview. This study highlights that relapse is a risk for PGs even after relapse prevention strategies have been provided. For these relapsing PGs, the

experience of negative emotional states may be too distressing to experience, so relapse can provide temporary relief of the distress as an immediate solution.

In a study focusing on older people, negative affective states were factors that triggered relapse. Boreham et al. (2006) investigated the needs, experiences, behaviours, and attitudes of older Queenslanders who participated in EGM gambling. The study focused on a sample of people who were 60 years and older.

The most common factors associated with the risks of problem gambling on EGMs are stress and anxiety, depression, and loneliness. The study noted a high rate of 'relapse' amongst help-seekers with EGM-related problems following a period of counselling. The Gambling Help Line, for Queensland, were consulted in relation to the needs and characteristics of older people who sought help for gambling problems. The themes identified by older gamblers on the Gambling Help Line included issues of boredom, isolation/ loneliness, family problems, grief, homelessness, escape-seeking, and co-morbid mental health concerns. Older migrants and refugees may start to dwell more on pre-migration and migration traumas as they age and engage in gambling to provide a means to escape from these distressing memories (Boreham et al. 2006). For some gamblers, the presence of multiple pressures can result in the exacerbation of the risks of problem gambling behaviour and relapse.

2.3.2 Executive Dysfunction and Relapse

Executive dysfunction, such as poor decision-making and problem-solving skills, can result in relapse and deficits in self-regulation, impulsiveness, and sensation seeking. In addition, insensitivity to the future may result in gamblers dropping out of treatment.

Relapse becomes an ongoing problem if the gambler has limited plans for the future, and poor problem-solving and decision-making skills. For example, Álvarez-Moya et al. (2011) examined the relationship between reward and punishment sensitivity, and treatment outcome, including relapse and drop-out, using cognitive behavioural therapy (CBT) with (n=88) pathological gamblers. The aim of the CBT treatment was to enable the gamblers to put strategies in place to achieve abstinence. The focus

of this study was to examine the relationships between neuro-cognitive measures (executive functioning and decision-making), self-report measures of impulsivity (measured by The Temperament and Character Inventory-Revised (TCI-R) tool) (Cloninger 1999), and treatment outcome. Of those in treatment, 45 showed no drop-out or relapse, 12 had a relapse, 20 showed drop-out, and 7 showed both relapse and drop-out during treatment. The authors reported that treatment outcome, specifically drop-out, was predicted by personality measures indicative of deficits in self-regulation and impulsiveness, sensation-seeking, and insensitivity to the future. Neurocognitive measures of executive functioning (functions involved in complex cognitions, such as solving novel problems, modifying behaviour in the light of new information, generating strategies, or sequencing complex actions (Elliott 2003)) and decision-making were the most predictive of relapse. Therefore, the authors concluded that rash impulsiveness and, to a lesser degree, sensation-seeking, were involved in the risk of drop-out and that there was no impulsivity trait that influenced relapse. In addition, a low TCI-R disorderliness score (i.e., strict regimentation, organisation, rigidity, and over-control), which correlates negatively with impulsivity, was also found to be predictive of drop-out. This was considered to be related to an excessive sense of guilt or false beliefs about treatment. Based on these findings, the authors suggested other factors including personality traits, psychopathological status, and motivation at the beginning of, and during, treatment that should be examined (Álvarez-Moya et al. 2011). Impulsivity in this study was not associated with relapse, only with treatment drop-out.

Interestingly, locus of control has no significant association with gambling relapse. For example, in an earlier study Johnson, Nora and Bustos (1992) reported finding no significant association between gambling relapse and locus of control among (n=108) Gamblers Anonymous members.

2.3.3 Gambling Urges and Cognitions and Relapse

The urge and cognitions associated with gambling are part of the same phenomenon, which drives the gambler to relapse. The following studies explored the role of the gambling urge and cognitions in relation to relapse.

After the initial recovery period from gambling, unless the urge is fully extinguished (Battersby et al. 2008), the gambler is vulnerable to relapse. For example, the urge to gamble was a risk factor for relapse in a study conducted by Wölfling, Mörsen, Duven, Albrecht, Grüsser and Flor (2011), who investigated the emotional processing of gambling-relevant and -irrelevant stimuli. The authors used an EEG cue-reactivity paradigm with 15 active pathological gamblers and 15 control participants. Stimulus-induced craving was assessed during cue-exposure after the participants viewed standardised visual gambling-related, alcohol-related, and negative, positive, and neutral stimulus-categories for the first time. Pathological gamblers perceived gambling stimuli as being significantly more pleasant. The authors suggested that enhanced cue-reactivity in pathological gamblers is indicative of learned motivated attention, inducing subjective craving and relapse. Therefore, gambling-associated stimuli motivated the gambler to engage in repeated gambling behaviour (Wölfling et al. 2011a). Gamblers with cue reactivity to gambling stimuli have an increased risk of relapse. However, other factors such as negative affect and environmental factors need consideration in order to fully understand the implications of cue reactivity and relapse.

Furthermore, Oei and Gordon (2008) reported on the role of a set of seven predictors that distinguished between abstinent and relapsed gamblers among 75 Gambling Anonymous (GA) members. It was reported that increased gambling urges and erroneous cognitions increased the chance of relapse. Gambling urges were found to increase relapse by Hodgins and el-Guebaly (2004), who conducted a prospective design to explore the precipitants of relapse in a naturalistic sample (n=101) of pathological gamblers who had recently quit gambling. The authors reported that 11% of gambling relapses were retrospectively attributed to giving in to urges. Smith et al. (2010) also found strong evidence that gambling urges were a significant predictor of relapse, and gambling-related cognitions, whilst less significant, contributed overall to relapse (Smith, et al. 2010a).

The presence of negative affective states including alcohol diagnosis, mood disorder (Boreham et al. 2006; Daughters et al. 2005; Echeburúa, Fernández-Montalvo & Báez 2001; Hodgins et al. 2007a; Hodgins & El-Guebaly 2004; Hodgins & el-

Guebaly, 2010; Jiménez--Murcia et al. 2007; Thomas et al. 2011), unstructured time, boredom (Hodgins & El-Guebaly 2004), and support ending during treatment follow-up (Hodgins & el-Guebaly, 2010; Ricketts & Macaskill 2003), contributed to the risk of relapse. In order to fully understand relapse, it is important to take into account all the precipitating factors (Hodgins & El-Guebaly 2004) and how these interact to increase the risk of repeated relapse.

Executive dysfunction, such as having poor problem-solving and decision-making skills, may also contribute to relapse, as Álvarez-Moya et al. (2011) suggested: PGs who relapse may not be able to think critically at the time they begin the relapse process. These findings need further exploration to determine the mechanism behind these results, particularly as these findings were not supported by Johnson, Nora and Bustos (1992). The urge to gamble and gambling-related cognitions were identified as risk factors for gambling relapse (Battersby et al. 2009; Hodgins & El-Guebaly 2004; Oei & Gordon 2008; Smith et al. 2010a; Wölfling et al. 2011b).

2.4 Factors Associated with Increased Risk of Gambling and Thereby Relapse

This section explores the factors that increase the risk of problem gambling, to help understand the risk factors for gambling relapse. However, the risk factors for problem gambling may not be the same as those for relapse. The assumption is that, as PGs gamble more frequently, relapse is therefore also more frequent. Environmental factors including the gaming environment, the structural characteristics of gaming machines, epidemiological factors, cognitive distortions, urges to gamble, negative affective states, and impulsivity have been shown to be individually associated with the risk of developing gambling problems and therefore relapse.

2.4.1 Epidemiological Factors and Relapse

The risks of problematic gambling behaviours have been associated with a number of factors, such as the availability of gambling opportunities, particularly in areas of lower socioeconomic status, male gender, younger age, single people, divorced people, and people born in a non-western country. For example, using a Norwegian

National Gambling Survey study, Lund (2007) compared at-risk gamblers with no-risk gamblers (n=4,188), with no current gambling problems or pathology. The authors reported that the following factors increased the risk for gambling: male gender, younger people, cohabiting, single people, divorced people, poor education, and people born in a non-western country.

In addition to these factors, the presence of gambling problems in the family, a belief in beginners' luck, and misconceptions about the chances of winning, increased the risk of problem gambling. A possible under-reporting by the subjects classified as at-risk gamblers, who may have been PGs or pathological gamblers, limited these findings (Lund 2007), as there may have been additional risk factors that were not reported. The results of this study suggest that single young males are at risk of gambling problems, particularly if they have misconceptions about gambling outcomes. These findings highlight the complexity of factors that increase young males' vulnerability to problem gambling behaviours. These included poor physical health, negative affective disorders, and alcohol and drug use. Furthermore, those from lower socioeconomic backgrounds with limited education were at risk of problem gambling behaviours; these factors may increase a gambler's risk of relapsing when trying to abstain. These gamblers may resort to previous coping strategies to deal with aversive mood states or stressful situations, such as financial hardship. Gamblers from lower socioeconomic backgrounds with limited education may have poor coping skills, reducing their capacity to deal with ongoing gambling problems or life stressors.

The centrality of clubs in community life and convenient access to gambling were also seen to contribute to the development of gambling problems (McMillen et al. 2004). Similarly, living in a neighbourhood with access to gambling opportunities increases the risk for developing gambling and problem gambling behaviour (Jacques, Ladouceur & Ferland 2000; Pearce et al. 2008). In a U.S. study, Gerstein et al. (1999) reported that the availability of a casino within 50 miles was associated with double the prevalence of problem and pathological gamblers. Accessibility to gambling opportunities within the gambler's immediate environment played a

significant role in the risk of developing problem gambling behaviours, and may affect the ability of a gambler to remain abstinent, resulting in repeated relapse.

In their study, Welte, Barnes, Wiczorek, Tidwell and Parkera (2004) noted that membership of at-risk socioeconomic demographic groups, as well as alcohol pathology, increased the risk of problem gambling. Delfabbro (2002) reported similar findings in a South Australian study where EGM densities and losses are highest in areas with greater socio-economic disadvantage. In this study, the availability of gambling opportunities was associated with increased gambling-related harm (Delfabbro 2002).

2.4.2 Gambling Environmental Factors

In addition to epidemiological factors, environmental factors also play a role in increasing the likelihood that a PG will engage in gambling. Access and proximity to environmental factors such as availability of gambling venues and easy access to ATMs within the gambling venue increases the risk of relapse. There is strong evidence that access to opportunities for gambling increases the risk of gambling and problem gambling behaviour (Delfabbro 2002b; Gernstein et al. 1999; Jacques, Ladouceur & Ferland 2000; Pearce et al. 2008; Thomas, Sullivan & Allen 2009; Welte et al. 2004), and therefore, of relapse.

In one of the most pertinent studies, Schüll (2012) provided an understanding of the numerous environmental factors which facilitate the gambler entering what participants in this study referred to as the “zone”, resulting in gambling and therefore relapse. After interviewing a diverse range of gamblers, the author suggested that the design of the casino layout suspends patrons in a suggestible, affectively permissible state, making them susceptible to environmental triggers inside the casino environment. For example, the temperature, light, colours, sounds, and aroma of the environment, guide the gambler to EGMs and immerses them in the “zone”.

The author explained how balanced lighting drains the gamblers’ energy, while music encourages the gambler to play by supplying a perceptual, subtle, and steady

stream of sensory input. Once at the EGM, these machines are designed to keep the gamblers gambling and in the “zone” by anchoring them to the machine. For example, the speed of gambling relaxes the gambler, and the wagering momentum of the gambler’s play is enhanced by coins dispensed into the machine’s payout tray, enabling the gambler to return these coins directly back into the machine without leaving it. The introduction of bill acceptors further speeds up the play, allowing the gambler to insert large denominations and to draw from credits, rather than stopping to feed coins into the machine. In addition, computerised menus allow gamblers to key requests into a pad of choices that can communicate the gambler’s specific desires, making the gambler comfortable by accommodating any ‘want’ they may have without taking a break. These choices include change, beverages, or assistance. The ergonomic features enable the gambler to have more legroom and a close fit with the EGM, making the point of contact between finger, screen, and gaming console a more pleasurable gambling experience. Therefore, the gambler’s drive to remain in the “zone” is enhanced by the gambling industry, which often results in complete financial depletion as the player’s funds run out; it is at this time that the EGM stops responding to the player. In addition to the ergonomic features of the environment, machines have mixed lines, scattered wins, and reward formulae which are configured to maximise the gambler’s investments of money over time, often giving the gambler the illusion of winning.

This illusion results in the belief that persistence leads to winning (Wulfert, Blanchard & Martell 2003), as a big win could happen ‘soon’. Gamblers continue to adapt to the evolution of these games as they reach new levels of tolerance to such conditions. Similarly, Thomas, Moore, Kyrios and Bates (2010) identified a number of environmental factors related to accessibility. These authors conducted a study with five known ex-problem gamblers, 21 no- to low-risk gamblers, 10 moderate-risk gamblers, and 11 who scored over the threshold for gambling problems. The mixed methods employed included focus groups and in-depth interviews that enabled exploration of the multidimensional nature of accessibility, as well as the self-regulation strategies employed by people to manage their gambling, given its accessibility. The findings from Phase One together with the broader literature were used in this second phase of the study to further investigate the multiple aspects of

accessibility and self-regulation. Items were developed based on Phase One and the relevant literature, and exploratory factor analyses were used to create new subscales measuring different dimensions of accessibility and self-regulation. These were then analysed in terms of their relationships to various demographics and other variables of interest. The authors reported that (p. 20): “geographical accessibility encouraged impulsive gambling provided by the relative proximity of venues to shopping centres, work, and social venues and on commonly used routes as well as to home. The spatial distribution of venues meant that some PGs had difficulty avoiding venues and limiting the amount of money they spent.”

The long opening hours of some venues provided high temporal accessibility. Early openings increased access for some, while late closing was the attraction for others. Social accessibility offered entertainment, which was social, safe, and part of a wider entertainment experience. Young people enjoyed the big, active, “flashy” social event, while older people were more interested in a quiet, relaxing venue. Patronage was made more accessible by the provision of courtesy buses, relaxed conditions of entry, and incentives; monetary accessibility was enhanced by the provision of low outlay games and EFTPOS/ ATM facilities; and play was made accessible by the provision of attractive and easy-to-play games. Going to venues provided an accessible retreat from the problems of the outside world and the demands of others, making it attractive to a sub-group of problem gamblers.

The authors reported significant, positive, moderate-strength relationships between scores on gambling as an Accessible Retreat (where venues were geographically and temporally available providing a familiar and anonymous retreat with few interruptions or and distractions) and scores on financial stress, gambling-related cognitions, gambling frequency, gambling urges, and gambling problems. People who scored high on measures of gambling as an Accessible Retreat tended to score higher on financial stress, irrational cognitions about gambling, gambling frequency, and gambling-related urges and problems than those who scored low on Accessible Retreat. The authors reported that accessibility was multidimensional. There were relationships between geo-temporal accessibility and variables related to gambling problems. However, the authors suggested that gambling is an easy entertainment

choice that is a relatively safe, social activity, but reliance on gambling due to the associated accessibility and providing a retreat from problems may lead to excessive and problematic gambling for some vulnerable individuals (Thomas et al., 2010, p. xiv). There are many complex factors that may interact to increase the gambler's risk of engaging in problematic gambling and therefore relapse.

Furthermore, inducements offered by gambling establishments, such as free alcohol to patrons when gambling, may diminish the PGs' capacity to make informed decisions about their gambling (Productivity Commission 2010). The provision of inducements would make relapse more difficult to resist for PGs entering a venue. Other inducements provided by venues include cheap meals, snack foods, free coffee or alcohol, raffle tickets, bonus prizes, and incentives such as coupons that can be cut out of newspapers or provided to patrons when they visit venues (Delfabbro 2008). These incentives may add to the PGs' vulnerability to relapse by luring them into a gambling venue and adding to the overall excitement of gambling.

The environment inside gambling establishments increases the risk of problematic gambling behaviours. Marmurek, Finlay, Kanetkap and Londerville (2007) suggested that gamblers feel psychologically relieved in the gambling atmosphere, which increases their risk of gambling and spending more money. This physiological wellbeing plays a key role in the gambler's desire to enter and play in a casino (Marmurek et al. 2007). Other factors associated with at-risk gambling include large jackpots, attractive consumer goods such as cheap food and drink, and easy wins, which all motivated gamblers to increase both the time and money spent. Stimulus features of mechanised gambling can also affect the speed at which people develop problem gambling (Marmurek et al. 2007; Productivity Commission 2010). Free games have also been shown to entice gambling (Livingstone et al. 2008a). Aversive tension relief may also drive problem gambling once the gambler gives in to the urge, thought, or temptation. For example, compulsive drives are driven by behaviour completion mechanisms, causing gamblers to experience an aversive sense of tension or anxiety if they fail to complete the behaviour in response to mental or environmental cues (McConaghy et al. 1983). Gambling environments can be enticing and exciting, making gambling irresistible for some PGs, particularly if they

have additional vulnerabilities such as negative affective states. These factors may increase the chances of PGs returning to gambling after a period of abstinence, especially if they experience a negative affective state previously relieved by gambling.

The following two qualitative studies describe how environmental factors increase a gambler's risk of engaging in problem gambling, which may also add to the risk of relapse. Using semi-structured interviews, Thomas, Sullivan and Allen (2009) found that the EGM venue environment was highly accessible, enticing, and both private and companionable. EGM games are entertaining and a diversion from difficult situations. Poor social support, few alternative social spaces within local communities, and maladaptive coping habits contributed to a reliance on gambling (Thomas, Sullivan & Allen 2009). Clarke et al. (2006) used data from interviews, focus groups, and surveys of PGs to examine problem gambling behaviour. Social obligations (such as catching up with family, neighbourhood members, and church), the influence of family and friends, advertisements for conducive casino environments, glamorous advertising, and social inducements played major roles in problem gambling behaviour. This was particularly significant with the proliferation of gaming and the easy availability of money from ATM machines. The authors reported that gambling to escape stress and loneliness was especially prominent for Pākehā (the Maori word for the "white" or "non-Maori" population) and Māori communities to start gambling (72%-89%), and even more striking for continuing gambling (94%-96%, respectively). However, the most important reason reported for starting and continuing gambling for all groups was the availability of gambling facilities (usually EGMs) in places of socialisation. Advertisements for the casino and internet games played were significant in attracting young people (75%), Pākehā (89%), Māori (80%), and students (79%). However, "winning" or being "close to a win" was the most significant reason for starting or continuing gambling (Clarke et al. 2006). This study demonstrated that gambling provides an escape from negative affect, and that inducements encourage further gambling. Therefore, emotionally-vulnerable PGs may have an increased risk of gambling or relapse when confronted by enticing gambling environments. This risk may be heightened by the presence of

available money from ATMs, which provides easy access to cash when the PG is at their most vulnerable.

2.4.3 Structural Characteristics of Gaming Machines and Relapse

EGM games are both entertaining and a diversion for gamblers from stressful situations (Thomas, Sullivan & Allen 2009). The structural characteristics of gaming machines increase the risk of gambling by producing rewarding psychological experiences for gamblers. These characteristics draw individuals to gamble often against their better “rational” judgment (Parke & Griffiths 2006). This suggests why, and how, some gamblers may not be able to engage in critical thinking as they gamble. In addition to the structural characteristics of EGMs, huge financial jackpots, attractive consumer goods, and easy wins are associated with at-risk gambling behaviours (McMullan & Miller 2009). Similar findings reported in the Productivity Commission Report (2010) suggested that “certain features of gaming machines, such as the capacity to play alone, the fast pace of gambling, conditioning impacts, and the tendency for players to lose contact with reality while playing, exacerbated the risks” of gambling behaviour (p. 430). EGM players are also susceptible to variations in machine events, with the structural differences in machines (Delfabbro & LeCouteur 2005), and the pursuit of free games, enticing them to increase the scale of their bets (Livingstone et al. 2008).

In a study by Hing and Nesbet (2010), problem gambling behaviour was described as being highly complex. The authors explored the development and maintenance of gambling problems amongst employees at gambling venues. An interpretive approach was used involving semi-structured telephone interviews with 40 hotel and club employees. The raw data were analysed using a thematic analysis. Aspects of social accessibility, such as the familiarity and comfort of gambling in the workplace, were identified as encouraging influences. This included the encouragement of staff, and workplace cultures that do not deter staff from gambling. Staff gambling was encouraged by their desire to try the different machines and to see what competing venues offered in order to learn about alternative promotions and competitions. Cognitive accessibility related to knowledge and understanding about gambling increased as gamblers had a better understanding of gambling products, processes, and jackpot levels. Cognitive

distortions around winning, encouragement from peers, a need to fill in time, enhanced knowledge regarding gambling products, or a lack of other recreational opportunities, added to the risk of gambling behavior. The authors suggested that “what enables gambling is if the person can get to at least one machine that they want to play, that they have spare time to do so when the venue is open, that they have the money to play, have sufficient know-how to do so, and that they personally feel that gambling on that machine is an acceptable thing to do” (Hing & Nesbet 2010, p. 115). This description involves many elements that together may result in a complex process that increases the risk of problem gambling and may contribute to relapse. An important omission here is that the authors have not described the escalating desire or excitement associated with this process, or how it can be interrupted to stop repeated relapse.

Griffiths (1999) conducted a critical review of gaming characteristics and gambling behaviour and reported similar findings. Results from this review demonstrated that the faster the event frequency, the more likely the activity may increase the risk of gambling problems. The speed of these rewards and the potential rewards offered increased addictiveness and the risk of engaging in gambling.

Gambling involved an integrated mix of factors. For example:

- Stake size
- Event frequency (time gap between each gamble)
- Amount of money lost in a given time period (important in chasing)
- Prize structures (number and value of prizes)
- Probability of winning
- Size of jackpot
- Skill and pseudo-skill elements (actual or perceived)
- “Near miss” opportunities (number of near winning situations)
- Light and colour effects (e.g., use of red lights on slot machines)
- Sound effects (e.g., use of buzzers or musical tunes to indicate winning)
- Feedback about winning events in the milieu
- Social or asocial nature of the game (individual/ group activity)

- Accessibility (e.g., opening times, membership rules)
- Accessibility and density (e.g., number of outlets)
- Location of gambling establishment (e.g., out of town, next to workplace)
- Type of gambling establishment
- Advertising (e.g., television commercials)
- The rules of the game (p. 270).

Each of these factors can increase a gambler's risk of gambling. Situational characteristics are considered to have an impact on the acquisition of problem gambling, and structural characteristics, such as accessibility and event frequency, influenced the risk of gamblers developing and maintaining gambling problems (Griffiths 1999). In addition, Breen and Zimmerman (2002) suggested that the social, environmental, and stimulus features of mechanised gambling are implicated in problem gambling and would increase the risk of gamblers relapsing when trying to abstain.

The Independent Gambling Authority of South Australia (IGA) commissioned the Australian Institute for Primary Care, La Trobe University Melbourne, to examine aspects of the relationship between gaming machine technology and the risks of problem gambling behaviours. Livingstone and Woolley (2008), in response, conducted a review of the literature, analysed the published data relating to the overall performance of the EGM industry in South Australia, and EGM performance data provided by the Office of the Liquor and Gambling Commissioner (South Australia). The findings offered strong support for many aspects reported in the published literature on EGM structural characteristics. PGs favoured strategies involving low credit bets and multiple/ maximum lines. Reinforcement and the thrill of winning were important, particularly in relation to gamblers hearing other machines paying out around them. The measure of value for money is very frequently the first and foremost consideration, directly conceptualised as the time on the device that a given amount of money should typically purchase. Almost all participants were reported to have finalised a gambling session because their funds to gamble had been exhausted. In addition, the risk factor for excessive gambling identified by PGs was an "unthinking" mode of EGM gambling consumption often

termed as the “zone”, which could extend the time and money expended to unsafe levels (Livingstone et al. 2008). Certain structural characteristics of gaming machines led to increased betting sizes and therefore increased losses, which may increase the chance of relapse for gamblers trying to win back gambling losses. Interestingly, gamblers entered an unthinking mode often termed the “zone”, when gambling (discussed later in this thesis). The main reason some gamblers ceased gambling was due to their funds running out. This suggests that gamblers may not think critically when gambling, as they continue to gamble until their money runs out, despite the financial consequences.

These findings highlight the risk of the problems faced by gamblers trying to abstain from gambling. The importance of the gambler being vigilant about the risks due to the accessibility to gambling opportunities, certain features of gaming machines, the availability of their money, and attractive consumer goods, is important to reduce gambling harm.

2.4.4 Cognitive Distortions and Relapse

At-risk problem gambling is associated with cognitive distortions, as described by Toneatto (1999). The author suggested that there are a number of cognitive distortions or beliefs associated with gambling, such as:

- magnification of gambling skills when PGs overrate their ability to win
- superstitious beliefs involve the gambler engaging in a behaviour that they believe may influence the outcomes of their gambling
- interpretive bias occurs when a gambler interprets their gambling losses in a way that encourages continued gambling
- temporal telescoping when a gambler believes a win will happen sooner rather than later
- selective memory when a win can be remembered without correcting them for the amount of money wagered to actually win
- predictive skill when cues such as body sensations or a gut feel are contributed to the gambler’s predictive cues, which guides their gambling behaviour

- illusion of control over chance when a gambler perceives luck as an important and favourable aspect of their gambling (Toneatto 1999).

Gamblers persist in trying to win money by gambling often because of false beliefs about the nature of gambling, the likelihood of winning, and their own expertise. These cognitive biases maintain gambling behaviours, as gamblers often believe they have a skill or unique knowledge that enables them to take advantage of gambling (Walker 1992). These false beliefs are a basic mistake made by PGs, who rely on previous events to predict the outcome of a game based purely on chance (Benhsain, Taillefer & Ladouceur 2004).

Ladouceur et al. (2001) evaluated a cognitive treatment package for pathological gambling. Sixty-six gamblers, meeting the DSM-IV criteria for pathological gambling, were randomly assigned to treatment or wait-list control conditions. Cognitive correction techniques targeted participants' erroneous perceptions about randomness and relapse prevention. A total of (n=88) participants were randomly assigned to either therapy program gamblers (n=59) or the control group (n=29), who were put on a waiting list. From the latter group, at post-test, 7 undertook the present treatment. Of the 66 gamblers who began the treatment, 35 completed it and 31 dropped out. At 12-month follow-up, 28 participants (80% of the treated gamblers) completed the evaluation. The authors reported that 86% of the treated participants were no longer considered to be pathological gamblers, had a greater perception of control of their gambling problem, and experienced increased self-efficacy in high-risk gambling situations. Furthermore, therapeutic gains were maintained up to 6 and 12 months after treatment (Ladouceur 2001). When PGs have control of their gambling, their self-esteem and self-efficacy improves. However, not all PGs completed the treatment, highlighting the importance of understanding the relapse process in problem gambling in order to improve attrition rates and reduce relapse.

Furthermore, PGs have more superstitious beliefs than non-PGs (Joukhador, Blaszczynski & Maccallum 2004). These cognitive distortions are core features of pathological gambling (MacKillop et al. 2006b; Nower & Blaszczynski 2010b), as

pathological gamblers are convinced of the truth of their perceptions (Ladouceur 2004).

When gamblers interpret their gambling losses in ways that encourage continued gambling, their gambling behaviours are more severe and the risks for problem gambling increase (Clarke et al. 2006; Emond & Marmurek 2010; Griffiths 1990; Joukhador, Blaszczynski & Maccallum 2004; Parke, Griffiths & Parke 2007; Toneatto et al. 1997). The PG then begins to chase their financial losses (Earl, 2002), leading to increased harm. Furthermore, the following beliefs significantly predict gambling frequency and problem gambling in adolescents:

- an illusion of control
- an expectancy of personal success
- an internal control over gambling where the gambler believes that they can beat the system or that they can will their lucky numbers to come up or that concentration or thinking positively might facilitate their winning at games of chance (Moore & Ohtsuka 1999).

Beliefs about winning big money, gambling urges, exposure to wealth compared to personal poverty, and gambling to solve money problems and to recoup losses, are important risk factors for the development of gambling problems, as are personal reasons, such as a loss of control and reduction of negative affect (Clarke et al. 2006). These studies add support for vulnerabilities associated with gambling problems being related to erroneous cognitions about gambling and the risks associated with problematic gambling behaviours. It has been established that the presence of cognitive distortions play a role in relapse, particularly if PGs believe they can experience a gambling win (Hodgins & el-Guebaly 2004). Gamblers who believe that they can predict the outcome of their gambling may also be at risk of increased gambling and relapse. Interestingly, permission-giving erroneous cognitions, for example, where the PG is able to convince themselves they have money available to gamble when this is not the case, has not been a focus of the literature.

2.4.5 Negative Affective States that Increase the Risk of Gambling Problems

The following studies review negative affective states and problem gambling behaviour, which may provide an understanding about factors that increase gambling behaviour and relapse. Gambling may begin as an innocent social activity, but can become a way in which some gamblers learn to cope when faced with situations that cause negative emotional states. Examples of such situations are a significant change in lifestyle, such as a change in location leading to social isolation and boredom, or a distressing situation, such as interpersonal problems, personal trauma, and harassment (McMillen et al. 2004).

In a recent study, Hodgins, Schopflocher, Martin, El-Guebaly, Casey, Currie, Smith and Williams (2012) used data from an adult community (n=1,372) to identify the risk factors for higher-frequency gambling and disordered gambling. It was suggested that the presence of any mental disorder might make an individual vulnerable to a gambling disorder. For example, those with mental health indicators, such as childhood maltreatment, parental gambling involvement, smoking of cigarettes, a diagnosis of alcohol/ drug dependence or obsessive-compulsive disorder, anxiety, or depression are more likely to experience gambling-related problems. Furthermore, mental health indicators were associated with gambling disorders among higher-frequency gamblers, suggesting that experiencing any mental disorder makes individuals vulnerable to problem gambling. The authors suggested higher-frequency gambling, particularly with EGMs, when combined with any type of emotional vulnerability, increased the likelihood of a gambling disorder (Hodgins et al. 2012). These emotional factors identified with problem gambling behaviour may also add to the PGs' vulnerability to relapse; thus, emotionally vulnerable PGs may be at an increased risk of relapse.

Negative affective states are prevalent amongst PGs. For example, a study by McCormick, Russo, Ramirez & Taber (1984) found a high prevalence of diagnosable affective disorders among PGs, which contributed to gamblers engaging in gambling and increasing the risk of relapse. In a more recent study, Chou & Afifi (2011) examined the role of problem gambling as a risk factor for psychiatric disorders using a nationally representative sample (n=33,231). The authors suggested that

disordered gambling is associated with the subsequent occurrence of psychiatric disorders such as any mood disorder, bipolar disorder, generalised anxiety disorder, post-traumatic disorder, any substance disorder, and alcohol dependence after adjustment for socio-demographic variables (Chou & Afifi 2011). Gambling itself can therefore be seen to create stress and negative affect and lead to psychiatric illness. In turn, these result in negative affect because of the psychiatric illnesses. Further risks associated with problem gambling behaviour, which were also associated with negative affective states, were depression, anxiety, stress, boredom proneness, impulsivity (Hopely & Nicki 2010; Morasco et al. 2007; Nower & Blaszczynski 2010b; Rockloff et al. 2011), and emotional difficulties with quitting (Doiron & Mazer 2001). Furthermore, the increasing severity of problem gambling is more likely to be associated with releasing tension than with winning money or seeking sensation (Clarke 2008); as gambling releases tension, this reinforces gambling behaviour. Negative affective states contribute to gamblers engaging in gambling behaviours and may lead to relapse as a way for PGs to relieve tension or distress.

In another study, gamblers prone to boredom were at risk of gambling, which would also increase the risk of relapse. For example, Hopely and Nicki (2010) suggested that individuals with an overexcited resting state are prone to boredom and engaged in gambling behaviour to relieve this uncomfortable internal state. However, the generalisability of these findings are restricted to casual online Texas Hold'em poker players (Hopely & Nicki 2010). In another study, gambling provided an escape from problems and was predictive of the development of pathological gambling, as was the reliance on others for monetary provision to support gambling (Nelson et al. 2009). PGs often rely on gambling as an escape from problems, particularly if they do not have a repertoire of effective coping strategies.

Gamblers are also at risk of problem gambling and relapse when they identify positive consequences after experiencing a gambling loss. For example, Parke, Griffiths and Parke (2007) found that positive thinking about gambling was problematic. The authors believed that gamblers needed to accept that gambling has negative impacts on their life in order for recovery to occur. They argued that a

reduction of negative affect from gambling was seen as a positive outcome for gamblers, which counteracted efforts to promote responsible gambling (Parke, Griffiths & Parke 2007). The relief from negative emotions that gambling provides makes it difficult for gamblers to see gambling in a negative way, or as a serious problem in their lives.

Negative affective states associated with poor support and maladaptive coping strategies add to the complexity of the PGs' reliance on gambling and their risk of relapse. For example, Thomas et al. (2009) conducted semi-structured interviews with 13 EGM PGs and 6 counsellors. The data was analysed using a grounded theory framework. The authors developed a theory that provided an understanding about accessibility to gaming establishments, the inviting atmosphere within these gaming establishments, and the situational and structural characteristics of EGMs, in maintaining excessive gambling. It was suggested that gambling enabled PGs to avoid problems, and that this maladaptive coping strategy, together with low social support, contributed to problem gambling. The availability of money (e.g., an inheritance) increased gambling while the lack of available money reduced gambling (Thomas, Sullivan & Allen 2009). These findings suggest the significance of a complex interaction between gambling availability, gambling environments, and negative emotions in initiating gambling, and structural EGM design in maintaining gambling. Support and effective coping also helped in reducing gambling. However, it was not clear how PGs made the decision to continue gambling despite the negative impacts they were experiencing. As well, the multifaceted aspects of the availability of money were not acknowledged.

A complex interaction of factors including cognitive, behavioural, and affective processes were found to either promote or inhibit gambling. For example, Morasco, Weinstock, Ledgerwood and Petry (2007) conducted a qualitative study with 84 pathological gamblers examining the efficacy of cognitive behavioural therapy (CBT). All the participants received an individual 8-session CBT course of treatment (Petry 2005a) and data were obtained from structured worksheets during each session. Three raters coded the participants' responses and assigned them to a range of categories. These categories were developed to code the individual responses

(recorded on the treatment worksheets) from each therapy session. The findings revealed that gambling triggers were associated with a lack of structured time and negative emotional states, such as depression or 'having a bad day at work'. Past reminders of gambling, such as advertisements or money, also served to promote gambling. Cognitions about winning, wanting to make money, negative emotional states, and particular times of the day, resulted in a return to gambling. The authors suggested that a complex interaction of factors promotes and maintains this disorder. The majority of participants reported a number of positive consequences of gambling, including enhanced emotional states or escaping from their problems. These positive consequences were only short-term and transitory, while the negative consequences were more enduring. These included chronic negative emotions, such as financial concerns, and familial problems, as adverse consequences of gambling. The ability to gain a better understanding of the antecedents and consequences of gambling, coping with triggers or urges, the development of more sophisticated coping mechanisms (e.g., coping statements, urge surfing) and support helped to reduce gambling. A portion of participants (19.6%) reported that they did not experience, or were unable to describe, physical urges or ongoing cognitions in anticipation of gambling. The authors admit that additional research is needed to fully understand the specific ways in which these factors affect gambling behaviour (Morasco et al. 2007). Negative affective states increased the risk of gambling, particularly in the presence of previous gambling triggers. PGs seem to have difficulty experiencing negative emotional states and gambled to escape from these aversive emotions. Once the gambler is able to gain insight into their behaviour, receive support, and engage their coping strategies, they were able to reduce their gambling and the risk of relapse. In this study, some participants did not experience, or were unable to describe, their physical urges or ongoing cognitions in anticipation of gambling, which raises the question about what was happening to these gamblers' thinking patterns as they anticipated gambling.

Similarly, Wood and Griffiths (2007) suggested that gambling was an escape that modified the gamblers' mood. The role of, and extent to which, gambling was used for coping was examined with 50 PGs using a structured grounded theory approach. An interview guide ensured that particular areas were covered. The authors

suggested that gambling was an escape, with modification of mood achieved through fantasies, dissociation, and changes in arousal. Some PGs identified mood modification as a major reason to gamble, while for others, gambling filled the emptiness and helped them to avoid problems. The factors that influenced the need to gamble were either control beliefs or the regret of losing money. Escape was the main issue identified in continued problem gambling. The authors suggested that those able to cope with unwanted emotions and environmental cues were less likely to relapse (Wood and Griffiths 2007). Gamblers entered a fantasy world or experienced dissociation as a means to avoid negative emotions. As gamblers were able to cope with negative emotions, the risks of gambling, and therefore relapse, were reduced. This study observed gambling as a means to escape negative emotions, but did not take into consideration the complexity of how these factors interacted to facilitate ongoing relapse in the PG. It is not clear why PGs continued to engage in the decision-making process to gamble, even though it was detrimental for them to continue to chase their financial losses.

Likewise, in a study by Ricketts and Macaskill (2003), engaging in gambling was seen as an avoidant coping strategy that enabled PGs to circumvent negative emotions. The authors explored the nature of problem gambling as a form of emotional management, using a grounded theory approach. Semi-structured interviews conducted with 14 male PGs assisted in understanding treatment-seeking gamblers' experiences. Three types of emotion-altering effects from gambling were identified: 1) arousal – the buzz, excitement or enjoyment of gambling; 2) shutting off from unpleasant emotional states by gambling; and 3) achievement – an emotional link to winning and the perception of being an expert at gambling, irrespective of outcome. The authors reported that the repeated failure of control resulted in PGs developing a tolerance of the high levels of cost from repeated cycles of gambling. However, PGs who were more confident in their ability to cope with cravings, unwanted emotions, and conflict were less likely to relapse (Ricketts and Macaskill 2003). This study suggests that if PGs can manage their desire to gamble, and deal appropriately with negative emotions, they are less likely to relapse. When PGs use gambling as a coping strategy, their ability to engage in the change process diminishes as they avoid acknowledging the harms of their gambling and continue to

gamble. These findings raise the question of how PGs develop a tolerance to the harms caused by repeated cycles of relapse. This suggests that PGs cannot self-observe during relapse, or learn from the negative consequences of their destructive behaviour.

The emotional difficulties associated with quitting gambling also maintain ongoing gambling, as shown by Doiron and Mazer (2001). These authors conducted an exploratory descriptive study into the experiences of Video Lottery Terminal (VLT) gamblers using semi-structured interviews. The authors reported that difficulties associated with stopping gambling included the emotional struggle of quitting and the development of strategies to break the habit. They proposed three hypotheses:

1. Problems in relationships contributed to the occurrence of problem gambling
2. VLT addiction can become overwhelming and an important relational experience where VLTs have become an increasingly common choice as the objects for filling the relational void in people's lives
3. VLT addiction develops gradually and is a process over which gamblers can exercise some degree of choice (Doiron and Mazer, 2001).

Similar findings were revealed in an earlier study based on data collected by one of the authors at an Alberta casino. The author used first-hand observations and data from informal talks with players and staff, and also tuned into players' table conversations. In addition, relevant literature was used to develop a theoretical model of problem gambling where social rewards were seen as positive reinforcers. These increased the gambler's commitment to gambling establishments. Conflicts were negative reinforcers that were temporarily relieved when the gambler re-entered the gambling institution and gambled. It was suggested that a commitment to a gambling institution depended on the interaction of social rewards available in the gambling institution, and an inability or unwillingness to conform to outside society (Ocean & Smith 1993). This study provided a theory of problem gambling, but it was not clear why PGs sought short-term relief from conflict that would cause significant harm.

The participants in these studies have provided rich data about their personal experiences which suggest that relapse in PGs is a complex process wherein there are initiation, cyclical relapse, and cessation phases, in the experience of problem gambling. Such studies suggest that the initiation of gambling is associated with external stimuli such as advertising, competitions, winning (Hing & Nesbit 2010; Legerwood & Petry 2007), the novelty, the gambling environment, and money, and internal stimuli such as cravings, gambling urges, positive memories of gambling, emotional conflict or negative emotional states, financial problems, access to funds, and lack of structured time. Such factors could then operate in the initiation of relapse episodes, particularly where the gambler learns to avoid experiencing negative emotional states (Morosco et al. 2007; Wood & Griffiths 2007; Ricketts & MCaskill 2003; Dorion & Mazer 2001; Ocean & Smith 1993), and continues to relapse as a coping strategy (Thomas 2009). The data also showed that persistent cycles of relapse, alternating with control, were maintained by positive cognitions about winning, and the avoidance of negative affective states associated with poor social support, relationship issues, limited social spaces, difficult psychological and/or psychosocial states, and maladaptive coping habits (Doiron & Mazer 2001; Morasco et al. 2007; Ricketts & Macaskill 2003; Thomas, Sullivan & Allen 2009). Despite these findings, there are many unresolved issues to be explored, for example, how these factors influence relapse and, in particular, why the PG cannot learn from repeated harm and continues to relapse.

Similarly, Rocklof, Greer, Fay and Evans (2011) illustrated how negative self-reflection, in which a PG has thoughts about not liking oneself, also increased gambling behaviour. The authors investigated whether thinking about oneself in negative terms increased gambling intensity. These perceptions of gamblers (n=105) with and without pre-existing gambling problems were investigated. Participants played a laptop simulated EGM. Prior to play, the subjects, under test conditions, audio tape-recorded two minutes of self-reflection on either: (1) “things you like about yourself”, or (2) “things you don't like about yourself”. The participants gambled more intensively under negative self-reflection conditions compared to the control conditions. According to the authors, negative self-reflection resulted in more intense gambling, motivated by an escape from self-awareness, resulting in a greater

risk of gambling and possibly relapse (Rockloff et al. 2011). Gamblers who engage in negative self-reflection have an increased risk of developing gambling problems to help avoid experiencing the distress of these negative experiences. This may also result in relapse as PGs return to gambling to avoid distressing emotions.

Factors such as alcohol, nicotine, drug, mood, anxiety, and/ or personality disorders were all associated with at-risk problematic gambling. For example, Pietrzak, Morasco, Blanco, Grant and Petry (2007) examined the association between gambling, psychiatric, and medical disorders in a nationally representative sample of 10,563 U.S. adults aged 60 or older, using data from the National Epidemiologic Survey on Alcohol and Related Conditions. The authors reported that 0.85% of subjects had a lifetime diagnosis of pathological gambling. These gamblers were significantly more likely to have alcohol, nicotine, drug, mood, anxiety, and/ or personality disorders. In addition, these gamblers had a past year diagnosis of arthritis or angina.

In a study in Ontario, Canada, Boughton and Falenchuk (2007) examined gambling behaviours, family and personal histories, and co-morbid psychological disorders in 365 female gamblers. The participants received a survey with questions on demographics, gambling behaviours, family and personal history, and treatment. A modified questionnaire was used based on the literature and research on female problem gamblers. The authors reported vulnerability and comorbidity factors which made female problem gamblers vulnerable to gambling-related problems. For example, for these participants, an unsettled and stressful personal and family history, often involving both emotional and physical abuse, was also associated with gambling problems. Furthermore, levels of psychiatric co-morbidity were reported to be high, with depression being the most common, followed by anxiety. Nearly half had experienced suicidal ideation, and 29% indicated a history of suicide attempts. Therefore, the rates of psychiatric comorbidity were higher than those found in the general population, suggesting problem gambling was a complex combination of issues and maladaptive coping strategies (Boughton & Falenchuk 2007). This study demonstrated the complexity of problem gambling and associated co-morbidities. Despite the ongoing distress experienced by these PGs, they continued to engage in

problematic gambling behaviours. It would appear that they were unable to learn that this maladaptive coping strategy was adding to their distress, and for some, it appeared that suicide was a possible solution to end their suffering.

Similar findings where PGs experienced significant co-morbidity were reported in a study by Petry, Stinson and Grant (2005). In this study, nationally representative data (2001-2002) on lifetime prevalence and comorbidity of pathological gambling and psychiatric disorders were used to evaluate sex differences and comorbid associations in the United States. A survey was used covering 43,093 residents. It was reported that nearly three quarters of the PGs had an alcohol use disorder, 38.1% a drug use disorder, 60.4% nicotine dependence, 49.6% a mood disorder, 41.3% an anxiety disorder, and 60.8% a personality disorder. Furthermore, the majority of associations between PGs and substance use, mood, anxiety, and personality disorders were positive and significant ($p < .05$) (Petry, Stinson & Grant 2005). In an earlier study, Gernstein, Hoffman, Larison, Engelman, Murphy and Palmer (1999) analysed five data sets on gambling behaviour, problems, and attitudes. Three data sets consisted of national surveys of 2,417 adults via telephone, one of 530 adults intercepted in gaming facilities, and one of 534 adolescents (16 and 17 years of age) via telephone. In addition, a 100-community statistical database was used, and 10 community case studies which examined the impacts of casino openings. The authors reported that both pathological and problem gamblers were more likely to have mental or emotional problems, including manic symptoms and depressive episodes, and to have received mental health care in the past year (Gernstein et al. 1999). Therefore, gamblers who experience emotional distress are at risk of problem gambling, and therefore, of relapse.

In another study, alcohol co-morbidity was found to have added to the complexity of problem gambling. In this study, a random-digit-dial telephone survey was conducted in 1999-2000 with a representative U.S. sample of 2,168 adult respondents who gambled in the year prior to the interviews. Emotional distress caused by alcohol pathology, and the associated impacts on income, was found to have exacerbated pathological gambling symptoms (Welte et al. 2004), as did the emotional distress of relationship problems (Doiron & Mazer 2001).

Therefore, co-morbid mental health conditions increase the risk of relapse (Boreham et al. 2006; Daughters et al. 2005; Hodgins & el-Guebaly, 2010; Petry et al. 2007; Sander & Peters 2009; Wood & Griffiths 2007), which supports the findings that gamblers who find it difficult to manage ongoing mental health problems are at risk of developing problem gambling behaviours and therefore of continuing to relapse.

Clarke, Tse, Abbott, Townsend, Kingi and Manaia (2006) compared key indicators for both the development of substance abuse and indicators of problem gambling using interviews, focus groups, and surveys of PGs. Participants consisted of 345 adults who were descendants of four ethnic population groups. It was found that low economic status, reduction of negative affect, loss of control, and gambling environments that included glamorous advertising and social inducements, were specific risk factors for problem gambling (Clarke et al. 2006). This suggests that a range of factors including emotional, environmental, cravings, cognitions, and co-morbid mental health disorders, increase a gambler's propensity to gamble. In addition, negative affective states contributed to a gambler's vulnerability to relapse. Similar findings were established by Thomas et al. (2003). In this study, 155 gamblers completed a questionnaire that included questions about gambling behaviour and demographics. Measures of coping, problem gambling, and mood states were taken. Thirty-two participants were designated as PGs. The results of the study revealed that PGs were likely to be depressed, anxious, stressed, bored, and/or lonely, and used avoidance coping styles to deal with stressful events or feelings. Female gamblers exhibited the most gambling problems, scoring high on avoidance coping. Male gamblers who were lonely or stressed experienced more symptoms of problem gambling. For male gamblers, mood states and avoidance coping were not significantly associated with problem gambling (Thomas & Moore 2003). These factors may trigger relapse, particularly if more than one factor is involved in what appears to be a dynamic process, adding to these gamblers vulnerability to relapse.

Blaszczynski, McConaghy and Frankova (1990) reported that affective disorders are risk factors for problem gambling, as gambling alleviated an aversive mood state. Gambling to avoid personal issues or dysphoric mood, guilt and shame, and a lack of

readiness to change, were attributed to treatment drop-out (Dunn, Delfabbro & Harvey 2012). Negative affect is a risk for relapse, which appears to be a priority for the PG, despite the negative consequences they may experience.

2.4.6 Personality traits

The American Psychiatric Association (1994) defines personality traits as “enduring patterns of perceiving, relating to, and thinking about the environment and oneself ... exhibited in a wide range of important social and personal contexts” (p. 770). Unsurprisingly therefore, personality traits have also been examined as risk factors for gambling relapse.

For example, Costa & McCrae (1999) examined which domains in the NEO Personality Inventory–Revised predicted relapse and dropout with a sample of 73 treatment-seeking slot-machine pathological gamblers. Twelve months after starting cognitive – behavioural therapy participants were categorised in groups as abstinent versus relapsed or completers versus dropouts. At 1-year follow-up, 29% of participants were abstinent, and 48% had completed treatment. The authors reported those who relapsed had significant scores on neuroticism and lower scores on conscientiousness. The dropout group scored significantly higher on neuroticism and lower on agreeableness and conscientiousness than the completer group. Low scores on conscientiousness emerged as a significant predictor of relapse and low scores on conscientiousness and agreeableness predicted drop out. The authors believed those who scored higher on neuroticism and lower on conscientiousness and agreeableness would be less likely to benefit from psychological treatments. These participants would also be less likely to work hard, tolerate discomfort, delay gratification of impulses and desires and rarely complete treatment, and relapse. Those with low scores on agreeableness may have suspicion and an uncooperative attitude towards treatment (Ramos-Grille, Gomà-i-Freixanet et al. 2013). These findings suggest the importance of considering personality types when providing treatment as the presence of different personality types may impact on the PGs ability to complete treatment and therefore increasing their risk of relapse.

Furthermore, personality traits were factors that contributed to gambling. Hodgins, Schopflocher, Martin, el-Guebaly, Casey and Currie (2012) used random-digit-

dialling to recruit five volunteer age cohorts for a 5-year longitudinal study of gambling involvement in the province of Alberta, Canada. The authors examined data from an adult community sample (n=1,372), which provided detailed history of gambling involvement using a number of different measures.

It was established that the risk factors for higher-frequency gambling and disordered gambling were being male, single, and exposed to gambling environments. Interestingly, those who started to gamble at a younger age gambled more frequently. Furthermore, excitement-seeking and personality traits such as being antisocial, excitement seeking, and obsessive-compulsive were higher among more frequent gamblers (Hodgins et al. 2012). As well, personality factors such as sensation-seeking and impulsivity were associated with treatment drop-out (Myrseth et al. 2009), and for those who did drop out of treatment, the risk of relapse increased. For example, Smith et al. (2010) analysed outcomes following gambling treatment to identify factors associated with treatment drop-out. A significant predictor of treatment drop-out was the baseline measure of sensation-seeking traits. As this was not a controlled study, the specific causes of the changes being observed could not be determined (Smith et al. 2010b). However, it was revealed that PGs with personality factors including impulsivity and sensation-seeking may be at risk of relapse if they drop out of treatment programs prematurely.

A greater need for stimulation and having a limited variety of satisfying behaviours can result in an increased severity of pathological gambling symptoms. In a study with 30 in-patients with pathological gambling, and 30 control subjects, it was found that pathological gambling symptoms were also associated with a need for stimulation. In addition, the lower the variety of satisfying behaviours experienced by the gambler, the more severe were the pathological gambling symptoms experienced by the gambler (Hammelstein & Roth 2010). This may therefore contribute to relapse for some PGs, and in particular, for those who are sensation-seekers. These studies have highlighted that gamblers seeking stimulating experiences were at risk of gambling, and therefore, of relapse.

Similarly, Myrseth, Pullesen, Molde, Johnsen and Lorvik (2009) investigated personality variables and pathological gambling in 90 pathological gamblers and a contrast group of non-pathological gamblers (n=66). Measures for impulsivity and sensation-seeking were administered. The authors suggested that high impulsivity explained why gamblers kept engaging in gambling behaviour, despite the long-term negative economic and familial impacts (Myrseth et al. 2009). Those with high impulsivity were at risk of problematic gambling behaviours and therefore of relapse. Furthermore, Blaszczynski and Steel (1998) investigated associations between personality disorders, psychological distress, and gambling using 82 consecutive admissions to a gambling behavioural treatment program. They reported that most subjects met the diagnostic criteria for at least one Personality Disorder (93%), and each subject had an average of 4.6 personality disorders. The majority were borderline, histrionic, and narcissistic personality disorders, which were associated with high levels of impulsivity and affective instability. Antisocial personality disorder and narcissistic personality disorder were considered to have impacts on the severity of the problem gambling (Blaszczynski & Steel 1998). Although personality factors and negative affective states are associated with problem gambling, it is not clear how these factors interact and impact on problem gambling and relapse. It would seem that PGs who experience personality disorders have an increased vulnerability to relapse. For example, impulsivity may influence poor decision-making processes related to gambling, while high levels of sensation-seeking behaviour have been associated with the risk of gamblers engaging in a greater number of gambling activities (Coventry & Brown 1993).

Similarly, Carlton and Manowitz (1994) reported using an impulsivity scale to distinguish recovering male pathological gamblers (n=12) from male controls (n=15). A questionnaire concerning past gambling was administered using “twenty questions” from Alcoholics Anonymous modified to use with gambling. The control subjects did not exhibit pathological gambling. It was reported that impulsivity differentiated gamblers from the control group (Carlton & Manowitz 1994). The authors suggested that impulsiveness associated with problem gambling may increase the risk of relapse. However, the small sample size limits the findings of this study.

In an earlier study, Coventry and Brown (1993) investigated two groups of subjects (n=79) from off-course betting offices, and a sample of the general population (n=96), using questionnaires. The authors suggested that sensation-seeking was important for the choice of the form of gambling and in the way that gambling develops. These findings suggest that the risk of pathological gambling is associated with impulsivity and sensation-seeking traits. These traits may increase a gambler's risk of relapse if they seek immediate reward and do not consider the consequences of their behaviour.

Interestingly, in another study, substance abusers with gambling problems performed more impulsively than non-pathological gamblers (Petry 2001), therefore, impulsivity is associated with an increased risk of problem gambling (Blaszczynski, Steel & McConaghy 1997; Carlton & Manowitz 1994; Hammelstein & Roth 2010; Slutske et al. 2005). Similar results can be found in another study where gamblers who were treatment drop-outs had significantly higher levels of impulsivity compared with treatment completers (Leblond, Ladouceur & Blaszczynski 2003). The presence of sensation-seeking traits leading to treatment drop-out (Lebold, Ladouceur & Blaszczynski 2003; Smith et al. 2010b) would increase a gambler's risk of relapse if they had not completed a course of treatment. Furthermore, Blaszczynski et al. (1997) highlighted the clinical importance of understanding features of trait impulsivity within the psychopathology of pathological gambling in order to provide the best interventions (Blaszczynski, Steel & McConaghy 1997).

The following factors have been demonstrated to increase the risk of problem gambling behaviour: at-risk socio-demographic groups (Delfabbro 2002b; Welte, et al. 2004), gambling opportunities (Clarke et al. 2006; Delfabbro 2002b; Gernstein et al. 1999; Goudriaan et al. 2008; Jacques, Ladouceur & Ferland 2000; Pearce et al. 2008; Sharpe 2004; Thomas, Sullivan & Allen 2009; Welte et al. 2004). Additionally, gambling incentives and machine design are associated with at-risk gambling (Breen & Zimmerman 2002; Delfabbro 2005; Griffiths 1999; Livingstone et al. 2008b; McMullan & Miller 2009; Parke & Griffiths 2006; Productivity Commission 2010; Thomas, Sullivan & Allen 2009). As well, gamblers feel

psychologically relieved in the gambling atmosphere (Marmurek et al. 2007,) and compulsive gambling is driven by aversive tension (McConaghy et al. 1983) as the PG wants to escape this unpleasant inner state. The PG engages in gambling behaviour or relapse often to relieve a negative affective state, despite the consequences they may have to endure.

Epidemiological factors (Bakken et al. 2009; Griffiths et al. 2010; Kessler et al. 2008; Lund 2007; MacDonald, McMullan & Perrier 2004; Nielson 2006; Petry, Stinson, & Grant 2005; Welte et al. 2002; Petry, Stinson & Grant 2005; Thomas & Jackson 2008), erroneous cognitive distortions (Benhsain, Taillefer & Ladouceur 2004; Joukhador, Blaszczynski & Maccallum 2004; Ladouceur 2004; MacKillop et al. 2006b; Nower & Blaszczynski 2010b; Toneatto 1999; Walker 1992) and co-morbidity (Blaszczynski, McConaghy & Frankova 1990; Boreham et al. 2006; Boughton & Falenchuk 2007; Chou & Afifi 2011; Doiron & Mazer 2001; Hopley & Nicki 2010; Magid, MacLean & Coldera 2007; McCormick, et al. 1984; Morasco et al. 2007; Nelson et al. 2009; Parke, Griffiths & Parke 2007; Pietrzak et al. 2007; Welte et al. 2004; Wood & Griffiths 2007) are also associated with at-risk problem gambling behaviours, as are impulsivity, sensation-seeking, neuroticism, and psychoticism (Blaszczynski, Steel & McConaghy 1997; Carlton & Manowitz 1994; Coventry & Brown 1993; Jiménez-Murcia et al. 2010; Leblond, Ladouceur & Blaszczynski 2003; Myrseth et al. 2009; Smith et al. 2010b).

These studies highlight the numerous factors associated with the risk of problem gambling behaviour and may therefore be associated with relapse. Clearly, negative affective states increase the risk of relapse (Boreham et al. 2006; Daughters et al. 2005; Hodgins & el-Guebaly 2010; Petry et al. 2007; Sander & Peters 2010; Wood & Griffiths 2007) and support the findings that gamblers have an increased risk of engaging in problematic gambling behaviours in the presence of negative affective states (Blaszczynski, McConaghy & Frankova 1990; Boreham et al. 2006; Boughton & Falenchuk 2007; Chou & Afifi 2011; Doiron & Mazer 2001; Hopley & Nicki 2010; Magid, MacLean & Coldera 2007; McCormick et al. 1984; Morasco et al. 2007; Nelson et al. 2009; Parke, Griffiths & Parke 2007; Pietrzak et al. 2007; Welte et al. 2004; Wood & Griffiths 2007). It may well be that some of these factors come

together, as co-morbidity is often associated with repeated and intense periods of negative affect, as occurs in those people who score high on personality traits such as impulsivity and sensation-seeking or those who are in low socio-economic classes where poverty, stress, and single-parenthood often result in significant and frequent negative affective experiences. Tension relief is offered by gambling, and the drive towards habitual gambling continues to escalate until the consequences of problem gambling intervene. Relapse may become more frequent as a result.

Relapse in PGs is a complex process wherein there are initiation, cyclical relapse, and cessation phases in the experience of problem gambling. Such studies 'as noted above' suggested that the initiation of gambling is associated with external stimuli such as advertisements, the novelty of the gambling environment, and money (Hing & Nesbet 2010), and internal stimuli such as cravings, gambling urges, positive memories of gambling, emotional conflict or negative emotional states, financial problems, access to funds, and a lack of structured time. Such factors could then operate in the initiation of relapse episodes, particularly where the gamblers learn to avoid experiencing negative emotional states and continue to relapse as a coping strategy. The data also showed that persistent cycles of relapse, alternating with control, were maintained by positive cognitions about winning and the avoidance of negative affective states associated with poor social support, relationship issues, limited social spaces, difficult psychological and/ or psychosocial states, and maladaptive coping habits (Doiron & Mazer 2001; Morasco et al. 2007; Ricketts & Macaskill 2003; Thomas, Sullivan & Allen 2009).

The findings from these studies are limited by small sample sizes (Carlton & Manowitz 1994; Lebold, Ladouceur & Blaszczynski 2003), samples that do not generalise to other populations (Carlton & Manowitz 1994; Petry 2001), and cross-sectional designs that make it difficult to draw firm conclusions (Myrseth, Pallesen, Molde, Johnsen & Lorvik, 2009). In some cases, the authors did not differentiate between different subgroups of gamblers, and in others, they used non-validated measures for the diagnosis of pathological gambling (Blaszczynski, Steel & McConaghy 1997; Carlton & Manowitz 1994), did not use a control group (Smith et

al. 2010b), or only measured personality characteristics at pre-treatment (Myrseth et al. 2007).

These methodological problems suggest that caution is needed when evaluating these factors in relation to the risks of problematic gambling behaviour and relapse. However, they do provide an understanding about the factors that may contribute to relapse.

2.5 Factors Associated with Reduced Risk of Relapse

This section explores the factors that reduce the risk of relapse in problem gambling where PGs are able to maintain awareness about the risks of relapse. For these PGs, their vigilance and motivation to commit to change can be strengthened. This was much enhanced when the PG had positive social support, and people or groups available to assist them to develop cognitive and behavioural strategies to enable them to manage the urge to gamble and maintain abstinence.

However, the complex interactions of facilitatory and protective factors affecting relapse remain poorly understood (Ledgerwood & Petry 2006). Therefore, in addition to those factors that reduce relapse, the factors involved in reduced gambling behaviours are included in this review. Such factors include the management of relapse – coping skills, support, strategies to improve quality of life and to avoid the risks of gambling – and treatment that addresses problematic gambling.

2.5.1 Managing Relapse

Knowledge about natural recovery in problem gambling can provide an understanding about the factors that enable a PG to begin the change process. This section discusses the role of natural recovery from problem gambling, and the strategies used by the PG to enable them to manage the ongoing risk of relapse.

Gamblers can make a spontaneous recovery from the ongoing risk of relapse. For example, Slutske, Blaszczynski and Martin (2009) investigated the rates of recovery, treatment-seeking, and natural recovery from pathological gambling in a community-based national survey. The participants consisted of 4,764 individuals from a community-based Australian national twin registry. Of these, 104 had a lifetime history of pathological gambling. The main outcomes examined were treatment-seeking, recovery, and natural recovery among individuals with a history of DSM-IV pathological gambling. The prevalence of treatment-seeking was determined by the percentage of individuals with a lifetime history of DSM-IV pathological gambling who had ever sought help from a professional, or had attended Gamblers Anonymous. Recovery was estimated as the percentage of individuals with a lifetime

history of DSM-IV pathological gambling who did not report pathological gambling symptoms in the past 12 months. The authors reported that natural recovery was not uncommon among pathological gamblers, with 82% of participants recovering without treatment. Recovery was higher among men than women (92% versus 57%). However, 11% of these participants did not believe that they had ever had a gambling problem. It was suggested that this “spontaneous remission” was because the gambling problems were developmentally or situationally limited, and had occurred without any intention or effort (Slutske, Blaszczynski & Martin 2009). Further understanding about the process of natural recovery may help to reduce the risks of gambling relapse by providing an insight into the strategies used by these gamblers to recover.

In an earlier study, Slutske et al. (2006) reviewed the rates of recovery, treatment-seeking, and natural recovery among pathological gamblers. To establish the replicability of the results, data were drawn from two U.S. national surveys. The Gambling Impact and Behaviour Study (GIBS) (Arbor 2002) and the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) (National Institute on Alcohol Abuse and Alcoholism 2004). Lifetime and past-year DSM-IV diagnoses of, and treatment-seeking for, pathological gambling were obtained from each study. The National Opinion Research Centre (NORC) DSM-IV Screen for Gambling Problems (NODS) (Gernstein et al. 1999) was used for the GIBS. Prevalence of recovery, treatment-seeking, and natural recovery were estimated from the GIBS (n=2,417) and NESARC (n=43,093). A lifetime history of DSM-IV pathological gambling disorder (n=21 and n=185, respectively) was reported. The prevalence of recovery, treatment-seeking, and natural recovery were estimated among individuals from the GIBS (n=2,417) and the NESARC (n=43,093), who reported a lifetime history of DSM-IV pathological gambling disorder (n=21 and n=185, respectively).

The authors reported that of those with a lifetime history of DSM-IV pathological gambling, 36% to 39% did not experience any gambling-related problems in the past year. Furthermore, according to the authors, only 7% to 12% had ever either sought formal treatment or attended meetings of Gamblers Anonymous. About one-third of

those with a pathological gambling disorder in both samples had a natural recovery. The authors suggested that pathological gambling may not always be a chronic and persisting problem, and that some may recover, most without formal treatment. However, it is not clear how these participants recovered, and for how long an individual should be symptom-free to be considered as fully “recovered” (Slutske 2006). It is also not clear what strategies enable PGs to achieve ongoing abstinence. Longer follow-up periods may help to determine if gamblers can achieve long-term abstinence or natural recovery.

Hodgins and el-Guebaly (2000) conducted an exploratory study in order to understand the process of recovery from gambling problems. The authors compared (n=43) resolved and (n=63) active pathological gamblers. Open-ended questioning and a checklist assessed the specific reasons for resolution. All responses were reviewed and a coding scheme derived through content analysis. The major reasons for resolution were negative emotions such as stress, panic, depression, and guilt. Financial concerns also contributed to resolution. The median length of resolution was 14 months, with a range of 6 weeks to 20 years. Eighty-four per cent of participants reported stopping immediately (“cold turkey”), while the remaining participants reported tapering out over time. Over 80% of the non-treated participants did not seek treatment, preferring to “do it on their own”. Those with more severe gambling behaviours sought treatment or attended Gamblers Anonymous sessions. Resolved gamblers used a number of behavioural strategies involving stimulus control (e.g. staying away from gambling situations), or engaging in new hobbies or projects. Cognitive-motivational strategies included recalling past problems with gambling, and anticipating future problems. The non-treated gamblers used “will power”.

In total, 12 participants (28%) reported attending treatment as helpful, while social support from family or friends was reported by 30%. Other strategies included cognitive-behavioural (33%), focusing on improvement (19%), cognitive strategies (16%), stimulus control (12%), and 5% reported that they limited access to money as a maintenance strategy. The authors suggested that a continuum of treatment options

for PGs might be helpful (Hodgins & el-Guebaly 2000). Effective strategies may enable gamblers to terminate a gambling relapse, particularly if they have support.

Thomas, Moore, Kyrios and Bates (2010) suggested that when PGs set limits related to time and money spent on gambling, and separated their winnings from their original stakes, they can reduce their problem gambling. Furthermore, when PGs maintained awareness about their gambling by expecting to lose, relating spending to other items from the real world, and being aware of the risks of their gambling, they gained some control over their gambling. Seeking help from friends or family, mutual help groups, using self-exclusion orders or external limitations such as financial or family commitments, disapproval or restrictions placed upon them by close others, avoiding venues, restricting access to money at venues, and cutting up credit cards, were also considered to be helpful strategies.

Some gamblers controlled excessive gambling by abstinence and replacing gambling with other more adaptive hobbies. Self-regulation strategies increased from implicit attitudes towards keeping gambling social, through to extreme strategies where the gambler abstained from gambling. The extreme self-regulation strategies were used according to need, while frequent and problem gamblers were likely to implement strategies across the board in an attempt to control their gambling behaviour. However, retaining gambling as a social experience rather than as a functional experience as a regulation strategy, was more likely to be successful by non-PGs (Thomas et al. 2010). It is interesting that harm minimisation strategies were more effective for non-PGs and not as effective for those struggling to maintain abstinence.

Stimulus control strategies and supportive relationships enabled gamblers to terminate a gambling relapse. For example, Thygesen and Hodgins (2003) administered the Relapse Experience Interview (Marlatt & Gordon 1989) with 60 participants to establish the reasons and strategies used to terminate a gambling relapse. Content analysis was used to create new categorisation schemes to classify the reasons for terminating gambling relapse. Helpful factors included acknowledging the negative impacts of relapse, such as disliking the feelings of

losing, running out of money, and the impact of gambling on relationships. Additionally, stimulus control by limiting access to money or avoiding venues, saying “no” or using will power, counter-conditioning by keeping busy, and having a supportive relationship, were all important in terminating a gambling relapse (Thygesen & Hodgins 2003). This study focused on the importance of both effective strategies and acknowledging harms associated with problem gambling in reducing relapse. The cognitive strategies included reassessing the odds of winning at gambling, examining lives without gambling, and the exploration of erroneous beliefs about gambling. Interestingly, cognitive strategies that encourage the PG to explore cognitions that facilitated gambling when it would cause ongoing harm were not explored in this study.

Hodgins, Wynn and Makarchuk (1999), using a follow-up telephone survey, investigated the proportion of “recovered” problem and pathological gamblers in a community sample of people who specifically identified themselves as recovered or improved in a provincial prevalence survey. Forty-two respondents were interviewed by telephone (76% response rate). The authors reported that 6 of the 42 acknowledged experiencing a problem with gambling, and all reported that they were not experiencing present gambling problems. Interestingly, most of the participants in this group were “naturally recovered” and felt that treatment was unnecessary (5 of the 6). The authors found that the reasons for recovery were engaging in new activities, financial and emotional factors, and the use of stimulus control strategies (Hodgins, Wynne & Makarchuk 1999). Acknowledging the impacts of gambling-related harms is important in recovery however it is clear from this study that stimulus control strategies are also important.

Zion, Tracey and Abell (1991) investigated 43 Gamblers Anonymous (GA) (Gamblers Anonymous 1984) members to determine if spousal participation in Gam-Anon, the companion support group, decreased the gambler's relapse into gambling behaviour (see Appendix 2 for a description of both GA and Gam-Anon). There were no significant differences reported in the relapse of gamblers with or without a spouse in Gam-Anon. However, the authors did not take into account family impacts, including improved family functioning, or increased assertiveness by the spouse

(Zion, Tracy & Abell 1991). The role of support in maintaining abstinence is complex and not well-understood, particularly in terms of how these factors influence each other to reduce problem gambling behaviour or relapse.

Similarly, the role of relapse prevention strategies is not clear in preventing relapse, as for some PGs, they are not effective at all. For example, Hodgins et al. (2007) developed relapse prevention booklets for 169 individuals who recently quit gambling. The participants were randomly assigned to either a 'single mailing' condition, receiving a booklet about the relapse prevention information, or to a 'repeated mailing' condition, receiving a summary booklet and seven additional booklets mailed regularly over a 12 month period. Participants reported that the following strategies were helpful in reducing relapse: keeping busy, limiting access to money, accessing treatment, and stimulus control by staying away from gambling opportunities.

Gambling involvement was compared between the two groups during the 12-month follow-up. At the 6-month follow-up, 78% of participants had relapsed at least once. At 12 months, 77% had gambled since the 6-month interview. It was reported that those who received repeated mailings were more likely to meet their goal, but they did not differ from the participants receiving the single mailing in either the frequency of gambling or the extent of gambling losses. The authors suggested that providing extended relapse prevention bibliotherapy to PGs does not improve outcomes (Hodgins et al. 2007a). Less than half of the participants remained abstinent, despite relapse prevention education.

Relapse is less likely to occur, however, in those who are more confident in their ability to cope with cravings, unwanted emotions, conflict (Ricketts & Macaskill 2003), irrational thinking patterns associated with gambling (Emond & Marmurek 2010), and environmental cues (Wood & Griffiths 2007). Utilising effective strategies is important for the gambler to break the gambling habit and reduce the risk of relapse, such as changing routines, and keeping busy (Doiron & Mazer 2001). Morasco et al. (2007) identified the following as helpful strategies for reducing relapse risk: seeking social support, professional or paraprofessional support (for

example going to GA, talking with a therapist or pastor), cognitive coping skills such as carrying out a functional analysis, urge surfing (staying with the urge until it passes), observing the craving in a new way, repeating coping statements, distractions such as keeping busy and engaging in a hobby, and avoidance.

When the PG is able to maintain abstinence, they experience improvements across many areas of their life. For example, Blaszczynski et al. (1991) investigated the characteristics associated with 120 pathological gamblers' self-assessment of abstinence or controlled gambling following treatment. Participants had completed a 1-week pathological gambling behavioural treatment programme two to nine years earlier. Sixty-three (52.5%) of the subjects were successfully followed-up. The mean follow-up period was 66.4 months. The authors reported that 14.2% of those followed-up completed a brief behavioural intervention and achieved complete abstinence over a mean of 5 years post-treatment. When abstinence was defined as 'no episodes of gambling in the immediate month preceding the follow-up interview and for the majority of the post-treatment period', this figure was 28.6%. Of the follow-up patients, 38% reported that they maintained controlled gambling, increasing the rate of success to 66.6%. The abstinent and controlled subjects also experienced an improvement in their interpersonal relationships. Of the abstinent subjects, nine (50%) experienced no urge to gamble, four (22.2%) felt the urge at least once weekly or more, and five (27.7%) at least once per fortnight. Reduced expenditure on gambling was associated with an increased quality of life and abstinence. Controlled gambling showed comparable improvements in social and financial functioning and decreased ratings of psychopathology (Blaszczynski, McConaghy & Frankova 1991). As PGs learn to control their gambling, the quality of their lives improves. The improvement in the quality of relationships facilitates the gambler's ability to maintain abstinence and have greater confidence. For example, gamblers confident in their ability to cope with cravings, unwanted emotions, and conflict are less likely to relapse (Ricketts & Macaskill 2003). Little is known about how effective coping strategies help PGs to maintain abstinence in the long-term, or why these strategies are not effective for some PGs who continue to relapse.

2.5.2 Support in Reducing Relapse

Positive support from a significant other, or a peer, may enable a PG to reduce the risk of relapse. A number of studies have found that supportive partners or peers are protective against problem gambling behaviour (as discussed in Section 2.6.3). However, in a study by Oei and Gordon (2008), relapse rates were still high for gamblers with support. The authors examined the differences between abstinent and relapsed gamblers among 75 Gambling Anonymous (GA) members. Only 44 (58.7%) participants were abstinent in the 12 months prior to completing the questionnaires in this study. The authors established that involvement in GA meetings, and support from family and friends had the greatest influence on a member's ability to abstain from gambling (Oei & Gordon 2008). These findings highlight the benefit of a supportive network in a PG's recovery process. However, support alone may not be enough for some gamblers to reduce their risk of relapse. Support and forgiveness by significant others about the harms associated with gambling may help the PG to make a commitment to change.

2.5.3 Treatment Outcome Studies

According to Legerwood, Weinstock, Morasco & Petry (2007), treatment studies provide an opportunity to explore the factors that may contribute to relapse. Through longitudinal follow-up, treatment studies can identify the factors that lead to relapse in gamblers receiving treatment, and can provide an understanding about effective techniques for reducing the risk of relapse. As effective interventions or treatment approaches may enable PGs to maintain abstinence after a course of treatment, treatment studies provide understanding about the factors or interventions associated with reduced relapse. Such studies also potentially help us to understand how PGs move from habitual relapse to less destructive gambling, or exiting from their problem gambling lifestyle. This can therefore assist in understanding relapse and resistance to the urge to gamble again. The following section explores the different therapeutic approaches available for PGs to address their problem behaviours.

Westphal (2007) highlighted that substantial attrition from problem gambling is associated with treatment, but that many of these studies exhibit significant methodological issues. For example, the majority of gamblers do not complete treatment, and this may outweigh attrition among patients in general mental health

treatment (Edlund et al. 2002). The inclusion of intention to treat analysis (includes in the analysis all cases that should have received a treatment regimen but did not), more equivalent control groups, and measures of treatment adherence, are required (Westphal 2007). The following studies include a review of Randomised Control Trials (RCTs), clinical studies, with and without controls, and feasibility studies. These studies show that providing an intervention can be helpful in enabling PGs to abstain from gambling, but relapse and drop-out rates remain significant problems.

2.5.3.1 Treatment Studies Using Randomised Controlled Trials

Randomised controlled trials are quantitative, comparative, controlled investigations in which researchers study two or more interventions by administering them to groups of individuals randomly assigned to receive each intervention. Randomised controlled trials examine the effects of interventions on particular outcomes and are the simplest, but most powerful tools of research (Stolberg, Norman & Trop 2004).

Personalised feedback has been shown to be an encouraging self-help strategy for PGs to remain abstinent in a study by Cunningham, Hodgins, Toneatto and Murphy (2012). The authors conducted a randomised controlled trial with a modified wait list control group to evaluate the effectiveness, and the sustained efficacy, of personalised feedback interventions for PGs. Those who agreed to participate (n=209) were randomly assigned to receive: 1) the full personalised normative feedback intervention; 2) a partial feedback containing all the feedback information provided to those in condition 1, but without the normative feedback content; or 3) a waiting list control condition. Of the 209 participants, 76 provided follow-up data for at least one of the follow-up points. A comparison was made between those participants with at least one follow-up completed (n=176) and those who did not complete at least one follow-up (n=33).

The authors concluded that personalised feedback interventions were helpful in reducing gambling. Personalised feedback interventions were considered to have limited, short-term influences on the severity of problem gambling. The authors admitted that they had questions about the 'active ingredient', as it was not normative feedback (Cunningham et al. 2012). This study highlights the complexity

of finding effective strategies to treat PGs that enable them to reduce the risks of relapse in the longer term.

Interventions such as motivational interviewing and group Cognitive Behaviour Therapy (CBT) can assist gamblers to achieve abstinence, and to experience a reduction in depression. For example, Carlbring, Jonsson, Josephson and Forsberg (2010) used a randomised controlled trial in an outpatient dependency clinic, in order to test the effectiveness of motivational interviewing, cognitive behavioural group therapy, and a no-treatment control (wait-list). A total of 150 self-recruited patients with current gambling problems, or pathological gambling according to a NORC DSM-IV screen (Gernstein et al. 1999) for gambling problems, were randomised to four individual sessions of motivational interviewing (MI), eight sessions of cognitive behavioural group therapy (CBGT), or a no-treatment wait-list control. Gambling-related measures derived from timeline follow-back and general levels of anxiety and depression were administered. All the participants who attended at least one MI or GCBT session were included in the analysis. The reasons given for dropping out included: did not like group treatment, lack of motivation, or practical issues such as having the flu or difficulty travelling to treatment, including lack of time. In the MI condition, the numbers were slightly higher: 29 (42.6%) patients attended all four treatment sessions. The frequency of session participation for the (n=68) individuals who started MI treatment is as follows: one session, 100%; two, 88.2%; three, 63.2%; and four, 42.6%. Lack of motivation and practical difficulties coming to treatment were some of the reasons given for missing sessions or discontinuing treatment.

The authors reported that the treatment group had better outcomes than the no-treatment control in the short-term, and those receiving both treatments showed improvement. In addition, the levels of depression experienced by the participants reduced. Both MI and CBGT produced significant within-group decreases across most outcome measures up to the 12-month follow-up (Carlbring et al. 2010). This study suggests that interventions can assist gamblers to achieve abstinence. PGs who achieve abstinence can experience a reduction in depression, which may add to an increased resilience against relapse.

In another study using CBT, Dowling (2009) investigated the factors associated with treatment failure and attrition. Following the assessment phase, 77 female pathological gamblers were randomly assigned to a control (waiting list) group or one of the treatment groups (individual or group treatment). Of the 77 pathological gamblers allocated to the treatment program, 15 were treatment drop-outs (defined as participants who commenced but did not complete the 12-week treatment program) and 62 completers. The rate of abstinence or controlled gambling for individual treatment was 66%, while it was 46% for group treatment. Treatment completers and drop-outs were compared on pre-treatment evaluation measures. Abstinent/controlled gamblers and uncontrolled gamblers were compared on both pre- and post-treatment evaluation measures. The failure to identify any differences between drop-outs and completers in this study prevented the identification of a set of predictive factors for drop-out. However, those that dropped out of treatment and the treatment completers did not differ in any demographic, gambling behaviour, or psychosocial characteristics, prior to treatment. It was suggested that female pathological gamblers who reported a more severe gambling pattern prior to treatment, and at the completion of treatment, were at an increased risk for treatment failure at six months following the treatment (Dowling 2009). Interestingly, more severe gambling was associated with treatment dropout and it is highly likely that these people may relapse. This may suggest that PGs might find it difficult to reflect on the harms of their behaviour, and increase their motivation to stay in treatment. Avoidance coping in response to the distress associated with their gambling may also be a reason why these gamblers find it so difficult to remain in treatment.

Brief interventions can also effectively reduce problem gambling. For example, Petry Weinstock, Ledgerwood and Morasco (2008) evaluated the efficacy of three brief interventions with 180 PGs. The participants were randomly assigned to assessment-only control, 10 minutes of brief advice, one session of motivational enhancement therapy (MET), or one session of MET plus three sessions of CBT. Only the brief advice condition was significantly associated with improved or recovered status compared with the control condition. Gambling was assessed at baseline, at six weeks, and at a nine-month follow-up. The authors reported relative to assessment

only, with the brief advice being the only condition that significantly decreased gambling between baseline and Week 6. It was also reported at month nine to be associated with clinically significant reductions in gambling. Between week six and month nine, it was reported that MET plus cognitive-behavioural therapy resulted in significantly reduced gambling compared with the control condition. In addition, the participants with lower SOGS scores and less severe medical problems at baseline were more likely to be improved or recovered upon follow-up. Those with less severe gambling problems at baseline had less severe gambling problems nine months later. The severity of alcohol, drug, and psychiatric problems at baseline was not associated with gambling problems at follow-up. Less than half of the participants actually recovered. The provision of brief advice was helpful in reducing gambling behaviour however it is not clear how effective this intervention is in the long term in preventing relapse, or the factors that resulted in treatment failure.

Dowling, Smith and Thomas (2007) used CBT, and provided skills to address cognitive distortions, with 56 female pathological gamblers randomly assigned to either a wait list control group, or to individual or group treatment. The primary analyses were initially conducted on a treatment completer or non-intention-to-treat basis. At the 6-month follow-up, 92% of gamblers treated individually, no longer satisfied the diagnostic criteria for pathological gambling, compared with 60% treated in a group format. Therefore, the authors suggested that caution should be used when delivering cognitive-behavioural treatment in a group format. Pathological gamblers on the waiting list did not show any significant improvement (Dowling, Smith & Thomas 2007). CBT was effective in the treatment of pathological gambling, reducing the risk of relapse in the first six months post-treatment. However, it is not possible to determine the longer-term effectiveness, or if similar results would be achieved for male gamblers. The group format was less effective which suggests the difficulties these PGs may experience as they begin to address their problem gambling and share their distress within a group.

Doiron and Nicki (2007) used a randomised 2-group study with (n=40) participants, divided into an experimental group (n=20) and a waitlist control group (n=20), to evaluate a prevention program, “The Stop & Think! Program”, for at-risk video

lottery terminal (VLT) gamblers. No participants left the study prematurely. Irrational beliefs about gambling were targeted, combined with emotion-focused problem-solving skills. The experimental group endorsed fewer gambling-related cognitive distortions and engaged in less gambling. No significant differences in problem-solving ability between the experimental and control groups were found at post-test or one-month follow-up. At one-month follow-up, the experimental group participants were found to be substantially less involved in VLT and other gambling activities. This was indicated by significant reductions in the number of VLT playing sessions, and the number of non-VLT playing sessions. The amount of money spent on VLT playing sessions was also significant. The change in the number of VLT playing sessions was reported to be significantly greater in the experimental than in the control group (Doiron & Nicki 2007). Addressing the PG's irrational beliefs about gambling is effective and may reduce the risk of relapse, particularly if the PG can think critically about the reality of the outcomes of their gambling.

Attending Gamblers Anonymous (GA) can complement therapy, as demonstrated by Petry, Ammerman, Bohl, Doersch, Gay and Kadden (2006). The authors randomly assigned 231 pathological gamblers to GA, with either a GA referral plus a cognitive behavioural (CB) workbook, or a GA referral plus eight sessions of individual CBT. The number of GA meetings attended and the number of CB sessions or chapters completed during treatment was associated with abstinence at 12 months. Furthermore, the number of GA sessions attended was associated with a 4% increase in the probability of abstinence, and each CB session or chapter completed resulted in a 28% increase in a gambler's ability to continue abstinence at the one-year follow-up. As all the participants were referred to GA, it is difficult to establish which intervention was most effective in reducing gambling (Petry et al. 2006). A combination of GA and CBT therapy helped some gamblers to maintain abstinence. The role of support achieved by fellowships, such as GA, may be beneficial for PGs engaged in a therapeutic intervention. Attending GA may improve treatment outcomes as the PG incorporates strategies to remain vigilant in the presence of urges to gamble, thus reducing the risk of relapse.

Motivational work with PGs was found to be beneficial in a study by Hodgins, Currie, el-Guebaly and Peden (2004). The authors conducted a 24-month follow-up of a RCT of two brief treatments for problem gambling (n=67). The analyses were conducted with the “completer” data set (n=59) and an intention-to-treat approach in which the pre-treatment observation was carried forward for missing information at 12 months (n=67). It was reportedly beneficial for participants to receive motivational telephone interventions, plus a self-help workbook (included cognitive-behavioural strategies for reducing or stopping gambling behaviour), in comparison to only receiving a workbook. The two groups did not differ in abstinence at six months, but the motivational intervention group gambled for fewer days and lost less money. At 24-month follow-up, 77% had improved, with 37% reporting six months of abstinence. Based on the SOGS (Lesieur & Blume 1987), 55% scored below the cut-off for pathological gambling, compared with 30% at 12 months (Hodgins et al. 2004). Despite the effectiveness of this intervention, some PGs did not complete the intervention, indicating that relapse may have been a problem. Therefore, understanding the process of relapse for those who continued to do so, may help reduce the risks of relapse.

Cognitive Therapy is effective in reducing problem gambling behaviour, as demonstrated in a study by Ladouceur, Sylvain, Lachance, Doucet and Leblond (2003). Participants were randomly assigned to a treatment (n=34) or wait-list control (n=24) condition. The findings indicated that cognitive treatment in a group format significantly decreased pathological gambling. At the end of the treatment, 88% of the participants were no longer pathological gamblers. The participants had a greater perception of control over their gambling problem and an increased sense of self-efficacy in high-risk gambling situations. The rate of participation for the 24-month follow-up was (64.7%), and drop-outs were (26%) (Ladouceur et al. 2003). Cognitive therapy was effective in enabling many PGs to overcome problem gambling. However, 26% of participants dropped out of the treatment program, indicating that relapse was also a problem.

Similar findings were reported in an earlier study by Ladouceur, Sylvain, Boutin, Lachance, Doucet and Leblond (2001). The authors evaluated the efficacy of a

Cognitive Treatment package for pathological gambling. A sample of 66 gamblers was randomly assigned to either a treatment or a wait-list control condition. The authors reported that, at the end of the treatment, 86% of the treated participants were no longer pathological gamblers. These participants reported a greater perception of control over their problem and experienced increased self-efficacy in high-risk situations. Of the 66 gamblers who began the treatment, 35 completed the program and 31 dropped out (Ladouceur et al. 2001). A greater perception of control in high-risk situations increased the PGs' ability to maintain abstinence. However, this treatment program is not effective for all the participants, as drop out was an issue, suggesting that relapse may be a significant problem for those who dropped out.

McConaghy et al. (1991) conducted a nine-year follow up of PGs involved in a five-armed study using behavioural procedures. At follow-up, 63 of the original 120 participants (53%) were contacted for a period of between two and nine years since treatment completion. 18 subjects classified themselves as having ceased, 25 as being controlled, and 20 as being uncontrolled. Of the 30 who received other behavioural procedures, 12 (53%) showed cessation or control. Although the interventions used in this study were effective in reducing gambling behaviour, 45 of the 120 PGs continued with either controlled or uncontrolled gambling.

The efficacy of a treatment package to correct dysfunctional schema using problem-solving techniques and social skills training was reviewed by Sylvain, Ladouceur and Boisvert (1997). The authors evaluated a Cognitive Treatment approach. Of the 58 pathological gamblers identified at intake 18 refused treatment after the pre-test evaluation and 11 individuals dropped out (8 from the treatment group and 3 from the control group). The final sample consisted of 29 pathological gamblers who were randomly assigned to the treatment (n=14) and control (n=15) groups. The treatment included four components: (a) cognitive correction of erroneous perceptions about gambling; (b) problem-solving training; (c) social skills training; and (d) relapse prevention. The number of refusals and drop-outs was (n=29). The participants who completed treatment were compared with the refusers and drop-outs. The authors suggested that a behavioural and cognitive treatment package can significantly improve pathological gambling. At the end of the treatment, 86% of the treated

participants were no longer reported to be pathological gamblers (according to the DSM–III–R [American Psychiatric Association 1980] and SOGS [Lesieur & Blume 1987]), with a greater perception of control of their gambling and an increased self-efficacy in high-risk gambling situations. The authors suggested that behavioural and cognitive treatment, problem solving, and relapse prevention, significantly improved pathological gambling. Relapse prevention contributed to high success rates and may be a significant factor in assisting PGs to maintain abstinence post-treatment.

McConaghy et al. (1988) conducted a two-armed study of 20 pathological gamblers randomised to receive either Imaginal relaxation or Imaginal desensitisation. In this study, manipulation of a gambler's arousal, rather than the stimulus, was effective in producing a therapeutic response. However, at 12-month follow-up, only one gambler in each study remained abstinent (McConaghy et al. 1988). Manipulation of a gambler's arousal may be effective in improving treatment outcomes; addressing the gambler's urge to gamble may also be an important aspect in reducing relapse. The sample size for this study is small limiting the generalizability of these findings.

These studies highlight the fact that gamblers can achieve controlled or reduced gambling, and some even abstinence, in the short-term (Carlbring et al. 2010; Doiron & Nicki 2007; Dowling, Smith & Thomas 2007; Ladouceur et al. 2001; McConaghy, Blaszczynski & Frankova 1991; Sylvain, Ladouceur & Boisvert 1997). For some gamblers however, relapse is a significant problem in the longer-term post-treatment. Cognitive-behavioural treatment (Dowling 2009), brief interventions (Petry et al. 2008), CB sessions, attending GA meetings (Petry et al. 2006), manipulation of a gambler's arousal (McConaghy et al. 1988), personalised feedback (Cunningham et al. 2012), and cognitive treatment (Ladouceur et al. 2003), can reduce problem gambling behaviour and relapse. PGs who are able to maintain abstinence can experience an improvement in their levels of depression (Carlbring et al. 2010). There is a limited understanding from these studies about the long-term efficacy of treatment, which treatments are superior, or the factors that contribute to therapeutic failure, treatment drop-out, and relapse. There continues to be a lack of understanding of what therapeutic elements result in the success or failure of treatment and ongoing relapse.

Furthermore, there is clear evidence that among treatment-seeking pathological gamblers, drop-out occurs at a high frequency (Melville, Casey & Kavanagh 2007). In an earlier study, Smith et al. (2008) used a cohort study with 127 problem gamblers to investigate treatment drop-out and treatment outcomes. A total of 41 (32%) participants were classified as treatment drop-outs, and the most significant predictor of drop-out was associated with sensation-seeking traits. Understanding these issues may result in a reduction in treatment drop-out and relapse.

2.5.3.2 Clinical Studies with a Control

Including data from non-randomised trials can be challenging, as they are not as robust as RCTs. However, the benefit of using such studies is that the scope of the questions that can be answered may be broadened (Fitzpatrick-Lewis, Ciliska & Thomas 2009). Therefore, although studies that are not randomised do not provide as strong an evidence-base as the RCTs previously reported upon, they do still provide some knowledge about the efficacy of providing an intervention and about relapse.

Wulfert, Blanchard et al. (2006) conducted an exploratory study with pathological gamblers (n=9) who were horse race bettors. Participants were treated with a hybrid intervention consisting of motivational enhancement and cognitive behaviour therapy. All participants engaged in treatment and the 12-month follow-up period. The control group consisted of data retrieved from clinical archives of male (n=12) participants who received treatment as usual during the same time period. Of the gamblers who received the experimental treatment, (n=6) maintained total abstinence during the 12-month follow-up period, (n=2) significantly improved, and (n=1) remained unimproved. The authors highlighted the importance of increasing clients' motivation and commitment to therapy before introducing cognitive and behavioural change strategies. However, this intervention requires replication with a larger sample and random assignment (Wulfert, Blanchard et al. 2006). Findings from this study suggest the importance of increasing a PGs motivation to commit to treatment and that completion of treatment will reduce the risks of relapse.

A highly structured treatment program effectively treated a small number of gamblers in a study by McCormick and Taber (1991). In this study, 66 male pathological gamblers were used as their own controls in a treatment program consisting of a 28-day inpatient stay in a highly structured program that aimed for abstinence from gambling, a reduction of the urge to gamble, and restoration of a maximum level of social functioning (Russo et al. 1984). Forty-five of the 66 participants (68%) in the study were followed-up at six months. Twenty-five patients (55%) were abstinent for the 12-month period post-treatment. Pre-treatment severity of gambling was reported to be a strong predictor of abstinence at both the 6- and 12-month follow-ups. Deficiencies in coping skills were identified as placing gamblers at greater risk of relapse (McCormick & Taber 1991). Relapse rates in this study increased during follow-up, suggesting that there were increasing difficulties for PGs in maintaining abstinence at treatment completion, and that the relapse process had continued to be active.

2.5.3.3 Clinical Studies: Without a Control

The quality of studies without control groups can also be problematic. However, studies without control groups can provide information on the long-term effectiveness (Fitzpatrick-Lewis, Ciliska & Thomas 2009) of treatment studies. In light of the paucity of controlled studies, these have also been included in this review.

Persistence and commitment to complete treatment found are important factors that reduce dropouts during treatment. For example, Jimenez-Murcia et al (2012) evaluated clinical and socio-demographic characteristics of 502 male PGs who received either cognitive-behavioural group intervention, with and without exposure, with response prevention (CBT+ERP vs. CBT), and pre-post changes in psychopathology. The authors, reported participants in the CBT group had lower dropout rates, both during and at the end of the treatment. Interestingly, the addition of ERP to CBT was found to provide limited benefits, as those treated with this technique presented higher dropout rates. By the end of the second month, 42% of PGs receiving CBT + ERP and 23% of PGs in CBT had dropped out, and by the end of third month, 51% of those receiving CBT + ERP and 27% of those receiving CBT

also dropped out. Those who achieved 12 weeks without dropping out were more likely to complete the treatment successfully. The first 5 weeks of treatment were reported to be critical for PGs to achieve adherence to therapy. Furthermore, high levels of psychopathology and novelty seeking were found to predict poor treatment outcome, whereas persistence traits were a good prognosis factor. (Jimenez-Murcia, Aymami et al. 2012). This study is limited by the male only sample, the lack of a control group and high dropout rates. Despite these limitations it highlights that persistence with treatment is an important factor that reduces dropout. Relapse may also be reduced when clients persist with treatment.

When PGs begin to recognise the consequences of their gambling, their motivation to seek help increases. For example, Jackson, Dowling, Thomas and Holt (2008) collected data from 1,899 new problem gambling clients, compared to 374 re-presenting problem gambling clients. The treatment re-presenters reported lower rates of employment, higher rates of receiving pensions or benefits, and lower individual and family incomes, compared to the new client gamblers. The long-term effects of problem gambling on the family and the threat of the loss of significant relationships motivated PGs to re-present for treatment. However, re-presenting PGs were more likely to achieve positive outcomes than those presenting for the first time. The authors observed that further research is required to elucidate the nature of the relationship between treatment re-presentation and family issues (Jackson et al. 2008). The PGs' ability to engage in self-reflection about past gambling harms may enable them to seek and commit to treatment and thereby to achieve abstinence. However, it is clear that maintaining abstinence is complex, as the risk of relapse is high, suggesting that self-reflection alone may not provide a gambler with protection from relapse in the long term.

Similarly, the motivation to change was important in this study for gamblers in treatment to reduce relapse. For example, Jiménez-Murcia, Álvarez-Moya, Granero, Aymami, Gómez-Peña and Jaurrieta (2007) provided a group CBT program to 290 pathological gamblers. The treatment involved stimulus control strategies, avoidance of high-risk situations, and cognitive restructuring. A total of 69.7% of participants completed the treatment, and 76.1% remained abstinent during treatment. At six

months follow-up, 50% of participants dropped out of follow-up and 18.5% in follow-up relapsed. The authors highlighted that clinicians should be attentive to the degree of internal motivation to change in pathological gamblers. The first five weeks of treatment was considered to be a crucial period in which to achieve therapeutic adherence. Persistence was considered to be protective against relapse. This study highlighted the importance of a gambler's motivation and perseverance in order to achieve a good response to treatment and a reduction in relapse.

Repeated failed efforts at self-managed control may result in gamblers perceiving themselves as being weak (Ricketts & Macaskill 2003). Providing effective management strategies can enable gamblers to abstain from gambling (Stinchfield & Winters 2001), thus reducing their risk of relapse. These strategies include Imaginal desensitisation (Blaszczynski, Drobny & Steel 2005), CBT, and compliance-improving interventions (Milton et al. 2002). Echeburua et al. (2000) conducted a study with 69 pathological gamblers using a one-group design with repeated measures of assessment (pre- and post-treatment). During the second part of the study, a multi-group experimental design was used with repeated measures (pre-treatment, post-treatment, and 1-, 3-, 6-, and 12-month follow-ups). Participants were randomly assigned to three groups: (a) individual relapse prevention; (b) group relapse prevention; and (c) control group with no treatment. The therapeutic modalities included stimulus control in which participants maintained control of their money and avoided situations or routes of risk. The gradual in-vivo exposure with response prevention forced the subjects to experience the desire to gamble and to learn to resist this desire in a more gradual and self-controlled way. This enabled the cues to lose their power to induce urges and gambling behaviour. The individual relapse-prevention trained the participants to identify high-risk situations for relapse and provided adequate strategies for coping with problematic situations. Group relapse prevention was the same as the individual modality. It was reported that all those treated gave up gambling at the end of the first study. In the second part of the study, it was reported that the participants had a higher success rate in both individual and group relapse prevention than the control group. The total number of drop-outs in all phases was 10. At 12-month follow-up, the control group's rate of relapse was 47.8%. This was higher than the therapeutic groups, with 17.4% in

individual and 21.7% in group treatment. The authors highlighted the importance of including relapse prevention in the treatment of pathological gambling, with the intention of teaching patients how to identify the situations with high risk of relapse, as well as developing adequate strategies to cope with these situations (Echeburua, Fernandez-Montalvo & Baez 2000). However, it is not clear how effective these strategies are in the long-term recovery of PGs, and why some PGs continue to drop out of treatment and relapse.

For some gamblers, completing treatment and support improves gambling behaviours and can reduce the rate of relapse. For example, Stinchfield et al. (2008) reported that clients in their longitudinal study reduced their gambling both during and after treatment. The study invited clients to participate in an evaluation, and 455 gave consent to participate. Of these 455 clients, 8 were not admitted to treatment and 1 was a treatment repeater; the final sample was 436 clients. Prior to the treatment (84%) were gambling on a weekly or more frequent basis; at discharge, 5% were gambling, at 6-months follow-up 11% continued to gamble, and 8% at 12 months follow-up. In terms of abstinence, 62% were abstinent during treatment, 41% were abstinent at 6 months post-treatment, and 37% at 12 months post-treatment. At 6-month follow-up, 29% were unknown due to being uncontactable. At discharge and 6-month follow-up, those with good outcomes had received significantly more hours of group and family counselling than those clients who had relapsed. However, at 12-month follow-up, no significant differences in hours of services between clients with good outcomes and those who relapsed was observed. Furthermore, the predictors of treatment attrition and relapse for the 48% of outpatients who dropped out, was a lower level of motivation to change. Interestingly, the older the client, the more likely they were to complete treatment. Those who were more educated and engaged in GA were more likely to complete treatment. Outpatient clients who completed treatment had a lower rate of relapse at discharge, 6-months and 12-month follow-up. Those who attended more treatment sessions had lower rates of relapse at discharge. The most significant predictors of gambling frequency at discharge were length of abstinence prior to treatment, stage of change, number of lifetime psychiatric disorders (there were small associations between the number of

psychiatric diagnoses), and outcome at discharge 6-month and at 12-month follow-up.

Only 9% of clients dropped out of the residential treatment program. The more days of conflict with family prior to admission, the more likely clients were to drop out of treatment; the fewer days of gambling prior to admission, the more likely the client was to drop out of treatment, as it may be these clients had not “hit rock bottom” with their gambling. Finally, those with fewer or no children and who were married were more likely to drop out of treatment (Stinchfield, Winters & Dittel 2008). This study highlighted the complexity of relapse, as less than half the sample was abstinent at 12 months. Those gamblers who gained insight at ‘rock bottom’ showed higher commitment to change. Support was a significant factor that enabled a gambler to complete treatment; however, relationship problems prior to commencing treatment resulted in increased dropout. This suggests that the presence of negative affect and other psychiatric disorder impacts on the gambler’s ability to engage in, and complete treatment, adding to their risk of relapse.

In an earlier study in Minnesota, Stinchfield et al. (1996) evaluated the outcomes of six state-supported gambling treatment programs in a longitudinal study of subjects between 1992 and 1996. The treatment programs included individual, group, education, twelve-step work, family groups, and financial counselling. The therapeutic orientation is eclectic, predominantly focusing on the 12 steps of Gamblers Anonymous (GA) and a treatment goal of abstinence. A total of 1,342 subjects were recruited, with 944 being admitted to treatment. Of the subjects who completed the treatment, 70% achieved success at 6 months and 12 months follow-up. The authors observed that reduced frequency of gambling during treatment, higher levels of client satisfaction with treatment, fewer psychosocial problems, being older, and having a positive recovery orientation, were slightly predictive of a positive outcome at 6 months follow-up. The majority of clients reported to be satisfied with the treatment services to which they attributed to their improvement (Stinchfield & Winters 1996). This study suggests that a number of therapeutic techniques can enable PGs to reduce or abstain from gambling, particularly if they are both motivated to engage in, and are happy with the treatment. Older clients in

this study had better outcomes, which may relate to their ability to reflect on gambling harms and to commit to treatment.

Taber, McCormick, Russo, Adkins and Ramirez (1987) considered a day treatment program effective in treating PGs. The authors examined 66 subjects admitted to a 30-day treatment hospital program. The three main goals were abstinence from gambling, reduction of the urge to gamble, and restoration of a maximum level of social functioning. Treatment was combined for both alcohol and gambling problems. Thirty-two of the 57 patients interviewed (56%) were abstinent for the full 6 months after treatment. Thirty-eight (67%) reported abstinence during the sixth month after treatment. Twenty-five of the 46 collateral informants interviewed (54%) reported that the patient had been abstinent for the full 6 months after treatment. Seriously impaired pathological gamblers are able to maintain abstinence and general behavioural improvement after an intensive, short-term, structured treatment program. This study suggests that those with significant gambling problems can achieve abstinence. However, relapse is a noteworthy problem in this study, the sample size is small with high dropout rates, and definitions for gambling reduction are not clear or standardised (Taber et al. 1987).

In a study without a control, a pragmatic, compensatory, and multi-dimensional concept of therapy was shown to be an effective intervention for PGs in the short-term. Schwarz and Linder (1992) differentiated between harmless gambling behaviour and addiction to gambling based on information provided by 58 male pathological gamblers. The aims of the treatment were elimination or improvement of all physical, psychological, and social symptoms to be replaced by alternative behaviours and skills. At two years, only 25 of the gamblers were followed-up; of these, 13 (61.9%) were abstinent, 3 (14.3%) were abstinent 6 months after a relapse, and 5 (23.8%) had relapsed. A total of 3 were not able to be contacted (Schwarz & Lindner 1992). The authors suggested that multi-dimensional therapy was effective in maintaining abstinence for some gamblers, although this number was small. Only 13 of the total sample were still abstinent at 2 years. This suggests that relapse is a significant problem for PGs. Understanding why these gamblers dropped out of

treatment, or were unable to maintain abstinence, may help to reduce relapse over a longer period of time.

These different therapeutic approaches make it difficult to establish which are more effective, particularly in the longer term. For example, multi-dimensional therapy (Schwarz & Lindner 1992), manipulation of a gambler's arousal (McConaghy et al. 1988), imaginal desensitisation (Blaszczynski, Drobny & Steel 2005), CBT and compliance improving interventions (Milton et al. 2002) that address the stages of change and increase where clients complete treatment (Stinchfield, Winters & Dittel 2008), and behavioural and cognitive treatments (Sylvain, Ladouceur & Boisvert 1997) are all considered to provide positive outcomes for some gamblers. However, relapse rates are considerable and support during treatment is important in reducing relapse. Strategies to manage gambling, such as avoiding gambling opportunities and, for some, keeping busy, are also imperative. Interestingly, persistence is considered to be a protective factor against relapse, as this is considered to facilitate the therapeutic process and to contribute to a good response to treatment (Jiménez-Murcia et al. 2007). Clearly, there is much yet to be understood about how all these multiple approaches interact with established habitual relapse that is seen in PGs for whom, in spite of their professed wish to stop the harm caused by their gambling, abstinence remains a challenge.

2.6 Factors that Reduce Problem Gambling Behaviour and Thereby Relapse

The following studies explore the factors that reduce problem gambling behaviours, and may therefore reduce the risk of relapse. These factors are protective and help gamblers to control their gambling with fewer harmful consequences (Breen 2011). The factors identified in this part of the review that reduce the risk of gambling include epidemiological factors, support, interventions, and cognitive strategies. Although it would appear that the factors that play a role in reducing problem gambling behaviour will also be protective against relapse, this may not necessarily be the case. These factors nevertheless clearly contribute to a better understanding of relapse in problem gambling behaviour.

2.6.1 Epidemiological Studies

Epidemiological studies provide an understanding about the factors associated with lower rates of problem gambling. People with substantial resources and social support, including being connected with and supported by their friends, family, and local communities (Thomas & Jackson 2008), and holding religious beliefs (Diaz 2000; Hodge, Andereck & Montoya 2007), exhibit lower rates of problem gambling. Low-risk gamblers have a higher mean household income (approximately 15%) than pathological gamblers (Gernstein et al. 1999). Gamblers who are older (Abbott & Volberg 1996; Nelson et al. 2006; Stein, Eadington & Cornelius 1993; Welte et al. 2001), wiser (Abbott & Volberg 1996), female (Productivity Commission 2010), have dependants (Worthington et al. 2007), are university graduates (Callan et al. 2008; Nelson et al. 2006), and are small-town residents (Callan et al. 2008), also exhibit lower rates of problem gambling. People with low-risk of gambling have less alcohol or drug diagnoses, job loss, and divorce (Gernstein et al. 1999). Hodgins et al. (2012) also reported that older individuals with higher intelligence and stronger religious views were less frequent gamblers. These protective factors may contribute to an understanding of the factors that reduce the risk of relapse. However, it is not clear how it is that these factors operate or interact with other risk factors to decrease relapse.

2.6.2 Management of Gambling Risk Factors

This section explores the strategies used by PGs to reduce their gambling behaviours. It has been demonstrated that relapse is complex, with different processes for different PGs. The management of relapse must therefore address such individual factors as accessibility to gambling opportunities, access to money, experiencing an urge to gamble, negative affect including depression, boredom, and stress, or dysfunctional relationships. Management strategies need to rely on the PG's ability to remain vigilant to the risk factors for relapse, and to employ techniques to enhance their ability to remain vigilant. Such strategies include:

- Avoidance of risk factors
- Stimulus control
- Distraction
- Self-management

- Coping skills
- Skills training
- Emotional support
- Self-Exclusion from gaming venues

Therefore, for some, preventing relapse may require the development of an individualised plan. For example, self-limiting strategies, avoidance strategies, and distraction were identified as ways in which a PG could reduce the risk of engaging in gambling. Thomas, Moore, Kyrios, Bates, Meredyth and Jessop (2010) conducted an in-depth exploration of accessibility and self-regulation for different groups of gamblers. Phase one of this study used an in-depth exploration of accessibility and self-regulation for different groups of gamblers. Phase two used the phase one findings and the prior literature to develop items to measure the multiple aspects of accessibility and self-regulation. Exploratory factor analysis was used to create new subscales, which were analysed in terms of their relationships to demographics and other variables of interest. The final sample included 38 participants. The Problem Gambling Severity Index (PGSI) was used to determine problem gambling severity. The authors reported that self-limiting strategies, including putting self-imposed limits on the amount of time and money spent on gambling, considering the consequences of excessive gambling, and balancing gambling with other hobbies, were helpful in reducing gambling. Other strategies included avoiding venues and restricting access to money. Help-seeking strategies involved cutting up credit cards, self-exclusion from venues, and seeking professional assistance. Initiation of self-exclusion orders was a last resort that indicated that the gambler was no longer able to control gambling without assistance. These avoidances can be an effective method of control for those trying to abstain (Thomas et al. 2010). This study demonstrates the progressive loss of control for the PG when trying to abstain as their initial strategies become increasingly ineffective.

Avoidance strategies such as changing routines were reported to increase the PG's self-efficacy in reducing gambling. It was reported that some gamblers change routines and keep busy (Doiron & Mazer 2001) in an attempt to reduce gambling behaviours. Therefore, self-efficacy and self-confidence (Echeburua, Fernandez-

Montalvo & Baez 2000; Sylvain, Ladouceur & Boisvert 1997) in the presence of gambling situations are important qualities that assist gamblers to remain abstinent. The gambler may achieve these qualities through committing to effective treatment (Ladouceur et al. 2001; Sylvain et al.1997) and using problem-solving training (Sylvain et al. 1997) or relapse prevention skills (Echeburua et al. 2000; Sylvain et al. 1997). Thygesen and Hodgins (2003) reported stimulus control, self-liberation, will power, and counter-conditioning as strategies used by PGs in an attempt to manage their gambling.

In a qualitative study conducted by Boreham et al. (2006), rich information was collected by exploring gambling behaviours in older gamblers who were asked what had helped the most to increase a sense of control over their gambling. The most common response was to “stay away from the club when I feel vulnerable.” Other common strategies that increased a sense of control were:

- “being asked by a friend to take a break”
- “eating a meal”
- “not being able to smoke in the gaming area”
- “finding out the time of day”
- “having to leave the building to get more money”
- “being forced to stop because the gaming area was closing”
- “having a friend or family member express concern about me”
- “doing exercise” (Boreham et al. 2006).

These strategies involve social and emotional support, distraction, and ongoing vigilance by the PG to ensure that the risks of relapse are managed. These responses highlight the struggle of those trying to abstain.

Furthermore, this study highlighted the need for relevant prescribed licence holders to ensure that clocks can be readily viewed by those people participating in gambling, and are located in each area where gambling takes place, in order to assist people to be aware of the passage of time (Hoult, Warner & Barry 2012). However, these factors are diverse and the process of how they may interact is not clear. It is

therefore necessary to explore these findings further, in particular, to discover if, and how, they interfere with an altered state of awareness (as described in Section 2.7: An Altered State of Awareness).

Self-Exclusion

When gamblers consider they have a problem with their gambling they can attempt to prevent themselves from gambling by voluntarily barring themselves from entering gambling venues. These self-exclusion programs are considered to be an essential part of any harm-minimisation strategy (Gainsbury 2014). For a specified time period, self-exclusion can minimise the harmful impacts of gambling behaviours. However, the efficacy of Australian self-exclusion programs remains unexplored (Hing & Nuske 2012) with the majority of problem gamblers choosing not to use self-exclusion. It is estimated that 15 000 exclusion agreements are currently in place representing approximately only 10 to 20 per cent of the problem gambling population (Productivity Commission 2010). Gainsbury (2014) reviewed relevant studies conducted on self-exclusion programs in published academic and grey literature. This review was limited as there are few comprehensive evaluative studies conducted examining self-exclusion programs. Most have methodological limitations reducing the extent their results can be used to improve existing programs or inform new strategies. The author concluded participants can benefit from self-exclusion programs by reducing their gambling expenditure and therefore improve their financial circumstances. In addition, participants' reduced both frequency and time spent gambling. Furthermore, both problem gambling severity and negative consequences of gambling reduced. The PGs public commitment to stop gambling and any potential embarrassment of being caught in a break of a self-exclusion agreement was considered to have contributed to the effectiveness of self-exclusion. However, it was established there was little to indicate the extent of the causal link and these programs, which are in need of improvement to increase utilisation rates and long term outcomes (Gainsbury 2014).

In a recent study in South Australia, the effectiveness of self-exclusion was examined. Hing and Nuske (2012) conducted 35 surveys and 23 interviews with gamblers who had self-excluded through a centralised service. The authors reported

the failings of these programs were related to limitations on publicity, how many venues PGs could self-bar from, and inadequate venue monitoring for breaches of self-barring orders. The authors, found programs staffed by psychologists that were positioned away from gaming venues and enabled multiple venue barring were advantageous over programs requiring self-exclusion from individual gaming venues. The authors reported (85%) of the respondents had ceased or lessened their gambling in the 12 months following self-barring. However, for some with self-inclusion in place they continued to struggle to manage their gambling. These PGs breached their orders and gambled in venues where they were not excluded. Despite these problems the authors emphasised the importance of self-exclusion as one intervention for problem gamblers (Hing and Nuske 2012). In the For some PGs self-exclusion offers an option to manage problem gambling behavior. However, the self-exclusion program was not effective for many PGs who continued to gamble despite participating in self-exclusion programs.

2.6.3 Support

McMillen et al. (2004) emphasised that gamblers and family members draw heavily on their own resources and exhibit remarkable resilience in their ability to deal with the consequences of problem gambling behaviour. Furthermore, the support provided by friends or family can improve the bonding and monitoring process, promoting engagement in rewarding social activities and thus contributing to ongoing remission for PGs (Moos 2007). For example, Thomas et al. (2011) established that social support acted both directly and indirectly as a protective factor; a lack of support increased the chance that the PG would use alternative coping strategies such as gambling in difficult situations. Similar findings were established by Schrans et al. (2001), who conducted in-depth interviews with 181 randomly selected non-problem and problem Video Lottery (VL) players (who participated in the 1997/98 Nova Scotia Regular VL Players' Study). These participants had stopped or reduced gambling. The authors established that resolved present players were twice as likely to have admitted difficulties to a spouse/ partner as resolved past players (50% versus 25%; $p < .10$). Spousal support was therefore seen to be a significant factor in the players' ability to continue playing VLTs and, at the same time, to maintain control after experiencing problems (Schrans, Schellinck & Walsh 2001). These findings

highlight the importance of a supportive partner or spouse in assisting the PG to reduce the harms associated with gambling.

In another study, predictors of adolescent (ages 13-16) (n=436) gambling behaviour were examined (Casey et al., 2011). This study examined the key variables that differentiated non-gambling from gambling adolescents. Strong moral and religious beliefs were observed as protective factors, particularly when families disapproved of gambling. These beliefs may also be protective against relapse if the PG is able to reflect on their behaviour and see the impacts on their morals and values. However, guilt-associated gambling conflicting with religious beliefs produces negative affective states and, for some, increased gambling or relapse as a means to cope with these emotions. Religion may also provide the PG with forgiveness support and acceptance from God, which may act as a protective factor.

Similarly, religion was seen to be a safeguard for some gamblers trying to abstain (Hodge, Andereck and Montoya 2007). PGs who feel supported and receive acceptance and forgiveness by significant others may be more likely to commit to change. These PGs may also maintain abstinence and experience a reduction in negative affective states as a consequence of the support and acceptance of significant people in their lives.

The role of family and friends plays an important role in recovery, as demonstrated in a Scottish qualitative study that explored motivations, attitudes, and self-perceptions of gamblers and PGs and how this influences their behaviour (Anderson, Dobbie & Reith 2009). A cohort of 50 problem, recovering, and recreational gamblers were interviewed on three occasions over 20 months. Partners, relatives, and friends actively offered practical support of various kinds to allow individuals to access appropriate help. In addition, partners and family members took on monitoring and control of the gamblers' expenditure by holding all credit and debit cards, accompanying them on shopping expeditions, or logging all spending. However, these strategies were often not enough to facilitate behaviour change, particularly if the gambler was not committed to changing their behaviour.

Nuske and Hing 2013, conducted a narrative analysis of in-depth interviews that examined help-seeking behaviour of (n=10) recovering PGs. The key themes identified in this study were associated with the change process. This was process was identified as difficult for participants. However, their ability to retell and share their stories was considered to be helpful in this process. The participants' recovery was demonstrated by the transition from problem saturated stories to problem free stories. However, it was highlighted participants experienced a number of fears that became barriers during their recovery process including giving up gambling, and being judged by others for their gambling behaviours (Nuske and Hing 2013). Despite the small sample size these findings provided insight into the benefits of PGs telling their stories in a supportive environment. However, the presence of negative affective states such as guilt and shame were counterproductive to recovery suggesting the importance of addressing such emotional states as part of the recovery process.

Similar, findings were reported using a cross-sectional and interview study with 16 close family members of PGs (Krishnan & Orford 2002). Family members set clear limitations about what they would and would not tolerate with regard to the gambling behaviour of a significant other. These family members often used controlled coping by keeping an eye on their significant others and controlling their finances in an attempt to help their significant other to alter their behaviour. Setting firm boundaries and control strategies seemed to be helpful in enabling some PGs to maintain abstinence.

In addition, Ingle et al. (2008) suggested that having a significant other participate in treatment can improve treatment outcomes and increase treatment retention. This was compared to those without a significant other participating in treatment (Ingle et al. 2008). Furthermore, treatment should begin with the identification of a support network and the involvement of this network in the patient's care (Grant, Kim & Kuskowski 2004) to ensure that a gambler completes their treatment.

As can be seen, social support may have significant clinical importance in reducing relapse if gamblers can complete a course of treatment. Petry et al. (2003) suggested

that those who attend GA gambled for fewer days in the month prior to entering treatment (Petry 2003). This suggests that peer support can be helpful in reducing gambling behaviour for those attending GA. Furthermore, feeling supported was significantly associated with the length of time gamblers are able to maintain abstinence (Stein, Eadington & Cornelius 1993), thus reducing the risk of relapse. Emotional support influences motivation and is associated with greater confidence and reductions in both negative affect and gambling behaviour (Gomes & Pascual-Leone 2009). Furthermore, women can provide informal help and care to their partners with gambling problems (Patford 2009). When trying to abstain, the presence of ongoing support and feeling connected to one's peers increases a PG's ability to abstain from gambling, therefore reducing the possibility of relapse.

McMillen and Marshall et al. (2004) suggested that emotional and financial support from families and friends was critical for the gambler as well as for the family. However, these demands placed further strains on the capacities and wellbeing of individuals, families, and the community as a whole. Furthermore, the emotional distress of these relationship problems (Doiron & Mazer 2001) increased the risk of relapse as the PG engaged in gambling as an avoidance coping strategy. Relationship factors were complex, as significant others have to endure significant distress as they support their significant others, which may at times be withdrawn if the gambler continues to relapse.

2.6.4 Change Process

For most PGs, becoming aware of the harms associated with repeated relapse and an understanding about the need to change their problematic behaviour, particularly with support, begins the process of change. Learning to stop gambling may be made possible by the PGs acknowledgement, self-reflection, ongoing vigilance, support, and motivation to commit to change. This may result in an improved quality of life that maintains abstinence from ongoing relapse.

The change process for PGs can not begin until they cease their gambling and begin to acknowledge their problem behaviours (Wohl & Sztainert 2010). However, when the PG begins to acknowledge their problem, the shame may prevent them from

seeking help (Suurvali et al. 2012), highlighting the complexity of change behaviour for those trying to address their PG.

A reluctance to seek help or to admit that gambling is a problem can be part of a belief system about gambling in general and about treatment (Cunningham et al. 2011). Therefore, change behaviour may be a progressive process of self-reappraisal and acknowledgement of harms, which may over time increase the PGs commitment to change.

The PG may experience significant distress before they seek help. For example, reasons for help-seeking included the presence of relationship issues, physical health issues, psychological distress, and problem prevention, particularly in the presence of rational thought. The authors suggested that the decision to seek help was often influenced by multiple factors (Pulford et al. 2009). Similarly, Hodgins et al. (2000) reported that problem severity was associated with help-seeking behaviour (Evans & Delfabbro 2005; McMillen et al. 2004).

The emotional struggle experienced by gamblers trying to abstain from relapse made it difficult for them to engage in behavioural change. The ability of the PG in acknowledging harms associated with their gambling is central for them to begin the change process. Anderson, Dobbie and Reith (2009) used longitudinal qualitative methods to examine the process of change by exploring motives, attitudes, and self-perceptions of gamblers and PGs across Glasgow. The study was based on a cohort of 50 participants interviewed on three occasions over 20 months. Participants were divided into three groups: PGs in contact with services (n=15), PGs not in contact with services (n=20), and recreational gamblers (n=15).

The authors reported that support from family and friends, was important for PGs as they attempted to address their gambling and to deal with the repercussions of the emotional damage and the betrayal of trust. Furthermore, the PG's perception and realisation of their problems was considered central to changing behaviour. This may be a gradual process of self-realisation for some. Interestingly, some gamblers "matured out of their addiction" by growing older, developing new responsibilities

and interests, or by tiring of the activity. Some PGs identified the confessional aspects of treatment or self-help groups, such as Gamblers Anonymous, as important factors that enabled them to acknowledge and deal with their gambling problem. However, for some, embarrassment and lack of access to appropriate services were barriers to seeking help. The authors described recovery from problem gambling as being fluid, with PGs moving into and out of various stages of problematic behaviour over time and in response to changes in internal and external factors (Anderson, Dobbie & Reith 2009). The ability of the PG to engage in self-observation and to acknowledge the impacts of their gambling is important for PGs to remain abstinent. Over time, and with support, the PG may become wiser about their behaviour, indicating a gradual learning process during their recovery. However the mechanisms of this change process are not clear.

Gambling symptomatology was also associated with the stages of change. For example, Wohl and Sztainert (2010) screened university students (n=1,584) for gambling problems using the DSM-IV (American Psychiatric Association 1994). From the initial sample, 81 recreational gamblers, 221 problem gamblers, and 74 pathological gamblers were recruited for the study. The authors examined the relationship between pathological gambling symptomatology, stage of change, and attrition with 379 participants. Twelve months after an initial testing session in which stage of change and gambling symptomatology were assessed, participants were contacted to participate in a follow-up session. The findings indicated that gambling symptomatology accounted for the direct relationship between stage of change and attrition. Readiness for change was associated with an awareness and eagerness to talk about problems and psychological distress (Wohl & Sztainert 2010). Furthermore, motivation to change was an important factor in altering problem behaviors, and was associated with improved outcomes in pathological gamblers, irrespective of the therapy (Petry 2005b).

Suurvali et al. (2010) conducted a literature review summarising the reasons that disordered gamblers try, through treatment or otherwise, to resolve or reduce their gambling problems. The authors established that changes in environment/ lifestyle, and the evaluation of the pros and cons of gambling and making a decision, as well

as relationships with/ influence of others, financial issues, and negative emotions, were all factors used in an attempt to address gambling problems. Help-seeking behaviours were attributed to behaviour change after a traumatic or humiliating event.

In addition, acknowledgment that it is not possible to win at gambling, loss of interest in gambling, conflict with self-image or goals, physical health, and work or legal difficulties were other reasons that led to addressing problematic gambling behaviours (Suurvali, Hodgins & Cunningham 2010). These findings highlight the importance of a PG being able to acknowledge the conflict with their behaviours and the ability to think critically about the outcomes of their gambling in order to begin the change process.

Interestingly, for some gamblers, the process of change may take place over many years of enduring harm. For example, Gomes et al. (2009) reported that gamblers with severe gambling problems who had greater negative affect were the most ready to change. The presence of GA support was particularly associated with greater motivation and confidence to change. The authors suggested that GA involvement influenced readiness for change by fostering an awareness of the negative consequences of gambling, as well as promoting a vigilant monitoring of risk on a day-to-day basis. Thus, readiness for change was stronger in those with the greatest awareness of the problematic nature of their gambling behaviour (Gomes & Pascual-Leone 2009). Gamblers able to reappraise the harm associated with their gambling, particularly in the presence of a supportive environment, are more ready to change and begin the process to remain abstinent.

These studies draw attention to the complex process of behaviour change experienced by the PG, who may take many years to recover. For example, it is clear that the change process for PGs can only begin when gambling has ceased and the PG can start to reflect on and acknowledge their problem behaviours (Anderson, Dobbie & Reith 2009; Wohl & Sztainert 2010). Readiness for change is stronger in those with the greatest awareness of the problematic nature of their gambling behaviour (Gomes & Pascual-Leone 2009). This acknowledgement is imperative for

the change process to begin. However, the shame and guilt associated with the impacts of repeated relapse may prevent the PG from seeking help (Cunningham et al. 2011; Suurvali et al. 2012). Support from family and friends, is important for PGs as they attempt to address their problems. In addition, motivation to change is an important factor associated with improved outcomes, irrespective of the therapy (Hodgins, 2001; Hodgins, Ching & McEwen 2009; Petry 2005b).

Gamblers able to reappraise the harm associated with their gambling, particularly in the presence of a supportive environment, are more ready for change and they therefore begin the process to remain abstinent. These findings suggest that learning from gambling harms and self-reflection are difficult processes for the PG. At this time, the gambler is at an increased risk of relapse. However, with support, the PG can begin to acknowledge the harms of their behaviours and begin the change process towards recovery.

For example, the use of a behavioural support approach may fit well with those PGs struggling to engage in self-control strategies and to commit to the change process when confronted with triggers that initiate the process of relapse. For example, behaviour change techniques (BCTs) are used for smoking cessation and have been associated with high abstinence rates. A key component of this approach is to focus on the behaviour that, at each moment, arises from the strongest of competing impulses and inhibitions. These arise from multiple sources, including unlearned and learned stimulus-impulse associations and feelings of anticipated pleasure, satisfaction, or relief motivated by past associations, and positive and negative evaluations, which are often driven by preformed plans. This model addresses motivation by minimising the frequency and strength of momentary impulses (West et al. 2010). Although this method of change has a focus on cigarette addiction, the concept fits well with PG relapse. For example, in this model, overcoming cigarette smoking involves making a serious attempt to quit. Being able to maintain abstinence in the face of motivation to smoke which comes from multiple sources was also highlighted as being important, and this is also a significant risk factor for the PG. Furthermore, motivational enhancement techniques, decisional balance exercises,

self-re-evaluation, and helping relationships are also important in the change process for the PG (Hodgins 2001; Hodgins, Ching & McEwen 2009; Petry 2005b).

2.7 An altered state of awareness and relapse

PGs may be at risk of “dissociative symptoms” as they possibly develop a dissociative reaction whilst gambling. However, descriptions of this altered state of awareness are inadequate and incomplete. This limits our understanding about the psychological and social dynamics of this behaviour, which has yet to be established and properly described.

Some studies have suggested that an altered state of awareness prevails during relapse. Such a state may act to make relapse more likely, could extend the period of time of any gambling episode, or reduce the gambler’s capacity to learn, as in state-dependent learning (Eich 1980) observed in the treatment of phobic anxiety disorders (Marks 1987).

Although dissociative type symptoms are mentioned by a number of authors (Beaudoin & Cox 1999; Diskin & Hodgins 1999, 2001; Emmerson 2011; Jacobs, 1988; Livingstone et al. 2008b), they are poorly described. The Dissociative Experiences Scale (DES) (Bernstein & Putnam 1986) has been used to examine dissociation and problem gambling, but the findings are limited and offer little understanding about how PGs can continue to cause themselves significant harm through gambling.

For example, Grant and Kim (2003) examined dissociation and pathological gambling in a sample of 30 pathological gamblers using the DES. Scores on the DES from pathological gamblers did not significantly differ from those reported by normal controls. They concluded that pathological gamblers do not appear to experience dissociative symptoms at a rate significantly different from normal controls. The authors noted that their sample had no current Axis-I comorbidity, and that the DES does not adequately capture the episodic nature of the symptoms experienced by pathological gamblers, limiting the findings of this study (Grant &

Kim 2003). Literature is also emerging on an altered state of awareness known as “the zone” (Beaudoin & Cox 1999; Diskin & Hodgins 1999, 2001; Grant & Kim 2003; Jacobs 1988). Most of these studies simply describe the fact that PGs and therapists use this term, but there is no clear description of the “zone” itself.

This altered state of awareness has been recognised as being abnormal. For example, Beaudoin and Cox (1999) reported that gamblers in their study felt detached from their surroundings, as if in a trance. In addition, it has been proposed that gamblers with symptoms of dissociation have a greater narrowing of attention (Diskin & Hodgins 1999, 2001; Jacobs 1988) and an altered consciousness (Beaudoin & Cox 1999; Bergh & Kuhlhorn 1994). Furthermore, it is thought that arousal whilst gambling leads to a narrowing of attention and the ability to escape by intense focusing on the activity, which reinforces and maintains this state of arousal (Diskin & Hodgins 1999). Heavy gamblers described this state of altered consciousness as being “removed from reality”, or in “a trance-like state of mind” (Bergh & Kuhlhorn 1994). For some, gambling is used as a means to regulate emotions (Kuley & Jacobs 1988). High levels of arousal during some gambling sessions was also considered by Brown (1986) to produce, in some gamblers, an initial narrowing of attention, and with further increases, disordered thinking and confused states.

It is not known what this altered state of awareness actually is, nor when and how the PG enters this state. Only a few studies have examined the “zone” in relation to gambling behaviour. For example, Livingstone et al. (2008) described an “unthinking” mode of EGM gambling, termed the “zone”, which extended both the time and the money spent. PGs identified this as a risk factor for excessive gambling. In their study, almost all participants wanted to “zone out” from their everyday worries and troubles. The authors suggested the experience of the “zone” resulted from a collection of EGM characteristics that together provided a “disconnect” between the individual and external perceptions. When in the “zone”, gamblers extend both time and money to unsafe levels (Livingstone et al. 2008b).

Interestingly, McCormick et al. (2011) reported a relationship between childhood trauma, life stressors, psychological vulnerability and dissociative-like experiences,

and problem gambling (McCormick, Delfabbro & Denson 2011). Gamblers have been found to use gambling to escape trauma by “zoning out” (Emmerson 2011). Gupta and Derevensky (1998) tested Jacobs’ General Theory of Addictions (1986) with problem and pathological adolescent gamblers. The authors suggested that Jacobs’ theory was a likely explanation for the development of a gambling addiction amongst adolescents. The authors argued that gambling severity in adolescents was associated with the need to escape or dissociate, and was seen to be fuelled by aversive physiological and emotional states that provide a solution, or a coping response, to aversive life conditions. Gambling, according to this model, and Jacobs’ theory, is a solution, or coping response to aversive life conditions (Gupta & Derevensky 1998). This may be related to the experience of negative affect described in Section 2.4.5.

Jacobs (1998) provides an understanding about how negative affect can be the mechanism for gamblers entering a state of altered awareness. He described a pattern of addictive behaviours, such as gambling, in which a person’s attention is diverted from a chronic aversive state of arousal, to attention on a series of specific “here and now” events. Jacobs suggests that this occurs through an internal cognitive shift, deflecting the preoccupation from negative affective states to a state of wish-fulfilling fantasies enhancing the altered state of consciousness. This altered state was likened to “oblivion”: a “self-induced” dissociative process (Jacobs 1998). Therefore, gamblers who find the machine gambling experience exciting can forget their cares, worries, and mundane matters (Thompson, Hollings & Griffiths 2009). Not surprisingly, this emotion-focused coping can lead to impaired control over gambling (Scannell et al. 2000) as a way to deal with emotions, particularly in gamblers with maladaptive coping strategies (Getty, Watson & Frisch 2000).

For some PGs, gambling provides the ability to escape through intense focus on the activity, which reinforces and maintains this state of arousal (Diskin & Hodgins 1999). This experience has been described as a feeling of being “removed from reality”, or in “a trance-like state of mind” (Bergh & Kuhlhorn 1994). Gupta and Derevensky (1998) highlighted how the need to escape, or dissociate, fuelled by aversive physiological and emotional states, was a coping response to aversive life

conditions. However, there is a gap in these studies as they lack focus on the PG during the relapse process and how the “zone” that has been proposed to exist, affects or is a part of relapse in EGM problem gambling.

In a study by Delfabbro et al. (2007), gamblers did not stop gambling in order to meet basic needs, as they continued to withdraw money from ATMs. This study involved three components of empirical research, which included surveys and consultation with industry staff and problem gambling counsellors, a detailed survey study of regular gamblers, and observational work conducted within venues. The authors established that PGs engaged in long sessions of gambling, not stopping to eat and drink, cashing large notes, and using ATMs repeatedly. Venue staff also described the desperation of PGs to obtain additional money. Interestingly, women were often very agitated, and were seen to be striking the machines, or making multiple ATM withdrawals. The authors attributed these behaviours to these women having at least a 90% chance of being PGs (Delfabbro et al. 2007). Behaviours such as gambling to the point of not stopping to eat or drink, repeatedly withdrawing money to gamble, and striking machines, suggests that these gamblers are not able to think critically while gambling.

Frequent revisits to an ATM indicates that the gambler continually changes their mind when considering what amount to gamble, indicating common characteristics of problem gambling behaviour such as chasing losses, increased amounts required for excitement, and not sticking to a limit decided upon earlier (Earl 2002). Conversely, this behaviour needs to be considered together with other indicators, as high levels of expenditure may be affordable for some (Delfabbro et al. 2007). Nevertheless, it appears that some gamblers do not have the capacity to think critically, as they continue to withdraw all their available cash to enable them to gamble. For example, PGs experience significant financial strain, which includes over-expenditure and a preoccupation with obtaining money to gamble (Delfabbro et al. 2007). However, there appears to be little understanding about how gamblers can continue to withdraw all their available funds despite the negative consequences of their behaviour.

The presence of an altered state of awareness appears to have an effect on relapse. For example, an altered state of awareness during relapse may reduce the capacity of gamblers to learn from the consequences of their behaviours (Eich 1980). Livingstone et al. (2008) described an ‘unthinking’ mode of EGM gambling as the “zone”, which extended both the time and the money spent, indicating that the PGs judgement is affected.

Beaudoin and Cox (1999) described how gamblers felt detached from their surroundings, as if in a trance. When the gamblers experienced dissociation, they had a greater narrowing of attention (Diskin & Hodgins 1999, 2001; Jacobs 1988) and an altered consciousness (Beaudoin & Cox 1999; Bergh & Kuhlhorn 1994), which may affect their ability to reconsider the harms associated with engaging in a relapse.

Drawing on 15 years of field research in Las Vegas, anthropologist Natasha Dow Schüll demonstrated that the mechanical rhythms of electronic gambling pulled players into a trance-like state called the “machine zone”, in which daily worries, social demands, and even bodily awareness faded away (Schüll 2002, 2012). Schüll et al. (2012) suggested that the mechanical rhythm of the electronic gaming machine was found to induce a trance-like state she called the “machine zone”. The authors found that when gamblers were in the “zone” their worries, demands, and bodily awareness faded away until they reached physical and economic exhaustion. Interestingly, one participant described the “machine zone” as:

“like being in the eye of a storm where vision is clear on the machine in front of you, but the whole world is spinning around you and you can’t really hear anything. You aren’t really there – you’re with the machine and that’s all you’re with.”

The author described the “zone” as a place in which time, space, and social identity are suspended in the mechanical rhythm of a repeating process (p. 13). From a set of narratives, the author found that extended, intensive, and repeated encounters with the same machine interface seemed to bring gamblers from diverse walks of life into a shared zone of experience, cutting through, and across, differences between them (Schüll 2012).

In an earlier paper, Schüll (2002) described some of her findings from a set of narratives by women video game poker players referred to as “electronic cocaine”. The author described a

striking set of paradoxes such as helpless control, the safety of risk, the certainty of chance, the fixity of speed, the autism of autonomy, the possibilities and freedom that emerge in the moment of loss or zoning out and being alive in the dead zone or in overdrive while in stand still. These participants described what it was like to be caught in the circuit of a game in which winning is beside the point in which there is no final move, no possibility of resolution (Schüll,2002, p. 64).

The element of time was re-valued when gambling in the “zone”, as the gambler believed they could alter its course depending on how fast or slow they played (Schüll 2012). The enticing environmental factors and specific machine designs highlighted in this study provide an understanding about how gamblers are enticed to enter and stay in the “zone” until all their available money is spent, despite the harms caused.

This study contains powerful descriptions of some of these experiences by individual PGs however the focus of Schüll’s study was not relapse. Despite this, the study does demonstrate how important it is for the “zone” to be explored, described, and understood as a part of relapse as experienced by PGs, and how it may contribute to relapse. Therefore, there is a need to fully describe and understand this phenomenon by exploring the experiences of PGs themselves in order to fully understand the presence and impact of the “zone” on their emotions, their cognitive processes and judgements, their capacity to exercise their will (Oakes et al. 2011a, 2011b), their gambling behaviours, and the relapse process.

How this relates either to the development of an altered state of mind, such as a dissociative reaction (DSM), is unclear. How such an altered state of mind relates to relapse is also unclear. Yet, if dissociation does occur, as has been suggested (Beaudoin & Cox 1999; Diskin & Hodgins 1999, 2001; Emmerson 2011; Jacobs

1988; Livingstone et al. 2008b), then it is an area that needs to be further explored. There is a need to describe and to attempt to understand this phenomenon by exploring the experiences of PGs themselves, and those who know or have worked with such people on an intimate basis.

2.8 Conclusion

Clearly, problem gambling is a seriously harmful public health problem (Productivity Commission 2010) affecting the welfare of PGs who experience high levels of depression, anxiety, suicidal ideation, and dissociation (Delfabbro 2007). In addition, there is a tendency for a significant proportion of gamblers to relapse. Furthermore, for the majority of these gamblers, relapse will likely result in uncontrolled gambling behaviour that brings with it many damaging consequences, which affect a range of aspects of daily life functioning (Hodgins, et al. 2002; Thygesen & Hodgins 2003).

This review highlights firstly that the use of the term “relapse” is problematic in itself. Observers or health professionals define “relapse” in their own terms, and the word itself suggests that there is a wish and an understanding that gambling per se is not a desired state. For the PG this is not so. All PGs reach a point in time in their own gambling career when they realise that they have lost control of their gambling behaviour. This usually occurs early, when they suddenly realise they have lost much more money than they intended to and quietly acknowledge this to themselves, but they do not see it as “relapse” the next time they gamble again, and again lose more than intended. Yet in studying “relapse”, such an event must be considered to be a “relapse”, as the intention of the PG was to gamble in a controlled way and that this has not been possible for them on this occasion.

Secondly, whilst much has been said, little is understood about relapse in problem gambling (Sodano & Wulfert 2009), nor the ways in which we can effectively encourage relapse to cease. The long-term effectiveness of clinical interventions for this disorder, whilst encouraging, has been found wanting (Sodano & Wulfert 2009; Westphal 2007), particularly as there are substantial levels of attrition associated with all treatments in problem gambling (Westphal 2007).

Many gambling relapse studies have focused on single factors in isolation, as described by Thomas and Jackson (2008). These studies do not account for the complex interaction of facilitatory and protective factors that affect relapse, which remain poorly understood (Ledgerwood & Petry 2006). Furthermore, research is biased in relation to relapse, as it is usually discussed as part of studies associated with treatment outcomes. As such, discussion is therefore limited to the factors that are associated with poorer outcomes, which are then described as “risk factors” for relapse. Such attribution of causality for particular psychological factors may well be premature.

The following is a list of the key factors established in this review associated with problematic gambling behaviour and relapse:

- Epidemiological factors
- Co-morbidity
- Impulsivity
- Gambling urges
- Gambling cognitions
- Treatment effects
- Quality of relationships
- Environmental factors
- The “zone”

Factors associated with reduced relapse are:

- Positive social support
- Religious beliefs
- Strategies to manage gambling
- Therapeutic interventions
- Readiness to change
- Having a conscience and personal values
- Learning from experience

This review has attempted to understand the factors that are associated with the increased or reduced risk of relapse in problem gambling. As suggested by Morasco et al. (2007), complex interactions of factors promote and maintain problem gambling behaviours.

It is important to understand how these factors interact to either increase or reduce the risk of relapse. It may be that risks for relapse, such as negative affective states including comorbidity (both mental health and physical health problems), boredom, conflict with significant others, gambling harms, lack of money, and crime, are all associated with persistent gambling. These emotional states share a common feature, as they create persistent or repeated frequent negative affective states for people for whom gambling provides an opportunity for relief from these negative emotions. This was argued, for example, in the case of adolescents who gambled as a form of escaping the realities of daily life (Derevensky & Gupta 1998). In addition, these factors may interact in a dynamic way with external factors, such as the gambler's environment, machine design, and a range of social factors. Furthermore, for many gamblers, there are many potential triggers for relapse, as each PG has their own particular "Achilles heel" as the entry point to the initiation of a relapse episode.

For example, many studies have shown that gamblers with an alcohol diagnosis and mood disorder are at an increased risk of relapse, particularly when their support ends (Echeburúa, Fernández-Montalvo & Báez 2001; Hodgins & el-Guebaly, 2010), or if they have a high level of neuroticism leading to therapeutic failure (Echeburúa, Fernández-Montalvo & Báez 2001). Of course, other important influences have also been found to be associated with relapse, for example cognitive factors, emotional factors, cognitions about winning, feeling the need to make money, unstructured time, boredom, negative emotions or situations, and the need to fit in (Hodgins & El-Guebaly 2004). However, it is not clear how such factors, reported in isolation, might interact with each other to influence relapse. For example, a gambler's fantasies about success at gambling can lift a gambler's mood and lead to relapse as an escape from an aversive situation (Wood & Griffiths 2007). Trying to escape from the distress that immediately follows a relapse episode may then trigger ongoing relapse

episodes as the gambler finds it difficult to acknowledge the harms associated with their gambling.

Furthermore, Thomas and Jackson (2008) argue that gambling is an interplay between personal dispositions or propensities and environmental factors; uptake is therefore influenced by these factors. Such processes may also occur in relapse, particularly when a gambler has managed to abstain for a period of time.

Other factors to be considered are the presence of increased gambling urges and erroneous cognitions related to gambling outcomes (Battersby et al. 2009; Oei & Gordon 2008), deficits in self-regulation, impulsiveness, sensation-seeking, insensitivity to the future, and poor decision-making skills (Goudriaan, Oosterlaan, De Beurs & Van Den Brink 2008), that may work simultaneously to add to the risk of relapse. These diverse factors may also interact to influence the progression of relapse. This suggests that relapse is a dynamic, interactional process, rather than a linear process of individual factors that lead to relapse.

The “zone” is also an important phenomenon that is poorly described and poorly understood as to how and why it develops, and the effects that it has on the PG during the relapse process. It would appear to prolong it, to affect the judgements made by the PG about the use of money during relapse, and it appears to provide protection for the PG emotionally whilst she/ he continues to create increasing and serious problems for her/himself and the family. This may limit the capacity of the PG to learn from their mistakes whilst in this state of “machine dissociation”, as described by Schüll, as habitual relapse in PGs is such a protracted problem, often lasting many years.

Yet learning to change and quit gambling and the cessation of relapse does occur, with and without treatment. The provision of support appears to help gamblers manage the risk of relapse until it is removed, which then increases the gambler’s vulnerability to relapse. Other factors, such as repeated failure of control, result in the tolerance of high levels of costs and repeated cycles of gambling (Ricketts & Macaskill 2003), suggesting that the risk of relapse for these gamblers may be

intensified. Gambling appears to be a complex process of different factors that seem to interact, increasing the risk of relapse for those trying to abstain.

On the other hand, a gambler's quality of life is a mediating variable between psychological distress and abstinence (Sander & Peters 2009), suggesting that quality of life may impact on a gambler's risk of relapse by reducing it. Furthermore, increased quality of life and improvements in social and financial functioning and reduced psychopathology (Blaszczynski, McConaghy & Frankova 1991) also reduce the risk of relapse. The role of stimulus control strategies (Doiron & Mazer 2001; Morasco et al. 2007; Thygesen & Hodgins 2003) and a gambler's confidence in their ability to cope with cravings, unwanted emotions, and conflict (Ricketts & Macaskill 2003) may add to a gambler's ability to reduce the risk of relapse. Some factors may thus act together to enable a gambler to effectively manage factors that otherwise would increase their risk of relapse. The following factors also need to be considered as part of an integrated process, for example, the appropriate management of irrational thinking patterns (Emond & Marmurek 2010) and environmental cues (Wood & Griffiths 2007). Furthermore, seeking social support is helpful in reducing relapse (Hodgins & el-Guebaly, 2010; Morasco et al. 2007; Oei & Gordon 2008), and religious beliefs can provide a safeguard for some gamblers trying to abstain (Casey et al. 2011; Hodge, Andereck & Montoya 2007).

Interestingly, a reduction in gambling symptoms can lead to a reduction in arousal (Freidenberg et al. 2002), which may make it easier for a gambler to resist the desire to gamble. Furthermore, providing treatment can be beneficial (Carlbring et al. 2010; Doiron & Nicki 2007; Dowling, Smith & Thomas 2007; Ladouceur et al. 2001; McConaghy, Blaszczynski & Frankova 1991; Sylvain, Ladouceur & Boisvert 1997) for some, but little is known about the specific efficacy of any particular interventions. However, if a gambler prematurely drops out of treatment before substantial progress has been made in addressing the problem, they are at an increased risk of relapse (Jiménez-Murcia et al. 2007); drop-outs from treatment are almost 50% more likely to relapse. Drop-outs seem to be frequent no matter which treatments are provided. This may have something to do with the relapse process that is not yet understood.

It is important to acknowledge that the methodology of many of these studies require caution when considering the results. For example, the findings are limited as the samples are often restricted to either male (Wulfert, Blanchard & Martell 2003) or female gamblers; sample sizes are small (Dowling 2009; Echeburúa, Baez & Fernandez-Montalvo 1996; Echeburua, Fernandez-Montalvo & Baez 2000; McConaghy et al. 1988; Melville et al. 2004; Schwarz & Lindner 1992; Taber et al. 1987; Wulfert, Blanchard & Martell 2003); often an intent to treat analysis has not been used (Stinchfield & Winters 1996; Taber et al. 1987); many lack a control group (Freidenberg et al. 2002) or a waitlist control has been used (Ladouceur et al. 2001; Ladouceur et al. 2003); the follow-up periods are short (Breen, Kruedelbach & Walker 2001; Petry, et al. 2008); live scenarios are not used in experiments (Freidenberg et al. 2002); and those with co-morbid mental health disorders have often been excluded (Echeburua, Fernandez-Montalvo & Baez 2000). In addition, the outcome measures are inconsistent (Stinchfield & Winters 1996; Stinchfield & Winters 2001; Taber et al. 1987) and the process of randomisation has often not been described (Echeburúa, Baez & Fernandez-Montalvo 1996).

Samples of convenience, with or without other substance dependence, and the generalisation of these findings (Ricketts & Macaskill 2003) are clearly limiting. The use of media-recruited volunteers not representative of PGs seeking to quit gambling (Hodgins & el-Guebaly 2010), a reliance on self-reporting (Oei & Gordon 2008), a lack of control groups (Echeburúa, Fernández-Montalvo & Báez 2001; Hodgins et al. 2007b), and the use of non-clinical subjects (Walker 1992) are also weaknesses in many of these studies.

In summary, a significant majority of pathological gamblers relapse (Hodgins et al. 2002; Thygesen & Hodgins 2003). Unfortunately, there is only limited understanding of the factors that lead to the development of gambling problems, relapse, and effective clinical interventions (Sodano & Wulfert 2009). Furthermore, the risk of relapse is high even when the best treatments are provided (Abbott et al. 2004; Hodgins & El-Guebaly 2004). There are few studies that primarily examine gambling relapse, with most investigating relapse through the use of small samples,

and mainly retrospective reports. In addition, there may be multiple factors associated with relapse in pathological gamblers, and only a small number of variables studied at one time, so that their interaction can be understood. Most studies did not examine gambling relapse as a cohesive model (Ledgerwood & Petry 2006); rather, they have focused on single factors in isolation with respect to gambling relapse (Thomas & Jackson 2008).

However, the study by Schüll (2012) stands out as a much more comprehensive example. Its focus is the ethnography of the phenomenon of Problem Gambling within the cultural context of the casino in the United States, however relapse is again observed incidentally rather than as the focus of the study. As such, the study does not address the many variables suggested in the literature as being relevant to the relapse process. It does, however, lead the way with its descriptions of the phenomenology of the relapse process, and is important and relevant to this study.

Overall, there is a significant gap in the understanding of relapse in problem gambling, which impacts on the ability to develop effective treatment programs. The current literature has limited explanatory power for this complex phenomenon to date, and only a few empirical studies have evaluated the phenomenon of relapse directly in this population (Ledgerwood et al. 2007).

This review has highlighted that relapse in problem gambling appears to be influenced by a number of factors, including: environmental factors, negative affective states, cognitions, urges to gamble, social factors, interventions, and coping skills leading to a perceived control over risk situations and the anticipated outcomes of engaging in gambling behaviours. However, it is not possible from this literature review to establish any causal connections between relapse and personal dispositions, personal propensities, and environmental factors, or if these factors precede each other or are consequences of learning and the PG lifestyle itself. This review does suggest that relapse may be a dynamic process rather than a linear progression of risk factors leading to relapse, or protective factors leading away from learnt patterns of relapse. It is not clear how these factors interact with each other to either increase the

gambler's risk of relapse or to reduce the risk of relapse by enabling the gambler to manage the factors that initiate relapse in order to maintain ongoing abstinence.

In such complex social behaviours, qualitative methodologies help the researcher to understand what the respondent thinks or believes about the topic under discussion (Smith, 1996) and are useful in examining complex phenomena, such as gambling relapses, more systematically and in their full complexity. Such an approach enables hypotheses to be generated and tested to further our understanding of the relapse process. This review has demonstrated that a qualitative methodology exploring the experiences of gamblers would help us to understand why some interventions are more helpful than others in enabling gamblers to manage their gambling problems. It also highlights why some gamblers continue to struggle with managing their gambling behaviour and their repeated episodes of relapse without seeming to be able to learn from the negative consequences that accompany, and are subsequent to, these relapse episodes.

Overall, there is a significant gap in the understanding of relapse in problem gambling. In such complex social behaviours, qualitative methodologies are useful in examining such behaviours more systematically and in their full complexity. The current literature lacks depth and has limited explanatory power for this complex phenomenon, and indeed, no detailed model of relapse for EGM per se has previously been proposed. The paucity of literature on relapse, specifically in problem gambling, has made it important to consider all the factors that are associated, or are thought to be associated, with relapse in problem gambling. Finally, relapse as a topic worthy of study in its own right has not been addressed to date, except in simplistic ways.

CHAPTER THREE

METHODOLOGY AND METHODS

3.1 Methodology

This chapter aims to provide the reader with an understanding about both the methodology chosen for this study and the process of analysis. It outlines the rationale for using a qualitative design to explore relapse in EGM gambling and how gamblers stop relapsing back to gambling behaviours. It describes the details of the research design, the sample, the consent process and confidentiality, recording, process of transcription, and the rigour of the study, which was enhanced through an audit trail and a report. The Flinders University Social and Behavioural Research Ethics Committee (Project Number 3948) approved this study in 2009.

Qualitative investigation enables the understanding of the complex world of human experiences and behaviours from the perspective of those involved (Krauss 2005). The data analysis techniques in qualitative research are directed by an epistemology that underpins a reflective model that endeavours to attain “social knowledge” (Willing 2001) and to develop theories that contribute to the construction of meaning using an interpretivist approach. Interpretivism is the understanding of multiple realities by combining data into systems of belief (Krauss 2005). The emphasis is on the importance of understanding people’s own perspectives in the context of the conditions of their lives through obtaining “thick” descriptions and detailed information. While keeping close to these accounts, the researchers are able to develop their interpretations into deeper insights through synthesising, interlocking, and comparing a number of respondents’ accounts in a broader context (Ritchie & Lewis 2003). Therefore, this interpretive approach is relevant to the aims of this research into the complex behaviour of relapse in problem EGM gambling, enabling the researcher to listen to, and interpret, what participants have to say about their experiences of relapse.

Furthermore, Patton (2002) highlighted the differences between qualitative and quantitative methodologies, suggesting that qualitative research facilitates in-depth

and detailed investigation without being constrained by predetermined categories of analysis. On the other hand, quantitative approaches require the use of standardised measures, so that varying perspectives and experiences of people fit into a limited number of predetermined response categories with assigned numbers (Patton 2002). Qualitative methods produce a wealth of detailed information rather than relying on the production of an objective statement. This inductive process helps the researcher to understand the complex and novel experiences of those participating in this form of investigation. One of the defining characteristics of a qualitative study is that the exploration process does not attempt to test a predetermined hypothesis, but instead, explores in detail the area of concern. This process allows themes to emerge from the collected data (Smith 2008) which help the researcher to understand how the participants perceive and experience the world (Willing 2001). The strength of qualitative methodology comes from the complex textual descriptions of the participants, which provide personal insight into the issue in question (Willing 2001).

Qualitative methodology supports the purpose of this study in developing a theory about relapse in PGs through the process of careful constant comparison of the rich data that were generated (Glaser & Strauss 1967), from the different subjects, in different ways, and between the subjects and the literature. This research seeks to understand the research problems surrounding relapse by obtaining information that is culturally-specific to the EGM gaming environment, and ascertaining the values, opinions, behaviours, and social contexts from these EGM PG populations. In this thesis, the researcher seeks to describe and answer questions about the relapse process in EGM gambling in Australia.

The idea of combining more than one type of qualitative approach can bring a particular type of insight into an enquiry based on the personal experiences and views of individuals. For example, focus groups used in the initial stages of an investigation raise and explore relevant issues that can be further explored through in-depth interviews, discussing findings at a more strategic level (Lewis 2003). Focus groups are a method of choice when studying participants' lives, underlying beliefs, opinions held, or for constituting a social context acquired by direct observation (Wilkinson 2008). Therefore, the first phase of this study used focus groups to obtain

an initial description of the relapse processes. The second phase employed in-depth interviews to provide a further, deeper understanding of relapse, as the researcher and participants engaged in a dialogue in which the researcher could probe interesting and important areas (Smith 2008) that had been discovered in the focus group component of the study.

To reduce bias and ensure integrity, the rigour of this study was established according to Guba's model of Trustworthiness of Qualitative Research (Guba 1981). This model was chosen because it is well-developed conceptually and has been used by qualitative researchers for a number of years (Krefting 1990). Therefore, the following criteria ensured the rigour of the study:

Truth Value

The credibility of the findings from this study has been assured as the data were obtained from participants with the lived experience of the process of relapse in problem gambling. Furthermore, the results were checked with other sources in the literature and experts in PG, mental health, and addictive behaviours, to assist in establishing confidence in the truth-value. In addition, the use of peer debriefing sessions allowed the researcher to have an opportunity to test and defend the emergent ideas to establish if they were credible, while a review of the literature assisted in providing external validation for the development of the ideas (Padgett 2004).

Applicability

The existence of "thick" descriptions about each context enabled the applicability of the findings to other contexts. Furthermore, if repeated, in the same context, with the same methods and with the same participants, similar results would be achieved.

Consistency

The use of an audit trail, as well as triangulating the data sources, confirmed the consistency of the findings. Triangulation of the data ensured that the results of the study were rich, robust, comprehensive, and well-developed. Triangulation was conducted with data verified from the following sources: the focus group

participants, the participants from the in-depth interviews, the literature, experts from the Delphi process, supervisors, and input from the research team connected with the Gambling Research Centre at Flinders University. Throughout the study, the researcher kept an audit trail and a journal to record ideas, points of agreement and disagreement with her supervisors, and her progress in the study. In addition, the supervisors' oversight of the study helped to ensure the ongoing integrity of the research at all times.

Neutrality

Also known as objectivity or confirmability, neutrality involved the review of all the available data and the process of analysis. During this review process, an auditor checked the study for freedom from bias, interests, and motives on the part of the researcher, which may have threatened these conditions if an audit process had not been put in place (Guba 1981).

Study Methodology

The following section firstly provides an overview of the specific methodology used in this study. It includes a summary of the recruitment of participants and outlines the process of transcribing the data. It then describes the methodology for the focus group component, which was the first part of the research, and then the methodology for the second component of the research, the in-depth interviews.

This qualitative study involved focus groups and in-depth interviews with participants who volunteered their time to participate in the study. The decision to recruit participants was based on a qualitative methodology, which uses small sample sizes selected purposefully to permit enquiry into, and to understand, a phenomenon in great depth. Purposive sample selection (Patton 1990) was therefore used for this study in order to examine relapse from multiple perspectives, and to ascertain how the process of relapse occurs. In addition, a small number of participants who are "information rich" can offer useful manifestations of the phenomenon of interest, providing the power behind the in-depth understanding of the phenomenon being studied (Patton 2002).

The participants recruited for this study had the opportunity to opt out when contacted by the researcher to arrange the focus group or interview session. Once they agreed to be involved in the study, the researcher organised a time and place which was convenient for them. They were provided with refreshments, and parking permits if required. Once full information about the research was provided and understood by the participants, their formal consent was obtained. In both the focus group studies and the in-depth interviews, identification numbers on data sheets and interview transcripts assured subject confidentiality. Subject names and other identifying information were kept in a locked filing cabinet in the office of the chief investigator. To ensure anonymity, the subjects in this study are referred to by pseudonyms.

The researcher is a trained clinician with extensive experience in the assessment and treatment of problem gambling, and thus was able to provide therapeutic input if required by the participants. As the interviews may have been traumatic for some participants as they revisited traumatic events in their lives, and for those still gambling, talking about relapse and gambling may well have resulted in high urge and the risk of relapse. At the conclusion of the interviews, all the subjects were provided with information about treatment opportunities for those still gambling.

Smith (2008) points out that difficulties may occur if one attempts to write down every word that the participant says during the interview, as it would then only be possible to grasp the gist of the interview, not the important nuances. In addition, the process of writing influences the establishment of rapport and prevents the interview from running smoothly. Therefore, the focus groups and in-depth interviews were audio-recorded. All the participants agreed to digital audio-recording prior to the commencement of the interview, and were made aware that the recorder could be turned off at any time if they felt uncomfortable with the process. All the interviews were recorded using an MP3 Sony Walkman Digital Music Player. A transcription was made of each entire interview, including the researcher's questions, and was double-checked by the researcher for accuracy, before a secretary transcribed the recordings. To ensure the best possible accuracy, the transcripts were checked by the researcher as well. It was found that there were no missing sections of conversation.

Punctuation has been added and redundancies removed to enhance the readability of the transcripts and the quotes used throughout this thesis have been taken directly from the transcribed recordings.

As it was important to capture significant non-verbal behaviour by the participants, both the co-facilitators and the researcher took notes regarding any significant interactions or behaviours observed during the focus group interviews. At times, the co-facilitators clarified points made by the researcher if needed during the focus group sessions. The researcher took notes after each in-depth interview. These field notes were used as part of the analysis (see Appendix 3 for an example of the field notes). Hence, a standard data collection process was used comprising of audio-recordings, complete transcription of the recordings, and thematic analysis of the data.

3.2 Methods

Focus Groups

The focus group study aimed to describe the phenomenon of relapse as perceived through a range of subjective perspectives. Focus groups were used for the first part of the study because focus groups are an accepted method for obtaining qualitative data for sociological enquiry in applied research (Morgan 1996). This was, therefore, considered to be an appropriate way to begin to understand the relapse process. The use of focus groups enabled the collection of substantial textual data which could then be subject to thematic analysis (Douglas 2003).

Following approval by the Flinders University Social and Behavioural Research Ethics Committee, recruitment for the study began. Recruitment was initiated by research staff contacting the Statewide Gambling Therapy Service, The Gambling Help Line, Relationships Australia and Pokies Anonymous in South Australia with information about the study. These service providers advised both their staff and clients about the study, and those interested were provided with an information sheet outlining the details of the study. Those who indicated that they were happy to be involved in the study, by making direct contact with the researcher, were recruited into the focus groups. The focus group participants were purposely selected because

they were considered to have an intimate knowledge of the relapse process in EGM gambling, as well as being representative of clients, significant others, and the variety of therapists in treatment services offered for problem EGM gamblers in South Australia. These participants were chosen in order to capture a broad sample of PGs, their significant others, health professionals, and culturally-diverse communities from both urban and country South Australia. Overall, the groups were representative of the clients and workers as seen in the wider range of services provided for those affected by problem gambling in South Australia. All participants approached were happy to be involved in the research. Two workers and one Pokies Anonymous (PA) member who had agreed to participate did not attend on the day.

A fifth focus group (n=5 therapists) was conducted in New South Wales at the Gambling Treatment Clinic, University of Sydney (FG: GTC). This focus group was chosen to include therapists who provided a cognitive-based treatment program in comparison to the Statewide Gambling Therapy Service (SGTS) workers, who provided a behavioural approach to the treatment of PGs.

There were 35 participants in the five focus groups, as shown in Table 8, Focus Group Participants (see Appendix 4 for Focus Group participant characteristics). Two groups comprised PGs and their partners with direct personal experience of relapse recruited through treatment, support, and counselling agencies in SA. The other two groups comprised professional staff who endeavoured to treat PGs using formal CBT, counselling, and educational approaches to managing EGM PGs.

Non-Government Organisations and other workers comprised a total of seven workers from non-government organisations and the Gambling Helpline [classified in the results section as (FG: NGAW)]:

- PEACE Multicultural Gambling Help Service (n=1 Social worker)
- The Gambling Helpline (n=2 Registered nurses)
- Nunkuwarrin Yunti Aboriginal (n=1 Social worker / financial counsellor)
- Relationships Australia (n=3; 1 Social worker, 1 counsellor, 1 financial counsellor).

Non-Government Organisations' Clients (n=5) (classified in results as (FG: PAG) comprised of:

- Pokies Anonymous (n= 3)
- The Client Voice Program (n=2)

Statewide Gambling Therapy Service workers [classified in the results section as (FG: SGTSW)] comprised eight clinicians in the areas of CBT who had worked at the Statewide Gambling Therapy Service (SGTS) using graded urge exposure and response prevention. All were graduates of the Mental Health Sciences Postgraduate Programs at Flinders University specialising in CBT, and seven had achieved a Master's Degree.

The Statewide Gambling Therapy Service clients' group [classified in the results section as (FG: SGTSC)] consisted of 10 clients and their significant others [classified in the results section as (FG: SGTSS)] from rural and metropolitan areas who had graduated from the specific CBT programme offered at the SGTS.

Table 8. Focus Group Participants

Focus Group	SGTS: therapists	SGTS: clients and their significant others	Non-government agency counsellors	Gambling Treatment Clinic, The University of Sydney	Pokies Anonymous (PA) members
	Therapists provide specific cognitive behavioural orientation	Clients completed the SGTS CBT program	Counsellors provide supportive counselling approaches	Therapists provide CBT cognitive gambling-specific treatment	PA: self-help peer support organisation
Participants	Therapists	Clients and Significant Others	Counsellors	Therapists	PA Members
Number	8	10	7	5	5 (x1 couple)
Male	2	5: 3 clients 2 (SO)	0	1	2
Female	6	5: 2 clients 3 (SO)	7	4	3
Absent	2 Therapists				1 PA member
	<i>Statewide Gambling Therapy Service: (SGTS) Non-Government Organisation: (NGO) Gambling Treatment Clinic (GTC)</i>				

The conduct of the focus group was based on Breen’s guide for the conduct of focus group research. Three focus group facilitators were involved in the conduct of the focus groups. One facilitator (JO) was the researcher. The second facilitator was a Project Officer (DS) who co-facilitated the focus groups. JO and DS conducted the three groups jointly in a planned and standardised fashion (Breen 2006).

The researcher’s main role was to be the moderator of the focus group in order to gather information on the specific topic by encouraging open, interactive discussions and allowing every participant to talk. This role was critical for the success of the focus group discussion, and was, at times, challenging requiring the researcher to be adaptable.

A well-designed guide was considered essential in helping to provide a flexible direction to the focus group process, and was also a mechanism for steering the discussion towards the key themes that the researcher hoped to focus on during the group discussion. It was not designed to pre-empt the group discussion, but to help the researcher think about the direction of the overall process (Lewis & Lewis 2003). Consultations regarding the content of this guide were conducted with the researcher's supervisors. Time was spent studying the interview guide, considering how different issues would be discussed, the types of responses that may occur, and how these would be followed-up. In addition, the literature review from this study, and the emerging data from the consultative Delphi Study (Battersby et al. 2009), in which experts were consulted about factors associated with relapse, were considered in the development of the interview guide. These sources of information helped to define the content to be covered in each focus group, which resulted in a list of questions and issues to be explored during the course of the interview (Patton 1990) (see Appendix 5 for focus group questions). These questions covered the following areas which were considered to be important in regards to relapse: psychological factors (cognitive, affective, personality), psychobiological factors, social and environmental factors, and treatment modalities associated with the possible predictors of relapse.

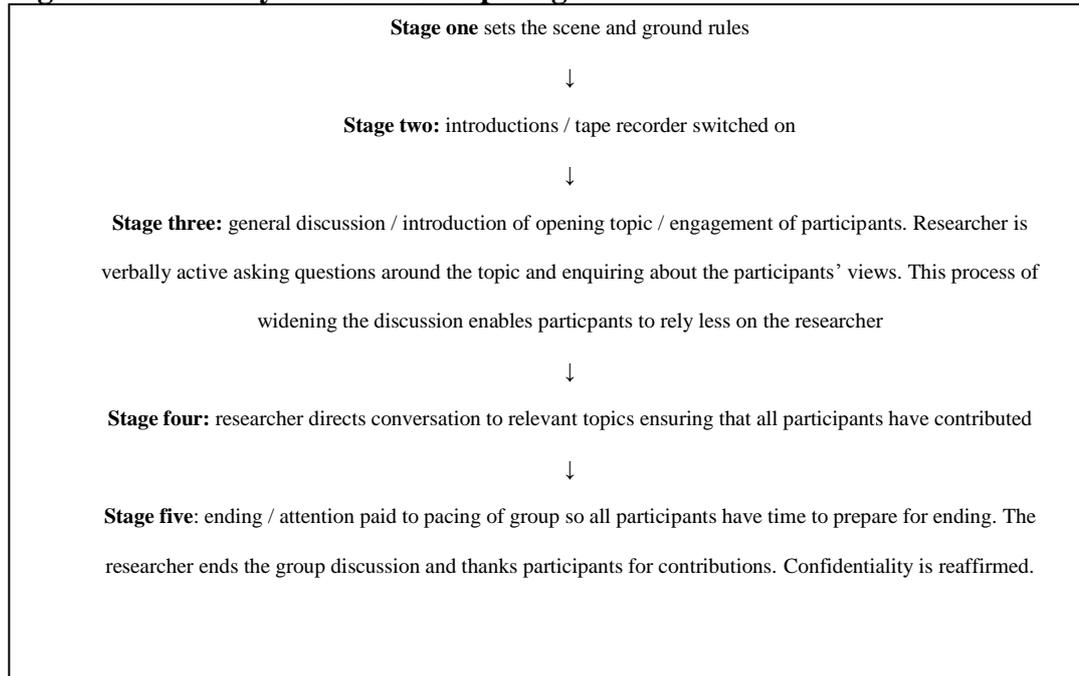
The focus groups began after the participants had completed the consent process which included the provision of Information Sheets to the participants describing the focus group process, the importance of the research, the possible risks and benefits, confidentiality, and the voluntary nature of participation in the study. A consent form was signed to complete the process. Sample documentation is shown in Appendix 6 (letter of introduction) and Appendix 7 (consent form for participants).

The participants initially provided background information regarding their age, profession, and gambling background after which they were welcomed as a group. The next step was for the researcher to present an overview of the purpose of the groups and a statement of the ground rules. These rules included an emphasis on the confidentiality of the content of the information and discussions within the group. The group process then started with the researcher asking the participants to share

their general experiences of relapse. The questions progressed to specific relapse risk factors according to the guiding questions in the guide. The researcher facilitated the group by asking the participants to share and compare their experiences, and to discuss the extent to which they agreed or disagreed with each other about the issues that were raised. The groups generally moved from topic to topic according to the interview guide, with the facilitators assisting the groups to cover all the questions. The group context of focus groups created a process that differs from in-depth interviews, as the data are generated by interactions between group members. These participants presented their own views and listened to the views of others. The participants listened and reflected on the conversation and considered the views of the other participants, which often triggered additional information. The participants asked questions of each other and sought clarification on what others had said which led to the spontaneous emergence of issues. At this time, the discussion moved further from the researcher's control and the participants began to lead the topics. As the discussion continued, individual responses became sharper and deeper. The researcher remained as non-directive as possible while pacing these conversations, ensuring that all key areas identified in the interview guide were discussed. Throughout the focus groups, the researcher was alert to the participants' body language in case they relayed their agreement or disagreement non-verbally. These participants were encouraged by the researcher to verbalise their opinions. Furthermore, if a participant appeared lost or bored, they were drawn back into the discussion (Finch & Lewis 2003).

Figure 1 (Summary of Focus Group Stages) provides a summary of the five stages used in the focus group process. These included Stage One in which the ground rules were set; Stage Two in which introductions were made and the recording commenced; Stage Three involved the researcher beginning general discussions and introducing the topic; Stage Four saw the researcher direct conversation to the relevant topics, ensuring that each participant had contributed to the discussions; and Stage Five ended the focus group session, stressing the importance of confidentiality and ensuring that all participants were happy to leave.

Figure 1. Summary of Focus Group Stages



(Finch & Lewis 2003).

The focus group process lacks the depth of interviews, but has a different purpose as outlined earlier. The focus groups comprise data about relapse from multiple subjects concurrently, rather than the data about multiple and detailed experiences of relapse from a single subject (Finch & Lewis 2003).

In-depth Interviews

This section provides a description of the second phase of the research, which involved 19 in-depth interviews. It provides background information to the study and then addresses the recruitment of the sample, consent and confidentiality, development of the interview guide, and a description of the interview process, including the roles of both the interviewer and the participants. Pilot interviews were conducted to check the questions, which will be discussed elsewhere in this chapter.

A brief outline of the findings of the focus groups will contextualise the in-depth phase of the study. As described above, the first phase used focus groups which enabled a description to be made of the relapse process in problem gambling. This description took into account the real-time factors that impinged upon PGs each time they faced yet another relapse episode. The focus group study participants described

five different processes associated with relapse. These included: 1) the factors that increased gamblers' vulnerability towards relapse; 2) the factors that protected the PG from relapse; 3) an altered state of consciousness described as the "zone" that was stopped only when the money ran out; 4) a process separate from the relapse episode, but affecting it, that developed over time as the gambler reflected on the harms of gambling which impacted on their commitment to change and their power of resisting the urge to gamble; and 5) some gamblers described a possible cure, particularly when their urge to gamble had been extinguished.

These focus group findings of relapse in EGM PGs exhibited high face validity, but needed to be further refined in order to allow a more complete description of the relapse process. The significance of in-depth interviews was to elicit further information from participants about their direct personal experiences of relapse in problem EGM gambling. It was anticipated that this data would strengthen the model of relapse described in the focus group study, and would allow an examination of whether it reflected the experiences of individual relapsing EGM gamblers.

Ritchie and Lewis (2003) described the in-depth interview as being interactive in nature with material generated by the interaction between the researcher and the interviewer. This enabled the researcher to explore all the factors that underpinned the participant's answers, such as reasons, feelings, opinions, and beliefs that generated new knowledge or thoughts (Ritchie & Lewis 2003). Smith (2008) highlighted the advantages of in-depth interviews as enabling rapport and empathy while allowing the interview process to go into novel areas that result in rich data. Patton (2002) described the key points of the interview process as being open-ended questions and probes that yield in-depth responses about people's perceptions, experiences, feelings, and knowledge. This form of enquiry allows the researcher and the participant (considered an expert on the topic) to have a meaningful dialogue. Therefore, the use of in-depth interviews fits well with the objective of the second phase of the study, by strengthening the focus group findings with rich data provided by individuals.

Following approval by the Flinders University Social and Behavioural Research Ethics Committee, recruitment for the in-depth interviews began. Participants were recruited by advertising for subjects using radio interviews with local radio stations, and flyers (see Appendix 8) that described information about the study and invited potential participants to contact the researcher to obtain further information. Prior to distributing these flyers, a number of key people reviewed the flyer for its suitability to recruit participants. These key people were six therapists who specialise in the assessment and treatment of problem gambling, a consultant psychiatrist, an Associate Professor of Social Work who specialises in mental health, an academic researcher in public health, and a consumer successfully treated by the SGTS for problem gambling who now provides peer support. Once finalised, the flyer was submitted to the Flinders University Social and Behavioural Research Ethics Committee, which approved the use of the flyer for participant recruitment into the study. Flyers were distributed to non-government agencies such as Pokies Anonymous, gambling help services, hotels, the Adelaide Casino, and a range of mental health services.

Purposeful sampling was used to find well-defined groups of participants able to provide intimate knowledge about the research question (Smith 2008). The researcher specifically set out to recruit a range of PGs that included those who had previously sought assistance for their gambling including through treatment and counselling, gamblers who had recovered without seeking any assistance, and gamblers who obtained ongoing support from regular attendance at PA. In addition, participants who were recruited for this study had self-identified as gamblers, rather than being identified by fulfilling criteria through screening tools. This was to enable a broad range of PGs to share their stories.

Unfortunately, in spite of a variety of recruiting approaches, no “spontaneously recovered PGs” came forward. It may be that this is an infrequent occurrence. Slutske et al. (2006) found that, of the 43,093 participants in the National Epidemiologic Survey on Alcohol and Related Conditions, 185 (0.40%) had a lifetime history of DSM-IV pathological gambling. Of these 185 individuals, 111 (63%) did not meet the diagnostic criteria for DSM-IV pathological gambling any

longer at the time of the survey, and 70 (36%) had no pathological symptoms at all. Of the 70 individuals with a history of pathological gambling who had no pathological gambling symptoms over the past 12 months, only eight had sought treatment for their gambling problems (Slutske 2006).

Furthermore, in the case of the present study, the absence of naturally recovered gamblers seeking to participate may be due to the struggle of gamblers, who are “gambling free” (sometimes for many years), that they could ever be completely “recovered” from their gambling addiction (Anderson, Dobbie & Reith 2009). It may also be that they were simply no longer interested in gambling and had not noticed the advertisements.

The potential participants who enquired about the study, received an information letter (Appendix 9) and package describing the purpose of the study and an invitation to participate. The package included information about the study and details about gambling help services and financial counsellors available across the state, and the contact numbers of crisis support services, should the participants require additional support. A consent form (asking for consent and a contact number, see Appendix 10) was included in the information package, which consenting participants returned to the researcher. The researcher then contacted the consenting participants by telephone to set up the interviews.

A total of 19 participants were enrolled into the in-depth interview study. The final study comprised of six participants from Pokies Anonymous (classified in the results section as I: PA), six non-treatment seekers (classified in the results section as I: NTS), and seven treatment seekers (classified as I: SGTS) who had the direct personal experience of relapse. The treatment-seeking PGs had undergone a formal CBT (urge exposure and response prevention) program; in addition, some had received counselling and educational approaches to managing their EGM problem gambling. For further details of the participants, see Table 9: Participant Demographics. In this table, the participants’ age, marital status, occupation, number of children, and education are presented.

Table 9. Participant Demographics

Name De-identified	Age	Years gambled	Occupation	Marital Status	Children	Education
Treatment Seekers						
John	48	30	Corrections Officer	Married	2	Management Degree
Natalie	26	3	Support Worker	Married	2	High School Year 10
Brad	38	20	Hotel Industry	Married	2	High School Year 12
Greta	60	4	Self-Employed	Married	1	High School Year 12
Simon	33	1.5	Government Administration	Single	No	Bachelor Public Policy
Ray	67	5	Unemployed Brewery Worker	Divorced	5	High School Year 10
Wally	40	20	Telemarketer Unemployed	Single	No	High School Year 11
Pokies Anonymous						
Janet	77	15	Tour Co-ordinator	Widower	2	High School Level
Monica	42	14	Hospitality	Single	No	High School Year 12
Larry	74	9	Abattoir Worker	Divorced	3	High School Year 10
Lee	60	17	Wood Turner Unemployed	Single	No	High School Year 11
Karen	49	10	Artist	Single	3	High School Year 12
Brenda	57	15	Pensioner	Single	No	High School Year 11
Non-Treatment Seekers						
Kath	63	11	Pension	Divorced	3	Year 10
Lea	63	10	Pension	Married	No	High School
Linda	56	12	Pension	Divorced	1	Year 10
Colleen	51	5	Registered Nurse	Single	No	Masters Degree
Barb	78	14	Cleaner	Married	4	High School
Annie	51	8	Kitchen Hand	Divorced	2	Year 11

The generation of an interview guide (Appendix 11), prior to the interview, enabled the researcher to determine the key areas to explore during the interviews. The interview was guided by this schedule, rather than being dictated by it (Smith 2008).

Implementation of the pilot interviews assisted the researcher to refine the research questions (Turner 2010). Furthermore, Patton (2002) emphasised the need to practice interviewing and observational skills by conducting many interviews and spending time practicing fieldwork observations and receiving feedback. Therefore, in preparation for the interviews, three trial interviews were conducted. Three participants, who self-identified with a history of problematic gambling behaviour and who had tried to remain abstinent for a period of time, were interviewed:

1. 60 year old divorced woman with a 10-year history of problem gambling behaviour
2. 32 year old single male with a 7-year history of problem gambling behaviour
3. 42 year old married male with a 15-year history of problem gambling behaviour

Following each interview, the researcher engaged in critical discussion with her supervisors about the researcher's interview style and the research questions in relation to the construction of the interview guide.

Preparing and memorising this guide before the interview allowed the researcher to focus more thoroughly, and with greater confidence, on the participants' stories. The participants were encouraged to speak about the topic with minimal prompting to enable the researcher to get as close as possible to what the participants thought about the topic of interest, in this case, relapse for them as PGs (Smith 2008).

The interview questions for the in-depth interviews were developed with attention to what had already been asked and discovered in the focus group study and in consultation with the literature (Bar 2004). The interview guide was created in a similar fashion to the guide developed for the focus groups. For example, ongoing discussion occurred between the researcher and her supervisors considering the

different issues, the types of responses that may occur from the participants, and how these responses could be followed-up. In addition, the literature review and the emerging data from the focus groups helped to define the content and issues to be explored during the course of the interviews (Patton 1990). Flexibility in questioning enabled the participants to elaborate on their own unique experiences and allowed the researcher to capture the complexities of each individual informant's history and point of view (Smith 2008). However, Smith (2008) also highlighted the importance of the researcher establishing a rapport with the respondent to enable them to probe areas of interest and to follow the respondent's interests and concerns during the interview process. Therefore, the ordering of the questions was considered to be of less importance.

The first part of the interview involved general questions designed to establish a rapport between the interviewer and the participant, and to provide an overall picture of the development of problem gambling for the participants. The second part of the guide contained those questions, drawn from the literature, which related to relapse and problem gambling behaviours.

At the beginning of each interview, the researcher needed to be clear about her role and to help the participant to understand their role in providing in-depth answers, thus allowing for a breadth of coverage across the key themes. The researcher's role was to actively encourage the participant to talk openly about their thoughts, feelings, views, and experiences. The researcher used probing open-ended questions to ensure that the participant's responses revealed enough information until saturation had occurred (Patton 1990). The researcher did not assume an understanding during the interview; instead, the participants were encouraged to explain their answers. Therefore, using extraneous remarks such as "okay" or "yes" may have resulted in the participant closing down conversations, and so were avoided (Legard, Keegan & Ward 2003).

As described by Smith (2008), the researcher used general questions in anticipation that this would put the participant at ease, enabling them to feel comfortable to discuss and describe the topic of interest. It was important to monitor the effects of

the interview on the participant by observing non-verbal behaviours and responses. Some examples of open interview questions included:

- What do you think about?
- What words come to mind?
- What about the way other people see you?

During the interview, the researcher guided the participant through the key themes that had either been anticipated or which were novel and unexpected. This stage of the interview was more focused and deeper than the beginning of the interview, as thoughts and feelings were explored in more detail (Legard, Keegan & Ward 2003).

An example of how the “zone” was introduced by the participant after the interviewer asked a question is provided below. The interviewer was exploring the participant’s experience of repeatedly withdrawing money from an ATM. The question provided by the interviewer enabled a response with rich detail about the participants’ experience in which he raised the issue of entering a “zone”.

Interviewer: And how did it feel when you kept going back to get more money?

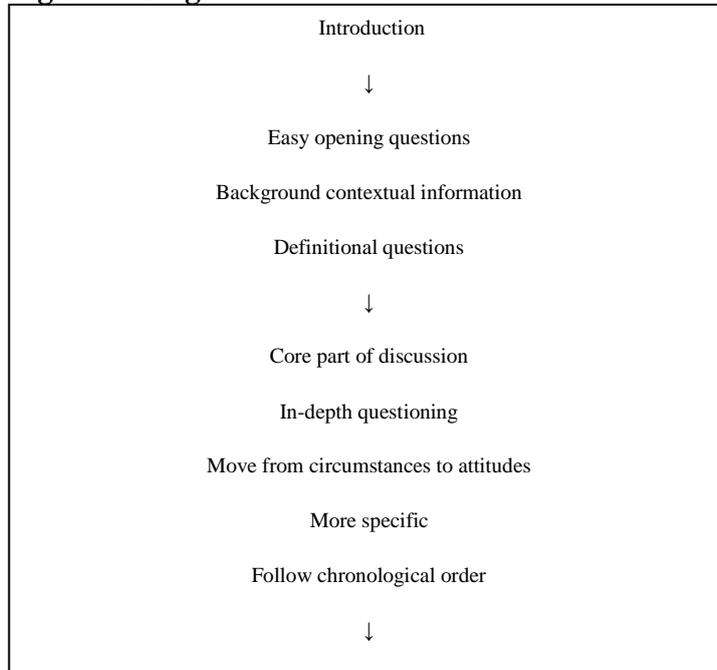
Participant: No, that’s when it all turns to crap, when you start getting into the “zone”. I mean the only time that I would feel okay is if I won something and then walked out with a profit, but even then I don’t think I ever recall having joy out of it, out of winning.

It was also important to give consideration to the completion of the interview. Approximately 10 minutes prior to the end of the interview, the researcher signalled that it was ending. This enabled the participants to reorientate themselves to the level of everyday interaction. A sentence such as “in the last few minutes” helped to close the interview. It was important to ensure that the participant did not leave with unfinished or unexpressed issues (Legard, Keegan & Ward 2003).

The participants were thanked at the end of the interview, and confidentiality was again assured, which helped the participants to remove themselves from the

interview mode. If the participant still wanted to talk, the researcher made time for any additional conversation with the participant ensuring that they were at ease when leaving (Legard, Keegan & Ward, 2003). If required, the participants were provided with information about gambling treatment options.

Figure 2. Stages of Interview Discussion



Analysis

This section provides a background to the analytic process of both the focus group study and the in-depth interviews. It describes the processes of open coding, axial coding (see Appendix 12), the generation of themes (see Appendix 13), and the conclusions. The results chapter follows this section, in which direct quotes from those with intimate knowledge of the relapse process are used to examine and explain the different aspects associated with the phenomenon.

Prior to the beginning of the analysis, all the transcripts of the interviews were read several times with a column on the left hand side of the page which was used to document any interesting or significant quotes that related to the aims of the study. This re-familiarised the researcher with the interview content and provided the ability to draw new insights. During this process, visual models and analogies were drawn

and discussed by the researcher and her supervisors to assist with the analysis process and to develop a deeper understanding of the relapse process.

The focus group data was analysed initially, followed by the in-depth interviews. The analysis began with the researcher becoming familiar with the data by reading all the transcripts and examining the data in detail for each focus group. The same process was followed with the in-depth interview data. The next step of the analysis was to classify and categorise the data. Open coding began this process, in which the transcripts of the interviews that comprised the raw data were broken down into individual components, which comprised statements relevant to relapse in problem gambling. When an important individual component of text was identified, an open code was assigned to that piece of data. This process continued until all the relevant data were assigned to the initial codes.

For example, the researcher systematically allocated the open codes to each new piece of data that related to relapse in the transcripts. These open codes were conceptualised and named individually by the researcher. For example, an SGTS client made the statement: "I no longer have that urge." This statement pertained to the urge to gamble and was named as the "urge". Each interview was thus broken down into its component parts as the raw data were analysed systematically. After the first round of coding, the themes (see Table 10) relating to relapse identified in the raw data from the focus group study, were confirmed during the analysis of the in-depth interviews.

Table 10. Initial Themes

Initial Themes
Erroneous cognitions about gambling
The intervention
Urge to gamble
Social networks
Stress
Mental health comorbidity
Motivation
Escape
Theoretical models/ machine design
Triggers
Environmental factors
Financial stress
Loneliness
Addiction
Incentives to gamble
Shame
Culture
Events positive and negative
Boredom
Gender
Personality
Religion
Physical health problems
Neurophysiology
Access to services
Stigma

The next part of the analysis involved finding relationships between the open codes and then grouping them into axial themes. This was initially conducted by hand

using coloured pens and highlighters, and electronically using highlighted text that was cut and pasted to identify themes organised into separate documents. This was not a linear process, as one stage built upon the next and informed each other in an iterative process.

Axial coding involved the aggregation of open codes into categories of data, or themes. Therefore, the axial coding analysis brought the open codes together, which required considerable immersion in the data by the researcher as theories were developed and tested against the data and the literature. On occasion, the interpretation led to reclassification of the data. Therefore, the initial themes that emerged were further scrutinised and compared to each other in the process of comparative analysis, discussion, and review. This process of analysis involved looking for trends and patterns occurring across the data. For example “negative affect” was an axial code for subjects describing boredom, grief, conflict with anger, and disappointment; the common feature was the trigger of negative affect, which appeared to lead to the wish to escape from this, then initiating thoughts and the urge to gamble. The findings from this in-depth interview analysis strengthened the initial focus group findings by adding richer insights into how these factors influenced relapse.

The process of comparative reflection of the transcript data against each other, the literature, the data from the focus group study, and from the ongoing discussions between the researcher and the supervisors, continued until no further new data or themes emerged. This was achieved with each category (Strauss & Corbin 1990) after 3 focus groups and 16 interviews. A total of 5 focus groups and 19 interviews were conducted, ensuring that saturation of the data had been achieved. At this time, the researcher was in an ideal position to provide inductive interpretation by condensing the data and providing links to the meanings of what the participants had said about their experiences of relapse. As such, inferences about significant findings were made and relationships proposed within the final data set (Patton 1990). Throughout this process, discussions continued between the researcher and her supervisors.

Another meeting was conducted with a team of six experts in the field of alcohol and gambling addiction (three psychiatrists, one psychologist, a clinician, and a research project officer) in order to gather their opinions about the allocated themes associated with relapse. Discussions with these experts confirmed the six key themes that underpinned the initial 26 themes (see Table 11).

Table 11. Six Key Themes Related to Relapse

Theme
Environmental factors
Cognitions
Urge to Gamble
Negative affective states
Quality of relationships
Intervention

The researcher’s supervisor conducted independent coding against the research objectives and aims. He was provided with the raw text from six interview transcripts and assigned categories to sections of the text that had not been coded and sections of the new text into the initial categories (Thomas 2003). In addition, all the supervision sessions featured robust and rigorous discussions about issues brought to the supervisors by the researcher. These discussions provided a range of perspectives on the issues.

Generation of Conclusions

Examination of the axial codes and the researcher’s familiarity with the literature allowed the researcher to begin to generate conclusions about the emerging patterns from the process of constant comparison. The data were reorganised to see how they fitted together in new and different ways where some categories were reformulated or deleted, or new categories added, as dictated by the data; connections were made and then refined between categories (Patton 1990). This process of data reorganisation helped to sharpen, sort, and organise the data so that conclusions could be made (Miles & Huberman 1994). For example, co-morbidity did not emerge as significantly as had been anticipated. It appeared to be acting

through a number of other factors, especially the negative affective states in PGs when they were vulnerable to relapse. The six key themes related to the relapse process that emerged included five themes specifically related to the “push to relapse” (1-5 below).

1. Environmental gambling triggers. These included extensive opportunities to access gambling facilities, money, and the random reinforcement of gambling by gaming machines, incentives, and the ambience of the environment to increase the risk of a relapse.
2. Cognitions relating to gambling outcomes, including the reliance on systems, lucky numbers, and over-confidence in one’s skill, were a significant risk factor for a gambling relapse by encouraging excessive or persistent gambling. In the in-depth interviews, a further category of errors of cognitions emerged that were of a permission-giving nature that facilitated the process of relapse by minimising critical thinking and awareness of harms associated with previous gambling.
3. The presence of an urge (psychophysiological response to an external or internal trigger) increased the risk of relapse.
4. Negative affect included sub-themes of co-morbidity, stress, escape, boredom, financial stress, and physical health, which shared negative affect as the central common feature.
5. Poor quality of relationships that were often dysfunctional and provided limited support, poor social networks, and loneliness, all increased the risk of relapse.
6. The sixth key factor was based on exiting relapse:
 - Interventions based on a belief in supportive approaches leads to a reduction in relapse.
 - Urge exposure and response prevention, based on the belief that gambling is a conditioned behaviour, demonstrates that it can be treated to extinguish the urge, at which time relapse is reduced or eliminated.

During the process of analysis of the data from the in-depth interviews, much thought was given to the nature, roles, and effects of the data within each factor for

relapse, and how each of the six factors might influence and relate to one another to culminate in relapse (or not) for each PG. Comparisons made with the literature, discussions between the researcher and the supervisors, and the inclusion of results from the in-depth interviews, added to the initial focus group interpretations and conclusions. For example, data from the in-depth interviews added to the findings about the process of learning when the gambler entered an altered state of awareness, described by many participants as the “zone”. As a result, it was decided that this aspect of relapse should be a separate theme. In the same way, a deeper understanding of the second theme, “Erroneous Cognitions” emerged because there were not only erroneous cognitions about winning, but there were also those that facilitated permission-giving to gamble, and about money being “available” when, in fact, this was not the case.

Furthermore, a deeper understanding was also achieved regarding the theme: “Poor Quality of Relationships”. It was decided that this theme was really a part of “Negative Affective States”, as the distress and guilt that participants experienced regarding the impact of gambling on significant relationships fitted well with this theme. It was also decided to combine those factors that triggered the relapse process into one theme, therefore environmental factors and negative affect were categorised as one theme named Triggers. Furthermore, positive support that assisted the gambler to manage the risks of relapse was added to the final theme based on interventions. The final themes are:

- Triggers
 - Environmental
 - Money
 - Gaming machine design
 - Negative affect
- Erroneous Cognitions
 - Excitatory
 - Facilitatory
- Zone
- Exiting Relapse

- Process of behaviour change
- Management of abstinence
- Recovery

The fidelity of the methodology and the analytic process was reviewed by an external auditor (SL) who had expertise in qualitative methodologies and mental health issues including addiction. The auditor undertook this role as a clinician and academic staff member at Flinders University who was independent from this research and had no clinical relationship with the Gambling Therapy Services at Flinders or any other organisation that provides treatment for gambling problems. As part of the review process, she examined a number of documents related to this research, such as the ethics protocol and clearance for the research, transcripts, reflective journal notes, coding schemas, diagrams, and the notes from the decision-making processes. The conclusion of the auditor was that the processes of data gathering, transcription, coding, and analysis of the data, had been faithfully and rigorously carried out. See Appendix 14 for the Research Audit Report.

Conclusion

The steps of data collection and data analysis have been outlined in this chapter, including the process of data reduction and the emergence of the key themes that were raised in the focus group study and confirmed by participants in the in-depth interviews, which provided richer accounts of the initial themes. The rich data provided through these methods enabled a more detailed understanding of the themes identified in the focus group study. These themes are discussed in detail in Chapter Four.

CHAPTER FOUR

RESULTS

This chapter meets the second and third aims of this study by reporting the results of both the focus group study and the in-depth interviews to identify the dominant themes and patterns in the views of PGs and those with experience of gambling relapse, to generate theories about relapse in problem EGM gambling. It describes the processes involved in relapse and concludes by providing a summary of these findings. The results are reported according to the five main themes identified during the analysis (as described in Chapter 3):

1. Gambling triggers
2. Erroneous cognitions
3. The presence of an urge
4. The presence of an altered state of awareness known as the “zone”
5. Exiting relapse:
 - Interventions based on supportive approaches
 - Urge exposure and response prevention

The results from the focus group study, which described the phenomenon of the relapse process, are reported first, with the data from the in-depth interviews integrated later. The data from the in-depth interviews added a richer description to the initial findings from the focus group study, which made it possible to examine these factors in greater detail. There were no disagreements between participants. Together, the findings from these two datasets provide a richer understanding of the processes involved in relapse in problem gambling.

Participant classifications

Focus Group Participants (n=35)

Therapists New South Wales at the Gambling Treatment Clinic, the University of Sydney (FG: GTC)

Non-Government Organisations and other workers comprising seven workers from non-government organisations and the Gambling Helpline (FG: NGAW)

Non-Government Organisations' Clients (FG: PAG)

Statewide Gambling Therapy Service workers (FG: SGTSW)

Statewide Gambling Therapy Service clients' group (FG: SGTSC) and their significant others (FG: SGTSS).

In-depth interview participants (n=19)

Pokies Anonymous (I: PA)

Non treatment seekers (I: NTS)

Treatment seekers (I: SGTS)

Participant definition of Relapse

In this study, a new definition of relapse was established after reviewing the data provided by participants (with personal experience of relapse) who described what relapse meant to them. These participants redefined relapse as not wanting to gamble. The definition used by PGs in this study was that PGs firstly become aware within themselves that they have lost control of their gambling, secondly that they do not like having lost control and see it as a problem; thirdly that they make resolutions to themselves not to gamble without control again and again. These PGs repeatedly resolved not to gamble again. Instead, time and time again they lost control and the ability to stop gambling by an act of will.

Furthermore, many participants enjoyed the excitement of participating in a relapse but not the consequences. This turmoil led to an internal struggle and eventually a loss of control. Therefore, the subjective views of participants about relapse related more to an awareness of the harms caused by gambling and a feeling of loss of control over the intention to stop the harm. This was despite the PG being determined each time that they will have control and not relapse. This resolve for their gambling to be controlled, yet the PG gambles, constitutes "relapse".

This description fits with Blaszczynski and Nower (2002), who defined features of pathological gambling as repeated, unsuccessful attempts to resist the urge, in the context of a genuine desire to cease. Furthermore, the acknowledgment of a loss of control by participants in this study helps to validating the beliefs held by participants' of self-help groups such as Pokies Anonymous and Gamblers

Anonymous. The views of these members were; “We have lost the ability to control our gambling. We know that no real compulsive gambler ever regains control. All of us felt at times we were regaining control, but such intervals - usually brief - were inevitably followed by still less control, which led in time to pitiful and incomprehensible demoralization”. (Gamblers Anonymous, <http://www.gansw.org.au/About.htm>). The loss of control and associated suffering participants’ experienced in this study reflects the descriptions made by members of gambling self-help groups.

In the Delphi study (Battersby et al, 2008), academic experts identified a similar factor associated with relapse - “ I’m concerned about losing control” as an element of relapse judged to be potentially important. However, after discussion amongst the Delphi experts there was consensus that the term “loss of control” was subjective and open to wide variation and interpretation. A consensus was reached that the definition should be able to be quantified and so this aspect of relapse was no longer considered important. Unfortunately, by removing this component, the researchers omitted the essential components of relapse as experienced by PGs. Instead, the Battersby et al (2008) relapse definition reflects the views of researchers who want to "measure relapse" for the purposes of quantitative research. This operational definition is premature and the subjective definition of "subjective loss of control" is in fact more correct. The definition agreed upon by Battersby et al (2008), is in fact less correct in that it is superficial and facile in that it ignores the true complexities of the issue. These experts have simply dismissed the wisdom and observations by the 12 step movements of self-help groups like Gamblers Anonymous, which is often viewed as "not scientific."

4.1 Initiation of Relapse: Triggers

This chapter presents quotes from participants in both the focus group study and the in-depth interviews to describe the first part of the relapse process. In this process, factors were found to interact together to “push” the gambler towards relapse. Each of these factors will be discussed, including gambling triggers such as environmental factors, access to money, gaming machines, and negative affect.

4.1.1 Environmental factors associated with relapse

Many aspects of the environment make the risk of a gambling relapse irresistible for the PG. For example, accessibility to gambling opportunities, incentives, and the ambience of the gambling venues were environmental triggers that increased the risk of relapse by making the PG aware that EGMs were actually or potentially available, and that money was there for gambling at this moment in time. This section includes the following subthemes: accessibility, incentives, and the seductive gambling environment.

Accessibility of venues

The focus group participants emphasised how their vulnerability to relapse increased with actual or fantasised access to gambling opportunities. The relapse sequence began with the presence of a gambling trigger, which included financial difficulties, bills, or available cash, visual advertising incentives, and easy access to gambling opportunities. A participant from the focus group study described how he was inundated by opportunities to gamble (which he stressed were everywhere) which made relapse difficult for him to resist: “If you want to go out for a meal, yes it’s everywhere, it’s impossible to not be near” (FG: SGTSC). An NGO worker echoed this observation, believing that living close to a gambling venue enabled a gambler to relapse at any time, highlighting the risks of 24-hour accessibility to venues: “If you live in a suburb you can walk to 5 or 6 venues (and gamble - implied) easy and that’s quite accepted and at one or two in the morning if you can't sleep” (FG: NGOW). Interestingly, an SGTS worker observed that if the gambler could not access a venue, their risk of relapse reduced, as they had to deal with their urge to relapse rather than engaging in relapse: “Yes, so nowadays it is more accessible. If you could not go to a venue, you would just end up dealing with it (stress - implied); I am not sure ... twiddling your thumbs?” However, another SGTS worker described gambling as a means to cope, and if there were venues close by at a vulnerable time for the gambler, relapse was a significant risk: “The access to it (venue - implied) is easy, so their first coping mechanism might be to go back gambling.” Another participant (GF: GTC) reported how accessibility to EGMs was a risk factor for his client when she would enter a venue to drink alcohol:

One client of mine who does drink heavily and when gambles its usually after she has a drink, and I'm wondering if it is the environment as well, because where she drinks there's always pokie machines nearby, so we've had a talk about drinking in an environment where there isn't pokie machines.

It appeared that gamblers gave themselves permission to relapse when confronted with ongoing access to gaming venues. Simon (I: SGTS) stated that an ongoing battle to avoid relapse would occur as he permitted himself to have a relapse after work. He admitted that this had been a way to wind down from work-place stress. The decision to gamble was difficult to refuse when the casino was within walking distance of his work. He stressed how difficult it had been for him to avoid the ongoing risk to relapse with the opportunity to gamble being readily available in most geographical areas of his life: "Then I started working next to the casino. I started to have issues at work and working so close it was very easy to cross the road or walk up to the venue and go straight into the casino after work."

Incentives to Gamble

Gambling establishments provide many incentives that are successful in drawing the gambler into the gambling venue. For example, an SGTS client was dismayed that her local paper had advertised tokens for incentives, such as cheap meals and social outings, enticing elderly and lonely people into hotels, which had led to gambling that they could not afford:

In the ... paper, they have tokens for the hotel with a meal, this is my own theory but the ... paper particularly targets the elderly population of readers and lonely people and pensioners who can't really afford it, but it's a social outlet and free tokens (FG: SGTSC).

Another SGTS client was angry that hotels had mailed incentives to her. These enticed her into the venue to relapse. She admitted that if she was feeling unwell or vulnerable, her risk of relapse increased on receipt of such incentives:

They just mail them to you (birthday vouchers - implied), if it's your birthday they will send you something like the equivalent of \$50, so we went in there and got meal vouchers. But, if I wasn't well or strong enough, that could have tempted me, because we walked through where all the machines were (FG: SGTSC).

The in-depth interview participants described how incentives offered by gambling venues had increased their vulnerability to relapse. For example, Simon (I: SGTS) pointed out that incentives such as meal vouchers and half-price drinks had led to relapse by providing an excuse for him to re-enter the casino: "I started getting drinks vouchers from the casino, meal vouchers, and started to go in, and I guess it was easy to go in because often they'd have half-price drinks." Lee (I: PA) used an excuse such as having a meal in the hotel to rationalise playing the pokies, which had led to relapse: "Well mainly it's the going for meals. I guess I went there for a meal as an excuse to go to the pokies, I guess." An SGTS client stated that loyalty points had been incentives for him to gamble.

The provision of car parking was another incentive that made gambling and relapses easier. For example, when gamblers needed to drive to local venues to gamble, the provision of car parking enabled them to park safely any time, as noted by Colleen (I: NTS). She would park her car day and night for little cost. She admitted that the only reason she had not gambled was if she chose not to. This was not an option for her, as she liked to gamble whenever she had the urge: “Car parking’s easy, it’s not expensive and I go at weird times, so the car parking’s not an issue. There’s no impediment to go, except my own head.”

Seductive environment

Once in the venue, the PG is fuelled with the anticipation of winning money as they hear the noises of other machines winning and the associated flashing lights, which made gambling difficult to resist. Venues offer 24-hour gambling and time appeared to have become insignificant for some who grew disoriented, with few reminders of reality, for example, when venues do not have visible clocks.

Gaming Room Ambience

The participants’ descriptions provided an understanding about the seductive quality of the gaming environment that had led to relapse once the PG was enticed into this environment. For example, an NGO client talked about the exciting music, lights, comfortable furniture, and provision of drinks: “comfortable chairs, you can have a fag, a drink, I don't drink, and you are sitting in front of these gorgeous flashing lights and isn't this exciting” (FG: NGOC). An NGO client admitted that the gambling environment was everything to her, as the attractive atmosphere provided somewhere to escape when she felt down: “I understand what the attraction is. It’s just everything (gambling - implied). We always hear about the atmosphere. If you are down, and you go there, it’s just somewhere to go to escape” (FG: NGOC). An NGO worker confirmed these findings by describing the enjoyable ambience of the gaming environment in which people sat and relaxed: “There is one person who sits around and has coffee and he enjoys just the ambience of the whole venue” (FG: NGOW). This participant described how inviting the gambling environment had been for him, and once in the venue, his decision to relapse had led to tension reduction as he escaped from stress: “It’s pretty ugly, but on the exterior when you

walk in, it's got a nice vibe, with the lights, the colours, the staff, the nice chairs, and you can just drift off and escape" (FG: PA).

The gambling venues induced an atmosphere where winning seemed to be highly likely and patrons were encouraged to gamble by seeing and hearing others win. Simon (I: SGTS) talked about the many visual and auditory triggers that had made him excited and relapse difficult to resist: "I guess it increases a sense of excitement, and the casino is particularly bad, because there's so many lights, so much going on, so many sounds of money around the place." A number of environmental factors also made it difficult for PGs to leave which prolonged their relapse episode. For example, Lee (I: PA) found that the lack of clocks and artificial lights made it difficult for him to keep track of time, which had resulted in prolonged gambling and increased financial damage: "There are no clocks around and all that sort of business and everything was – you wouldn't know if it was daylight. I kept on looking at my watch and everything but time – time gets away from you in those places."

Social Aspects

The participants talked about the social aspects of the environment, which had induced a relaxed state within the community of gamblers and gaming staff. The relationships between gaming staff and gaming patrons added to the enticing environment, as the patrons' relaxed and felt safe as they relapsed in this gambling community.

The participants from the in-depth interviews raised the issue of the relationship between the PG and the gaming staff. This relationship had often facilitated relapse as the gaming staff behaved differently at different times. It appeared that the behaviour of gaming room staff encouraged the gambler to spend money on gambling, and ignored under-age or banned patrons' entering the hotel, enabling them to gamble against the law.

For example, Lea (I: NTS) thought that the gaming staff and other patrons did not care about her gambling behaviour, which had made her gamble more: "Well, I think the fact that nobody cares very much, the staff don't care, other patrons don't care, I think that helps you gamble more." Wally (I: SGTS) could 'be himself' amongst the

staff, which he perceived as friendly. This had made him feel safe, so he could let his guard down and have fun. He enjoyed this time to himself, as he did not have to talk to anyone in this environment when he was gambling. Interestingly, the presence of the security guard added to his sense of security when he was in the environment, which he considered to be raucous, yet familiar. These features had enabled him to feel comfortable, and provided a false sense of security that increased his risk of relapse:

Because you can be by yourself but not – you don't have to interact with people if you don't want to, and the staff were very friendly and supportive. I did not feel threatened after a while. I realised there were plenty of security staff around, you were never going to be hurt or anything like that from all these rowdy people around you and you could just be there and have some fun. Good. I felt comfortable. I did not feel like it was an alien environment at all, I felt quite comfortable. You just want social time but not social.

Similarly, Janet (I: PA) perceived the environment as being caring, where the staff had offered her refreshments when she looked tired and would check if she was okay. These superficial relationships increased her vulnerability to relapse, as they provided comfort when she was grieving for the loss of her husband. She admitted that she felt closer to the patrons in her gambling community than with her own family and friends. She accepted any financial loss as she reflected on the kindness of the hotel staff during her time of distress. It was evident that, at this time, she had relinquished any sense of critical thinking:

I felt I was closer, and the people at the pokies they knew, so they'd come up and say 'how are you feeling? Are you going okay?', and I said 'well, as okay as I possibly can, I guess,' and they would give me a cup of coffee and say 'you're not eating much, are you?' and I'd say 'no, I can't be bothered.' You know, a few times they'd say 'you've got to have something to eat', so they'd bring me out something to eat while I was there and then I'd go home and I'd think 'oh I can't even think of what I owe.'

Some gamblers had attempted to control their access to gambling opportunities to reduce the risk of relapse. These gamblers often barred themselves from their local gambling venues. However, the hotel staff often lacked attentiveness to policing these bans. For example, Veronica (I: PA) started to gamble when she was underage and began to relapse soon after: “Well, I started when I left school, when I was 17.” When clarification was sought that she was underage, she would admit it, but still go in to gamble: “Yeah, but I still went in there.” She reported that her ‘call for help’ went unnoticed by gaming staff as she entered the gaming room from which she was banned and was not asked to leave. On other occasions, she would simply go to another gambling venue.

We went into the gaming venue or walked through it or did something, and then it dawned on me that nobody had actually told me to get out, nobody really recognised me. It might have actually been about six months that I did not gamble for I think in those venues. What happened was I actually ended up going further for gambling, so I went to the venues that I was not barred in.

Simon (I: SGTS) was distressed when talking about losing \$900 on one occasion. This substantial loss made him realise that he was out of control and could not manage to abstain by himself. In desperation, he went to the casino manager and asked her to take control for him by banning him from the casino. He was dismayed as he admitted that this had not stopped him from relapsing, as he had continued to be tempted to relapse by hotels close to his home. He found that easy access to gambling venues had been a significant and ongoing risk for relapse, suggesting that his ability to make critical decisions was impaired in the presence of the ongoing risk to gamble:

I’ve banned myself from the casino. I remember losing \$900 that day and I did it and then all I could think about was cashing out my points, going out to the gaming manager and getting her to take my photo and stop me going there. Then I found myself going to other venues. Where I live, there is three venues in five minutes walking distance, which is not helpful.

Environmental Factors Summary

Participants were frustrated as they attempted to abstain from gambling, but found it difficult with ongoing access to gambling opportunities through easy access to gambling venues. The wide distribution of gambling venues, long opening hours, and the ease of secure parking, enhanced the attractiveness of this gambling culture, making it difficult for those trying to abstain.

The seductive gambling environment was exciting, fuelled with the anticipation of winning money and with many visual and auditory triggers, which became mesmerizing and often resulting in relapse. Some tried unsuccessfully to bar themselves from the risks of entering this environment in an attempt to reduce their risk of relapse. For some, it was a daily battle not to give into relapse when confronted with easy access to gambling opportunities.

The relationships between gaming staff and gaming patrons added to the enticing environment, as the patrons relaxed and felt safe as they gambled in this gambling community, which was noted to provide a false sense of security. Gaming staff were seen as caring by some, which increased their vulnerability to relapse, particularly if suffering from grief and loss issues. Some participants accepted their financial loss in exchange for the perceived support by staff during their time of distress.

Participants admitted that when they were banned from some hotels, they would simply go to another gambling venue. There were a number of issues raised regarding the accessibility to gambling and relapse. For example, for most gamblers, the absolute access to gaming machines when enticed into a venue ultimately resulted in relapse. For others, relative access to money and seeking out venues where they were not banned enabled them to relapse.

4.1.2 Money and Relapse

In addition to the accessibility to, incentives offered by, and the ambience of, the gambling establishments, money emerged as a significant trigger that had initiated relapse.

Access to Money

When money fortuitously or regularly became available, the gambler often relapsed despite memories of past negative impacts. A focus group participant admitted that easy access to money 24 hours a day from an ATM machine inside the venue contributed to relapse for him: “I would definitely go to the venue where I could get the money easy” (FG: NGOC). Larry (I: PA) attributed the start of his relapse cycle (which he called a “circulation”) to receiving pay in his bank account. Once the money was in his bank, the relapse process had started: “I wasn’t waiting for the pay to come, I just thought ‘oh well, its pay day’ then the circulation would start again.” Despite swearing that he would never gamble again, once the money was available, he would go to the hotel as soon as possible, which resulted in a relapse: “You know, swear black and blue never to go there, and as soon as you got your money in your bankbook, couldn’t get back to the pub quick enough.” As soon as Lee (I: PA) had cash, he put it back into the EGMs, resulting in ongoing relapse triggered by the availability of money: “Soon as I have some more money, they just get it back again because I’ve got some more money.” Similarly, Karen (I: PA) was unable to resist gambling once her pension was in her bank; she was so excited at this time that it had not been possible for her to think critically and to reconsider: “I couldn’t help myself after. I don’t even know what it was. I just couldn’t wait to get the pension money and couldn’t wait to get in there.” For Colleen (I: NTS), spare cash was a risk factor for relapse: “I had spare cash, then I could go and play.” Greta’s (I: SGTS) mood would lift in anticipation of being able to gamble, when she had cash in her pocket: “It lifts you up, in the sense of I’ve got more money in my pocket to spend and it just escalated from there.” Another participant (FG: GTC) reinforced that access to money was a predictor of relapse: “as soon as they’ve got any kind of access to money, they quite often will go back.” Another (FG: GTC) added that having money, or not having enough money, were both triggers for relapse. Access to money provided an opportunity to relapse but, on the other hand, not having enough money also raised the risk of relapse, as the PG hoped to win more:

They’re given the money, I think it works in both directions if a client doesn’t have access to money and then they’re provided with money, because a tax return comes or because an incidental amount or because the money has been given back to them, that can often be a predictor of

relapse because the possibility to gamble again for whatever their motivation is, is achieved. Likewise, if someone is under financial stress and doesn't have money available, I think that can also be a predictor of relapse, with a small amount of money because there is the potential to obtain more from that.

Access to Money by Using Automatic Teller Machines

The availability of cash and credit within gambling venues was a significant risk factor for relapse. The following quotes describe participants' experiences with the relapse process and the ongoing harm related to easy access to cash in gaming venues. These gamblers often returned to withdraw cash repeatedly until money was no longer available. Barb (I: SGTS) talked about the dangers of having ongoing access to cash resulting in her having gambled her entire pension: "Well, it means that you have got this endless supply of money, whatever you've got. I've gone to the poker machines and Peter's been away skiing and I've lost the whole of my pension and that is not good." Lee (I: PA) observed that having ATMs next to him in a gambling venue resulted in gambling the entire amount of his bank account in a single session: "Well, what would happen is that you'd play all your money, empty your bank book, empty that out, because they've got the ATMs virtually next door to you." He admitted that when he had chased his losses, easy access had enabled him to continue to return to the ATM to obtain money: "Then you try to chase it up, and then I keep trying to chase and chase and chase it up, going back and forth to the auto bank."

Borrowing or Selling Items to Obtain Money

Some participants admitted that when they did not have easy access to cash, in desperation, they borrowed from others or sold items to finance their gambling habit. For example, when Wally (I: SGTS) was gambling and had no further available cash, he sold valuable possessions such as his DVD collection to enable him to gamble. His personal values had changed, as he was unable to make a critical decision about the implications of his choice to gamble rather than to pay off his debts. When he had cash, instead of paying his bills, he would use the available cash to relapse:

I'd got debts coming out of my ears, sold everything that I could sell and – you know, I had a collection of something like 500 different DVDs and I sold those for money for gambling. It was a gradual thing but I was hooked.

Similarly, when Lee (I: PA) had no cash left, he would borrow from friends and family to enable him to gamble instead of using this money to pay his debts: “I used to borrow money off friends and pay them back when I got paid and I borrowed money from an uncle.” In addition, for Lee at this time (I: PA), the bills and debts led to negative emotions, which were also triggers for relapse.

Money and Relapse Summary

Money was a significant trigger for relapse as the thought of money being accessible in reality, or money becoming “available” in fantasy, triggered the urge to gamble in most participants. For example, many gambled their entire pensions, weekly pay, and spare cash, which often left no money for essentials and bills.

The availability of cash and ATMs in gambling venues was a significant risk factor for relapse because it assisted in creating the notion of “available money” that they gave themselves permission to use in the same way as “borrowing money from the boss that they will repay when next payday comes”, but they failed to do so, and this was, in fact, a form of theft. Therefore, access to money enabled relapse.

4.1.3 Gaming Machines and Relapse

The participants described spending excessive amounts of money in pursuit of winning. The qualities of the Electronic Gaming Machines (EGMs), such as music, flashing lights, small wins, and fantasy characteristics, enticed and encouraged gambling. The following quotes demonstrate the frustrations experienced by gamblers who knew it was highly unlikely that they would beat the odds and win. The free games and small wins enticed the gambler to gamble against their better judgement.

Machine Design

This statement relating to gaming machine design having induced gambling problems came from an SGTS worker: “then the more likely they will develop that problem with the random reinforcement.” Some participants were angry when suggesting that the machines were “rigged” and that “trickery” had been used to keep them gambling. John (I: SGTS) admitted that the free games and narrow escapes made gambling exciting, especially when he heard or saw others winning, which had enticed him to continue gambling. He was aware of the “trickery”, but when he gambled, he convinced himself that he had a chance of ‘beating the system’ and winning. This type of erroneous thinking added to the excitement of gambling and the fantasy of winning:

Then the way they are designed, there are some close calls and you get free games and then it doesn't pay a lot and you get the free games again. There is a lot of trickery in the machines that you do not quite understand at the time, or you don't really accept it because there's always a chance that you're going to win, which is true, because you do see people around you winning some pretty good dough.

Colleen (I: NTS) admitted that she knew that the EGMs were designed to take cash, but when she was gambling, she found this difficult to acknowledge. She realised that she had experienced irrational thoughts when gambling, believing that the machines should pay her something:

I felt cheated, that they were – I felt to a degree that the machines were “rigged”, I mean, I know logically that they are, that they're designed for the casino to make money, but irrationally it felt like the odds were that you should eventually win something. Like if you played long enough you should – even if it's a small win, you should win something. Not the big ones, I don't expect to win the big ones every time you go there, that's not logical, but you should win a little bit or something.

Some believed that they had failed to perform if their machine did not win. For example, Annie (I: NTS) was disappointed for not meeting her expectation of

winning. She took her inability to win personally, and this made her feel that she had performed badly when she walked out of the venue. She was annoyed for not being able to exercise the will to leave, but found this difficult when she was at the EGM:

There was that period of time then actually when you're at the poker machine and you've just put \$100 in it and you've won nothing and you walk out and there is a sense of failure. It sort of exacerbates how I'm feeling about myself at the time of "what a waste. Why did I do that? Why didn't I go?"

EGM Features

The exciting features of EGMs such as music, lights, jackpots, and colours all make relapse tempting to the gambler trying to abstain. Brenda (I: PA) admitted that the EGMs' lights and colours had attracted her. She enjoyed these features, which made her happy when she initially began to gamble: "I got enjoyment out of it to start with, just watching the lights and that, the colours made me feel happy with the bright colours." Veronica (I: PA) also realised that the EGM lights hooked her into gambling after researching EGMs and addictions: "Don't know, think we were just hooked; that's what the machines do. Because of the lights and all that. That's only because I know from the research, I wouldn't be able to tell you otherwise."

Relationship with EGMs

Some described behaviours suggestive of a relationship with their EGM. The participants stated that they fed the EGMs money and communicated with them as if they were human. Wally (I: SGTS) gave his machine time as if he had a relationship with it. He would put money in the EGM, which he likened to feeding it, and hoped it would talk to him. He realised this was not true, but only the "trickery" of the EGM design:

See I give my time and my hours to it, and I feed it money and I give it my time. I know it sounds like I see it as some sort of living thing, but like it's supposed to talk to me or something, but I know that – and one could say in a distorted way, that the noise and all that, maybe it is, but

the fact is that I'm being tricked without me knowing it, and I know now but obviously like I'm trying to – I think to make me feel happy in a way.

Veronica (I: PA) was attracted to a specific machine and would use particular numbers attached to this machine. This had enabled her to feel okay about engaging in a relapse, as she thought she would win: “I was attracted to that machine. I put the money in; I remember picking the numbers and straightaway, I remember feeling ‘oh this is all right.’”

The reality of EGMs

Interestingly, when the attraction of the EGMs had worn off for Veronica (I: PA), she was repulsed by the once enticing and exciting music. After some time away, she was able to overcome the force that had attracted to her to the EGM and realise the harms they cause:

That horrible music of this one pipe. I don't know what it was, I can't remember the sound, but it felt like I was getting bullets thrown at me from the sounds. The noise, it was just like – that's how I felt, that's the only way I can describe it.

Reflecting on past gambling, Karen (I: PA) now described feeling horrible when she entered a venue and being faced with EGM music. She believed that the EGM music reprogrammed her mind and she now sees them as dangerous, because she is scared that they could entice her to relapse. She is now determined not to put another dollar into a machine:

Then I had to go wait near the door but it just felt horrible, so it's done something to my mind, with that music, the visuals to it, the – it's something – it's reprogrammed my mind, that's what the machine has done to me. I hate the pokies, I do not want to play it. I will never put a dollar in and it's not an urge like “I might win” or “should I or shouldn't I?” nothing like that at all, it's totally different, it's like danger.

Some participants believed that problem gambling was not caused by a mental illness. They suggested that the design of the EGMs was dangerous, and was intended to trick vulnerable people to engage in gambling behaviour and, as a consequence, these gamblers were prone to developing gambling problems. Larry (I: PA) stressed that he did not see gambling problems as being the result of a mental illness, and blamed poker machine design for causing people to have gambling problems: “A lot of people sort of say it’s a mental illness. If you go to the trouble of finding out the way the poker machines work, there’s no illness. These poker machines are set up so they do con you.”

Summary: Gaming Machines and Relapse

The participants presented a case that the structural characteristics of EGMs may contribute to relapse and the perpetuation of harm. For example, features such as the ability to interact with the EGM screen, flashing lights, jackpots, free spins, small wins, symbols suggestive of a win, and winning music, all encouraged gambling. They also added the collective stimuli with constant reminders of small and big wins surrounding the PG. When a number of gaming machines play winning music, this adds to the perception that winning is more frequent than it actually is, and entices gamblers to extend their relapse. For example, the gambler receives auditory and visual feedback that “winning is occurring” through free spins, winning symbols, credits, or actual small or large payouts. These features contribute to distorting the perceptions of the PG that a win is only a short time away, which increases the gambler’s arousal and results in the gambler increasing their bets and losing more money than they had planned. At this time, the gambler’s focus was on gambling, while other issues were in the back of their mind. Some had a personal connection to an EGM which gave the gambler a false belief that the machine would reward them with a win.

The participants were frustrated when they continued to gamble, despite believing that the EGMs were “rigged”, and that “trickery” was used to keep them gambling. Some thought they had been “conned” or “cheated” by the machines. Some participants suggested that the design of the EGMs fooled some gamblers into relapse, and insisted that mental health problems were caused by the EGM design.

4.1.4 Negative Affect and Relapse

The theme of negative affect comprised the sub-themes of mental health co-morbidity, stress, escape, boredom, financial stress, relationship disharmony, and physical health problems. Mental health co-morbidity included anxiety disorders, depression, and substance use disorders; emotional states such as anger, shame, loneliness, and boredom; stressful life events such as grief and trauma; and stressors of daily living included financial stress, physical illness, injury, and pain. The common factor in all these situations was the subjective, negative affective experience that was present for each of the PGs in the situations that led to their relapse. PGs described that they were relieved from their distress by being “numbed out” by gambling. Interestingly, while some gambled to escape the negative emotions associated with depression, others developed depression secondary to gambling problems, creating a cycle in which repeated relapse was likely. As well, those who used alcohol experienced lowered inhibitions, and engaging in gambling behaviours was more likely when under the influence of alcohol.

One major source of negative affect that deserves separate mention is the guilt, shame, anger, humiliation, grief, and anxiety that results at the end of a relapse episode when all the “available” and accessible money is gone; when the “zone” ends and reality hits through debt, crime, and betrayal of the partner or significant others. This emerged as a major issue when repeated relapse was examined in the in-depth interviews.

Relapse as an Escape from Negative Affect

Participants in the in-depth interviews described a more detailed process in which negative emotions were relieved temporarily by triggering thoughts about winning at gambling and the associated euphoria. Furthermore, gambling provided a means of avoiding the experience of often painful emotions, as gamblers focused their attention on gambling. Negative affective states were thus a powerful trigger and risk factor for relapse.

For example, one focus group participant gave an example of how, for one of her clients, gambling had provided an escape from stress at home with a young family:

“The gambling, it’s a relief, and it’s an indicator of bigger issues in their life, like the screaming kids at home” (FG: NGOC). Another participant confirmed this observation, stating that everyday stress had triggered relapse for her: “There is stress that you are so busy with so much to do” (FG: SGTSC). Another client emphasised that worries about financial problems would trigger a relapse for her: “But certainly I think financial stress could absolutely be a predictor for relapsing” (FG: SGTS client).

A counsellor in the focus group study described how gamblers “switched off their brain” and escaped from the stress in their life when gambling. This was considered to be a coping strategy for many gamblers that resulted in relapse:

I think that letting go of your mindfulness, lets go of your stress and what you are worrying about, so for the same reason that you are going to sit in front of a pokie machine and fill it up with your hard earned money to get away from everything, that’s why you switch off your brain, and that’s what you learn to do as a coping mechanism (FG: NGOC).

These negative affective states were, at times, associated with a history of trauma and abuse, which one counsellor considered to be risk factors for relapse: “Things that affect treatment; things like co-morbidities, past history, abuse or whatever, what if it’s those things, their past history of trauma” (FG: NGOC). This participant agreed that gamblers would gamble to escape from stress and trauma: “Perhaps they need to escape (by gambling - implied) from trauma, stress in their life” (FG: NGOC).

This focus group participant described how thoughts of being weak, and the associated shame, would instantly trigger a relapse for him:

My parents and parents in-law and friends have all been very positive since the course, but there was a time when I thought they didn't have any trust in me, and I thought they thought I was weak so I went and gambled (FG: SGTSC).

Participants in the in-depth interviews provided a more detailed account of the association of negative affect and relapse. For example, Annie (I: NTS) admitted that

she had engaged in cycles of relapse, which caused her much pain and suffering. Despite this distress, the excitement associated with her gambling wins had been too strong for her to resist, so she continued to relapse and plan what she would do with her anticipated wins:

Like now, it was painful what I was doing. There was a lot of pain I was in that the gambling had caused, but I didn't know because the wins gave you such a good – you could buy things with the wins.

Annie admitted that getting help from a counsellor was difficult as it made her face her problems and the distress associated with her gambling, that she usually ignored:

It actually throws in your face ... because you ignore those things. I suppose it puts it more in the foreground and more of your conscience of what it was actually doing to my body, what it was doing to my psyche, what it was doing to everything and that helped me.

Many described gambling as a distraction from problems in their lives. For example, Brenda (I: PA) reported that the excitement of gambling would help her to forget her problems as she concentrated on the bright colours and trying to win, through the mindless activity of the spinning gaming reels:

Well, I guess I sort of had something to concentrate on, take my mind off and I'd be watching all these reels go around and all the colours and everything and I think just like being in that "zone" would help me forget things.

Brenda (I: PA) admitted that gambling made her feel better, lifted "my spirits a bit more." Similarly, Lea had enjoyed gambling as it enabled her to have time out from her negative emotions as she enjoyed the feelings associated with spending money: "When you go into the venue, you don't feel much at all. It is a nice feeling when you've got a bit of money and you can spend it." However, when she finished gambling, her ability to think critically returned and she felt sad and frustrated with her ongoing relapses: "After you play, you feel sad or whatever, or frustrated."

The presence of a negative emotion, for some, appeared to result in a downward spiral of emotions as the gambler became more depressed as a consequence of the harms associated with a relapse. Clearly, for these participants, gambling only offered a temporary escape from the negative emotions, which resulted in the relapse process continuing as the gamblers tried to avoid the distress associated with their relapse.

Kath (I: NTS) observed that the triggers for her relapses had been negative emotions. At the time of making the decision to relapse, she would disregard the consequences. This resulted in a downward spiral of emotions as the harm of the relapse became apparent:

I might have got depressed one time and I thought “what the heck?” you know? “I’m going” so you went back. Whether it’s depression, loneliness, anxiety, you went back. Then again, after you had been there, quite often you’d end up more anxious and more depressed.

Greta (I: SGTS) admitted that gambling provided relief from distress and pain as these feelings just faded away when her relapse started. She described having a connection with her machine as she relaxed and began the repetitive behaviour of pressing buttons while her focus was narrowed to thinking about winning money.

While you’re sitting at the pokie machine, everything just fades away, it’s just you and that machine and that’s it. You’re no longer in pain, you don’t think about anything that distresses you and it’s supposed to relax you. I found that when I went down to the machine and started pressing the buttons, waiting for the games to come up, I’d forget about my pain, I was more concerned about winning money.

Wally (I: SGTS) admitted that he gambled in order to feel happy: “Maybe that’s the reason why you do it, because you see it as a form of happiness.” However, when his money was gone and he was able to think critically again, he was confronted by the reality of his actions. He was not happy when he realised that he had gambled the money he should have used to pay his bills. This suggests that, while gambling, he

was not able to access the will to stop gambling until all his available money was lost:

See, it is the excitement but saying that, when it's all finished and I come back to the real world, which is the bills and the debts and all that, it's not happy, what's happy about it? So what is in it for me? Seriously, what's in it for me? Nothing really.

Depression

Participants in the in-depth interviews described a number of different negative emotions that they were able to avoid or obtain relief from by relapsing. For example, depression was a common emotion that triggered a relapse.

Many participants highlighted their despair associated with depression, which was a risk factor for relapse. Relapsing back to gambling behaviours enabled these PGs to avoid experiencing these negative emotions and to focus on the excitement of the gaming environment and the possible wins.

Focus group participants provided an insight into the risks of relapse for those who are depressed. For example, one participant highlighted how engaging in a relapse had been automatic for him when he was depressed: "We used to say Sydney Swans got done today, I am so depressed, I will go and play the pokies" (FG: PA). One focus group participant highlighted the risk of depression and relapse:

If a person is not feeling strong or well, I am talking about depression and something or some big event occurs in their life, I haven't relapsed, but I think that could lead to relapse (FG: PA).

Linda (I: NTS) attributed depression and anxiety to her relapse as she enjoyed the excitement when gambling which made her feel better. As she gambled, she focused on the mundane action of waiting for the winning symbols to come up. This experience provided her with relief from her tension. Gambling became out of control as the money she spent to achieve this state of mind had led to increasing harm:

To me, depression, anxiety, and pokies do not mix. Well, they just give you a buzz sort of thing and if you are suffering from depression and you are just waiting for the three symbols to come up – just, I do not know. It is just somewhere, especially with me you know, what I have been through – relieves tension and things like this, but then it sort of got out of control.

Brenda (I: PA) suffered from ongoing anxiety and depression, which she attributed to her obsessive-compulsive disorder. She convinced herself that gambling would help her to deal with the adverse emotions associated with her mental health problems by lifting her mood:

Just probably the depression through the obsessive-compulsive disorder that I have. I already sort of had the depression through that anyway, and the anxiety. Whether I thought the gambling might help, might lift me a bit.

Simon (I: SGTS) stated that feeling depressed, sad, or happy were all triggers for relapse: “Sometimes when you’re happy, sometimes when you’re depressed.” However, when he had been depressed, it was difficult for him to resist gambling when in close contact with the venue. He would talk himself into a relapse by convincing himself that he would feel better if he gambled and experienced the thrill of a win:

“I have a day where I get depressed, and I’m walking past it’s easy to go in” and he hoped that gambling would make him feel better: “when you’re depressed because say you’re feeling a bit down, you feel like you might win and it’ll make you happier”.

Suicide

Some of the gamblers felt so overwhelmed by the impacts of their gambling that they attempted to take their own lives which led to a feeling of helplessness that triggered another relapse. For some, the ongoing distress of repeated relapses led to suicidal ideation, in which the gambler began to think of taking their life as the negative

affective states were too distressing. Greta (I: SGTS) was hospitalised after attempting to take her life because of the impacts of her gambling. Soon after discharge she relapsed: “A week after that last time that I tried to commit suicide, I was back at the hotel again.”

Alcohol

A number of focus group participants raised the issue of alcohol affecting relapse. This suggests that consuming alcohol in a gaming venue had increased the risk of relapse: “Alcohol increases the risk, many people say I am OK (gambling - implied) as long as I don't have a drink” (FG: NGOW). Another stated: “They are all drinking (gamblers - implied), because alcohol is implicated a lot with breaking people's inhibitions and that I would say to you is another significant issue” (for relapse - implied).

This participant (FG: GTC) suggested that drinking alcohol was associated with gambling, particularly when the PG was feeling disinhibited in the gambling environment, and that having EGMs near to where alcohol is served increased this temptation:

I'm just thinking about that in regards to one client of mine who does drink heavily, and when gambles its usually after she has a drink, and I'm wondering if it is the environment as well because where she drinks, there's always pokie machines nearby ... you're disinhibited by the alcohol, and then why not put a few dollars into the pokie machine?

Young males who have impulsive traits and drink alcohol were particularly at risk of increased gambling:

If you get a lot of young men who already have high impulsivity, and then they drink, and then they have access, it is a pretty bad combination of factors which lead people perhaps into problematic levels of gambling (FG: GTC).

Therefore, alcohol may facilitate erroneous cognitions or impulsivity by reducing impulse control, particularly when the PG is in close vicinity to the EGMs.

Annie (I: NTS) observed that relationship problems that resulted in low self-esteem and feeling bad, led to an automatic response to escape to the hotel and gamble after drinking alcohol: “When I started to feel bad about myself and because the relationship was so destructive and my self-esteem was eaten away, so I’d go down to the pub and have a few champagnes and gamble.” She convinced herself that she deserved to find relief from the negative affective states that she was enduring in her life, so she would justify a relapse to herself. This occurred particularly after she had consumed several glasses of champagne: “I suffer from depression and anxiety, so there was an anxiety level from all other areas of my life, so because I was anxious, I had to get some relief.”

Grief

Gambling on the pokies was a comfort as well as a distraction from the ongoing grief of losing a significant other. Grief was another risk factor for relapse: “There are a few there (risks for relapse - implied), dismay, there's grief” (FG: NGOC). Janet (I: PA) noted the way in which gambling had protected her from the grief and pain of losing her husband. She described being in a “cocoon” while gambling. She admitted that she had preferred to be away from life, and gambling had enabled her to do this.

You are just – you’re in a cocoon and that’s what I find, that I like the feeling of being in the cocoon, away from everybody and away from life. I didn’t want to be here anyway, I didn’t want to be – I wanted to die, and I think that was the main thing that drove me on to insane levels.

This maladaptive coping strategy resulted in Janet having gambled excessive amounts of money. She played the EGMs for comfort and distraction from the grief and emptiness after the death of her husband, and believed that she had nowhere else to go for company and support:

I had gambled all the way through, from the time that my husband died, because that was the only place I could go. There was not anywhere else I

could go. He died and I did not want to go home, I just could not go home. There was nothing at home for me, nobody at home. There was nothing there.

Janet (I: PA) described how her commitment to changing her behaviour was lost after the death of her husband. She now realised that this behaviour had caused her many problems: “What I do begrudge now is myself playing the pokies after he died, and that hurts me terribly because that brought me undone.”

Stress

Gambling provided a place where gamblers could relax and escape the stressors associated with their daily lives. John (I: SGTS) would look forward to the relief that gambling provided at the end of the day from the stress he experienced at work: “It was kind of like a time where I could wind down a bit too and not be at work.” He gambled to provide time out, as he felt relaxed and comfortable enjoying the excitement associated with gambling: “I’d different sorts of stresses or pressures, I suppose, and going to a hotel, I felt comfortable in there. I had some time for myself and also had some highs and stuff in there too, some excitement.”

Brad (I: SGTS) admitted that he was experiencing stress and grief in his life when he relapsed: “A few deaths in the family and stuff like that so had a few stresses, like my daughter had heart surgery five years ago, so that partly could have been it, but I don’t think that is a reason for it.” Annie (I: NTS) kept control over any distress she experienced during her relapse, as she would convince herself that she felt good while gambling. She assured herself that she was content with this strategy and was prepared to keep relapsing to feel better:

I’m saying to myself that I’m going through all these emotional issues, this is giving me satisfaction. I can keep it under control because it is – I’m feeling good. At the time, not all the time, but it can – I can feel good, so I’ll do that

Irritability

Feeling overwhelmed by emotions led to irritability with others, which increased the risk of relapse, as gambling provided relief from this distress. Brad (I: SGTS) noted that irritability, particularly with his wife, had been a trigger for relapse, even though he admitted that she was trying to help him. Despite knowing that he had relapsed, he was annoyed at his wife checking his bank statement because it provided evidence that he had gambled and lost money. He became self-justifying and irritable when questioned by her, which would trigger another relapse:

Sometimes, even if you lost some money, you might be a bit irritable at night and yelling at the kids, “get to bed” or something like that, and I guess my wife – especially females are very astute, so they know “what’s wrong, what’s going on?” and then it would start from that. Then, it would be like checking the bank statements or checking this, and then you would be defensive and it would sort of build up from that.

Boredom

Many participants found that boredom and too much spare time provided an excuse to socialise and relapse. One focus group participant described how the inability to tolerate emotions was associated with boredom, creating a risk for a gambling relapse:

One thing that helped me when I gave up (gambling - implied), I found that the problem came when you are sitting home with nothing to do, and its boredom, loneliness, and I found that I had to find something else to do, go down to the library (FG: PA).

Other participants observed that: “When you are bored, potentially you are in danger of relapsing, I am sure” (FG: SGTSC), and “I found that the problem came when you are sitting home with nothing to do, and its boredom, loneliness” (FG: PA).

Greta (FG: SGTS) justified her gambling relapse as a social activity. She convinced herself that she was just going to have a coffee in the hotel when she was bored and lonely: “I was getting a bit bored again, lonely, and ‘oh I’ll go down to the hotel just

to see if anybody's there.' 'I'll just have a cup of coffee'. 'I'll just talk to some friends.'" However, she admitted that gambling had never been just a social activity, but an addiction, and when she convinced herself to go to the hotel to socialise, she knew she would relapse: "It doesn't work that way, not when you've got an addiction." Larry (I: PA) sadly remembered that one of his relapses was triggered by sitting at home alone with access to cash and time on his hands:

Well, I think I was sitting home there one Sunday afternoon on my own, pocket full of bloody dough, loneliness and - and I find that there's a couple of reasons that make people play the pokies, they've got too much time on their hands and a pocket full of dough.

Physical Illness

Physical illness and pain also played a role in relapse, as gambling again offered relief from suffering. For some, gambling provided an escape from being at home when suffering a chronic physical illness. A focus group participant disclosed that one of her peers relapsed after a second bout of cancer as a way to deal with this diagnosis:

I think a serious physical illness, yes his was life threatening. I feel that he has probably thought he is not going to come out of this. It is his second bout with cancer and a few weeks before he went in, he is on his own, so he's been hitting the gambling again (FG: SGTSC).

A counsellor described how one of her clients relapsed as a way to escape her pain: "She has lots of car accidents and she has a lot of pain (causing her to gamble - implied)" (FG: NGOC). Janet (I: PA) argued that she had nowhere else to take her husband but to gamble, as he found it hard to mobilise outside the family home. This resulted in her having a relapse: "See, he was not a well man, and the only time I could get him out was if I took him on a trip so he could just sit down or I can take him to the pokies."

Relationship Problems and Relapse

This section describes the burden of negative affective states, such as guilt and shame endured by many PGs, on their ongoing gambling relapses due to the impacts of relationship problems.

Loss of Trust

Trust was an issue in one PG's relationship. He described the shame of continued relapse, even if only spending a few dollars, which had eroded trust with his partner: "Even like, in a relationship, you might have gambled \$5 but because you have told your partner you are never going to gamble again, to them it could be \$5,000, so it's a trust issue" (FG: PA). One counsellor described how the harm associated with ongoing relapse caused a loss of trust, which was a hidden harm of ongoing relapse: "The harm that's done is often hidden, it's in the relationship, it's in the loss of trust, and it's in intangible things" (FG: NGOC). This participant remembered that he felt weak and ashamed by the loss of trust from relapses: "There was a time when I thought they didn't have any trust in me, and I thought they thought I was weak so I went and gambled" (FG: SGTSC).

Stealing from Partners to Relapse

Greta (I: SGTS) was ashamed that she had resorted to stealing money from her husband in her desperation to gamble, which increased their debt: "I'd pinch my husband's credit card and, of course, it wasn't coming out by savings, it was coming out of the bank, so I was putting us further and further in debt." After she had lost this stolen money, she felt ashamed which caused her significant anguish: "Made me feel absolutely sick. In fact, I did try to commit suicide twice."

Relationship Disharmony

Brad (I: SGTS) highlighted other negative emotions, such as in episodes of conflict as part of relationship problems, which had increased his vulnerability to relapse. He also admitted that the gambling environment had been an additional trigger for relapse:

I think the triggers for me were more the venues and the noise. If I got – say I had a fight with my wife or whatever and I went out, if my first thought was to go to a venue and play the pokies.

Shame

Participants felt ashamed about gambling, which resulted in ongoing relapse and prevented them from seeking support to manage the risk of relapse. For example, an NGO counsellor suggested that gamblers believe they are bad for having no control over their gambling: “The individual feels out of control; there is that mental harm to themselves, I am such a bad person (for gambling - implied)” (FG: NGOC).

Larry (I: PA) described the indignity he experienced when he was too ashamed to reach out for help. He was dismayed that the people in his life had little understanding about the difficulties he experienced trying to avoid a gambling relapse:

No, I never ever spoke to them about the poker machines; I'd be too ashamed to speak to them about that. Both my sisters knew that I played the pokies, you know, and they just (would think) “how can you be so stupid playing bloody poker machines?” that is probably their answer to it.

Karen (I: PA) had also been too ashamed to seek help from her significant others, or even from an anonymous helpline, as she did not want anyone to know she had a problem with gambling: “At that time, I didn't want anybody to know. I wanted nobody to know about what I was doing, not even the 1800 number.” She explained that she was afraid and embarrassed, thinking she was the only one with a gambling problem: “I was afraid, I was ashamed, I was really embarrassed and I thought I was the only one. I really believed that I was the only one with this problem. I had no idea that there were other people suffering.”

Ineffective support

In some cases, a partner found it difficult to “to put their foot down” and acquiesced by putting up with their partner's relapses for many years. When significant others

recognise that a family member has a problem, this can be distressing, resulting in angry confrontations which provide little assistance to the gambler, as demonstrated by Janet (I: PA) who was upset by her daughter's frustration with her gambling: "See, my daughter tried to get us to give it up and she said 'if you think that we're going to come down to support your pokie habit you've got another think coming.'"

Greta (I: SGTS) admitted that her husband was so anxious about giving her money that she likened it to him tearing his hair out. Yet she continued to bully him to give her money to gamble, which he had on many occasions, because she knew he loved her. Even though she thought he was stupid for giving it to her, she continued to ask him for money when she gambled away their savings, not taking responsibility for her behaviour:

He was nearly tearing his hair out, and I told him off and told him to stop behaving like a child, that it was my money and I'm having it. Because he loves me so much, the stupid fool, what does he do? He gives it back to me.

Barb (I: SGTS) was ashamed as she talked about the dangers of having ongoing access to endless supplies of cash without the support of her husband. This would result in her gambling her entire pension when her husband was not close by:

Well, it means that you have got this endless supply of money, whatever you've got. I've gone to the poker machines and Peter's been away skiing and I've lost the whole of my pension and that is not good.

Complacency of a significant other was described by one participant, noting that not keeping track of the family finances would result in relapse, as they thought that their partner's gambling was not a problem:

They (the significant other - implied) get into this state of complacency and often the partner doesn't take enough note of their finances, they lapse back and think everything is OK now because he or she has stopped

and isn't gambling and because they are not keeping that check (FG: NGOC).

Partners Encouraging Relapse

Gambling behaviour among couples was highly complex. For example, when both the husband and the wife had a gambling problem, they encouraged each other's gambling by providing fluctuating support for abstinence as well as often facilitating relapse.

Some partners provided positive support to not gamble, while others encouraged their partner to continue to engage in repeated relapses. For example, one couple, both of whom were PGs, had a symbiotic relationship which resulted in both partners rationalising the decision to engage in gambling activities, leading to frequent relapses:

About 5 o'clock, we would feed all our animals and then the night starts and I will say do you want to go and play the pokies, and he doesn't, but I want to go and play. And this will go on for a couple of hours, but he admitted one night at a meeting that he knew he would be going to the pokies, but he didn't want it to be himself that suggested it, he would leave it up to me (FG: PA).

Janet (I: PA) reported that she struggled with her husband to admit that they had a problem: "I said 'I think I do have a problem' and he said 'no, we just won't go.'" This did not last and they both relapsed. She tried many times to stop gambling, but her husband would not admit that it was a problem, causing much anguish on her part:

I said "I think I've got a problem. I think I should get help" and he said "You haven't got a problem; you can stop gambling anytime you want." Well, that might have been from his point of view, but it wasn't from mine. I felt that I did have a problem Well, that'd last three weeks perhaps and then we'd go back again.

Barb: (I: SGTS) collaborated with her husband to gamble, and when gambling, they had engaged in chasing behaviour gambling up to \$7000: “My (husband) and I have put \$500 in that particular machine thinking we’re going to win it and that’s been up to \$7000 and – yeah it’s been up to \$7000 and that’s what – you think ‘well.’” However, she admitted that her husband was more aware of the problem than she was, but was not strong enough to put his foot down to stop the relapse. He would give in to his wife’s requests for additional money after stating that he was concerned about their gambling: “I go with (Husband), and actually (Husband)’s better than me, he will stop and then I’ll go and ask him for some money and then the whole thing starts over again.” She added that her husband had tried to encourage her to do something else besides gambling, but he was not strong enough to take control and she would continue to relapse with his facilitation: “Well, you’ve got to find something else to do. Do something else. What are you doing gambling money? We really can’t afford it, which we can’t at this stage. I don’t know.”

Despite these harms, many of the gamblers that were interviewed were not ready to give up their gambling and continued to relapse.

Dealing with negative affect when the relapse ends

Many participants from the in-depth interviews described in detail the significant distress they experienced when they gambled all their available money. It was at this time that the PG became aware of their desperate financial situation. For some, this insight was momentary, as they needed an immediate solution to deal with their distress.

When asked how she managed distressing thoughts after a relapse Annie (I: NTS) admitted that she focused her attention on winning back the money she had lost, thus avoiding any acknowledgment of what she had done. She reassured herself that life would feel better after a big win, which had helped her to forget the reality of the money that she had lost: “By telling myself that I could maybe win tomorrow, or things would be better tomorrow, or it’s too late now to cry over what’s already happened, it’s gone, move on; that sort of thing.”

Monica (I: PA) was able to describe the despair she experienced when all her available money had been spent. She was significantly depressed as she felt sick and became disgusted in herself for gambling until she was destitute. At this time, she did not know when she would be able to afford another meal:

I felt sick. I felt – I just felt the lowest of low you could feel. A bit disgusted in myself. Yeah just felt horrible, very unhappy, very depressed, because I didn't know virtually where my next meal was coming from.

PGs seemed to be unaware of, or to accept responsibility for, what they were doing as they continued to engage in harmful gambling behaviours for years, seemingly unable to learn from repeated losses. For example, one participant (FG: GTC) observed that PGs find it difficult to face the harms and distress of constant financial loss associated with gambling or to deal with it even after years of engaging in this behaviour:

It's sort of counter-intuitive, because you think if they've been losing for years and years, why would someone believe they can still win, but I mean the counsellors know a lot about the kind of beliefs that tend to, that they tend to engage in, and I think the longer they have been gambling, the harder it is often to shift it, and I think that is why ... was saying that sometimes the longer they have been gambling for the more difficult it is, the more likely they are to relapse. Because it is difficult to face having to actually deal step by step with the fallout from the massive debt that they're actually in and so that is one of the reasons why I think there is sort of protracted gambling behaviours and a lot of debt can be a predictor of relapse, does that make sense?

Lee (I: PA) described feeling like a fool for gambling all his available money, but this did not provide him with an incentive to stop relapsing back to gambling. At this time, he believed his only solution to a desperate financial situation was to win back the money he had lost. This thought process resulted in having to experience repeated cycles of relapse:

I would come home at night-time and say to myself what a fool I was, “how stupid can you be losing all that money?” I think that drove me back at that time when I was going to the poker machines, that I had to win that money back and I’m going to get that money back.

When Annie (I: NTS) relapsed and lost all her money, she dismissed any self-reflection of the consequences of her gambling as she became excited in anticipation of her next relapse:

I suppose there’s “I’ve just lost all that money.” There’s the winning. There was a sense of “I don’t care,” a sense of “I want that excitement back.” I’m not sure of anything else.

Annie (I: NTS) explained what happened when she lost her money after a relapse. She admitted that she had ignored any critical thoughts about stopping the relapse, and instead, her focus was on her next pay and planning her next relapse. This thought process enabled her to distract from any negative emotions or the ability to self-observe and learn from these negative experiences:

If I walked out and lost, I would think well – there goes all the options again ‘well you can stop, you can wait for your next pay and try and get that back’ or just a lot of things would go through your head. You’d ignore a lot of the bad things because you’d feel too bad, so I chose to ignore them.

When asked how she managed to ignore the consequences of her relapse, Annie (I: NTS) would focus on winning the next day and then she would feel better. This enabled her to move on from her distress, as she was sure she would win her money back:

By telling myself that I could maybe win tomorrow, or things would be better tomorrow, or it’s too late now to cry over what’s already happened, it’s gone, move on; that sort of thing.

Janet (I: PA) promised herself that she would never relapse again as she felt so terrible when losing all her money, but still continued to relapse:

Because I'd spent more money and I'd allowed us to spend more money and we'd get money out of the ATM at either the casino or the – and it would make you feel terrible. You felt sick after promising yourself never, ever again and you still go back and do it again.

Janet (I: PA) admitted that her focus of attention was on winning after she had relapsed, which did not allow her to acknowledge the repeated distress she experienced as she continued to relapse: “You just automatically went back, because once you got in on there, the same situation occurred, you just felt that this time it's going to be different, I'm going to win, but it hardly ever happened.”

Larry (I: PA) provided an example in which he began the learning process about the harms of his behaviour, but confessed that this realisation was only momentary. He admitted that he would swear to himself that he would never relapse again, but this was not enough to stop him relapsing when he had available money. The focus of his attention at this time was on winning back the money he had lost, and any memories or insights of the harm he had experienced from the relapse were forgotten:

Well, you keep chasing your money. You'd say to yourself “I've got to get this money back” and “it's got to pay sooner or later” but it never does. Then you'll be flat broke and so you have to wait until pay day and I'd get home at night time and “never again will I go near those rotten bloody machines, never again,” you know, swear black and blue never to go there, and as soon as you got your money in your bankbook, couldn't get back to the pub quick enough. “I want to get that money back that I lost.”

Summary - Negative Affective States and Relapse

Participants gambled in an attempt to escape from negative emotions as they focused their attention on gambling. There were a number of factors associated with negative affective states, for example financial and social problems, boredom, conflict, stress,

depression, grief, and illness. Interestingly, some gamblers were able to achieve comfort from repeated relapse, which appeared to offer a reprieve from their overwhelming grief. The presence of a negative emotion, for some, appeared to result in a downward spiral of emotions, as the gambler became more depressed as the consequences of the harms associated with the relapse became apparent. Some convinced themselves that they deserved to find relief from their adverse emotions, and thus justified ongoing episodes of relapse. This maladaptive coping strategy resulted in repeated relapse, withdrawing from therapy, and increasing negative emotions, as the harms from gambling affected many areas across their lives. Some felt overwhelmed by the impacts of their gambling and attempted to take their own lives, leading to a feeling of helplessness that triggered another relapse as an immediate solution to their desperate financial situation.

The shame and guilt associated with repeated relapses and loss of trust from significant others often triggered relapses as a way to deal with these negative emotions. Furthermore, the shame associated with the loss of trust due to relapse resulted in a reluctance to seek support to manage the ongoing risk of relapse. For others, support was complex, with some significant others feeling helpless to assist the PG to remain abstinent, while others actively encouraged their partner to relapse. The PGs' significant others were distressed and frustrated at being unable to help their partners to stop gambling. This frustration and distress added to the gambler's misery, making it more difficult for them to seek support to remain abstinent.

The paradox that was difficult to understand was that when PGs felt so terrible after the massive losses, and when there were so many debts, demands, and needs, how did they not learn from this severe pain? The key was that, often within minutes, these adverse emotions were relieved in the short-term, because these negative affects triggered thoughts about winning at a future gambling episode, which brought with it the associated euphoria. This counterproductive response enabled the PG to avoid reflecting on these negative emotions and thereby limited the capacity for the gambler to learn from the consequences of having yet again, engaged in gambling behaviour. This also appeared to be the start of the next gambling episode as their thoughts and fantasies became focused on winning money in the future, rather than

realistically confronting their immediate past behaviour as a way of solving problems. This “relapse into fantasy” resulted in PGs often being unable to self-observe, or reflect on, memories of harm associated with the ongoing relapses because they had already given themselves permission to plan the next episode of gambling.

4.2 Facilitation of Relapse

Cognitions relating to gambling are significant risk factors for a gambling relapse. Strong sequential relationships between different major factors (themes) pertaining to relapse emerged throughout the process of analysis. As seen above, a number of different environmental triggers, and negative affective states, initiated the process of relapse. These triggers then seemed to elicit cognitions about gambling and the urge to gamble. These cognitions directly and indirectly increased the intensity of the urge to gamble and the likelihood of relapse. Gambling-related urges and cognitions were hard to separate, as both lead to relapse. These are described initially as separate themes, and then as combined themes, in the following section.

Gambling Cognitions

The following section explores how gambling-related cognitions that resulted in excitement, such as information-processing biases, magical thinking, outcome expectancy, and recall bias, all influenced relapse. In addition to these exciting erroneous cognitions about the possibility of winning money, participants reported additional facilitating and permission-giving erroneous cognitions (described as “gambling sense”). For example, when the PGs did not have ready access to money, they developed ways to obtain money to gamble that often resulted in financial hardship, despair, and dishonest behaviour, which included:

Underestimating debts from relapse

Overestimating the capacity to pay bills when all available money had been gambled

Underestimating the upset/ awareness of significant others regarding the impact of a relapse

Lying to oneself that a relapse was possible, rather than likely, and despite the devastation resulting from this choice

Errors of memory where the PG was not able to remember the harms caused by previous relapses as they experienced a narrowing focus of attention towards relapse

Conscious cognitions as the PG engaged in lying to themselves about their likely relapse and making excuses to permit relapse

When the urge to gamble had been triggered by these facilitatory cognitions, the PGs focus of attention narrowed to the experience of erroneous cognitions about winning money. These winning cognitions increased excitement, which magnified the gamblers hope of winning money. The risk of relapse increased at this time unless it was counteracted.

The following section firstly explores the facilitatory, and then the exciting, cognitions associated with relapse:

Facilitatory Cognitions

Facilitatory cognitions were associated with permission-giving, and included fantasising about cash or how to create available cash. For example, they included thoughts about how to pay only the essential bills, manipulating significant others to obtain cash for relapse, engaging in dishonest behaviour to obtain cash, and allowing their morals and principles to change to accommodate a relapse. Some also lied to themselves and others to enable them to relapse.

Fantasised Access to Cash for Relapse

Fantasies about gambling, or obtaining cash to relapse when no cash could be sourced, escalated the gamblers' desire to gamble. Annie (I: NTS) could not focus on her work when she daydreamed about having cash and relapsing. These daydreams would intensify her urges to gamble, making her anticipation of relapse more desperate. At this time, her focus of attention would become narrowed toward planning a relapse and giving herself permission to engage in a relapse:

Some of the time during the working day is of me going over in my head which machine I'll play, which pub I'll go to, so even maybe at work, there was a sense of – a heightened level of – not manic but, yeah, something more heightened about the feeling of gambling.

Creating “Available Money” in Fantasy for Relapse

Participants described a new way of talking about money that they designated as being “available” for gambling which, in fact, when objectively examined, was not at all available. Such “available money” was special money allocated for gambling. Some had paid their main bills first and then used any money “left over” as “available” for gambling. This resulted in having no money saved for previous debts, outstanding major expenses, or luxuries such as holidays. Others had reallocated their money, or created “available money” to facilitate a relapse. In addition, gamblers admitted that they rarely kept to their initial strategy of using only the allocated money to gamble. Once in the venue, they had continued to gamble while disregarding any limits. This suggests an inability, or the presence of permission-giving thoughts, that prevented them from thinking objectively and critically. For example, Lee (I: PA) was relieved that he had managed to pay his bills before he relapsed: “Luckily, I kept paying my bills first and many other people can’t do that, but at least I’m fortunate I paid my bills first.” He admitted that he had allowed himself to gamble money above his essential bills, leaving little left for emergencies: “I only lost most of the money I should have been saving up for holidays or emergencies.” He thus intimated that he was being more responsible than other gamblers, and implying that his gambling was clearly not as big a problem as it objectively was.

Barb (I: SGTS) left her credit cards at home to enable her to stick to a predetermined amount: “If I do go now, I’ll leave my credit cards home and I’ve only got a certain amount of money in my purse.” She admitted that she found it impossible to stick to her budget when she was in the casino environment: “I pay a lot of things by direct debit and stuff like that so things get paid. Yeah, I’d go back to the casino and instead of having a budget of like \$200, I’d spend \$500.”

Some participants planned to make cash available, enabling them to gamble again the following day despite the financial harms. Brad (I: SGTS) would justify having additional money available to gamble the following day after he relapsed, being trapped in the thrill of having a win. He admitted how he had rarely thought about what he was doing. The extent of his financial loss became apparent at the end of his relapse cycle when there was no money left and he finally had to acknowledge this loss:

Yes, it was a combination of things, the thrill of getting a win or – yeah, the money side of things, I never really thought about that. I'd spend \$50 one day and if I lost that the next day.

Brad (I: SGTS) clearly rationalised to himself that he could afford to gamble at the time: “I'd figure I hadn't spent any money, so the \$50 the next day I'd think ‘oh that's all I've spent for the month’ and you add it up over the month and it worked out to be a bit of money.”

Differentiating between “essential bills”, and other bills or mounting debts, was false logic that justified and gave permission to PGs to engage in further gambling. There were many such erroneous cognitions about “available money”, when in fact it was not available at all for gambling. Such insidious erroneous cognitions both facilitated the next relapse and reduced the PG's anxiety, guilt, and shame about using that money for gambling by allocating it as being “available” at a particular time (e.g. pay day), by a particular means (e.g. taking it from the employer; doing it behind a spouse's back), enabling relapse in the future when the circumstances made the fantasised “available” money, in fact, accessible. This enabled relapse because the decision to use this money for gambling had already been made when planning and scheming, by using a set of permission-giving erroneous cognitions which came into play when triggers created the urge that was then dealt with by the fantasy involved in creating money as being “available” to gamble. Gambling was then deferred until such time as the money that was “available”, in fact, became accessible.

Manipulating Significant Others to Obtain Cash for Relapse

Some had manipulated their partners to give them money to relapse or continue to gamble. For example, when gambling with her husband, Barb (I: SGTS) had convinced him to give her additional cash to keep gambling after he realised he had gambled enough and stopped: “He’s able to stop. He’ll go and cash his money in and he’s able to stop. Then I’ll say ‘give me \$20’ or whatever and very rarely he says no.”

One therapist (FG: GTC) described how conflict arises when a PG creates the available money to facilitate a relapse from household budgets, often leaving no money to spare for family needs: “So, because there isn’t money around to purchase things, there can be a lot of conflict over and the management of finances.”

Dishonest Behaviour to Obtain Money

PGs slowly learn to lie, cheat, rationalise, and distort their moral values, especially honesty, in order to obtain money to gamble. This behaviour was often out of character for the gambler who was desperate to win back losses. They gave themselves increasing permission to go to greater extremes in their pursuit of money. For example, Annie (I: NTS) was distressed when describing her escalating criminal behaviour to finance her relapses. She did not like the person she had become as she was stealing on a daily basis in order to attempt to win back the money she had stolen:

The sort of person I had become, the gambling, even though I could say myself “I can stop. I’ll stop next week.” Then it escalated because I’d stolen so much money, how will I get that back? I was stealing money from my employer for two years, over a two-year period. Towards the end – and it was a lot of money, it was in tens of thousands so that alone is – you know, stealing something once or twice, but it was every day or got to be every day.

Annie also demonstrated another frequent excuse made by PGs that gave her permission for “one last time”, because she would “stop next week”, but “next week” never came. Some gamblers took money from significant others to finance their

relapse, and tried to push the guilt to the back of their minds as they allowed themselves to relapse. For example, Brad (I: SGTS) would take money behind his wife's back to finance his gambling, not thinking about the consequences of his actions. He admitted that, after the relapse, he could think clearly about what he had done while remaining fearful that his wife would not find out about the money he had taken:

I always tied it back to probably my wife, going "I hope she doesn't find out," "I hope she doesn't check the bank statements or take money out at lunchtime" or whatever and stuff like that. After I'd done it, I'd always think back to those thoughts, but then beforehand, I wouldn't have those thoughts in my head at all.

Brad (I: SGTS) did not think about the long-term consequences of relapse when he anticipated gambling: "At the time, you don't think about consequences of a month later or a week later or two weeks later, you're just in that moment". He admitted that his behaviour was not rational: "The thinking's probably – you could nearly say irrational."

These facilitatory cognitions sought to minimise harms and to rationalise behaviour, and fed into manipulative behaviour towards their significant others.

Morals and Principles Changing to Accommodate Relapse

Some of the gamblers went against their own values and morals to obtain cash to relapse. Annie (I: NTS) was disappointed for allowing herself to disregard her values and to give herself permission to steal to finance her relapse. When not gambling, she was able to think critically about her behaviour, and felt disgusted with herself. She would criticise herself repeatedly, as stealing went against her personal beliefs: "I believe I'm a person with high values and stealing isn't one of them so – but I did, and that's one thing that's sort of – because it encroaches on my own personal beliefs, so I pick on myself a lot." Lee (I: PA) admitted that his principles about paying debts as a priority had changed as he used money borrowed for his housing loan and basic needs to finance his relapses: "Well, when I borrowed the money, I

said to myself ‘now that’s not for gambling, that’s for the house and helping me sell’ and that, but in the finish, it turns out some of it’s for gambling.”

Lying to Self and Others

Easy access to gambling venues enabled some participants to use excuses and lying to gamble as part of their daily routine. Annie (I: NTS) reported that the gambling venues situated close to her home and her children’s school made it difficult to resist gambling, particularly if she found an excuse to relapse. This decision often involved her lying to others about where she had been, as she did not want to admit that she had relapsed: “Close where I lived and close to the school. You know, you could leave the kids home alone and go to the pub for hours pretending I had gone to the chemist.”

Winning cognitions

Beliefs and fantasies about winning, having a hope of winning, forgetting knowledge about EGMs, and convincing oneself about making money and paying bills by gambling, all added to the excitement of a relapse.

Beliefs About Winning

Erroneous beliefs about winning money increased the excitement and the risk of relapse, unless it was counteracted. Information processing biases were also evident: “When I was gambling, I saw it as a way of making money” (FG: SGTSC). An erroneous belief about outcome expectancy was described by this participant, who had hoped to alleviate her financial problems if she had won some money: “There is still that thought that this time is going to be my time and I might win this time and it will alleviate some of the problems” (FG: SGTSC). The following quote demonstrates recall bias, as this participant remembered past wins and hoped he would win again: “I would say ‘Quick I need more money.’ I couldn’t get it into the machine quick enough” (FG: PAG).

Brad (I: SGTS) admitted that his belief in winning was over-powering and difficult to resist, which had encouraged him to gamble more money as he chased his losses: “I’m not sure. I’m not sure why I couldn’t stop myself. I think it’s those factors of

hoping that you win, chasing money. You want to get your games and you - that was overpowering the downside.” As Brad (I: SGTS) listened to other machines for winning sounds, he kept gambling, because he believed that he would also win: “If you hear someone win on a machine, you look around ‘oh what’s going on there? They’ve won, so that’s probably the other thing you’d look at.”

Hope of Winning

Many of the GTC therapists highlighted the importance of the PGs hopes of winning, as the driver of the relapse behaviour. For example, one participant (FG: GTC) suggested that the PG experienced the hope of winning money, that was not experienced by social gamblers, and which leads to different levels of thinking that can become more automatic: “But, I really think that people gamble excessively as opposed to social gambling because they have a hopefulness in winning money and sometimes that hopefulness manifests itself at various cognitive levels, so a belief level or an automatic thought level.” This participant (FG: GTC) further elaborated that it was the hope of winning money that predicts relapse: “I think there is only one factor that predicts relapse which the presence of hopefulness in winning money.” Another (FG: GTC) highlighted the importance of cognitions related to winning, as she suggested that risk factors for relapse are irrelevant if the PG does not have a belief that they will win:

I think all these other things won’t happen, all of these other factors are irrelevant if they don’t believe they are going to win. So, even though I mention all of those things as dangerous factors, if you don’t have that one core aspect, then none of the others mean, it’s irrelevant.

Beliefs about making money and paying bills

The presence of financial problems often triggered these erroneous thoughts of winning money as a means to alleviate financial hardship. This participant was concerned that she had wasted her money gambling, but described a driving force to relapse as she would convince herself that she would win enough money to pay off her bills:

You waste what money you do have on the machines and you still have that bill to pay. I think the driving force to play the machines is the fact that I need some money to pay the bills so you go and play and think ‘I will win (FG: PAG).

Another participant admitted that financial pressures had triggered winning cognitions: “If there was an extra bill that came in or N ... was upset about the finances as they were then, that may have been something that may have prompted me to get a small win in” (FG: SGTSC). A participant’s significant other was concerned that financial devastation may trigger winning cognitions for her partner and result in relapse: “What worries me with S ... we are still devastated financially and there is always pressure and that’s my biggest concern that the pressure will push him back to it” (wife of FG: SGTSC).

Fantasy of Winning

Wally (I: SGTS) described how he gambled after an argument, hoping that he would feel happy if he won more money. He would fantasise about buying items that he could not otherwise afford with his winnings, so that he could be like other people with money, which resulted in his decision to relapse:

I think if I didn’t feel maybe happy in a sense, like arguments and things, then maybe I wanted to try and get more money, but this money that I’ve won can make me happy, in the sense that – I don’t know, like other people doing things and I didn’t have the money to do that, so therefore I could – if I get more, then I can do other things.

Forgetting knowledge about EGMs

Once the gambler gives in to a relapse, any knowledge is forgotten of the how gaming machines work and the odds of winning. In desperation, to win back past losses, the gambler is unable to think critically about any prior facts or information about the workings of the EGMs and their ability to win, and thus relapse becomes inescapable. For example, Annie (I: NTS) ignored her knowledge of the statistics of winning when she gambled money in an attempt to win back the money she had previously lost: “Even though I knew the statistics, the amount of wins, I chose to

ignore it.” Barb (I: SGTS) was educated about how EGMs worked and the odds of return as part of her gambling treatment, and realised that she had no hope of winning. However, she would still relapse, as she disregarded this prior knowledge: “We saw the insides of a machine and everything. Remember that day the guy came up with the machine and how the odds are stacked against you? You’ve got no hope. I know that it’s all for the government.”

Brad (I: SGTS) sees how irrational his thoughts were, despite knowing that EGMs are designed to lose the gambler’s money, he continued to relapse:

The thinking’s probably – you could nearly say irrational because, I think – when I first saw you, I talked about how you do it, you know “why did I do that, what am I doing?” You know 82% of the machines win or something and so that’s all I went with a long time so it’s – you know, they’re designed to lose so why would you – why did you play them?

Fantasy and Magic

During the relapse episode, some gamblers entered a world in which they had created in their minds which was full of magic and fantasy, which maintained the gambling episode until they lost all their finances. Living in a fantasy world enabled the gamblers to imagine a different life with luxuries. For instance, Annie (I: NTS) lived in a fantasy world while gambling, as she imagined that she would be lucky and win large amounts of money. She likened this belief to a delusion, indicating that her perceptions were not normal at this time: “Every time I went in there, I had, like I said, that lucky delusion where I would imagine I’m going to come out of there with money.” Barb (I: SGTS) also lived in a fantasy as she dreamed of buying items with the money that she anticipated winning:

Well, you’re excited about it because you’re sitting there chit-chatting about it and you think somebody’s going to win, it could be us, and then we’ll get a new carpet and then we’ll get this and then we’ll get something else.

These thoughts maintained her cycle of relapse: “so you think, oh well, another \$50 will just do it and off you go.” Karen (I: PA) highlighted how strange her thinking

had been when she was caught up in a fantasy world associated with particular images on the EGM machines:

It sounds ridiculous now with what I know, but I remember thinking they were magical, like I got wrapped up in the fantasy of Indian Dreaming stuff, in the love hearts, the Queen of the Nile, the jewel ones, those kinds of things.

She was frustrated with herself for having fantasies which she saw as quite disgusting. Furthermore, she has now developed a physical revulsion when she thinks about gambling: “I look at it now and it’s just so revolting, it makes me sick but, you know, this fantasy stuff, this pretend stuff that’s not even on earth, it’s just airy-fairy rubbish.”

Money Loses its Value

One participant admitted that money had no value when he was gambling: “You just sit there and it’s almost as though the money loses its real sense of value” (FG: PAG). Wally (I: SGTS) gambled increasing amounts of money when he believed that he had to win, and was reluctant to change machines in case he missed the anticipated win: “I think then you start to put more – you think ‘I have to get this’ because if you’re reluctant to get off that and then try another one.” Money lost its value in the process of relapse, which enabled gamblers who had relapsed to chase their past losses without comprehending the devastation that this was causing: “Didn’t feel really like money, like I wouldn’t look at it and go ‘oh this is \$50’; it was just more like tokens or something” (Lee: I: PA).

Simon (I: SGTS) perceived that he was not gambling with real money, and so he then increased the amount that he would gamble:

You feel like you’re not gambling with real money because it’s not your salary and then you don’t feel as bad because it’s another \$500 on a \$12,000 or eight, nine, \$10,000, but I probably started off with eight and now I’m up to 12.

Cognitive Errors Maintain Relapse

Erroneous cognitions about winning money increased the risk of relapse as gamblers hoped they would win despite their ongoing losses. When the gambler convinced themselves that they would win, this cognitive error maintained the cycle of repeated gambling relapses as they persisted in chasing their losses until all their available money was lost. Annie (I: NTS) had distorted cognitions when she believed that she had won, even though she had actually lost: “The poker machines you can get from one cent, and that feeling of winning is still a win, even if you only get two credits back.” She described how these cognitive errors were responsible for her attempting to win, despite risking her last \$10:

Getting back that money you’ve lost was one of the biggest things because you’ve got – I’ve gone in there with no petrol and no food and I’ve got about three days to go and I still had to get to work and I’ve spent my last \$10.

Similarly, Kath (I: NTS) maintained her gambling by hoping that she would win, despite having lost money in the past and consequently struggling to pay her bills:

I guess I was just hoping that I would win some money and I’d come away with a bit of a profit to pay the bills or buy extra items. I think sometimes, you are sort of hoping that you can actually win some money, whether to pay extra bills off or to buy extra stuff.

Erroneous Cognitions About Gambling Behaviours

Some gamblers engaged in specific behaviours while gambling, which they believed would increase their chances of winning. Many believed that these specific behaviours increased their ability to win, and so they tried to incorporate these erroneous or unfounded beliefs into their gambling patterns in an attempt to win, which prolonged the relapse episode. Lea (I: NTS) described a number of erroneous beliefs about behaviours that she engaged in, in order to win. These included changing machines and allowing herself to relapse when having specific days that she believed would result in her winning:

I'd jump from machine to – I mean, I put a few rules on it. There's certain days I don't bet, there's certain things I don't do. I don't jump machines, I don't jump venues, but when something upsets me, I jump machines and I jump venues.

Risk Behaviours Associated with Perceived Luck

The occasional win increased the gamblers confidence, as they believed that they were lucky and could continue to win, so they persisted at gambling which extending their relapse episode. Participants' described a progressive pattern of risky gambling behaviours based on a perception of luck associated with the occasional win that resulted in more harm as the relapse episode was extended until all the accessible money had been spent. For example, when Natasha (I: PA) had small wins on the EGMs, she became increasingly confident about her ability to win and increased the amount of money she bet: "You put in the first amount, and then I think, I cashed \$50 or something and then win a bit, so a bit more confident, betted a bit higher." She changed machines to increase her luck, which resulted in her gambling relapse being extended until all her money was lost:

Feel a little bit more lucky. You feel like you've won once, so you'll win again if you change machines, go to a higher-paying machine, like go from a one cent to a dollar machine and that's what killed me, was on the bigger machines. Drained me of all my money.

Decision-Making

The participants from the in-depth interviews recognised that their cognitive functioning was not normal at the time they made their decision to gamble. Some justified a gambling relapse, despite knowing that gambling was a problem for them and would result in ongoing harm. These participants pushed aside their memories of past gambling harms, or thoughts about the consequences of their decision to relapse as their arousal increased. At this time, they could not engage in self-observation, as their ability to think critically was lost and they convinced themselves that they deserved to gamble. Participants in the in-depth interviews confirmed and added a deeper understanding to these patterns of erroneous decision-making that resulted in relapse.

1. Immediate relapse where the gambler did not appear to struggle with the decision to gamble. For example, Barb (I: SGTS) told herself that another \$50 was enough to enable her to win, so she did not struggle with her decision to relapse: “You think, oh well, another \$50 will just do it and off you go.”
2. Gambling out of habit where there is little vacillation about the decision to gamble: John (I: SGTS) described a routine where he would borrow money from his brother after work and relapse without questioning his behaviour. He did not consider the implications of taking considerable amounts of money from his brother, or care that he might think that he was a gambler. It appeared that, at this time, John was unable to engage in critical thinking when he continued to relapse, despite the impacts on his brother:

I would borrow a lot of the funds from my brother. He lived on the way home from work and I would drop in there and I'd ask if I could borrow a \$20 – well, could I have a \$20 and he was a pretty generous sort of a guy and doesn't have a family. I don't know whether he knew that I was a gambler, I don't know. I mean I could always usually get something, there was always a few bucks that I could get.

3. Deferral of the decision to gamble with the promise to gamble at a later time: Annie (I: NTS) explained that she did not want to recognise that her gambling behaviour was a problem, so she convinced herself that she could stop gambling ‘tomorrow’, but realised that she was powerless to stop the relapse process, and could not see a time when this would occur:

You sort of don't want to recognise that you do have a problem and I don't know where the time for anybody would be where you recognise that you have a problem because you're so much in denial. Even if you do recognise you can stop tomorrow, but you can't, and that's at that point where you can't stop.

Brad (I: SGTS) also admitted that when he managed to abstain, he thought about the next relapse and planned for a time when he would have the

opportunity to gamble. This demonstrates the complexity of the gamblers mind. For example, Brad was attempting to abstain, but still promised himself a relapse and could not relax in anticipation of the gambling. This suggests that Brad (I: SGTS) had vacillated about gambling and deferred one day at a time: “Especially if you’re thinking about it and planning your next day or whatever, you could never relax.” Furthermore, the longer he managed to defer the relapse, the more anxious he would become: “Close to the two weeks, 10 days I start getting antsy, 11, 12, towards the end, its like ‘I’ve got to go.’”

Some gamblers were upset by a big financial loss and were then able to remain abstinent for a few weeks but then relapsed again. For example, Lea (1: NTS) reflected on the amount of money she gambled and realised that it was ridiculous, so she cut up her ATM card in an attempt to stop her repeated relapsing behaviour. However, when she had a new ATM card, her relapse cycle would recommence again:

I’d go in there and I’d think “oh no, I’ll spend a few dollars” and spent a few more dollars and I thought “no, this is ridiculous,” so I cut my card up. Then I got another card a few weeks later and then I was still going back there.

4. Vacillation and the decision to relapse: When Barb (I: SGTS) questioned herself about engaging in a relapse, she admitted that she was convinced that she deserved to gamble. She told herself that she did not have any other vices and rationalised that she had always managed financially and at home, so she then gave permission to herself to gamble. At this time, the memory of any past gambling harm was pushed aside:

I think “why am I doing this?” but then I suppose emotions kick in and you think “well I deserve this. I don’t do anything else so I deserve this time for me,” you know? I have to say, like I gamble, but we’ve never gone without anything, I’ve always managed to be home in time and cook the meal and everything like that.

Colleen (I: NTS) talked about her struggle with her decision to relapse, yet she would continue to go to the casino throughout her indecisiveness. Once at the casino, it was too late, the decision to relapse was finalised and any vacillation gone, as she was determined to relapse:

Yeah there is, it's sort of a like a good voice on my left shoulder and a bad voice on my right shoulder going – you know, having a little mental fight inside my head. I can literally have that conversation in my head all the way to the casino, to the car park and then when I get there it's gone.

This also demonstrates another category of erroneous cognitions that could best be described as “playing with fire”: PGs give themselves permission to have a counter meal, or a drink at the hotel. This is despite previously relapsing because of the proximity of the exciting and attractive venue.

5. Finally, a fifth pattern was described: indefinite deferral, which enabled the gambler to reduce the likelihood of a relapse. Annie (I: NTS) provided rich information about her experiences with deferring her relapse. She explained how she managed to defer her relapse for some time, as she waited for a court case to be over. Annie (I: NTS) was then able to defer her relapse for a period because of the consequences. This indefinite deferral was the PA philosophy of “one day at a time”, however, deferring gambling because the gambler believes that they have a “disease” means that they can never recover from problem gambling:

Waiting for the court process was traumatic, and I didn't gamble and I wanted to go to court to say – stand up in court and say “I haven't gambled since I was dismissed, since I was found out it stopped completely”, but I didn't stop completely. Waiting for the court process was driving me crazy and a couple of times I can remember my thought of being in so much despair that “I don't care” and I went back and gambled.

Karen (I: PA) would take one day at a time as she attempted to remain abstinent, and her days would become months: “I couldn’t wait to get my one month certificate, I couldn’t wait to get my two month certificate, and then, you know – and they said ‘look, it’s a day at a time’”.

Many participants elaborated on their decision to relapse. For example, some justified gambling to feel better, believing that if they won, this would make them happy, so there was little vacillation in their decision to gamble. Stressful situations or feeling unhappy acted as a trigger for the gambler to make the decision to relapse, as they believed that winning money relieved their negative emotional states.

4.3 Gambling Urge

Participants used a number of different descriptions to explain what the urge to gamble was like for them. Many used the word “urge” spontaneously and without any input from the interviewer. Others likened the urge to an adrenaline rush, some found that it caused nervous energy, and others enjoyed the feeling until their money was lost, which they admitted was devastating. Some had great difficulty identifying any urge, but described the thoughts of winning that accompanied physiological arousal. Subthemes of the urge included: descriptions of the urge, urge and distress, resisting the urge, urge and illegal behaviours, and planning the next relapse.

Descriptions of Urge

Many participants provided an understanding about how the gambling urge increased their vulnerability to relapse. For example, an increased urge led to arousal, which was not only exciting but aversive, and increased the risk of relapse. One participant described the urge to gamble as being “a terrible drag” triggered by the thought of winning a jackpot: “It is a terrible drag once it gets into your system, and I do not know what drags it, probably the thought of hitting that jackpot, or I have to get back that money that I have lost” (FG: PAG). Another participant commented that urge, cognitions, and arousal were inseparable and difficult to resist, and that nothing would have stopped him: “There is nothing anybody says or does that is going to

stop you. It's a build-up of intensity and a force that you just go." This suggests that arousal can be so intense that cognitive functioning becomes altered, because reason is not being accessed during the relapse process.

Interestingly, many participants from the in-depth interviews found it difficult to initially recognise and describe the urge. For example, Colleen (I: NTS) found it difficult to describe her urge to gamble, initially suggesting that she just found herself at the casino after convincing herself there was nothing else to do: "I don't know, just this – I don't know how to describe it, I'm just literally going 'there's nothing on TV tonight. I don't have a good book' whatever 'I'll go to the casino.'" This absence of memory relating to the urge suggests that gamblers may have been in an altered state of awareness where they are not aware of what they are doing during the relapse episode. The section on the "zone" (see Section 2.7) describes this altered state of awareness. After further consideration, Colleen (I: NTS) believed that her urge was a restless state where she could not relax, as nothing would satisfy her other than engaging in gambling. She put her obligations to the back of her mind as her ability to think critically was lost and she then relapsed:

Maybe a restlessness, like I find myself not being able to sit down and concentrate, so loss of concentration. Yeah just this – like nothing satisfies me, like I can't – even if I've got a book, or I know there's a good movie on, or I know my dog needs to go for a walk, there's just this irrational thought in the back of my head that I won't feel better unless I've actually gone to the casino.

The intensity of the urge to gamble was overwhelming and difficult to resist by many participants. For example, this participant reported that he would have walked through walls to gamble: "You would walk through walls; that's how strong the urge was" (FG: PAG). Another focus group participant suggested that the intensity would build up and then he had to go: "It's a build-up of intensity and a force that you just go" (FG: PAG). Natasha (I: SGTS) admitted that her urge had fuelled her desire to relapse, which only settled when she felt happy after a relapse:

The urge is wanting to do it. I don't really know if there is a link between the urge and the happiness. The urge is the cause of why you go there, so I guess once you settle that urge, and the way to settle the urge is happiness, is to play the pokies.

Natasha (I: SGTS) reported that driving past a gambling venue would start her urge, which lasted until she was able to enter the venue and relapse. Interestingly, Natasha would reassure herself that she could gamble as soon as the hotel opened. She kept herself busy at this time, as she anticipated her relapse later that morning when the venue opened:

Driving past it in the morning. Just seeing the pub. Seeing a pub that I knew that I could play in but then, like that morning, of course it was too early. Pubs down that way don't open until 11 mostly, so I went and did some shopping and told myself I'd gamble on the way home and did.

Wally (I: SGTS) described being a different person when he had been overwhelmed by his urge to gamble: "It's like this overwhelming excitement of just like you're just at totally different person. It's like I have to do it no matter what." Furthermore, his increasing excitement resulted in a reduced ability to think critically, as he admitted that he would have sold his soul at that time to relapse: "You feel sick. You feel a rush, a form of excitement, basically that you'd sell your soul just to get money or just do anything pretty much to get money, to go." Natasha (I: SGTS) acknowledged that her urge to gamble escalated as she won, and diminished as the money was lost: "It comes because you're there and then it comes more when you win, and I guess it slowly dwindles away as the money dwindles away."

Natasha (I: SGTS), Kath (I: NTS), and Ray (I: SGTS) all likened their urge to an adrenaline rush. Natasha felt invincible like superman when she experienced the urge and had snuck into the hotel without being caught: "Well, it was like adrenalin I suppose, like the rush of getting caught, the rush of being able to sneak in and out and no-one even knowing you're there. I guess you feel a little bit like Superman, invincible or something."

Annie (I: NTS) acknowledged that telling herself not to gamble did not work: “I suppose at the time when I kept going, I couldn’t listen to myself. I couldn’t listen to my own self saying ‘don’t go, don’t go’.” She described the attraction towards gambling as having been too strong to resist: “The pull was very, very strong.” She admitted “being crazy” when she gambled, despite realising it was the wrong thing to do. When the relapse was over the following day, she could think critically and reflect on her behaviour: “The pull is like you know you want to stop; you know it’s wrong, but the next day you wake up and you can’t wait to go. It’s that crazy.”

An NGO worker commented on how people dropped their bundle when the urge was too strong: “Yes people just drop their bundle and the urge is really strong” (FG: NGOW).

Another, NGO worker highlighted that she saw clients, for example, who loved the buzz associated with the urge to gamble, but this soon went and they no longer liked the feeling, but became helpless to resist and relapsed:

You will get a client who says, I still love it, it gives me a buzz ... but generally people don't, they say I hate them. So, by the time they come to someone like yourself, they are still engaging in that type of gambling behaviour but they dislike what they do, there's the addiction side of it they just can't break (FG: NGOW).

Urge and Distress

Many gamblers considered the urge to be distressing, as they found it increasingly difficult to resist. One focus group participant observed that a gambler became so restless that he could not finish a cigarette as he was ‘forced’ to return to gambling: “I watched this fellow walking up and down, he couldn't wait to finish his cigarette out on the footpath to get back into the gaming room and I thought he was really torn” (NGO worker).

This NGO client felt physically sick from the autonomic arousal after gambling. Interestingly, when the urge to gamble reoccurred for him, he described having had

an alteration of his cognition as the memories of this physical sickness were forgotten, which served to increase the risk of relapse:

Yes, much bigger money, and when you are betting that big for me, it's frightening, you come out shaking. It's an interesting process because you feel quite physically sick afterwards and you don't remember that (FG: PAG).

Resisting the Urge

Many participants attempted to resist the urge to gamble, but this was an ongoing struggle. For example, some participants' could not continue to resist the urge to relapse and eventually lost the struggle to remain abstinent. This participant demonstrated how the urge overtook her and the will to not gamble was suspended: "When you get that urge to play the machine, nothing is going to stop you" (FG: PAG).

After years of struggling with the urge to relapse, Natasha (I: SGTS) confided that she no longer had the capacity to fight the urge, nor to consider the consequences, as she relapsed:

Well, you do feel a little bit guilty before but the urge to play kicks in over the top of any thoughts of "I shouldn't do this." Eventually, after so many years of gambling, you lose the ability to be able to fight the urge, to be able to go "no, I shouldn't do this, I'll go do something else." You lose the ability to be able to fight it.

Participants from the in-depth interviews described how they were distressed that their urge to gamble had escalated to a point where they were unable to resist gambling, resulting in relapse. Larry (I: PA) admitted that when he received money in his bank, his urge overtook any critical thoughts despite having promised himself to never gamble again. As he relapsed, he could not exercise the will to not gamble, nor could he engage in self-observation. His focus of attention then narrowed to chasing his losses: "I will not go near those rotten bloody machines, never again,' you know, swear black and blue never to go there and as soon as you got your money

in your bankbook, couldn't get back to the pub quick enough. 'I want to get that money back that I lost.'" However, for some, the urge remained dormant and emerged again with enough intensity to cause relapse: "Well, if you have got an urge and it pops up from time to time, there can be a time where you give into it (and relapse - implied)" (FG: SGTSC).

Urge and Illegal Behaviours

For some gamblers, the urge would become so overwhelming that they would be tempted to steal to satisfy the urge to gamble. The persistent urge to gamble can result in gamblers considering engaging in criminal activity against their better judgement to finance their gambling. Although Lea did not engage in criminal activity, she was concerned that she might be at risk of stealing money to gamble when her urge to gamble had been overwhelming: "Well, I get pretty scared about the thought it could lead to crime of any sort." Annie (I: NTS) blamed her increasing urge to gamble as the reason she could not remain abstinent and eventually resorted to stealing money to enable her to relapse. This resulted in repeated relapses as she tried to win back the money she had stolen: "'I can stop. I'll stop next week'. Then it escalated because I'd stolen so much money, how will I get that back."

Planning the Next Relapse

Some gamblers identified the ongoing drain of planning the next relapse. For example, when Brad (I: SGTS) was preoccupied with his next gambling episode, which he considered a burden that he carried, he was not able to relax as his urge would never settle:

I do not – looking back, I do not think it ever really settled. You could not really relax in general at all, and I think that most gamblers would say that. You would never – you had a weight on your shoulders sort of the whole time. Especially if you are thinking about it and planning your next day or whatever you could never relax.

Here, it was unclear whether the urge or the gambling cognition came first in the relapse cycle, as it was difficult to separate one from the other, and they appeared to be mutually reinforcing.

Gambling Urges / Cognitions and Relapse

Once the urge to gamble increased, it appeared that the gambler found it difficult to think clearly about the consequences of their choice to engage in gambling activities. The subthemes associated with urges and cognitions included a mental chain of events, 'wind up', and distress, associated with urge and cognitions.

Mental Chain of Events

The participants provided insight into the impact of both the urge to gamble, and the associated cognitions. When asked what she thought came first, the urge or the gambling cognitions, Brenda (I: PA) suggested that thoughts of winning would come first: "Thinking about winning before I even got there." Karen (I: PA) believed that the urges and cognitions were inseparable: "I think it's all wrapped up together." One therapist (FG: GTC) suggested that if there were no erroneous cognitions, there would be no physiological responses: "So, the physiology would be connected simply because of the cognition, so if the cognition wasn't there, the physiology wouldn't matter, do you know what I mean, sort of secondary."

A mental chain of events occurred in which the urge and the cognitions reinforced each other, resulting in increased arousal and relapse. One participant described how the thought of winning money to pay his bills had led to a force he could not resist, resulting in a relapse: "I think the driving force to play the machines is the fact that I need some money to pay the bills, so you go and play and think 'I will win'" (FG: PAG). The presence of the urge limited a person's ability to think clearly: "These people that I talk to, they obviously still have the urge. They know all the reasons why they shouldn't, but they can't help themselves because they still have that urge there" (FG: SGTSC). Similarly, this participant talked about the urge taking over after thoughts about both wanting and not wanting to gamble: "Even saying I am not going to go and I am in the car park and then think I am not going, next thing you know I am getting changed. It just takes over" (NGO client).

Another participant stated that once the urge was sufficiently intense, critical thinking, self-observation, and decision-making were impaired: "They know all the

reasons why they should not, but they cannot help themselves because they still have that urge there” (FG: PAG). Some participants struggled to understand what happened when they relapsed. For example, when the urge took control, one gambler could not engage in critical thinking, “I don’t understand it, and I know I had absolutely no control over it” (FG: PAG). Another participant forgot about the money she spent when the urge took over: “If you are addicted to it, you get that rush from it and it’s easy to forget about the money you spent” (NGO client).

Gambling Urges and Cognitions

Wind up

The urge to gamble and the associated cognitions reinforced each other resulting in increased arousal. Once this “wind up” began, for most, relapse was inevitable.

Colleen (I: NTS) admitted that she had attempted to tell herself not to gamble. This strategy did not protect her from relapse, as a “wind up” of wanting to gamble, and the ongoing insistence occurring in her mind, were too difficult to ignore. She would give in to her urge and relapsed when her ability to think critically had diminished:

I would tell myself “no, you shouldn’t go back”, so I’d probably wait three, four, five days, sometimes two weeks and I’d be fine, and then it’d be almost like this little “I’ve got to go, I’ve got to go,” the insistence in the back of my head would be longer and harder and harder to ignore.

Veronica (I: PA) described a vicious cycle of increasing arousal in which she became very nervous. She would sweat and have palpitations that became unpleasant as she waited for the winning symbols:

After putting a few hundred dollars through the machine, you start to get a bit nervous and you start to get palpitations, you start to sweat, your mouth would go dry waiting for this third symbol to arrive after the first two coming up. Once they had come up and the games were going, all you were concerned about then was money, how much money was I going to win which would enable me to stay at the machine for longer. It’s just like a vicious circle.

Brenda (I: PA) described experiencing a “wind up” of her urge to gamble when she thought about doubling her money. The urge became so strong, that she could not wait to return to the casino to complete her plan to relapse:

I couldn't actually, no, the urge was quite strong. I couldn't stop myself, I just had to get in there, just for an hour, just to play and I'd think 'oh yeah I could double my money' or – yeah, the urge was just so strong I couldn't get there quick enough. I actually thought on the way to my mum's "I've got to call into the casino" so I'd sort of virtually planned to go there.

Arousal

Having access to money led to the gamblers' arousal intensifying and relapse becoming inevitable.

Brenda (I:PA) described her anxiety increasing and her urge to gamble becoming stronger as she imagined herself winning money and anticipating engaging in gambling. Eventually, her arousal became so strong that she could no longer stop herself from relapsing:

I just couldn't wait to get there. I was just so anxious as well, I guess, just to get in there and win some money, I guess that was the thing, getting in there and win some more the urge was quite strong. I couldn't stop myself, I just had to get in there, just for an hour, just to play and I'd think 'oh yeah I could double my money' or – yeah, the urge was just so strong I couldn't get there quick enough I think it partly might have been excitement, partly doubling my money maybe, making more money, I'd say that was the main issue. I think just a bit of excitement getting there but then it just got to the stage where I just had to go, just couldn't stop.

(Larry (I:PA) admitted he felt like someone had taken over his body the minute he had money available to gamble. At this time, his arousal increased and he was determined to win back any money previously lost gambling and would race to the venue to gamble:

' It's like – it's just as though somebody's taken control of your brain, taken control of your body....you'd be ringing up the bank to see if your money's in there and as soon as it's in there you take off like a rocket. You'd take off like a rocket, you know..... 'you beauty, I've got money in the bank, I'm going to get all that money back that I lost'

Similarly, when Monica (I:PA) was finally able to gamble she described having tunnel vision where any previous decisions not to gamble were forgotten. At this time her arousal increased and she 'shut out' the real world, preferring to do exactly what she wanted at that moment and relapsed:

I just had tunnel vision 'get out of my way' and anything that got in my way I was spewing 'you fucking idiot, what are you doing?' it was just like that. No I probably wasn't really aware, I don't think, that drive to get there. Like I said, I didn't really think about much and the feelings were there every now and then but I didn't really go into why I was feeling it or anything....I just – it was like a relief when I seen that one of my machines was free.

Wally (I:SGTS) described an escalation of arousal that started with an initial feeling of wanting to be sick which intensified when money was available. He explained he experienced a rush of excitement at this time, which he compared to an adrenaline rush where he was speeding as fast as he could to the venue to relapse:

You feel sick. You feel a rush, a form of excitement, basically that you'd sell your soul just to get money or just do anything pretty much to get money, to go. Well you feel so excited that you're getting all this rush of adrenalin basically, massive. Like if you're running a marathon, say, right, and you're near the end and you're running and you're running and you're thinking someone's there and they're going to catch you and they're going to beat you so you put in that extra effort because you're so close to the end and you want to win.

Brad (I:SGTS) described being subject to a nervous excitement which he did not enjoy when he finally had the opportunity to gamble. He would then experience such a strong emotional reaction that he developed goose bumps. At this time his arousal escalated to a point where he was unable to reconsider any worries that had previously concerned him about his decision to relapse and he gambled:

Nervous excitement, if that makes sense, so just trying to chase that win. You'd probably say like a – not goose bumps but tension and sort of that feeling of goose bumps when you go in ..I wouldn't say it's a nice feeling, it was – how would you describe that? I wouldn't say it was a nice feeling, like you have a nice feeling when you've got nervous energy for playing a football match or something. It wasn't like a nervous feeling like that, it was more of an excited/worried feeling, if that makes sense....At the time I think it was just – that's when you had blinkers on, you'd go play a machine or get to your favourite spot or whatever and that was what you focused on. Hope you don't lose so you sort of bring a negative spin on yourself before you start but you found that you couldn't stop – couldn't stop yourself from not going in there.

Distress associated with Urges and Cognitions

For some of the participants, cognitions about gambling caused distress and the desire to gamble followed by a relapse, unless guarded against by the distraction of having something else to do:

You have got to not harbour those thoughts (gambling thoughts - implied) when they come into your head, so it's very important to have something else to do and that's where I programme my mind to do. Those thoughts come into my head and I know now not to dwell on them as that's disastrous (gambling relapse - implied) (FG: PAG).

After the relapse event, participants recognised that their cognitive functioning was not normal at the time that they had made the decision to gamble. A focus group participant recounted how she would lose her ability to think critically when she felt the urge. She regretted having wasted the money each time she relapsed, which she could have given to her children: “To think that I have wasted all that money; I could

have given it to my sons. You become irrational when you get it into your system” (FG: PAG).

Summary of Gambling Urges and Cognitions

The data suggested a sequence of factors leading to gambling relapse. It appeared that cognitions could directly or indirectly increase or decrease the intensity of the urge to gamble and thus the likelihood of relapse. A sequence of factors leading to relapse emerged: an initiation of cognitions about winning money was generated from an adverse event such as a difficult financial situation, leading to a negative affective state which, in turn, initiated the cognitions.

A number of participants described these cognitions, as they appeared to focus on thoughts about winning or the hope of winning, followed almost instantaneously by an awareness of the urge to gamble. This, in turn, appeared to precipitate further cognitions that would rationalise gambling and the likelihood of winning. At this time, critical thinking appeared to be minimised, enhancing the intensity of the urge to gamble. It was as though a mental struggle was occurring, which resulted in critical thinking being either enhanced or suspended; once the ability to think critically was suspended, relapse appeared to be inevitable. These mental events together appeared to “push” the gambler towards relapse.

Some gamblers rationalised their decision as they justified a relapse and gave themselves permission to gamble. Some perceived a relapse as being acceptable, believing that gambling would make them feel better and relieve their negative emotional states. Others fantasised about what they would buy with their winnings as they planned their relapse. As the gambler relapsed, they forgot any prior knowledge of the limited odds of winning or of machine design. Once relapse had occurred, the participants admitted that gambling large amounts of money was easier when they believed that it was only token money and had therefore lost its value.

Some of the participants described a pattern of permission-giving cognitions that served to convince themselves that they had money available, which often involved pretending that they could afford to gamble. Some admitted that they planned to

make cash available to continue to gamble after a relapse, usually on the following day. When money was not available, some of the participants fantasised about gambling which escalated their urge to gamble as they desperately awaited their next episode/ play. This appeared to be a process of sustaining, or adapting to, a problem gambling lifestyle.

There appeared to be a state of cognitive dissonance in this process where erroneous cognitions related to the availability of money were in conflict with reality. This internal conflict increased arousal, but once “availability” had been “created in fantasy”, no more questioning of this reasoning, its morality, or its consequences, was entered into and the conflict and internal cognitive dissonance was “forgotten” or suspended until relapse was enacted and completed the next time.

Certain participants described dishonest behaviours that were often out of character in order to obtain cash to relapse. For example, some participants described how their principles changed as they convinced themselves to use the money that had been saved for daily living expenses for relapse. This often involved pretending that they could afford to gamble and keep within their limits. Some gamblers described how they slowly learnt to lie, cheat, rationalise, and distort their moral values of honesty to obtain money to gamble. This behaviour facilitated relapse for the gambler desperate to win back their losses.

There was also a progressive pattern of risky gambling behaviours as the gamblers’ confidence increased based on a perception of luck associated with occasional wins. This belief resulted in the gambler experiencing more harm as the relapse episode continued while the gambler desperately chased their losses. At this time, relapse extended until all the available money was lost. Furthermore, when the gambler convinced themselves that they would win, this cognitive error maintained the cycle of repeated relapse, as they persisted in chasing their losses until all their accessible money was lost.

All gamblers were subject to the gambling environment, with its many sounds associated with winning, however some gamblers listened for these winning

machines, which increased their belief that they would win, or they would engage in specific gambling behaviours that they assumed would increase their chances of winning.

In addition to erroneous cognitions, the presence of an urge (psychophysiological response to an external or internal trigger) increased the risk of relapse. The urge was often described as being uncontrollable and, as the intensity increased, the urge became increasingly difficult to resist, often resulting in relapse.

4.4 Is the “Zone” a Dissociative Trance Disorder?

A major finding from the focus group study was that, during the relapse processes, many EGM PGs reported entering into the “zone”, which appeared to feature many of the characteristics of an altered state of awareness or consciousness. The results suggest that once the gambler entered the “zone”, it was difficult for them to halt their relapse, until all their accessible money had been spent. It was not until this time that the gambler’s ability to think critically returned, which resulted in the gambler experiencing significant distress. Furthermore, whilst in the “zone”, the PGs seemed to be unable to exercise normal cognitive abilities of self-observation, have a realistic appraisal of the value of money, understand the consequences of their actions, or to exercise their memory, conscience, or will. This cognitive dysfunction appeared to inhibit PGs from terminating their relapse until they ran out of financial resources, thereby perpetuating the duration of the relapse and exacerbating the losses and the harm incurred. The subthemes associated with the “zone” included: different levels of the “zone”, the urge, loss of memory, escape from negative affective states, disregard for morals and values, stereotypical behaviour including repeated stereotypical ATM use, chasing losses, harm, return of critical thinking, and planning of the next relapse. The in-depth interviews provided a rich source of data with detailed descriptions from many of the participants. Overall, a clear picture of seriously impaired cognitive functioning emerged.

Descriptions of the “Zone”

The participants used different analogies that described what the “zone” was like for them. However, most of them appeared to have a similar experience of being unable to think critically, and to use their usual moral compass or values to guide them in limiting their gambling behaviour. In addition, they could not stop gambling until their money was lost and, only after this, did they regain their ability to think critically. Some blamed EGMs for taking over peoples’ minds or bodies to a point where they could no longer control themselves. Participants in the in-depth interviews used the following analogies (Table 12) to describe what appeared to be an altered state of awareness or consciousness.

Table 12. Zone Descriptions

Description of the “zone”
Cocoon
Glued to machine
Bubble
Fixated
Robotic
Hypnotised
Trance
Blank
Another world
Delirious
Mesmerised
Blinkers on
Not aware
Superman
Invincible
Insane <i>just taken over</i>

It appeared that altered cognitions reinforced relapse, as many participants described being “in the zone” when they were gambling. These initial descriptions appeared to indicate an altered state of awareness in which they could not think critically once gambling behaviours started. For example, one participant described being in a “zone”: “You just want to sit in front of the machine and enjoy yourself. You are in that zone” (FG: PAG), while another participant described the situation as becoming like a robot: “You become almost robot-like and you just sit there and it’s almost as though the money loses its real sense of value” (FG: PAG). Another participant suggested that gamblers were in a trance: “Caught in some sort of trance; they talk about a ‘zone’” (FG: SGTSC). This altered state of awareness continued until critical thinking was restored when the gambler had run out of money, as is evident in the

following quote: “Each night when I come home, I would think never again am I going to play those machines again” (FG: PAG). A counsellor also suggested that gamblers blanked out as if they had been taking drugs: “They blank out, they just go into a total ‘no zone’, they do not think or feel, they do not do anything and that is the difference. It is like being on drugs” (FG: NGOC).

The descriptions by the participants in the in-depth interviews added to the initial descriptions made by the focus group participants. For example, when Greta (I: SGTS) relapsed and entered the “zone”, she had no control over her body. She described this loss of control as if someone else was inside her. She would sit for hours losing track of time, and admitted that this behaviour was out of character, as she would not normally sit for hours in a day. Interestingly, she repeated this behaviour many times, indicating that her ability to think critically diminished prior to relapse, where she physically gambled her money away on several occasions: ‘It is as though there is somebody else inside of you and they have just taken over. Normally, I would not sit for four, five, six hours like that, but I have done many a time in front of a machine just playing and playing.’

Often, the avoidance of negative affect led to gambling and the “zone”; for some, entering the “zone” became a coping mechanism through which the PG learnt to avoid experiencing the distress associated with the harm of ongoing relapse. For example, as John (I: SGTS) relapsed, he likened being in the “zone” to having “blinkers on”, enabling him to focus only on what was in front of him which was winning the free spins and money. At this time, he could not see the harm, or think critically about the impact of his behaviour. He admitted that he did not think about what he was doing, as his focus was on trying to win. It was difficult for him to disengage as he continued to gamble, increasing the financial damage for hour after hour. These experiences of losing track of time and money indicated that he was in the “zone”. Interestingly, even reflecting on the experience, he could not confront the harm, as he used the word “stuff” rather than having to acknowledge the impact. This suggests that, when he entered the “zone”, he could avoid experiencing the distress associated with the harm of relapse. It also provides a perspective on the rewards of “that win”, into which he incorporates “the free spins or that win”, suggesting that

both such events acted together to maintain the illusion of a high likelihood that a win would soon occur:

Like blinkers on, I guess. You sort of don't really think about what you're spending and stuff like that. You just – you look for that win, the spins – the free spins or that win – and just keep going for that hour or half an hour.

An implied consequence appeared to operate once the gambler had made the decision to make money available to gamble. Indeed, the next episode of relapse often started days, weeks, or even longer before it was enacted. Often, the PG would start to plan the next gambling episode in fantasy and create “available money” by scheming as to how that could be done, so that it could then be spent once the time, place, and “available money” came together to enable the PG to gamble. At this time, there was no revisiting of the rationale for spending the money, or reviewing the decision to gamble, as it had already been decided that this was the time to gamble (and win). Conceiving this as relapse was simply not a part of their thinking at this time. For example, Veronica's (I: PA) focus had been exclusively on gambling when she became extremely agitated. She disregarded others and swore at anyone who got in the way of her gambling. At this time, she had no ability to access her memories of past harm or to think critically about the consequences of her behaviour, or even to see this as relapse. She admitted that she was not even aware of driving to the venue. This behaviour and emotional state indicated that she was in the “zone” before entering the venue to gamble and could not stop herself as relapse was inevitable; in fact, it had already occurred and was simply being enacted as planned. Therefore, gambling had started in Veronica's imagination some days or weeks before she physically relapsed. She planned to have available money and the timing and place did not matter. She was able to keep this process in abeyance until she could actually gamble. Once able to relapse, she had managed the criticism and guilt-inducing responses from herself and others, as her urge escalated and she became single-minded. Her focus had been on winning and she appeared to have entered the “zone” when highly aroused, which she could not remember. At this time, her focus was so restricted to gambling that she could not recall even driving to the venue:

I just had tunnel vision, “get out of my way” and anything that got in my way I was spewing “you f..... idiot, what are you doing?” it was just like that. No, I probably wasn’t really aware, I don’t think, even that drive to get there.

One therapist (FG: GTC) talked about the frantic efforts made by the PG to chase the money they had lost, which would not enable the PG to stop in order to reflect on what they were doing: “I think there’s frantic effort sometimes when people are chasing money, they’re highly anxious, they’re distressed.”

An SGTS worker described features of the “zone” in common among her clients where they recalled becoming “numb”. This allowed them to avoid feeling or thinking about aspects of their life that caused distress. While in the “zone”, time was irrelevant, even when clocks were clearly visible, as their primary focus was to win money and to chase the money they had lost. Some gamblers had lost minutes, while others had escaped into the “zone” for days in pursuit of winning.

There could be 15 clocks around them, it’s totally irrelevant, they are just in a total numb “zone” and they don’t have to think or feel anything for that period of time whether its 3 minutes, 3 hours, or 3 days.

One can see that the gamblers’ ability to avoid relapse diminishes as they get deeper into the “zone”.

Different Levels of the “Zone”

Some subjects described different levels of the “zone” in which the gambler begins the relapse process, but was able to reconsider the impact of their decision and halt the relapse process. However, as the gambler entered a deeper level of the “zone”, and their focus of attention narrowed to gambling only, relapse became inevitable.

For example, John (I: SGTS) identified different levels of the “zone”: “See there’s levels of “zone”, okay?” He described an initial process of getting in the “zone”. He called this the planning stage in which he would disregard his critical thoughts and give himself permission to relapse. At this time, he was not completely in the “zone”;

he only had part of his blinkers on, so he could access his critical thinking faculties. However, once he told himself it would be “OK” this time, he convinced himself, yet again, that this would be the last time he relapsed, and he would only gamble \$20:

‘But there’s the planning stage, which is partly in the “zone” - and I call that “zone” the part where you’ve given yourself permission to gamble, okay? “It’s cool on this occasion; last time, \$20,” so it’s the planning.

During this planning stage, John (I: SGTS) talked himself into gambling by justifying a relapse. At this time, he suggested that he was not fully in the “zone” and out of control. A part of him could respond to critical thoughts and take advice, for example, if someone had called him before he had his money. This call would reduce his arousal and enabled him to access his critical thoughts and to reconsider his decision to relapse on this occasion. Once he had obtained his money, relapse was inevitable and he was no longer in control:

There is some zoning there, because your mind tends to justifying it, and that’s the time to call, because you’re not out of control, you’ve still got some control because you’re not in there yet. You haven’t been to the ATM yet and got the coins. That is the time that you have to call and you can be brought down pretty quickly.

For John (I: SGTS), the final level in which he was unstoppable was when he had his ATM card, which enabled him ongoing access to cash. He described being in the “zone”, at which time he could not consider the negative consequences of his gambling. He described a final level of the “zone” in which his gambling had gone “too far.” At this time, he had an absence of critical thinking where he lost touch with his obligations and continued to gamble. He admitted that a call from his family at this time to stop him gambling would not have been of any help: “The unstoppable level is when you’re in, and it’s got you, and you’ve got the ATM card and you can forget about the telephone calls because that ‘zone’ is too far.”

Annie (I: NTS) also talked about a level of awareness in which relapse was not stoppable. For example, when she reached a level at which she would use all her

money to relapse, she put her basic needs to the back of her mind in order to have the money to gamble. This indicates that, at this time, she had lost her ability to think critically:

Even if you do recognise you can stop tomorrow, but you can't, and that's at that point where you can't stop, when the pay that you get in – in part of your budget, you work out your gambling budget as part of your financial budget; not food or petrol at that point is in your budget. Then you go onto the next level where all the money – you don't even budget for gambling, you then spend it all on gambling and hardly buy any food and you're scraping through coins to put petrol in your car and all that sort of thing, so for me, there would be the certain levels.

The urge to gamble was involved in the development and maintenance of the “zone” leading to the gambler becoming out of control with their gambling.

The “Zone” and the Gambling Urge

Some attributed the urge (psychophysiological response to an external or internal trigger) to the start of entering the “zone”, when all critical thoughts are ignored. Simon (I: SGTS) identified the urge to gamble as an important part of the “zone”. Once his urge started to increase, it would escalate, resulting in the narrowing of attention and an inability to access rational thoughts. Simon would desperately tell himself to stop and leave, warning himself that he would lose. This was in vain once he had become hyper-focused (an increasingly narrow focus), and could not exercise his will to leave:

It's the urge. Once you start, it's almost like you're in the “zone” and you ignore all random thoughts in your head that say “stop, get out, you're just going to lose it.” I also can become hyper-focused, where you're so focused on one machine, you can't leave it.

Natasha described how the rush of adrenaline fuelled her excitement about gambling. This caused her to dismiss any critical thoughts about the consequences of entering a venue that she was barred from. Her description of sneaking in, and not being seen,

indicated that she had some thoughts, before entering the venue, that what she was doing was wrong. However, she was not able to consider her memories of past harms, or to exercise the will to reconsider her decision to relapse, as she felt invincible. Her feeling of being invincible fuelled her excitement to gamble, as she was sure that she would win. Her description of being like “superman” indicated a loss of identity while in the “zone”, which for her, started before engaging in the gambling behaviour:

Well, it was like adrenalin, I suppose, like the rush of getting caught, the rush of being able to sneak in and out and no-one even knowing you're there. I guess you feel a little bit like Superman, invincible or something.

John (I: SGTS) was a practising Catholic with a strong religious faith. However, he described the urge as being so overwhelming that he disregarded his fear of punishment by God if he engaged in gambling: “Well, pretty strong because – strong enough to go in after being scared and thinking that I was going to get the consequences from God.”

The “Zone” and Loss of Memory

Many participants were unable to remember the relapse process at all and were simply unable to recollect what it was that they had been feeling or thinking at the time. Many participants in the in-depth interviews found it difficult to remember or to describe the “zone”. This suggests that whilst gamblers escape into an altered state of awareness, their reality and memory only returned when the relapse was over. This explains why recalling the time when in the “zone” was difficult for participants.

For example, Veronica (I: PA) found it difficult to describe her relapse. She attributed her poor memory to her inability to recall details while in a trance: “Probably because I was in a trance, I can't really remember.” Annie (I: NTS) was visibly distressed trying to remember the “zone”. She admitted avoiding the experience, as she did not want to get upset. She found it difficult to verbalise the issues that caused her distress, stating “everything”, as she tried to avoid

acknowledging the impacts and began to cry during the interview: “I’m trying to recall the feelings and everything, and some of those you don’t want to recognise because you get upset about it. I knew I’d cry because I always cry.” Many participants described the relief they experienced from negative emotions when in the “zone”.

The “Zone”: an Escape from Negative Affective States

Some of the participants gambled to escape from negative emotions that were too distressing for them to experience. For these gamblers, the “zone” provided time out from this despondency. Janet’s (I: PA) grief at the loss of her husband was overwhelming. Throughout the interview, her pain was clearly overwhelming as she cried openly when talking about her despair and sorrow. The only time she found relief from her suffering was when she gambled. She described being in a “cocoon” away from life and that people had provided her with an escape from her grief. She admitted that she did not want to be alive, so gambling had become her only alternative to dying as it gave her peace, and that her need to escape into a “cocoon” had driven her to relapse repeatedly. She would gamble at ridiculous levels to remain in her “cocoon”, which suggests that she was in the “zone”, and was unwilling to think critically about her behaviour or the consequences:

You’re in a cocoon and that’s what I find, that I like the feeling of being in the cocoon, away from everybody and away from life. I didn’t want to be here anyway, I didn’t want to be – I wanted to die, and I think that was the main thing that drove me on to insane levels.

Furthermore, Janet did not leave her “cocoon”-like state to get a drink, eat, or even to go to the toilet, suggesting that she was in the “zone”. When Janet was in the “zone”, she neglected her basic needs in order to keep gambling, suggesting that the harm associated with her gambling affected her physical health and her ability to think critically in order to prioritise her physical needs as well as the harm it caused her financially: “You just didn’t get a drink. You just didn’t go to the toilet; you didn’t get anything to eat. You had absolutely nothing all the hours that you were there.”

Some participants described the mindless activity of gambling as providing the ability to escape from everyday stressors. It was not until all the money was lost that the gambler became aware of reality, leading to regret and guilt. Annie (I: NTS) admitted that, when she was gambling, she enjoyed not having to think about anything. Even the most upsetting and horrible aspects of her life were forgotten when her total focus, while in the “zone”, was on gambling. When she gambled, she described a special bond with her machine, as if it were human and would look after

her. Such anthropomorphism was clearly an illusory distortion of reality in her perceptions. When Annie's money had run out, or she had spent too much, the reality of her actions became her focus, which she described as guilt. This indicated that she was only able to access her critical thinking abilities when she had stopped gambling:

Well, you don't have to think about anything except you become involved with this game so much that it's like you forget everything else that's going on. There's no way when I was playing the pokies that I could think of the horrible things that were going on out there. It was this machine and me, and when the money ran out or if I spent too much, then I knew the guilt.

Kath (I: NTS) described how her worries gradually went away as she became "fixed" on the EGM screen, as if it were a drug and she had no control. Her total focus on gambling had allowed her to forget her anxiety and depression in the short-term. She admitted that this avoidance coping strategy had been a cop out:

Yeah, I think sometimes you go, and you're sort of fixated on the screen and your worries seem to sort of just dissipate. It's like you're totally fixed on a screen and it's, I guess, a cop out for your anxiety and your worry. How could you put it? It's like – I don't know whether it's a drug, that when you sit in front of a machine and you might be depressed or anxious, there's nothing else worrying you and you're just totally fixated on the screen.

An NGO worker suggested that people who find it difficult to experience distress develop ways to avoid this painful experience. Gambling was identified as a way to cope for some gamblers by getting out of their "brains" and experiencing reprieve when in the "zone". "I reckon that it's like a coping mechanism like it is for many other reasons that people do things to get out of their brain, because the brain is an uncomfortable place to be in."

The “Zone” and Disregard for Morals and Values

Many participants were distressed when admitting that they had behaved in a manner that was against their morals and values in the pursuit of winning money. Larry (I: PA) became noticeably angry describing the distress he experienced when in the “zone”. He talked about being out of control as gambling had taken control over his body and soul. He gave examples of how people resort to behaviours that were uncharacteristic, such as stealing. He emphasised how distressing this was when reflecting on his own experiences of extreme anguish as he became aware of what he had done. He acknowledged the guilt associated with this behaviour and he generalised this to other PGs who he could see making decisions contrary to their moral beliefs, causing such torment that some PGs considered taking their life as the ultimate escape from their suffering:

Very disappointing, and that then explains why people rob their bosses, commit suicide because they can't live with themselves, because the damn machines take your mind over, your body and soul over, and that's probably the reason why people commit suicide, because it just takes control.

John (I: SGTS) felt as if he had contradicted his beliefs and personal values when he had gambled. He was visibly disappointed in himself when saying that he could not comprehend how he could have continued to lie to his family to enable himself to gamble, especially when teaching his children the importance of honesty:

Well, yeah, I mean it went against the values that I had, and it went against the values that I try to instil in my children, so I was a hypocrite because I was teaching my children to be honest.

The “Zone” and Stereotypical Behaviour

When in the “zone”, the behaviour associated with gambling required little attention, as the gambler repeatedly engaged in stereotypical behaviour of pressing the buttons of the gaming machine. At this time, gambling became a mindless experience whilst the gambler desperately tried to win free spins and repeatedly withdrew money from the ATM. The participants had no recollection of what they were doing until the

money was gone. There seemed to be a separation of thinking from the act of pressing the buttons and going to the ATM. This behaviour suggests that the gambler was experiencing an absence of the capacity for self-observation and critical review at this time. Greta (I: SGTS) observed that the urge to gamble had kept her sitting at the machine unable to leave as she continued to press the buttons. This stereotypical behaviour continued in her desperation to win, even to the point where she would not “waste time” to go to the toilet in case she missed a win. She would not stop to eat or drink, sitting at her machine for hours. Greta’s behaviour provides evidence that she was experiencing an altered state of awareness when in the “zone”, as she was unable to think critically or exercise the will to leave, even to empty her bladder:

Yes, it’s the urge that keeps you sitting there; you want to keep playing that machine. You don’t want to move, you just want to sit there and press those buttons. It’d get to the stage in the end, if I didn’t move quickly I could actually wet myself. I had to run to the loo because I’d forget about it “no, I don’t want to go. I’ll leave it.” I could put a reserve sign on the machine but no, that’s time out that I’m in the toilet that I could be pushing the buttons. That’s wasting time doing that sort of thing. I wouldn’t have a meal there or anything. I might get up and have a cup of coffee but very rare. I just sit there for hours and hours.

Lea (I: NTS) was annoyed with herself as she mindlessly pressed buttons trying to win money, not able to stop, despite not winning. She expressed frustration with the EGMs, blaming them for not paying out, as she had continued to gamble hoping to eventually win: “I’m pressing the button trying to get something out of the stupid machine and nothing’s happening, so that upset me.”

ATM Use and the “Zone”

During the chasing period described by many participants, the gambler was not able to think critically, and they repeatedly withdrew small amounts from an ATM. The location of ATMs near the gaming area enabled gamblers to have endless access to their cash until all the available funds were lost. Lea (I: NTS) admitted that losing her money triggered her to take more from the ATM. During this time, she was unable to think critically about her ongoing financial loss and inability to win.

Instead, she was desperate to chase the money she was losing, so repeatedly withdrew money from the ATM until she had no money left. It was not until then, that she was able to stop the relapse episode. Upon reflection, she was able to recognise the senselessness of her behaviour: “I just kept losing. I kept going to the ATM – and, worse, I kept going to the ATM, getting more money out and going back and spending it.” When asked if she was aware of what she was doing at the time, she admitted that she had no idea until all her money had been lost. It was at this time of financial exhaustion that she had to stop the relapse. “No, no, until afterwards, until I realised all that money’s gone. Shocking isn’t it? That was all I had basically, so I had to stop.”

John (I: SGTS) disclosed that when he was in the “zone”, gambling was his only priority as he repeatedly withdrew cash in an attempt to win and chase his gambling losses. The repetitive withdrawal of small amounts of money indicated that he exercised some caution about his behaviour, rationalising each withdrawal. For example, he went back to the ATM repeatedly to withdraw money while desperately chasing his losses. He admitted that this “zone” was “a dangerous place”, as he had no control over his thoughts or his ability to exercise the will to leave. He was powerless at this time to stop the relapse:

I wasn’t aware of my surroundings or anything, just back and forth to the ATM – 50, 50, 50, 50, 50 – desperate in the end. Yeah that ugly “zone”, a dangerous place to be in. The “zone” is when you lose rational thinking and you don’t have the power or the thought process to be able to leave.

Easy contact with the ATMs enabled the participants to have easy access to cash in order to chase their losses.

The “Zone” and Chasing Gambling Losses

When in the “zone”, the participants described being unable to cut down or to stop gambling, resulting in them withdrawing money repeatedly, despite the harm it was causing. Some were fixated on winning, attempting to win free spins as they repeatedly withdrew money from the ATM to win back the money they had lost.

Lea (I: NTS) described a pattern of frantically chasing her losses that was suggestive of an altered state of awareness in which she was in the “zone”: “You try to chase it up and then I keep trying to chase and chase and chase it up, going back and forth to the auto bank.” Kath (I: NTS) was fixated on her machine as she had persisted to get the free games that she was sure would come up, despite taking money out of her account without any consideration of the consequences:

It’s like you’re continually fixated, and then you put your money through and think “oh I need some more money,” so you go and grab some more money, you use your EFTPOS card and you go and grab some more money and then you put more money in. You’re going “these free games have got to come up,” so you go and get more money and put it in the machine.

When in the “zone”, Lee’s (I: PA) judgement was severely impaired. She could not think about the consequences of her behaviour as she went over any predetermined financial limit in pursuit of chasing her losses. She admitted that it was not possible for her to retain any critical thoughts when gambling, and her only option at this time was not to gamble at all:

Well, all sensibility goes out the window, literally, and you don’t think about it then. If I go in and put one dollar in the poker machine – I went through a stage where I thought “well, I’ll only put \$20 in, no more;” that doesn’t happen. You can’t do it. You either have to not play them at all or \$20 becomes \$50 and \$50 becomes \$100.

When in the “zone”, the gambler has a strong inability to acknowledge the negative consequences of their behaviour.

The “Zone” and Harm

The gambler experiences a narrowing of attention when in the “zone”, which limits their ability to reconsider the harms of their gambling. Janet (I: PA) forgot what she was doing and disregarded any critical thoughts about the amount of money she was spending when she gambled: “You forget that you couldn’t or you shouldn’t spend anything more.” Annie (I: NTS) ignored her own critical thoughts as her focus was

on gambling and was unable to acknowledge her own sensible advice: “All sense goes out of your head. The only sense you talk about is the ‘gambling sense,’ you ignore everything else.” The next cycle of relapse occurred immediately after the money ran out or the gambling stopped.

Annie (I: NTS) talked about a false sense of reasoning that suggested to herself that she would not become addicted, which she admitted was a way of fooling herself to relapse:

I know the signs of fooling myself into a false sense of ‘I won’t be addicted’, and hopefully that will be enough to keep me going, but as I said, when reasoning goes, when you start to feel bad about yourself and there’s a problem, what will I take up?

Planning the Next Relapse

As the gambler focused their attention on the next gambling episode, they were able to avoid experiencing the negative emotions such as shame, guilt, anxiety, anger, and self-loathing associated with the consequences of their gambling. Therefore, this repeated relapse cycle gave the gambler minimal time to experience any consequences associated with their behaviour. Barb (I: SGTS) admitted that her friends had seen her try to abstain and then relapse in the past and would point out to her that she was beginning the relapse cycle again. Barbara was unable to think critically in order to consider her ongoing struggle to remain abstinent. She admitted to her friends that she was gambling, but was resigned to this behaviour, rationalising that it did not bother her:

Yeah, and they would say to me “oh you’re not on that” – because I’ve done this a few times, I might add, and my very dear friends would say to me “oh no, you’re not going through that stage again?” and I’d say “yeah,” but it didn’t bother me.

Brenda (I: PA) found it difficult to remember her relapse at the casino, but believed that she must have known that she had planned to gamble the next day. She went out of her way to go to the casino on her way out, indicating that she was not able to

access the will to stop herself from relapsing. Brenda's account of this relapse indicated that she entered the "zone" before she began to gamble:

I must have obviously planned it the night before to go, because I went. I obviously knew I was going to go and I did so; I couldn't even go straight to my parents' place, I had to take this bypass to the casino.

Brad (I: SGTS) also described a planned relapse with \$50 he had kept for the following day: "I've got \$50 here for tomorrow, I don't have to take any money out. Yeah it's like a plan – plan ahead." Annie (I: NTS) remembers that she could not wait for her pay to gamble and chase her losses. Despite having lost all her available money to gamble, she would start to plan her next relapse, indicating an inability to think critically: "You can wait for your next pay and try and get that back." Leaving the "zone" before losing all one's available money could be possible if the gambler had time out of the gaming room to consider the consequences of their behaviour. The following section will examine this issue.

Return of Critical Thinking

Critical thinking could be restored if the gambler was given time away from the gaming environment. Barb (I: SGTS) suggested that if she was asked to have refreshments served outside of the gaming room, she would have been able to leave the "zone" and think critically about her decision to continue gambling and her chances of winning. Instead, she was provided with food and drinks to keep her at the EGM, where the focus was on chasing, trying to win back her losses, and remaining in the "zone":

But, if you took your cup of coffee and your biscuit or whatever and went entirely into another room without the poker machine in front of you, you'd probably think "well, I'm not going to win that. I'm not going to put any more money in it," but mainly you go and get your cup of coffee and your biscuits and whatever they bring around, pies and pasties and sausage rolls or whatever, and you're usually still in front of the machine and it's still saying to you "yeah, you could win this."

She explained that her arousal would dissipate when away from the excitement associated with the gaming room. It was only at this time that she would come to her senses: “Well it’d die down because I think once you move out of that room where all the pokies are and they’re all off and the lights are flashing and everything you do come down to your senses, literally.” Eventually, when she was finally able to see gambling for what it was, she was able to come to her senses: “It’s dreadful, absolutely disgusting ... I think at last I’ve come to my senses.”

Summary of the “Zone”

Participants used different analogies to explain what this experience of the “zone” was like for them. These included being in a “cocoon”, in a “bubble”, in a “zone”, in “another world”, in a “trance”, “delirious”, “robotic”, “hypnotised”, “fixated”, “on drugs”, “glued”, “blank”, “feeling as if somebody else is inside of you” and “the machine takes your mind over.”

This “zone” has many of the characteristics of an altered state of consciousness in which it appears that the gamblers mind is aware, but is not in its usual wakeful condition, such as during hypnosis, meditation, a trance, or the dream stage (Jonas 2005). Whilst in this state of mind, the PGs seemed to be unable to exercise their normal cognitive abilities of self-observation, have a realistic appraisal of the value of money, see the consequences of their actions, or exercise their conscience, memory, and will. This cognitive dysfunction appeared to inhibit the PGs from terminating their relapse episode until they ran out of financial resources, thereby extending the duration of the relapse and exacerbating the losses and harms incurred.

Once the decision to gamble was made, this altered the PG’s ability to think such that they seemed no longer to be able to engage in the following cognitive functions. For example, self-observation was limited with little realistic appraisal of the value of money or the ability to see the consequences of their actions. At this time, the gambler could not exercise their conscience or their will to avoid the temptation of gambling, which led to a loss of control and relapse. Critical thinking was impaired as the gambler’s increasing arousal associated with the urge to gamble initiated a process of illogical, erroneous cognitions about winning, a narrowing of attention,

and a suspension of critical thinking about the consequences of gambling. At this time, their memory was also impaired. This cognitive dysfunction appeared to inhibit PGs from terminating their relapse until they ran out of financial resources, thereby perpetuating the duration of the relapse and exacerbating the losses and harms incurred. In addition, their thinking occurred within a very narrow focus on winning and a constant permission-giving framework that one participant (Karen, I: PA) described as “All sense goes out of your head. The only sense you talk about is the gambling sense, you ignore everything else”.

Initiation into the “zone” began for some as soon as they planned, while for others, as soon as they played the EGMs, which were blamed for taking over their minds and leaving them with no ability to stop gambling. Escalation of the urge to gamble contributed to the initiation of the “zone”, and the reduction of critical thinking and any ability to exercise the will to stop gambling. Furthermore, the gambling urge was attributed to keeping gamblers sitting at the gaming machines and repeatedly pressing buttons as they ignored basic bodily requirements such as eating, drinking, or going to the toilet. The participants described different levels of the “zone”. For example, in the early stages of entering the “zone”, gamblers could be stopped from relapsing if they were interrupted before entering the gaming venue or accessing their cash. This suggests that gamblers may still be able to access some critical thoughts to consider the consequences of their actions, particularly if they have support from a significant other. On these occasions, relapse may be prevented until the next time the relapse process occurs. However, once the gambler entered the venue and had access to cash, they entered a level of the “zone” that could not be halted.

Some of the gamblers enjoyed being in the “zone” as it provided relief from the distress they were enduring in their lives. When in the “zone”, they had no memory of past gambling harms or the ability to think critically about the ongoing harms that the repeated cycles of relapse were causing. Some accepted this lifestyle and adjusted their lives to finance the ongoing cycles of relapse that enabled them to avoid the despair they were experiencing in their daily lives. When in the “zone”, gamblers were also unable to cut down or to stop gambling. This reckless behaviour resulted in

them withdrawing money repeatedly, despite the harm it was causing, as they were fixated on winning money. They tried desperately to win free spins as they repeatedly withdrew money from the ATMs. When all their available money was lost, the gambler experienced significant distress and impatiently anticipated their next relapse in order to continue to chase their losses in the desperate hope that they would win back their money.

Yet, at some level, the awareness of losing was still present as they were aware that they were “chasing losses” and became “frantic” and “angry” as they played on trapped in the “zone”; but their “gambling sense” gave them permission and hope so that they could continue. The gambler withdrawing money to repeatedly chase their losses suggests an absence of critical thinking as the cycle of gambling continues.

Some gamblers described a pattern of recovering from their financial losses and were determined not to gamble again, but as money became available, the relapse process was initiated again.

Furthermore, when in the “zone”, the close proximity of ATMs to the gambling venues (in the hotel or near the casino) enabled PGs to have easy access to cash, at the very time when their ability to think critically was diminished. ATMs enable gamblers to make multiple cash withdrawals, resulting in more money being withdrawn on multiple occasions. These withdrawals are often more than the gambler initially plans. These gamblers returned on many occasions to withdraw small amounts of cash repeatedly, until there was no money left to withdraw.

For some, the distress and negative emotions, such as guilt and shame associated with relapse, immediately triggered the next relapse, often within minutes of losing their last dollar. These gamblers could not endure the harm that gambling was causing them, so they immediately planned their next opportunity to relapse, already setting up a mental process that constrained them from reviewing their decision. This suggests that the next relapse episode had begun even minutes after the last financial disaster.

When the gambler re-entered the “zone”, they seemed unable to learn from the negative impacts of their relapse cycles, as these memories were pushed aside in anticipation of the next relapse. Once planned, the decision was no longer up for review. Learning is not possible during a highly aroused emotional state. The “zone” and its immediate consequence of disastrous financial loss, criminal activity, or betrayal of self or dependant significant others, may be a state such as this, and might explain, in part, why PGs do not easily learn to stop gambling in spite of the repeated harms.

The participants were distressed while describing the negative impacts of their gambling across different aspects of their lives, causing ongoing pain and misery. Some had considered taking their own lives to end this despair. Participants had repeatedly prioritised gambling above personal values such as family and religion, or essential needs such as food. For these participants, gambling had led to significant financial devastation, causing some to consider stealing to obtain cash to gamble. These harms were often still present long after the gambler had managed to abstain from gambling. Some participants struggled to acknowledge that their gambling was a problem, as they ignored all the signs of harm.

There appeared to be a process where gamblers began to learn from consequences of their ongoing relapses. This was a gradual process of learning in which some began to recognise that their gambling was a problem, but that the harm associated with their behaviour was often too distressing. At this time, their focus returned to the anticipation of relapse and the chance of winning money; their arousal was heightened and they appeared to enter the “zone” and continued to relapse and became increasingly unhappy. Some participants began to learn from each relapse episode as they experienced the ongoing harm associated with their gambling and, as time passed, they began to have the wisdom to change this behaviour and halt the relapse process. Effective social support appeared to be a critical mediating factor in such successful learning and behaviour change.

4.5 Process of Behaviour Change

This section explores issues that led to the commencement of a process of addressing behaviour change. The subthemes for behaviour change included ambivalence about change, reappraisal and commitment to change, the process of learning by getting older and becoming wiser, and the risk of complacency and relapse.

The participants described the different stages of the change process in regards to acknowledging and addressing ongoing relapse episodes. For example, many participants described experiencing significant harm from their gambling, which affected many areas of their lives. Despite this harm, many were not ready to give up gambling and engaged in repeated relapses. Some began to reflect on the harm associated with their relapse, but were ambivalent about stopping gambling, while others reached out for help or began the change process on their own. As participants acknowledged their gambling behaviours, they were distressed about the impacts of repeated gambling across different parts of their lives. However, many continued to prioritise gambling above their values and needs as well as their personal and social responsibilities. Some even contemplated, or engaged in, illegal activities in order to obtain money for relapse. The initial findings from the focus group study indicated the importance of a process of reappraisal and commitment to change in the recovery process. For example, one participant reflected upon their losses and harms as a result of many years of gambling: “To think that I have wasted all that money [when] I could have given it to my sons” (FG: PAG). Others acknowledged the harms associated with their ongoing relapses and were able to think critically about the fallacy of making money through gambling:

When I was gambling, I saw it as a way of making money, but now I would not dream of it because I know it is ridiculous, it would make things worse, there is no chance it would make things better (FG: SGTSC).

Another participant was depressed as she reflected on her past gambling harms. Her commitment to change became evident when she acknowledged how destructive her gambling had been: “I would never want to go back and do something like that. It is

just self-destructive and makes you more depressed” (FG: SGTSC). The therapists and counsellors suggested that the gambler’s motivation was important in the change process. For example, one participant talked about the importance of the client’s motivation to change: “They are more likely to relapse, the gut-feel ones that are not all that motivated that say ‘Yeah I am better now’” (FG: SGTSW). This participant highlighted the importance of wanting to overcome gambling problems or warned the client that relapse would eventually happen: “If you don’t want it badly enough, there is a huge potential to relapse there” (FG: SGTSW).

Ambivalence About Change

Participants from the in-depth interviews added to the understanding about the complexity of the change process. For example, some of the participants described, in detail, the harms associated with ongoing relapse, however were not ready to commit to addressing their gambling behaviours. For example, Karen (I: NTS) realised that her relapse behaviour was “crazy” and believed that one day, she would commit to stopping her gambling. However, at this time, she was happy to adjust her lifestyle to enable her to continue with repeated cycles of relapse until she was ready to commit to giving up her gambling behaviour. She acknowledged that part of her wanted to stop, but not yet:

The thought that it’s crazy, what I’m doing, so I can see it actually stopping. I can see myself stopping eventually, because the thought is there. If I didn’t have the thought and I was quite happily going every week or every couple of days and that thought wasn’t there – but the thought’s there.

As Annie (I: NTS) reflected on her gambling, she described significant pain: “It’s painful when I think about the times. Like now, it was painful what I was doing. There was a lot of pain that the gambling had caused.” She told herself to be careful about her gambling, but even though she knew deep down, she was unable to admit it as she relapsed: “I’ll have to be really careful, this is developing into a gambling problem’ but it was already, you just don’t admit it.”

Annie (I: NTS) observed her personality changing as she began to steal money and eventually lost her job. Interestingly, she was aware of her chances of winning, and yet continued to ignore this, engaging in risky behaviours to obtain money to relapse, as she chased her losses. She clearly describes cognitive dissonance between her view of herself and the way that, through her gambling, she had betrayed and diminished herself. Her decision to relapse repeatedly had resulted in the loss of employment and legal problems, which was completely unlike the person she saw herself to be:

The sort of person I had become, the gambling, even though I could say myself “I can stop. I’ll stop next week.” Then it escalated because I’d stolen so much money, how will I get that back? Gamble it back. Even though I knew the statistics, the amount of wins, I chose to ignore it. That choice is – just that choice is why – whether it was my self-esteem or not, I don’t know. I’m going through a legal issue because I’ve stolen the money. Back when the money stolen was discovered and I was dismissed from work.

Annie (I: NTS) admitted that her priorities changed when she was gambling, which became more important than caring for herself and her children, as her focus was to relapse: “The only thought was about gambling, so everything else when I started doing that became secondary. Looking after my children was secondary, feeding myself was secondary.”

The consequences of gambling led to despair for many PGs. Many participants described a process of becoming increasingly unhappy as they increased their spending on gambling. Simon (I: SGTS) highlighted how unhappy he became as he began to increase the money he gambled: “I just found myself spending more and gambling more. I was feeling particularly unhappy.” He described continuing to gamble, despite having negative emotional consequences: “It started to feel awful. I started to not want to be there, but kept going.’ Lee (I: PA) was upset with his relapse, admitting he should not have done it, but could not stop himself. He believed he was taken over by something, which was responsible for him going too far with his gambling. At this time, he did not realise what he was doing until all his money

was lost. He was so upset after his relapse that he shouted aloud to himself as he recognised his self-betrayal in disbelief, as he wandered around the shops not caring who heard him:

I felt absolutely horrible. I felt selfish and very disappointed in myself that I had let it go that far. That I had, without even realising, that I had spent all my money. I knew I shouldn't have been doing it, but something just took hold of me and I walked around the Shopping Centre yelling out to myself "why, why do I get myself into trouble like that for just one thing? How does that even" – and I did not care, anybody can hear me. Nobody said anything or bowled me up.

Ongoing relapse was a negative influence on the gamblers' significant others as well, which the participants acknowledged. For example, Greta (I: SGTS) believed that her husband would be better off without her when she struggled to give up gambling: "I thought my husband would be better off without me." Despite these harms, many were not ready to give up gambling. Some participants struggled to acknowledge that gambling was a problem, ignoring any signs of harm as they kept relapsing. This appeared to be a critical point at which there appeared to be a struggle mentally for the PG between their thinking and use of "gambling sense" versus seeing the reality through critical thinking. For example, Annie (I: NTS) was not ready to acknowledge her gambling problem, ignoring any signs displayed offering assistance for gambling problems when she convinced herself that she did not have a problem:

You see all the stickers and the cards, you know, "problem gambling." Now, they are useful in the way that they're in your face, but you still ignore them because you'd see like the little gambling card help lines and you'd think "I haven't got a problem. It's nice to know that they're there, but I haven't got a problem."

Annie (I: NTS) ignored these signs for help when she emptied her bank account to gamble, and being unable to engage in self-observation, she did not want to acknowledge that she might have a problem:

I even ignored that for a long time when I was emptying out my bank account, and I'd still go and gamble, and I'd see these and you sort of don't want to recognise that you do have a problem and I don't know where the time for anybody would be where you recognise that you have a problem, because you're so much in denial.

A powerful barrier to PGs learning to deal with their problems were permission-giving and rationalising erroneous cognitions that prolonged relapse, and which are summed up in the phrase “gambling sense”.

Lea (I: NTS) felt numb when she slipped back into gambling after trying to quit, but gave little thought to what she was doing as she relapsed. She hoped that she would use this relapse as a lesson to be more careful and to pay attention so that she would not slip back again without realising what she was doing:

I still felt quite numb, and I'm only just realising how difficult – just remember what it took to give up. I don't know, I just slipped, like into the water again. Someone who can't swim, I just slipped in. I didn't think about maybe – it's lack of thought probably, lack of practical thought. I think I should use this now, so that if I do manage to give up again, I know to be careful about relapsing, because this is the first time I've ever relapsed.

It was noticeable that Lea (I: NTS) differentiated between “I just slipped in,” and “This is the first time I've ever relapsed.” This suggests a developing awareness of the difference between “a slip” (in terms of “gambling sense” reasoning) and a relapse using objective reasoning. Even though she had this insight, at this time, she was still not ready to give up her gambling after her relapse.

Some participants admitted planning their relapse despite the ongoing harm of this decision. These cognitions were separate to those related to the possibility of winning, and enabled the PG to convince themselves that a relapse was possible despite the reality of the harm associated with the relapse that they would endure.

Brenda (I: PA) admitted that she had planned to relapse at the casino the night before, as she convinced herself that she would have the time.

I actually thought on the way to my mum's "I've got to call into the casino," so I'd sort of virtually planned to go there. I guess I'd obviously thought about it the night before and thought "well, I'll have time. I'll go a bit earlier and I'll call in."

Furthermore, Brenda (I: PA) admitted planning her relapse episode the night before she relapsed: "I must have obviously planned it the night before to go because I went. I obviously knew I was going to go and I did, so I couldn't even go straight to my parents' place, I had to take this bypass to the casino."

The participants provided an understanding about the specific harms they endured resulting from ongoing relapse, as they began the process of self-observation, rather than engaging in repeated relapse to avoid acknowledging this harm.

Reappraisal and Commitment to Change

As the participants began the process of self-observation, rather than engaging in ongoing relapse, they described the specific harms that often resulted in financial ruin.

Process of Learning

For some, this was a gradual course of learning where the process of self-observation was often too distressing for the PG, who took several attempts to be able to engage in this process to begin to acknowledge the harms associated with their gambling. For example, Annie (I: NTS) described a frenzy of distressing emotions that was too difficult to endure, and that she would repeatedly relapse so that she could escape this process of self-observation:

You're in a frenzy, so your emotional state is so heightened that to grab the choice of stop and have a look what you're doing, how are you feeling, is not easy to grab hold of when you're in that mode so you keep going with that mode, you can't stop.

Larry (I: PA) described a momentary self-reflection about his gambling behaviour, telling himself that he would not relapse again. This was forgotten as soon as he had available money and the relapse occurred again: “You know, swear black and blue never to go there and as soon as you got your money in your bankbook, couldn’t get back to the pub quick enough.” Brad (I: SGTS) would plan his next relapse, waiting impatiently for his money to become available: “Especially if you’re thinking about it and planning your next day or whatever, you could never relax ... Close to the two weeks, 10 days I start getting antsy, 11, 12, towards the end, it’s like ‘I’ve got to go.’”

This process of questioning and reflection suggest that a learning process was taking place. For example, one focus group participant talked about past erroneous beliefs related to gaming machine wins, which he now understands were incorrect:

I used to wonder about that 87% [return from the EGM machine]; why I wasn't being paid that 87%? I used to think it must be time now for me to get part of that 87% (FS: SGTSC).

Veronica (PA) described living a life locked in a “prison” for 14 years. She was angry that the pokies had taken away these years of her life, which she spent shut in a venue gambling: “I’ve come to realise how much the pokies actually took away from my life, like that 14 years. The only way I can describe it, is that it feels like I was in gaol.” Wally (I: SGTS) believed that he missed being a part of society as his total focus was on gambling:

Because my time is being spent there, so one could say that maybe the social skills that you should have are not necessarily there, because you’re not interacting with the people as what you are and therefore you’re missing out.

The participants described how they had gambled their entire pay or pension and stolen more money to continue to gamble. Brenda (PA) gambled all the money from her bank account until she had nothing left: “Yeah, more than I had. I’d bleed the bank dry.” Karen (PA) needed ongoing support from her local church after gambling

her entire pension: “Every week, it was the same thing, the whole pension, back to the churches, back to the – it was horrible.” She continued to experience financial harms throughout her recovery and would rely on handouts to meet her basic needs: “Once I had had enough I remember – this is after getting hampers from churches, risking, and borrowing. I still owe a lady about \$2,000 – and I know I’ll give it back to her.” Some prioritised gambling over their basic physical needs. Gambling became a priority to the extent that the participants did not have money to buy food or to pay utility bills such as power, gas, and water, or their mortgages. Janet (PA) relied on her son’s partner for food, as she was not able to eat, and lived a life of poverty when she continued to relapse:

Then Sue, which is my son’s partner, she realised that I wasn’t eating so she used to bring packs of frozen food. They always made sure they cooked a bit extra and put it into a container and put it in the freezer for me and used to bring it around.

Brenda (I: PA) was disgusted with herself, as she remembered how she had no money left for her next meal after she had relapsed:

I just felt the lowest of low you could feel. A bit disgusted in myself. Yeah, just felt horrible, very unhappy, very depressed, because I didn’t know virtually where my next meal was coming from.

Wally (I: SGTS) recalled how he still gambled despite having his utilities cut off. This behaviour indicated his ability to self-observe; accessing memories of past harm or exercising the will were no longer possible when he repeatedly relapsed:

I have to pay these bills, if I don’t pay these bills they’re going to cut your electric off, they’re going to cut your water, gas off, right? So, therefore, you still do it or it’s “well let’s just try and get more” and you can pay your bills off.

The need to gamble was prioritised above personal values. For example, Wally (I: SGTS) neglected his family and his responsibilities when his focus was on gambling:

“I’ve sort of isolated myself a little bit from my family by not going to see them as often as I probably would have. I neglect my responsibilities to myself and to others.” Furthermore, he had gambled on Sundays against his Christian upbringing: “My Christian upbringing was you don’t do things like gambling on a Sunday; that’s gone.”

As participants began to acknowledge the harms associated with relapse, they experienced conflicting emotions in regards to their decision to relapse or to consider changing their behaviour. As time passed, some participants gained increasing awareness about the destruction caused by their gambling behaviour and began to have the wisdom to change their behaviour.

The Process of Becoming Wiser

There appeared to be a process where the gambler became wiser as they encountered increasing disappointments about their inability to remain abstinent, despite many failed attempts and the repeated harms this caused. It appears that the gambler finally hits ‘rock bottom’ when they struggle to find enough money to maintain their existence and continue to fund their repeated cycles of relapse. At this time, many were ready to acknowledge their destructive behaviour, becoming wiser about the impacts of continuing to relapse. The PG could not engage in the fantasy of gambling because there was no available money that could be created to initiate this planning process of relapse. The reality of having no food and the impact on others was unavoidable. The PG had to experience the pain associated with the distressing financial situation and the associated consequences.

Regular attendance at PA meetings appeared to enable the participants to begin this process of change. Their peers intruded on the PGs erroneous cognitions about the possibilities of a relapse which enabled the PG to challenge their own cognitions and to maintain critical thought. The support offered by peers helped the gambler to stop the cycle of repeated relapse by learning to manage the triggers and to deal with the distress of their gambling harm. One focus group participant described how the non-judgemental approach offered by her peers at PA enabled her to feel understood, which helped her to begin the process of self-observation: “the group [PA - implied]

understands and they don't judge" (FG: PAG). This non-judgemental environment enabled the gamblers to talk together and to reflect on the impacts of their gambling. A focus group participant admitted that the many heart-breaking stories helped to keep her on track: "listening to the heart-breaking stories keeps you on track" (FG: PAG). This group support was considered important as stories were shared about personal experiences of harm, which helped the gambler to remain vigilant about the risks of relapse:

You come to the meetings and you listen to the stories of the people around the table and that's enough to drive you from not going to the machines ..., and you can relate to it and it's true.

The positive outcomes of resisting relapse appeared to reinforce the participants' abstinent behaviour. For example, Natalie (I: SGTS) learnt from the positive experiences she gained from paying her bills instead of gambling her money and dealing with the consequences of having no money for bills. This is an example of where Natalie (I: SGTS) had clearly changed her "gambling sense" in that the "available money" was no longer available until the bills were paid:

Yep, it actually helps you pay your bills as well. I actually have done it before and rather than just having money in your pocket and going and spending it here, there and everywhere, you actually go "right, I'm going to spend this, this and this on this, this and this," and it works.

Annie (I: NTS) described how she learned to accept the harms of her gambling:

It may have been over a period of time where you switched from in your mindset thinking that because you've gone quite regularly, just socially, and maybe over a couple of weeks, say, then you sort of think "jeeppers, I've gone there four times out of the couple of weeks and every time I've lost."

Hitting 'rock bottom' from the harms associated with gambling was important in beginning the change process for many. For instance, Janet (I: PA) realised that she

had over-stepped the mark with her gambling when she was at her lowest point: “hitting the lowest.” It was at this time that she thought that it would be better for everyone if she were no longer around, as she couldn’t stop relapsing: “I knew that I’d overstepped the mark to the point where I’d be better off – it’d be better off for everybody if I wasn’t there any longer. I had the tablets in my hand and I was going to take them.” Natalie (I: SGTS) finally had enough of her gambling as she became wiser about the ongoing harms and acknowledged her gambling problems: “I’d had enough, yes. I knew that gambling was not right. I knew that I had a problem and I faced it.”

Larry (I: PA) admitted that it was not until he had a significant period away from gambling that he was able to reflect on his destructive behaviour and begin the change process: “You know, it never happens. Until you get a lengthy period of not playing the poker machines, you don’t realise just what you’ve done.”

Another gambler (FG: GTC) described how the PG must learn to accept the money they have lost and let go of the hope of ever winning their money back. This realisation often resulted in the PG experiencing increased anxiety and a low mood:

Well, you’re taking hopefulness away from people, so I think for many people, their mood is low, and they’re actually become slightly more anxious about their future because they now have to contemplate a future where there isn’t a quick way out of any difficulties they have financially, and they have to accept that that money that they’ve lost is actually gone and that comes with I think, not with everyone but for many people, I think it generally precipitates a lowered mood.

Participants began to recognise the accumulation of harm that continued relapse was causing and became more determined to address their gambling behaviour. Many of the participants reached a point at which they could not endure the financial hardship any longer, and took responsibility to commit to stopping the ongoing cycles of relapse.

Greta (I: SGTS) described how she called for help when she went to take more money out of an ATM and saw a sticker advertising help for problem gambling. This sticker enabled her to take time out to access her critical thinking abilities and to exercise the will to stop, as she realised the harms associated with her behaviour:

It wasn't until I found one of those stickers that they have in the hotels on one of the ATMs that I went to take out some more money and it was like a bucket of cold water had just fallen over me. All of a sudden, I just woke up 'my God, I need help.' I jotted down the phone number, put it in my phone. I got out to the car and I remember ringing the number and they said "Can I help you?" and I said "Yes, I'm a gambler, I need help," and that was the start of where I am today and it has been one year and one week since I have gambled.

Wally (I: SGTS) could see that gambling was beginning to affect his physical health and wellbeing:

There is my physical health, wellbeing, in terms of what it's doing to my physical health, which is not good, so therefore I need to think of myself. I need to think about what's it doing to me. Because of essentially all the stress and all that, the worry, not just the bills but here I am – basically I'm pissing my life away and it doesn't mean that I have to have any great plans or visions, but there are more things I could be doing.

Barb (I: SGTS) made a decision not to gamble when she became 'sick of losing money':

Well, I just made a decision not to do it because I was sick of losing money and Peter and I were arguing over it. I just sort of made a decision in my head, wrote a little note and put it in the bible and thought "this is what I'm going to do" and I did it and I felt so good, so good.

The participants described a process of acknowledging that their gambling was causing significant problems and then beginning to reach out for help. Support from significant others or from a group such as PA, helped in the change process. With

encouragement from another peer, Veronica (I: PA) was able to make a commitment to begin the change process:

I just rang up and she told me about the meetings and that. I said “Okay, all right. See you,” and she goes “Hang on, are you coming?” and I go “Yeah,” and because I said “Yeah” I thought – like I’m the type of person that if I say something, I’ll do it, so I made that commitment to say that I would come.

Linda (I: NTS) wanted to start a new life without gambling so she attempted to remain positive with the support of a friend: “Trying to start my life over again and trying to find a friend and just trying to think positive.”

One focus group participant’s wife stated how using a supportive approach helped with their relationship problems, but did not fix her husband’s problem. The realisation that the SGTS program was her husband’s last hope and that there was nothing left, influenced her husband’s determination to change:

Eight years of another programme, although it helped with lots of things, with our relationship and other things, but it didn’t get to the nitty gritty. Whenever something happened and he couldn’t cope, he would be down and then it would be another year; we had gone for 10 years and if this didn’t work [SGTS treatment], there was nothing left, whether that had an impact I don’t know (FG: SGTSSO).

Natalie (I: SGTS) saw that her only option to recovery was to make a commitment to herself to get better: “The only thing that can stop me now is by making the commitment to myself.”

For all the participants, the recovery process was quite complex involving multiple attempts. For example:

1. A state of pain from the devastating consequences of the relapse
2. No escape from the pain
3. Acceptance of responsibility - for example, my gambling did this to me/ others
4. Positive support
5. Sharing experiences with others
6. Increased vigilance

If the gambler became complacent and believed that they could gamble in a controlled manner, the relapse cycle would start again.

Risk of Complacency and Relapse

After a period of abstinence, some gamblers became complacent about their vulnerability to relapse. For example, several participants thought that they would be able to gamble in a controlled manner as part of the recovery process. Some believed that after a period of not gambling, they would be able to test themselves with gambling, however this belief resulted in a relapse as the gambler was trapped again in the vicious cycle. Once the cycle had recommenced, the gambler's ability to think critically slowly diminished and the ability to exercise the will to stop and to acknowledge that gambling was a problem was also reduced. John (I: SGTS) admitted that he talked himself into believing that his gambling was under control: "I always talked myself into thinking that I would have it under control." He explained that he thought that he would be able to gamble responsibly. However, the temptation had become too much for him to exercise the will to avoid relapses:

I don't know why, I just sort of thought that I'd do it again. It was okay just to do it – you know, the plan was always to do it a little bit. Yeah I did. It was sort of like taking the forbidden fruit sort of thing, I just got tempted again by the whole thing.

Lee (PA) relapsed as she was unable to stay within her limit, indicating that her ability to think critically was lost at the time that she had made the decision to relapse. This suggests that she was unable to recall her past struggles in order to maintain abstinence: "Just like that, just thought yeah I think I'll have a go with \$20

again and, you know, it's all on again.” Similarly, Karen (PA) put a dollar in the pokies while shopping, which resulted in erroneous cognitions about winning and the start of another relapse: “I was shopping, I was on my own. I went in, put a dollar in, won \$500. ‘You’re just lucky and you can win’ and I got back into it.” She admitted testing out whether she would be safe to gamble with one dollar, which ended up in a relapse: “If you go in and put in a dollar, you’re just going to do the same old thing again. It’s just drama.”

The counsellors from the focus group study described how they saw many episodes of relapse, suggesting repeated opportunities to learn. This counsellor described the ongoing battle that some gamblers had with managing their gambling problems:

They give up gambling and that is great and they are clean for three months and then they blow everything they have, and they go “This is terrible,” and “I shouldn’t do this again,” and then they stop and then two months later they do it again (FG: SGTSW).

Summary: Process of Change

Data from the in-depth interviews added to the initial focus group findings, which provided an insight into the ongoing distress experienced by the participants, as gambling affected their lives causing pain and misery. Often, these gamblers appeared to have “fallen back” into gambling without realising it, but knew that something was wrong. They did not, however, want to admit that they had a problem. This blocked their ability to engage in the change process, as the “zone” thinking, in which the gambler struggles to maintain critical thinking, becomes a part of everyday life, which is reinforced each time the gambler relapses. This suggests that a gambler’s motivation to change waxes and wanes over time. However, the appraisal of relapse behaviours developed over time and was separate from any relapse episode, although it was still clearly influential.

These patterns of relapse showed that some PGs develop an increasing capacity to defer and finally control the urge or temptation to gamble by maintaining abstinence. This started with immediate relapse because of the power of the urge; relapse in habitual gambling; relapse that could be deferred for a time; vacillation and an

ambivalent struggle between relapsing and maintaining abstinence; and deferring relapse one day at a time on a long-term ongoing basis. Clearly, these patterns show a level of progression in motivation and commitment to change. The successful prevention of relapse fed back into progressive motivation and commitment to change, resulting in concomitant changes in self-efficacy and support coming from others that increased the gamblers self-efficacy against engaging in ongoing relapse.

4.6 The Pull Away from Relapse

Three key factors emerged from the focus group data. This was further confirmed by the data obtained from the in-depth interviews relating to factors that reduced the risk of relapse or ‘pulled’ the gambler away from relapse. These factors included: 1) cognitive strategies, such as remembering past gambling harms or distraction techniques to avoid thinking about gambling to enable gamblers to manage the urge to gamble; (2) positive social support, and (3) intervention.

4.6.1 Management: Ongoing Vigilance against Relapse

Gamblers used strategies developed either by themselves or others to reduce the risk of relapse. These strategies included distraction, positive support, education, financial management, barring from hotels, avoiding gambling opportunities, counselling, peer support, and medication.

Management Strategies

One participant highlighted how appropriate coping strategies were central for the gambler to manage the risk of relapse: “I think that is an absolute crucial part of the not having a lapse for me, was learning the coping mechanisms and replacing the gambling with other stuff” (FG: PAG). One focus group participant highlighted that managing the urge to gamble, particularly in the presence of a trigger, was important for him to reduce his risk of relapse:

As you know, I still have the urge every day, so anything big, trigger factors like stress, financial pressure, or when I am vulnerable, depression, or anything like that, trying to get rid of the urges is a big thing (and not gamble - implied) (FG: SGTSC).

Furthermore, this participant described how he had tried to manage the urge using distractions, but admitted that the urge to gamble was always present: “I love sewing, I have got so much material and patterns, I could sit all day and sew, but there is still that drag” (FG: PAG). Another participant, admitted that avoidance strategies were not effective when the urge was strong: “I think the habit becomes so strong like when you are in the thick of it, that to try anything else, the pokies were always a lot stronger” (FG: PAG). This participant had used gardening to distract herself from relapse: “I get out into my garden and I do some work and it refocuses me and I feel better about myself and those (gambling - implied) thoughts go” (FG: PAG).

The participants provided details about the ways in which they had attempted to manage the risks of relapse. For example, Colleen (I: NTS) described keeping herself busy by doing routine chores such as walking the dog and house cleaning to avoid a relapse. She was dismayed when admitting that taking her mind off gambling only worked temporarily and that she eventually relapsed:

Doing all the mundane things that aren't fulfilling or happy, they're just things that have to be done. So, I'll do all of them, but I'll still go. I take my dog for a walk – although he's sick at the moment, so I can't take him for a walk – and I clean the house and I read books. Even, I try desperately to do all the things that sort of take my mind off not going to the casino, but two weeks is the longest I've gone.

The following participants acknowledged that they used strategies in vain to avoid relapse. Kath (I: NTS) had walked the dog: “Go out and go for a walk along the beach or do something different.” Lea (I: NTS) had tried to keep busy: “Things like having other occupations, doing other things with your time; I paint now.” Keeping busy only worked in the short-term, after which she relapsed: “But for some reason about six months ago – I don't know.” Colleen (I: NTS) went to the movies or bought a book, but still would want to gamble: “I'd know that I shouldn't go and that I had other things I could do, like I could go to the movies, go and buy a book or whatever but it would be ‘No, you need to go’.” Brad (I: SGTS) insisted that strategies were ineffective, because they did not address the gambling problem: “It

was sort of like, of sight out of mind, rather than going and hitting it right in the face and going into a venue or into the – and like trying to fix the problem.”

After losing significant amounts of money, many participants were angry and scolded themselves in the hope that they would not gamble again. Unfortunately, this strategy did not work and the gambler had to endure repeated relapses, causing further frustration. For example, John (I: SGTS) was disappointed about his gambling and for not exercising the will to stop the ongoing relapse cycles. In frustration, he had attempted to inflict physical damage to himself: “All of the time when I went out there and blew too much, I would feel terrible and try and do physical damage to myself, hit myself in the face, which is harder to do, but you just do it.” Greta (I: SGTS) was so upset with herself for the financial ruin she had caused by ongoing relapses, that she tried to take her life on two occasions. She believed that her husband would be better off without her, when she could not stop relapsing:

I used to; I was putting us further and further in debt and it made me feel absolutely sick. In fact, I did try to commit suicide twice. The first time was not too bad. I thought my husband would be better off without me. The second time, I had taken enough tablets that I was hospitalised.

Some tried to read as much as they could to try to understand about gambling. Education about gambling problems was helpful in providing knowledge about the odds of winning and the facts about problem gambling, which helped some to remain abstinent. Annie (I: NTS) recognised that ongoing education about gambling problems had been helpful in helping her to remain abstinent: “I’ve read books, so education for someone who’s been a compulsive gambler, ongoing education, is good.” Veronica (I: PA) emphasised the importance of clear information about problem gambling in helping her to manage the risks of relapse. She admitted that she wanted to know everything, “Everything. About behaviour, about the statistics and articles on Facebook and heaps of stuff, like all at once.” She admitted that this information had helped her by providing some understanding about how gaming machines work. She believed that people needed to be warned about the dangers of gambling on the EGMs: “Well it’s enlightened me a fair bit actually. The only thing

is like I wish that – you know, that product should come with a warning like they have on cigarettes.”

Others chose to avoid the risk of relapse by changing their lifestyle and avoiding socialising with people who gambled. Having a new social network with people who do not gamble was helpful for some participants to reduce relapse and remain abstinent. Lee (I: PA) engaged in new activities with people who did not gamble and felt comfortable socialising with PA members after she had been reassured that they did not include gambling in their social activities:

I tried indoor bowling and when it gets to the end of the year we'd go out for a dinner and we'd go to the pokies, and I wanted to join a group which that doesn't happen, which is this group as well.

Some knew they could not enter a venue or they would relapse. These PGs avoided venues to reduce their risks of relapse. Brenda (PA) admitted that she could have not entered a venue, even to go to the toilet, for fear of relapse: “You can't go in, so I try not to go to the venues to go to the toilet, I'll hang on until I get home or whatever.”

Several participants found that avoiding the venues was not enough and resorted to barring themselves from the gambling venues to avoid entering the hotels. Unfortunately, barring did not reduce relapse, as the participants continued to enter a venue and gamble. The participants provided many examples of barring themselves in an attempt to reduce relapse but, for most, it was unhelpful. Simon (I: SGTS) had barred himself from the casino after losing a considerable amount of money. He was disappointed in himself for not being able to stop his relapse before he had gambled all his available money. He decided to give the control to the casino to stop him from relapsing by stopping his access to enter the venue. He was not able to access memories of the harm that relapse had caused when tempted to gamble at other venues where he was not barred. He described a struggle with repeated relapse episodes at his local hotels:

I mean I've tried, I've banned myself from the casino. I remember losing \$900 that day and I did it, and then all I could think about was cashing

out my points, going out to the gaming manager and getting her to take my photo and stop me going there. Then, I found myself going to other venues. Where I live, there's three venues in five minutes walking distance, which is really not helpful.

Larry (PA) also admitted that barring himself had not worked: "So banned myself from – you know, they talk about voluntary – to ban yourself voluntary, and all that sort of stuff. I've tried that; didn't work."

The management of personal finances was another strategy that many participants used to attempt to remain abstinent. Participants used different strategies such as budgets, avoiding cash, and a diary. Simon (I: SGTS) had taken steps to improve his situation by cancelling his credit cards and limiting his access to cash, which he had hoped would reduce his risk of relapse. He also tried to limit his access to cash, only allowing himself enough available money for living expenses. He admitted that this strategy was not the answer, as he could have relapsed which would have resulted in significant implications for his basic living needs. This suggested that he was aware that there was a time when he could not think critically about his decisions or was able to exercise the will to not engage in relapse:

Because, I guess I'm kind of feeling that I've also cancelled my credit cards, apart from one, which is almost maxed out, so I can't spend it. It's not going to be maxed out forever, but it's a strategy where when I pay it off – I put all the credit cards onto one and cancelled the other two, now I don't have access to more than \$1000, but that \$1000 is my living expenses. If I spend that, I'm stuffed.

Natasha (I: SGTS) would write everything down and keep her receipts to show where her money went in an attempt to give herself some insight in order to reduce relapse:

Basically, I wrote down what pay, I got in the book and did myself a list of what I wanted to spend my money on, and then once, I bought

everything. I brought receipts home, stuck them in the book and basically proved where every cent of my money was going.

One participant advised that he had tried medication to reduce his urges and the temptation to gamble. Wally (I: SGTS) had taken Naltrexone as prescribed by his doctor, which is used for the treatment of urges to drink alcohol, in an attempt to reduce his urges to gamble. He believed that taking the Naltrexone reduced his urges which enabled him to manage the risks of relapse: “Well, obviously medication that helps as well.” He described how the medication reduced his gambling urge and had stopped him from wanting to gamble:

Basically, what that does is it just stops the cravings in your head, so it stops the wanting to do it, basically the serotonin in your mind, and you get the craving, a happy feeling, and it just stops that happy feeling. I think essentially that’s why I do it, even though I’m not happy as such, but it’s enjoyment in my mind is enjoying it anyway. I’m not enjoying it, as such, but my mind is enjoying it.

He believed that once the medication had stopped his urge to gamble, his common sense had returned, and he could think critically about the decisions he was making and therefore was able to remain abstinent:

A key point, yeah, and by stopping that, then I can have some common sense and think, step back and say “Well, look, wait a minute, you’ve got bills, you’ve got debts and things to pay, you shouldn’t be doing this,” whereas I would. I know they’re there but that wanting to do it overrides that regardless you keep doing it – I keep doing it.

Attempting to correct irrational beliefs about gambling, or acknowledging the harms associated with a relapse, was an approach that some gamblers had used to keep themselves thinking critically so that relapse could be avoided. The participants used a number of cognitive strategies to help themselves to abstain, such as correcting erroneous beliefs about winning, telling oneself that all will be fine, and to be vigilant of engaging in criminal activity. Natalie (I: SGTS) was distressed that

despite telling herself not to gamble, she had continued to relapse, “You felt sick after promising yourself never, ever again and you still go back and do it again.” Natasha (I: SGTS) also told herself that it was wrong to play the pokies, and reported attempting to keep her mind away from gambling by remaining busy: “Just told myself it was wrong to play the pokies, and keeping busy I just found things to keep myself busy.” Janet (I: PA) had used cognitive correction for her erroneous beliefs about winning, as she hoped that she would see that there was no point in gambling: “You know you’re not going to win, so there’s no point in playing.” A therapist (FG: GTC) stressed the importance of the PG overcoming the hope of winning in order to overcome relapse: “Yeah, so people who don’t have any hope of winning, I think, are going to do better with or without treatment.” She elaborated by explaining that if the PG had a less than 1% hope of winning money, their likelihood of relapse would reduce as the more hope of winning that the PG had, the more likely they would be to relapse:

So, if you could measure hopefulness in winning, like if it was 1%, then I would say the client has a very slim chance of relapsing, but they do have a chance, whereas if they are hopeful of winning at 50% on that particular day, then I would say they have a 50% chance of relapse.

Brenda (I: PA) would tell herself to look at the other gamblers that were playing the EGMs, hoping that she would realise that she would not win: “Just look at those people, they’re putting all that money in.” Veronica (I: PA) also told herself that everything would be fine when she thought that she was able to control herself and not relapse. This was not the case and she would relapse again: “I sort of told myself that everything was going to be OK, and I had it under control, but it just wasn’t.”

Participants admitted that the threat of a relapse was ever-present and that they needed to have ongoing strategies to manage this risk. Interestingly, for some of the gamblers, relapse was considered to be an ongoing danger, or was likened to an illness that needed a prescription to keep them well. Karen (I: PA) would keep the dangers of relapse in her mind, constantly warning herself to be aware of the dangers when she came across a gambling trigger. She admitted that this had been a terrible existence, as she would feel on edge for fear of a relapse: “It was just horrible. It felt

similar to that shit feeling, that the heart was pumping and it felt like danger. All I had in my head was like ‘danger, danger, danger, danger,’ and my heart was just pumping.” Annie (I: NTS) had ‘three Ds’ that helped her to remain vigilant: “I think there’s the three Ds – delay, distract, and then decide – so you delay – you can’t delay the gambling when you’re full blown.” She emphasised that she could not afford to be complacent about relapse, because from past experience, she could be easily fooled into having a false sense of security and relapse: “Yes, but when things settle down and I start feeling good again, I know the signs of fooling me into a false sense of ‘I won’t be addicted’ and hopefully that will be enough.”

Support as a Protective Factor against Relapse

Participants described a number of different ways that having support helped them to remain abstinent. However, some preferred to manage alone, or suggested that the wrong type of support increased their risk of relapse. It was evident that those people who were attempting to support a PG were often powerless to stop their significant other from relapsing.

Many participants reported that Pokies Anonymous (I: PA) was a positive support to reduce the risks of relapse. PA is a proactive support group that helps people to stop gambling. It is based on the 12-step program (Gamblers Anonymous 2009), which advocates a lifestyle of vigilance to manage the lifelong illness of gambling addiction over which they have lost control over their lifestyle. One participant described how daily support from her PA group helped her to avoid becoming complacent and relapse: “It has such a hold of me and we have always said we must never be complacent ... you keep it on a daily programme where you are constantly aware” (FG: PAG). This participant suggested that listening to the distressing stories from other PA participants had helped her to maintain vigilance by having a fear of relapse: “I haven’t relapsed for one simple reason, its fear.”

Many of the participants in the in-depth interviews found that support from Pokies Anonymous had helped them to manage their gambling problem and to not relapse. It was suggested that attending regular peer support meetings at PA helped the participants to remain abstinent through the warm, caring, and non-judgemental

approach provided by PA members. In addition, attending meetings regularly, and the sharing of stories, were important factors in reducing relapse. However, these stories gave some gamblers the hope of recovery and others a fear of relapse. For example, Karen (I: PA) believed that the 12-step program had helped her: “I knew that the 12-step program helped me, so I knew when I went to Pokies Anonymous that I’d stop.” She elaborated upon how a belief in a higher power had enabled her to have the strength to remain abstinent: “It was like I couldn’t listen to myself, but with a higher power, it just gave me an extra, really strong strength.” Karen (I: PA) was inspired by the wisdom of her peers at PA who had given her the hope she could get better and not be tricked into a relapse:

Being inspired by people. Seeing ‘my God, if they can do it, I can do it.’ I’ll listen to what they have to say. ‘Don’t be tricked by thinking if you’re on holiday, you can play the pokies.’ Just words of wisdom from people that have got time up, that really helped.

Janet (I: PA) did not want to lie to her peers about gambling, which had helped her to remain abstinent: “No, I just think, now that I have to stop because I can’t come to PA meetings and say that I have stopped when I haven’t”. Some had achieved ongoing abstinence with regular attendance at PA as this ongoing peer support acted as a protective factor against relapse. Brenda (I: PA) suggested that the extinction of her urge to gamble happened slowly as a result of her ongoing commitment to PA, and she had been able to maintain abstinence through this program: “Extinction slowly happening – do get the urges now and then, but not as often as I used to.” At the time of the interview, her urges had diminished and she was confident about carrying cash and her credit card and to not gamble: “Yeah, I just feel I can carry money around now. I’ve got money on me, I’ve got my card on me.” She believed that it was time away from gambling that had resulted in her recovery: “Maybe it’s the time I’ve got up, and my thinking patterns have changed a lot.” Karen (I: PA) described how she had managed to remain abstinent for eight years by going to PA. She attributed her recovery to having the courage to go to PA and eventually losing the ongoing urge to gamble: “About a year later, I plucked up the guts and came to Pokies Anonymous, and this is my eighth year I haven’t played. The push has definitely gone. I’ve no desire to go anywhere near them.”

Spiritual beliefs also helped this participant to manage the risk of relapse, as she was able to relax when she gave the responsibility of managing her relapse to a higher power:

A higher power is essential, because if I understand that I myself can't do it and I can give it to a higher power, then I have more trust, more faith, and I can relax without struggling, because I know it's going to be OK.

This participant admitted that long-term recovery from relapse was possible if she had time away from relapsing so that she could think clearly: "If you give yourself enough time away from them, you get clarity and then you don't need to go back" (FG: PAG).

Support resulted in feeling inspired to commit to abstinence, increased confidence and self-esteem in the presence of risk situations, and reduced negative affects by improving relationships. For example, support from a family member had helped one participant to prevent relapse: "Knowing that you could get back on track even if you did have a lapse ... knowing that your partner was there and supporting you" (FG: SGTSC).

Participants from the in-depth interviews described how support during recovery helped to increase the gamblers self-esteem. As described by Lee (I: PA), who was proud that his sister was no longer suspicious about his gambling and how good he felt about this trust: "I've got an older sister in New Zealand, well she's not suspicious with my gambling anymore, and I feel a lot better about that."

Support during recovery was important as it enabled the gambler to feel cared for and to gain practical help such as with money management. Many participants highlighted the importance of having had positive support in their recovery. Lea (I: NTS) needed support to stop gambling as she was disappointed that she could not manage the risks of relapse alone: "I can't do it on my own – I'm starting to realise I can't do it on my own. I thought I could handle it, I could manage it, but I can't."

Natasha (I: SGTS) needed someone to monitor her closely to ensure that she did not access cash which would lead to relapse. Her partner closely monitored her spending and had put in place a money management plan where she noted her expenditure and needed to supply receipts to justify where her money was spent:

I wrote down what pay I got in the book and did myself a list of what I wanted to spend my money on and then, once I bought everything, I brought receipts home, stuck them in the book and basically proved where every cent of my money was going. I started up a book, a bill book of where I had to note everything that I'd spent. Basically, from then onwards, my partner was watching every single cent that I spent.

Veronica (I: PA) demonstrated that a supportive friend had helped her to recognise that she had a problem and to understand the financial impact of her gambling:

The first time that I ever thought that I had a problem is when she said to me 'I think you've got a gambling problem', that's what she said to me, and I thought 'do I?' because I had no money, but I didn't think it to be a problem though.

Natalie (I: SGTS) felt fortunate to have had the love and support of her family and a second chance: "I should be feeling lucky that I have a second chance. I should be feeling lucky that I have a family that love me. You've just got to learn to find it from somewhere else."

In addition, having the support of peers in treatment was helpful as it provided a communal environment in which members were able to share their experiences and emotions together, which helped in maintaining abstinence. Barb (I: SGTS) was grateful for the support of her peers who were going through treatment with her and had the same struggle with a behaviour that they knew was wrong. Furthermore, she did not want the shame of having to admit that she gambled when facing them the following week:

It was good, because besides the fact that you know it's wrong, but you've got all these other people with you that are doing the same thing

and understand why you're doing it. Twelve weeks and we used to come up every week. While you're in that 12 weeks, you're not playing them because you can't because you've got to come in and sit around and say "Oh, well, I went to the pokies on Friday." You're too ashamed to say that in front of other people that are trying to give them up as well, so it definitely stops you.

Significant others were often powerless to help a gambler to stop gambling. Barb (I: SGTS) described how her daughter had been helpless to support her to stop gambling. In desperation, she had prayed, hoping that it would help her mother to stop gambling, which provided little assistance in the long-term as her mother then continued to relapse:

I've got a daughter that's – my middle daughter actually has turned very religious and she knows a little bit more than the others, that I gamble a bit more than I should, and she gave me a talking to and said "Mum, I'll pray for you," and all these things and I thought "Maybe this will help; who knows?" So that's why I did it, but it didn't help, not for long.

Without ongoing support, gamblers were at risk of relapse as they struggled to manage their gambling without the support of their family. For example, Kath (I: NTS) admitted how difficult it had been not having support from her family who knew that she had a gambling problem: "Yeah, well, my family, my daughters, don't gamble so they were sort of concerned that I had a bit of a gambling problem, but when you're on your own, sometimes it's not easy." Larry (I: PA) was too ashamed to seek support from his family who were not understanding of his gambling problems:

I never ever spoke to them about the poker machines, I'd be too ashamed to speak to them about that. Both my sisters knew that I played the pokies, you know, and they just 'how can you be so stupid playing bloody poker machines?'

Some gamblers preferred to manage their gambling problems alone, deciding that they did not want support and preferred to address their problems alone. For

example, Colleen (I: NTS) wanted to address her gambling problems on her own and did not want to worry her family, as she believed that she had the ability to do this herself. She admitted that she did not think that her family would help with her urges to gamble:

I think it's something that I need to conquer rather than – part of it is I don't want to worry people, I don't want to have to – particularly my mum, my mum would be particularly concerned about me if she thought I was in trouble. I think I should be the one to solve the problem and I think I'm quite capable of it in terms of my intellect and my ability to problem solve and stuff like that. It's the compulsion side of it that I think I need help with and I'm not sure my family could help me with that.

The wrong type of support can result in relapse such as unhelpful support from gaming staff. Larry (I: PA) was distressed by the actions of hotel staff that had been unhelpful in their approach by asking him to leave the hotel. He feared that he might go to prison after being reprimanded by the hotel manager. This resulted in him making a quick exit from the hotel and then immediately gambling at another hotel:

Then, one of the young barmaids come up and called me by my first name and said 'the manager would like to see you' so I went, you know, 'the manager wants to see me?' So in I went, closed the door behind him, and I thought 'hello, what's this?' Closed the door behind me. The manager let fly, he says 'you've put the hotel in jeopardy, yourself in jeopardy' and all this sort of business. 'We can be fined heavily' and he dressed me down and I thought 'Gawd [God], what have I done here? I'm going to gaol' – I thought I was on my way to gaol – he said 'right, you can go now' and I couldn't get out the door quick enough. I just about ran out to my little car, got down to ... Road then straight on to home or turn left and go to the ... Hotel.

Having responsibility for a family member can help the gambler to remain vigilant to relapse. Karen (I: PA) disclosed that quitting gambling for her children had not been a strong enough motivation; however, when she had to care for her elderly father, she was able to rein in her gambling to take care of him:

I was more responsible for this old person. It was more like a respect thing. It's not that I don't respect my children, it was just that the addiction was so strong, but with dad coming in as well, it meant that I had some reins, I couldn't just go squander everything.

Furthermore, knowing that her father knew that she had a problem had added to her determination to not gamble: "So my dad would know there was something wrong, so I couldn't hide from my dad, so that gave me another strength."

Some sought ongoing support from professionals to help with their gambling problems. Some participants had sought supportive counselling to help them to address their gambling problems in an attempt to reduce the risks of relapse. Annie (I: NTS) admitted that counselling had helped her self-esteem and to begin the painful experience of recovery, as she acknowledged the harms from her gambling. During this process, she had become aware of the distress that she was experiencing because of her relapses. Through the counselling process, she was able to get in touch with her emotions and to realise that she had a problem with her gambling and could no longer push this aside:

With my own personal feeling about myself, it helped me with that, but the other side of it, just from one thought that I had, is it actually throws in your face – like even you asking me these questions, 'how did you feel? How did you feel when you were doing that?' because you ignore those things, so when you ask me and I hear myself saying 'I felt like I was in a frenzy, I felt like this' then I get to think 'I don't want to feel like this.' I suppose it puts it more in the foreground and more of your conscience of what it was actually doing to my body, what it was doing to my psyche, what it was doing to everything, and that helped me to realise that I have a problem.

Lea (I: NTS) liked the practical guidance offered by the service that helped her to manage her gambling as she was finally able to understand and accept their advice:

“I went to Relationships Australia for a couple of years and had interviews and a lot of practical advice as to how to give up and eventually it must have sunk in.”

Some participants described mastering the ongoing temptation of relapse if they extinguished their urge to gamble, as discussed in the following section.

Summary: Management

Participants reported using many different strategies in an attempt to remain abstinent and to reduce the ongoing risks of relapse. A number of strategies were used alone while others were used in combination. The different approaches used by the participants included distraction, education, medication, financial management, barring from venues or avoiding gambling opportunities and peers who gambled, cleaning, gardening, doing housework, cooking, keeping busy with routine chores, and walking the dog. Avoiding the venues or the social networks of gamblers was not enough. Many participants resorted to barring themselves from the gambling venues in order to stop entering the hotels. Unfortunately, barring did not reduce relapse as the participants continued to gamble.

It appeared that remaining vigilant to the threat of a relapse was ongoing, where participants needed to have strategies in place to keep them abstinent. Most remained vigilant by keeping the dangers of relapse in the forefront of their minds. It was highlighted that these distractions did not deal with the underlying causes of the gambling, leaving the gambler vulnerable to ongoing relapse.

Some gamblers, were supported by their significant others, for example, to manage their finances, which reduced the risk of relapse in the short-term. When the urge to gamble was too strong to resist, the gambler often relapsed after finding ways to access cash. Some partners were more vigilant and watched over the gamblers' spending, which provided additional protection against relapse.

Relationships appeared to improve with increased support between the gambler and their significant other. The guilt and shame initially felt when the gambler was gambling could be reduced with increased social support.

The participants from the in-depth interviews suggested that significant others in a gambler's life found it difficult to determine the most effective way to help their partner to manage the ongoing risks of relapse. At times, significant others hindered, rather than helped, the gambler to remain abstinent as the frustrations experienced by both the gambler and the significant other "pushed" the gambler to relapse.

Many of the participants' found that support from Pokies Anonymous had helped them to manage their gambling problems and to remain abstinent. The participants highlighted that the warm, caring, and non-judgemental environment of PA kept them safe from relapse if they attended meetings regularly and shared their stories. It was these stories and the wisdom arising from them that gave some of the participants the hope of recovery and others a fear of relapse.

The following section describes strategies used by the participants to enable them to remain vigilant to the risks of relapse.

4.6.2 Mastery over relapse

It has been demonstrated that both gambling urges and erroneous cognitions play a significant role in the process of relapse and, therefore, once the urge to gamble has been overcome and the hope of winning by engaging in relapse has gone, the risk of relapse will be overcome. For example, when the urge to gamble was fully extinguished, the participants described gaining mastery over their gambling problems and were able to participate in normal living without the ongoing risks of relapse. Many therapists who specialised in providing a cognitive approach to the treatment of PGs, reported that the risk of relapse had been overcome for the PG when they had lost any hope of winning.

The focus group participants, supported by their partners, stated that they had overcome the urge and believed that they had, as a consequence, mastered the ongoing risk of relapse. For example, one participant was proud of her eight-month recovery which had been achieved by ongoing abstinence that she managed by attending PA meetings. She admitted to feeling stronger without the dragging urge to

gamble and could enter a hotel and socialise without the risk of relapse: “After 8 months, I don't have that great dragging (urge - implied). I can go to the hotel, have lunch, and walk past the machines” (FG: PAG). Similarly, another participant who had completed the SGTS treatment, admitted that he could no longer find a trigger to gamble. He had overcome his problem gambling and no longer worried about the risks of relapse as he socialised without the urge to gamble within the gambling environment:

I can't find a trigger that will influence me to go gambling again. There could be triggers like urges, like a smell, that could get the urge going again, and that's why I relapsed ... but since we have done the course, there is nothing there, a smell is just a smell, it doesn't mean anything to me (FG: SGTSC).

He referred to the SGTS treatment that had enabled him to “kill” the urge to gamble where past gambling triggers no longer caused him to have an urge to gamble: “It has totally killed everything, I have no connection”(FG: SGTSC). This participant's significant other confirmed that her husband had mastered his problem gambling behaviour and was no longer at risk of relapse: “The way this course [urge exposure] is structured, he doesn't have a problem with them anymore” (FG: SGTSSO). Another participant echoed this positive achievement as she had also overcome the urge to gamble and was proud of her achievements: “There is not even a coping mechanism for me; I no longer have that urge” (FG: SGTSC).

The participants from the in-depth interviews confirmed the theory that emerged from the focus group data that urge extinction and apparent ‘cure’ is possible for EGM gambling. For example, these SGTS participants described their experiences of the urge exposure program aimed at gradually extinguishing their urges to gamble through a stepwise process (Battersby et al. 2012; Battersby et al. 2008; Oakes et al. 2008; Oakes et al. 2010). When asked why the SGTS was effective in helping her to stop gambling, Greta (SGTS) highlighted the importance of facing her urges and eliminating them, rather than running away from them: “It was facing your urges. Instead of running away, you had to face your urges, and then you went through a process of elimination in your mind until the urges had gone.” Greta (SGTS) talked

positively about how she could get on with her life now that struggling with relapse was in her past. She no longer had any desire to gamble or even to press the gaming machine buttons which she attributed to having eliminated her urges to gamble.

No, you don't want to press the buttons, you don't want to play. You don't even want to go and watch people play. It's get on with your life; that is the old part of your life. No more urges. It's great.

Brad (I: SGTS) talked about how he now had mastery over his gambling. He believed that he did not have to struggle with an uncontrollable urge to gamble, even when experiencing past situations where he had gambled in an out-of-control manner. He admitted that he no longer had the urge to gamble, which he remembered as being overpowering in the past. He described being present with his family and work now, which was in the back of his mind when consumed by his desire to gamble and planning the next relapse. He was proud of his achievements as he can now enter a gaming room and sit at an EGM machine, and no longer feel tempted to gamble, which indicated that he had mastered the ongoing risk of relapse:

I guess initially, I thought about any form of gambling was a trigger, but now I'm quite comfortable going anywhere, any form of gambling is fine. I don't have that urge anymore. I guess I have the thoughts of – like we were talking about before, that urge was so overpowering, that was the only thing you thought about and your work and your stresses behind, now I feel it's the opposite, whereas your work, your family, what you're doing is in your mind at the forefront. Say I went into a venue, I could see the machines, stuff like that, and just sit there quite comfortably and that urge is not coming through.

He admitted that he could now hold a conversation without a preoccupation to gamble when in a gambling environment. He was proud when describing the work he had done to extinguish his urges and could socialise in a gaming room and not have the ongoing temptation to relapse:

It's a different feeling. It's not – what's the word? So, if I was sitting here and the machines were going, that's all I could be thinking about, I

wouldn't be concentrating on a conversation, you sort of have that in your mind. Now, you can have a conversation – that might be going and you – you know, not ignore it, but it's like it's not even there, it's just background noise, so it is a completely different feeling actually.

It is clear that PGs can become increasingly determined to change their relapsing behaviour as their motivation to remain abstinent increases. Participants who were treated effectively with graded urge exposure and response prevention, where their urge to gamble was extinguished, described recovering from ongoing relapse. This was confirmed by their significant other. Those who had achieved this described an improved self-esteem and confidence to regain a normal lifestyle without the ongoing risk of relapse. For some, ongoing abstinence resulted in a reduced urge which also helped them to remain abstinent in the presence of previous risk factors.

Interestingly, one of the therapists (FG: GTC) from the cognitive treatment centre described how important it was that the PG no longer had hope associated with winning, and that this would prevent relapse:

I think people who have financial problems, who don't believe that they have any possibility of winning money, who actually think they'll make the situation worse by gambling, will not return to gambling.

This therapist (FG: GTC) reinforced that, once the hope of winning had gone, the PG could then seek alternative solutions to relapse, in order to then address their financial problems:

We see that the people who have completely lost hope in winning money, don't return to gambling even though their financial situation is desperate, that's when they sort of go and consult financial counsellors and say what else am I going to do, and declare bankruptcy or various other things, but they don't actually relapse in their gambling

Summary: Mastery over relapse

The PGs motivation and commitment to change and acceptance of the harms associated with their relapsing behaviour were important factors in the recovery process. Self-efficacy and support from others were also important factors in the recovery and return of the PGs critical thinking.

Many participants from the focus group study who were treated effectively with graded urge exposure and response prevention, where their urge to gamble was extinguished, described recovering from ongoing relapse. Participants from the in-depth interviews confirmed the theory that urge extinction and apparent 'cure' is possible for EGM gambling. For example, when the urge to gamble was fully extinguished, the participants described gaining mastery over their gambling problems and being able to participate in normal living without the risk of relapse. In addition, once the urge to gamble had been overcome, the hope of winning by engaging in relapse was no longer considered an option. Similarly, many therapists, who specialised in providing a cognitive approach for the treatment of PGs, reported that the risk of relapse was overcome for those who no longer had any hope of winning.

However, for some, ongoing abstinence also resulted in a reduced urge, which helped these gamblers to remain abstinent in the presence of previous risk factors. Those who achieved mastery over their gambling urges described an improved self-esteem and confidence to regain a normal lifestyle without the ongoing risk of relapse.

CHAPTER FIVE

DISCUSSION

This research seeks to better understand the relapse process in EGM gambling with respect to how people relapse, how it is that people continue to relapse over a long period of time without learning from the disastrous consequences of their behaviour, and how they can stop relapsing to problematic gambling behaviours.

An in-depth approach to relapse is timely, as there is increasing social morbidity resulting from EGM gambling. Once a clear description of relapse has been arrived at, research into better and more targeted interventions becomes possible. As qualitative methodologies designed to be exploratory can offer new insights into complex social phenomena (Saks & Allsop 2007), such an approach has been useful in exploring the complexity of gambling relapse in this study. This chapter discusses the findings of this research.

Conceptualising Relapse

The subjective views of the participants in this research presented their understandings of relapse as simply being repeated episodes of gambling when they felt a loss of the ability to stop gambling by an act of the will. This description fits with Blaszczynski & Nower (2002) who defined features of pathological gambling as repeated, unsuccessful attempts to resist the urge in the context of a genuine desire to cease. Therefore, relapse was conceptualised in this research as gambling when there is evidence of subjective and objective loss of control, and that the gambling behaviour is not desired by the PG, because it is seen as a problem by the PG and their significant others. It is clearly a harmful behaviour even in the face of superficial denial by the PG and ongoing problem gambling behaviour.

Sequence of relapse

This research adds to our understanding about the sequence of relapse. It demonstrates how triggers interact together, or on their own, to initiate a process of mental, social, and behavioural events. These triggers initiate an urge to gamble in which permission-giving and facilitatory erroneous cognitions interact with, and

complement, exciting erroneous cognitions. These cognitions increase the PGs' arousal and the development of an altered state of awareness for some, and possibly all EGM PGs, which eventually results in further gambling.

Little importance has been given in the research to the first type of erroneous cognitions that facilitate erroneous logic, such as permission-giving, reality-denying, memory-defying, manipulation, cheating, and making excuses after losses. The positive erroneous cognitions, for example about winning money stimulating the urge to win, the facilitatory erroneous cognitions that counteract, and eventually, overwhelm the gamblers' logic and reason, and the capacity for critical thinking, which enables the person to be vigilant about the need to avoid harm when gambling. These two types of erroneous cognitions do not work independently, but instead, mutually reinforce one another. Together they facilitate the crescendo of arousing cognitions that lead to the decision to gamble again, even in the face of the enormous quantity and frequency of the destructive outcomes, often over many years of problem gambling. This process is defined by observers as 'relapse', but by PGs as responding to 'gambling sense' thinking.

However, this is not the case when PGs have not deliberately set a goal to limit their gambling. The triggers that result in relapse, as identified by the participants, are summarised below and reflect the findings from the literature review. However, relapse was found to be much more frequent than has been described in the literature. The final synthesis below summarises the results of the study in a single overarching model where relapse is a process rather than an end point:

Relapse in EGM problem gambling comprises a sequence of mental events and behaviours, which evolves over time during each relapse episode. The "zone" is central to relapse and occurs each time. This process is modified by factors that "push" this process towards, and others that "pull" PGs away from, relapse of their EGM gambling behaviours.

According to this model, relapse is a sequence during which internal and external triggers stimulate two types of erroneous cognitions; those that facilitate relapse and

others which excite and arouse the urge to gamble, but also cause internal conflict about the potential for harm. Therefore, these cognitions, working together, overcome vigilant, logical thought processes in the PG. These cognitions are then extinguished by facilitatory erroneous cognitions leading to the decision to gamble where PGs enter into an altered state of awareness which is akin to a dissociative episode known as ‘the zone’. In this altered state of awareness, critical thinking, learning, self-observation, and the exercise of executive functions, including learning from consequences, are impaired. These include cognitive functions that are impaired, for example, memory, judgement, the ability to self-monitor, and attention where the exclusive focus is directed to relapse. Logic is replaced by “Gambling Sense” within which the PGs perception of the value of money is impaired.

The “zone” is only interrupted once all the money is gone, and the PG is then confronted by the enormity of the negative feelings, which are a consequence of her/his uncontrolled gambling, at which time one of four options are open to them:

- suicide;
- flight into abstinence;
- staying with the intense, negative emotions, and taking responsibility for the loss and harm caused and seeking effective support from others;
- by using the PGs’ habitual way of dealing with negative affects by starting the next gambling episode in fantasy, and deferring it to a time when money will be ‘available’ again, in order to feel better.

The avoidance of these negative emotions at that time also interferes with learning from the consequences of this destructive behaviour and leads to a hopeless ‘merry go around’ where relapse becomes a way of life, and where behaviour change, and learning to cease gambling, become extremely difficult.

The role of positive social support is an essential ingredient in affecting behaviour change to manage or seek definitive treatment of problem gambling. Learning from consequences occurs slowly and treatments (prolonged abstinence or urge extinction) can lead to ‘cure’.

The empirical data presented in this study does not imply causality, but does provide a description of the relapse process. The theory of relapse developed from this research provides an understanding about the process of relapse in PGs and has high face and construct validity.

This chapter addresses the aims of this study by providing a discussion about the contributors, precipitants, and protective factors for gambling relapse. This will enable relapse in problem EGM gambling to be better understood.

5. 1 Relapse

This section discusses how people relapse and continue to relapse over time. The ‘push’ model described below suggests that many of the variables leading to relapse act through operant (Skinner 1953), associative (Pavlov 1927), and social learning processes (Bandura 1977) where particular triggers become meaningful for individuals. In the findings, the range of triggers that precipitated an urge to gamble and resulted in relapse included environmental factors, specific events, emotional states, life events, money, and sensory perceptions. In some cases, the triggers appeared to be highly specific (e.g. smells) while others identified the environmental triggers shared by others. Risk factors played a role in the relapse process and in the initiation of problem gambling. These included individual factors, such as poor support, and the presence of co-morbid mental health diagnoses. These risk factors are discussed in Chapter 2 and, for example, accessibility was described as a significant risk factor for gambling, as highlighted by Delfabbro (2011), who stated that EGMs comprised the single largest source of gambling tax revenue for all states and territories, except for Western Australia, where the Burswood Casino is the sole gaming machine venue and operator.

The initiation of relapse always began with a trigger, many of which have been described in the literature: environmental triggers identified by participants to increase the risk of relapse, included those by at-risk socio-demographic groups (Delfabbro 2002b; Welte et al. 2004), gambling opportunities (Clarke et al. 2006; Delfabbro 2002b; Gernstein et al. 1999; Goudriaan et al. 2008; Jacques, Ladouceur

& Ferland 2000; Pearce et al. 2008; Sharpe 2004; Thomas, Sullivan & Allen 2009; Welte, et al. 2004), and gambling promotion and gambling availability (Gernstein et al. 1999). In addition, gambling incentives and machine design (Delfabbro 2008) acted as triggers. For some gamblers, there were very specific triggers such as the SGTS gambler who had learned to associate a smell with the urge, or the time of the day when the PA couple would start to feel the urge (e.g. Pavlov 1927).

Furthermore, it was surprising that the many co-morbid conditions, such as alcohol use and dependence (Delfabbro 2008), diagnosable affective disorders (McCormick & Taber 1988; Pietrzak et al. 2007; Scherrer et al. 2007), and higher levels of obsessive-compulsive symptomatology (Jiménez-Murcia et al. 2007) were not identified by the participants as being important in relapse. This may be understood, in part, because these co-morbidities, as well as other financial and social problems, such as boredom, conflict, stress, and illness, were associated with negative affective states, which were found to be relieved temporarily by triggering thoughts about winning at gambling and the associated euphoria. These emotional triggers aroused thoughts of winning and shifted the gambler's awareness from the unpleasant initiating situations, thoughts, and feelings to those of winning, leading to relapse. Therefore, for some, relapse became a learnt process as gambling provided relief from negative affective states with typical tension-relief conditioning from negative affects (Boreham et al. 2006; Daughters et al. 2005; Hodgins & el-Guebaly 2010; Petry et al. 2007; Sander & Peters 2009; Wood & Griffiths 2007), including boredom, distress, grief, and/ or depression. For some of the participants, positive emotions such as celebratory situations were identified as triggers for relapse as they led to awareness, thoughts, and an urge to gamble which were secondary to operant reward mechanisms (Skinner 1953). These emotional states also seemed to develop conditioned habitual responses, including urges (Parke & Griffiths 2004).

A Delphi methodology was used to gain consensus about the elements and predictors of relapse in problem gambling in a recent study conducted by Battersby et al. (2009). The authors investigated the predictors of relapse in problem gambling. The elements and predictors of relapse were extracted from the literature and provided to the experts to discuss and consider. These experts were then asked to come to a

consensus about the elements and factors most important in predicting relapse. Each round informed the next and, by round three, a strong consensus was indicated for 16 (88.9%) of the elements of relapse and 62 items (93.9%) for predictors of relapse.

Consensus was reached that impulsivity, affective disorder, anxiety disorder, substance use and intoxication, frontal lobe disinhibition, negative affective states, stress reactivity, affect instability, access to money, proximity and number of gaming venues, learnt cues, and poor social support were very important elements of relapse. No doubt, further research is needed to achieve an international consensus about the predictors of relapse in problem gambling (Battersby et al. 2009), nevertheless, the findings from this research show how these factors interact together resulting in the ‘push’ towards relapse.

Impulsivity (Battersby et al. 2009; Goudriaan et al. 2008, MacKillop, 2006), sensation-seeking, neuroticism, and psychoticism (Blaszczynski, Steel & McConaghy 1997; Carlton & Manowitz 1994; Coventry & Brown 1993; Jiménez-Murcia et al. 2010; Leblond, Ladouceur & Blaszczynski 2003; Myrseth et al. 2009; Smith, et al. 2010a) are considered to be important variables in both the development of problem gambling and relapse,; however they received little mention by the participants. This was surprising in light of the fact that these factors have been identified as major risks for relapse in the literature. However, young males who have a higher level of impulsivity (Goudriaan et al. 2008) were not represented in this study, and this may explain why factors associated with this demographic, such as impulsivity, have not been raised and therefore require further study as the findings may not apply to them. Impulsivity created by the urge to gamble was extreme for most subjects and the relationship between impulsivity, sensation-seeking, and the urge to gamble should be teased out in order to understand the ways in which they may interact to make self-observation and resisting the push to relapse even more difficult for people.

In addition to environmental factors and negative emotional states triggering relapse, the participants also identified two separate types of cognitions. The first type of cognitions focused on winning leading to an urge to gamble and relapse, and have

been well recognised in the literature (Benhsain, et al., 2004; Joukhador, et al., 2004; Ladouceur, 2004; MacKillop, et al., 2006b; Nower & Blaszczynski, 2010; Toneatto, 1999; Walker, 1992). For example, Walker (1992) highlighted the importance of erroneous cognitions related to the outcomes of gambling, information-processing biases related to an overestimation about the possibility of winning, and “magical thinking” in relation to winning, that all added to the risk of relapse.

Interestingly, in a study by Nower and Blaszczynski (2010), problem gamblers were the least likely group to endorse any form of pre-commitment or limit-setting of their money prior to play. It was highlighted that further studies are needed to investigate whether gamblers actually engage in the self-reported limit-setting behaviours (Nower & Blaszczynski 2010a). This study demonstrates that little is known about PGs cognitive processes related to the initiation of gambling with regards to financial considerations and the factors that make it difficult for them to set a predetermined amount of money before they gamble. It would appear that these PGs disregarded any need to limit the amount of money they had available to gamble, once the decision to gamble had been made.

Toneatto (1999) raised the issue of particular cognitions that facilitate problem gambling, for example, cognitions such as interpretive bias that occur when a gambler interprets their gambling losses in a way that encourages continued gambling. Selective memory occurs when a win can be remembered without correcting it for the amount of money wagered to actually win, or to take into account the losses sustained by the PG over time.

The second type of cognitions were permission-giving, erroneous cognitions that enabled the PG to justify the use of money needed for other purposes or that did not belong to the PG. This study has demonstrated that such cognitions acted as powerful facilitators without which it was unlikely that the destructive nature of problem gambling could continue to be denied and not recognised by the PGs. These facilitatory cognitions acted upon the critical thinking abilities and the capacity for self-observation of the PGs, such that their moral judgement often became distorted, such as “borrowing without permission” instead of stealing, and the anxiety about

spending money when unable to afford it. Together, the rise of the urge to gamble, accompanied by increasing cognitive, affective, and autonomic arousal occurred to produce an altered state of awareness known as the “zone.” Once these cognitions had been initiated in the PG, they counteracted the ‘pull’ away from relapse, thereby enabling the urge to emerge fully without internal sanction as a result of previous harm and pain. At this time, these cognitions were difficult to separate from the urge to gamble, reinforcing one another almost instantaneously, resulting in increasing arousal for the PG, and acting to set up the decision to gamble again.

In this study, it was important to discriminate between erroneous cognitions and behaviours such as lying, cheating, theft, and manipulation. Nevertheless, these permission-giving, erroneous cognitions also served to justify the use of not only of money that was needed for other purposes or that did not belong to the PG as ‘available money’ for gambling, because in this state of mind, it was simply a matter of using it to gamble so that they could and would win with this money, and so they would be able to immediately repay it. Of course, the reality is that this did not happen very often. It remained unclear how aware the PG was, and the data suggested that there was a grading of awareness and intent from fully rational and deliberate behaviours through to fully unconscious, automatic, stereotyped responses when in the “zone”, possibly as part of an acute, dissociative state specifically seen in EGM gambling (discussed in Section 5.3).

The data also suggested that there was a stepped process of relapse as shown in Figure 3. The first step occurred when a positive trigger, such as an advertisement or having money in one’s pocket, was followed by the urge and excitement, which was then ‘wound up’ by all the erroneous fantasies about winning. Fantasies about winning money combined with the gamblers accessibility to money resulted in an increase in the gamblers arousal, which made the decision to relapse irresistible despite the harm it would cause.

A two-step mental process would occur for some of the participants, where sadness and grief precipitated the memory of previous positive gambling experiences, which then secondarily precipitated the urge to gamble, and the excitement of winning

leading to ‘winding up’ the full force of the erroneous cognitions and temporarily lifting the mood for some.

During this process of relapse, the PG was in the middle of an internal turmoil where there was ongoing vacillation about their decision to relapse. During this third step of relapse, gamblers often lied as they tried to convince themselves that gambling was, in fact, a good idea, when they finally gave themselves permission to be swept along by this complex process of interacting factors with the logic of ‘gambling sense’. This turmoil appeared to be resolved by the two groups of erroneous cognitions about winning and providing the permission to gamble ending with the uncontrollable urge to gamble, which became the focus of attention of the PG as shown sequentially in Figure 3. The final synthesis of the systematic analytic process resulted in a single overarching theory:

Relapse in EGM problem gambling comprises a sequence of mental events and behaviours, which evolves over time during each relapse episode. The “zone” is central to relapse and occurs each time. This process is modified by factors that “push” this process towards, and others that “pull” PGs away from, relapse of their EGM gambling behaviours.

Figure 3 Push towards Relapse

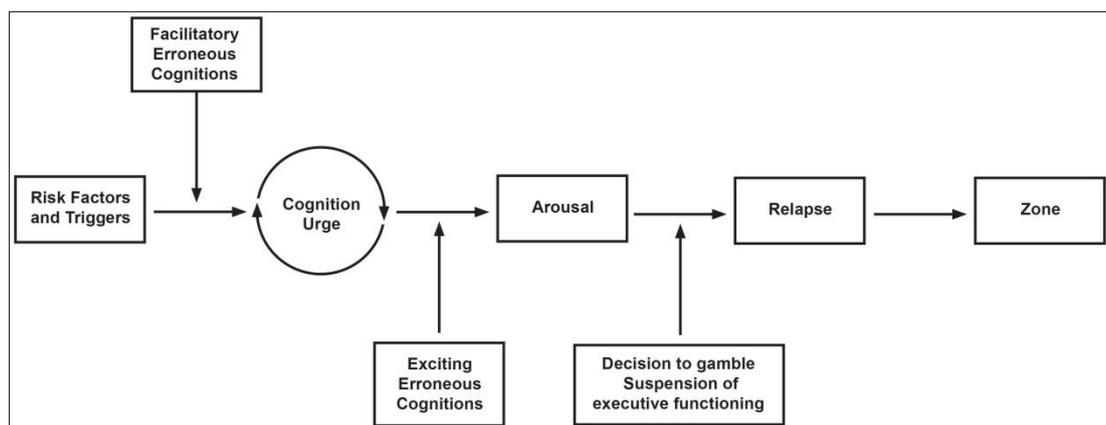


Figure 3 shows each of the elements of relapse within a separate field. This interaction of thoughts, urge, and arousal comprised a dynamic ‘push’ process of relapse fuelled by the desire to win by unquestioningly engaging erroneous exciting

cognitions about gambling. Simultaneously increased autonomic and cognitive arousal resulted in the narrowing of cognition so that, at a critical point, this increasing cognitive distortion led to the decision to gamble. This seemed to alter the gambler's cognitive functions further, as if they gave themselves permission to no longer engage in self-observation, critical thinking, accessing memories of the negative consequences of gambling, or exercising the will in respect of moral judgements, gambling cognitions, urges, and behaviour.

This was accompanied by a sense of relief and unreality as the PG engaged in gambling which, to the observer, was the point at which relapse occurred. For the PG, it was different, because it made 'gambling sense'. When the decision was made to let go of these higher cognitive functions, some described this as being in the "zone". Most importantly, the question arises of whether or not the PG, when in this altered state of awareness, actually has the capacity to enact a financial contract with the proprietor of the EGM venue?

Data from the in-depth interviews confirmed these findings, but also suggested that some gamblers entered what appeared to be an altered state of awareness, or the "zone", before their relapse started, as has been described above. This 'push' model provides an understanding about the process of relapse and how the triggers identified in the literature, and confirmed by the participants in this study, interact to result in relapse.

Gamblers appeared to extend their gambling episodes by entering the "zone" during which they could push to the background any concerns they may have had about the amount of money being lost and their behaviour, until the relapse session finished. This is shown in Figure 3 which presents the elements of the push towards relapse.

With further exploration of the "zone" during the in-depth interviews, it was clear that there were two separate relapse processes, which involved this altered state of awareness (the "zone") at what appeared to be different stages of the natural history of problem EGM gambling. Many PGs described a disturbance in their awareness, especially in their ability to make critical decisions, which is an indication that they

may be experiencing a possible dissociative process during their relapse episode that many called the “zone”. The following two diagrams build on the “Push towards Relapse” (Figure 3) established in the focus group study, and describe these processes:

- Repeated relapse and learning from consequences
- Relapse post-abstinence

Figure 4, the Push and Pull of Relapse, and Figure 5, Relapse Post-Abstinence and Learning from Consequences, provide pictorial examples of the relapse process to assist with an understanding of relapse as described by the participants in this study. It became apparent during the final analysis that, for most, relapse was a sequential process that was necessarily linear. It was also clear that relapse was more dynamic than initially thought. The following two models have attempted to capture the complexity of relapse, however providing a definitive model is beyond the scope of this study.

Throughout the interviews, it was clear that the PGs interviewed were enduring significant negative impacts to themselves and their loved ones as a result of their repeated relapses. It was a major concern for these PGs that they were not able to stop relapsing despite the impacts across many areas of their lives. After reviewing the data, it became clear that they were unable to learn from the harms they were experiencing.

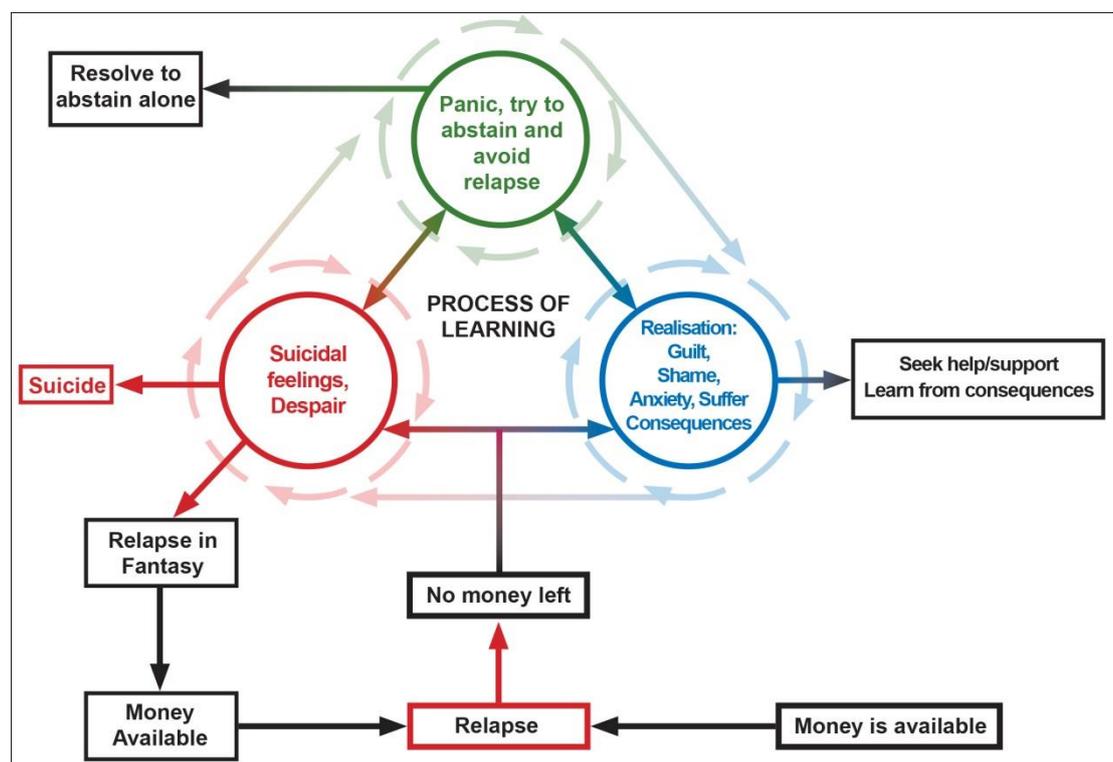
Repeated Relapse

The participants described a pattern of repeated relapse that prevented them from being able to self-observe. When the PG was not able to stop and reflect about what they had done, they were not able to learn even though they were enduring enormous guilt, sadness, anger, and shame at the end of the gambling episode, when reality had returned as they emerged from the “zone” because all of their money had finally been spent. This sequence of events was, in fact, the most common pattern described in the focus groups and the in-depth interviews, especially amongst those who were not seeking treatment. There were many repeated episodes of harm for these PGs.

An important question for the researcher arising from the above discussion is: how is it that this repetitive behaviour continues to happen? At this time, for many PGs, the focus of attention was directed towards the next opportunity to chase the money they had lost, pushing aside any critical thoughts about the consequences of this destructive behaviour. For example, the participants stated that gambling made no sense to them, but that they would continue to relapse.

This process is presented in Figure 4, the Push and Pull of Relapse circular model, where circles and arrows form a circular motion like a “merry go around” which is difficult for the PG to leave. They can either learn from the harm and distress they are experiencing and get off this “merry go around”, or they can stay on the “merry go around” of repeated relapse.

Figure 4 Push and Pull of Relapse



After each relapse episode, the PG experienced a temporary break in the “zone”, which resulted in the PG experiencing a period of critical thinking that, for some, was only momentary. At this time, critical thinking resulted in the PG being faced

with the realisation of the consequences of their behaviour. This realisation and insight created a significant negative affective state, which was extremely distressing for the PG as they acutely experienced significant guilt, grief, and shame associated with their relapse and loss.

In addition, the PG experienced severe anxiety about how they would deal with their desperate financial state which for most was intolerable. As the PG realised the extent of what they had done yet again, their distress often escalated, resulting in suicidal feelings as a means to escape from this desperate situation. None of the subjects in this study saw this as an immediate solution, however many described suicidal despair. The literature indicates that problem gambling is associated with increased suicide risk (Battersby et al. 2006) and clearly, some PGs chose this option, and several described it very clearly, for example: “I’d pinch my husband’s credit card and, of course, it wasn’t coming out my savings, it was coming out of the bank, so I was putting us further and further in debt and it made me feel absolutely sick. In fact, I did try to commit suicide twice” (Greta (I: SGTS)).

This crisis required immediate problem resolution for the PG to deal with this severe negative affective state. At this time, there appeared to be two solutions available for the PG, either to make a decision to relapse when money became available at a future time by immediately returning to the comfort of “gambling sense”, and returning to an altered state of awareness of the “zone” by fantasising about the ‘next time’ when ‘it will be different’ and her/ his money will be returned to her/ him.

Unfortunately, the PG may also consider suicide as their only option, in order to resolve the distressing issue. Fortunately, for many PGs, this ‘relapse in fantasy’ was much more common than the option of suicide.

The solution of relapsing in “fantasy” or suicide raised the question of how these behaviours and cognitive processes affect the capacity to learn from experience. If it is so, that when PGs start planning relapse almost immediately after large or small gambling losses and that they again enter into the world of ‘gambling sense’, can they actually learn from the consequences of their gambling losses? At this time,

erroneous exciting and facilitatory cognitions result in this altered state of awareness which, on this occasion, is in fantasy rather than in reality, and it may well be that learning is also interfered with as well as the capacity to think critically or to remember. Indeed, it suggested that there was limited cognitive capacity whilst in the “zone”, either in reality or in fantasy, which did not allow the PG to experience the pain of the loss as they immediately started to plan their next gambling episode and thereby interfered with learning from the experience. The PG, being in acute pain and panicking about the future, can only then either make the resolution to abstain and try harder to fight the urge, or face the reality of their dilemma and decide to change their behaviour. The choices at such times appeared to be very stark indeed: one where the PG tries to remain abstinent out of shock or fear; a second, where the PG gives in to the despair in her/ his life and decides to suicide; the third and most common choice is that the PG tries to heal this despair by starting their next relapse almost immediately after the last has been completed; and the final option that takes many gamblers such a long time to learn, which is to stop the process of relapse by facing their despair, responsibility, and loss by seeking help and support to assist them to exit this desperate way of living. Thus, a further theory emerging from this research is that, following relapse and loss, the intense negative affect and the consequential ‘relapse in fantasy’ creates a cognitive state wherein learning is not possible, or that the capacity to learn from the consequences of relapse comprises a situation of state-dependent learning (Eich 1980) which is violated by the ‘relapse in fantasy’. Thereby, this theory could explain, at least in part, how it is that PGs take so long to learn to leave a gambling lifestyle during the natural history of the disorder (Hodgins & El-Guebaly 2004). Indeed, a similar explanation may also be applicable to other “addictive behaviours”.

Option one occurs at a time when critical thinking becomes suspended as the PGs attention is on “available money” in fantasy. The PGs focus is on planning for the next relapse, which may include the date, time, and venue. Once this potential relapse plan is in place, the PG must wait for this to be enacted, by deferring its enactment until such time that this is actually possible, but they continue to maintain the relapse in fantasy as a decision that has already been made, and thus the pain and suffering is no longer relevant. At this time, the PG imagines their next relapse and

how this will be for them, often believing that they will win back the money they have so recently lost. During this time, the PG was able to avoid experiencing memories of past harm that they had repeatedly experienced while in the relapse cycle. In addition, the PG was unable to self-observe and learn from this destructive behaviour. At this time, they pushed aside any negative emotions and critical thoughts about their behaviour and focused on the next relapse.

Permissive cognitive errors often allowed the PG to access money that was not affordable in the hope of winning money to overcome their desperate financial situation. Once cash was available, the PGs arousal continued to increase and relapse was inevitable, thus initiating the next steps in the sequence of cyclical relapse. For some, relapse was immediate if money was available which resulted in a spontaneous relapse, ongoing destruction, and an inability to self-observe, preventing this relapse cycle from being interrupted and stopped.

The importance of support has also been highlighted and should not be underestimated. For some PGs, there is a gradual process of learning from the harms of relapse, which is enhanced if positive support is in place. Support enables the PGs to obtain relief from their negative emotional states, to accept responsibility and to experience the pain by being genuinely contrite with the significant other and resolving to abstain and not relapse. In order to do this, the capacity to maintain critical thinking, as well as all the other executive functions involved in learning, was required. If the PG was able to learn to experience this distress, they could begin to acknowledge the impact of repeated relapse. At this time, they could engage in self-observation and begin to learn from the harms of their behaviour, remain abstinent, and actively engage in the change process towards recovery. Learning to experience emotional states and engage in self-observation did not happen all at once, but was built upon and shaped by the PGs motivation to continue to be vigilant, rather than escaping back to relapse in fantasy until the opportunity to relapse occurred in reality. Once this theory was formulated, the researcher was able to appreciate the differing patterns of relapse observed in the focus group and in-depth studies described in Chapter 4, showing that these PGs were in different places in their journeys of recovery; those with no hesitation or thoughts about gambling again, the

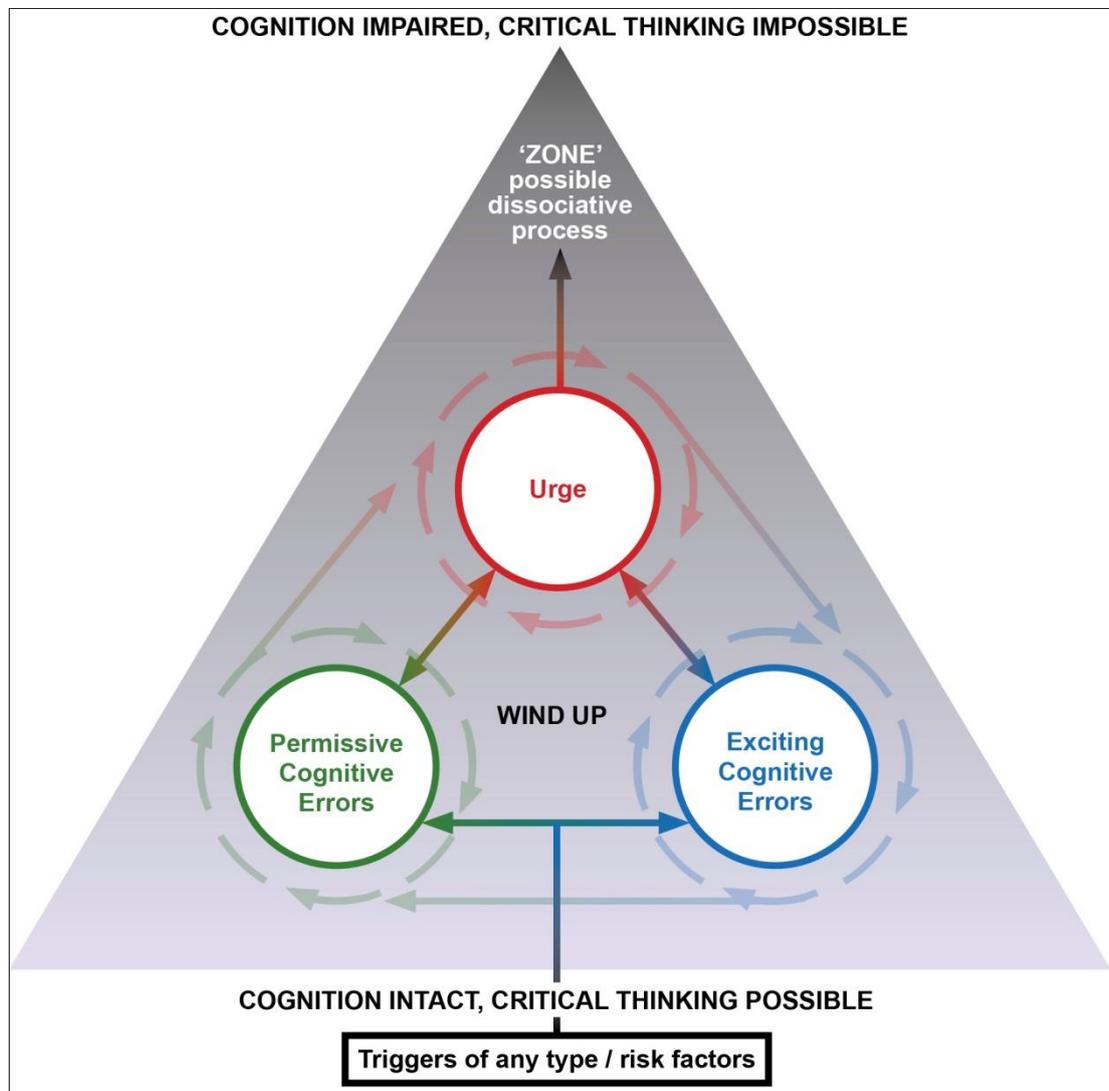
immediate relapsers, were early in their journey, while those with increasing awareness of their internal conflict were further along the road to recovery.

The diagram needs to be examined further to understand the following findings:

- Suicidal despair leads to suicide as one possible outcome
- In order to protect the self from suicide, 'relapse in fantasy' is a lesser evil that is protective at this time, so most PGs choose this immediate solution
- The anxiety and guilt also leads many to make the resolution to abstain and they do not relapse in fantasy but are vulnerable to relapse at any time again. They suffer the pain and can learn, but do not seek help or address it systematically
- Realisation allows the PG to seek help, acknowledge the severity of the personal problem rather than just the external problems, seek support, and to make the decision to seek a genuine solution.

The process of relapse after a period of abstinence

Figure 5 Relapse Post-Abstinence



The process of relapse after a period of abstinence, as shown in Figure 5, Relapse Post-Abstinence, requires the PG to gamble again by putting money into an EGM after having made a decision to remain free from all gambling. This was a common phenomenon described by many in both the focus groups and the in-depth interviews. It occurred after the PG had become aware that their EGM gambling was a problem, usually after a serious loss which was usually far greater than had been planned or allowed for.

Relapse after a period of abstinence began when the PG reduced her/ his vigilance which had, up to this time, enabled them to be motivated to remain abstinent in the presence of previous gambling triggers. Cognitions were intact at this time, enabling critical thinking to be possible about the risks associated with relapse, while they could still focus on their memories of previous harm resulting from their gambling. When vigilance was reduced, the PG would begin to respond increasingly to triggers, as had previously been the case for them. Particularly powerful triggers were occasions such as pay day when the PG suddenly had available cash, particularly when the bills had already been paid, because they had not gambled for some time; being in a gambling environment after absence; or experiencing a negative affective state, again particularly after an argument with a significant other or an increase in stress, being bored, or feeling depressed. In addition, the presence of significant risk factors such as poor social support, or close access to a gambling venue, added to the PGs risk of relapse, highlighting that this is a dynamic process often with more than one factor involved.

When the PG's vigilance was reduced, two types of erroneous cognitions followed this. Firstly, those that justified relapse (for example, where the PG believed that if they won, they would feel better) which enabled permission-giving by the PG to relapse. However, permission-giving often occurred only after a considerable period of vacillation where inhibitory cognitions (vigilance) about the decision to relapse continued to be in the PG's awareness. These inhibitory cognitions involved acknowledgement of the dangers, harms, and hurts that they had previously caused by their gambling. Sometimes, this negative affect, in itself, was sufficient to trigger thoughts of gambling and winning so that they could feel better. Once the sequence was started, the PG would eventually convince themselves, through their erroneous facilitatory cognitions in combination with the exciting erroneous cognitions about winning, that they had money that was 'available' for gambling when, in fact, this was often not the case but the decision to relapse had already been made.

The second type of cognitions were exciting and included erroneous beliefs about winning and chasing past losses that immediately evoked the urge to gamble. These cognitions evoked anxiety and conflict as they resulted in going back on the decision

to remain abstinent. It was then that the facilitatory erroneous cognitions were needed to quieten this anxiety and to reduce vigilance once again, thus permitting the ‘push’ of the urge to relapse.

Erroneous cognitions about gambling were difficult to separate from the urge, as these reinforced one another in a cyclical action, as demonstrated by the circles linking together leading to increased arousal in the model in Figure 5. This ‘wind up’ process reduced the ability of the PG to remain vigilant about their decision to abstain. This resulted in a failure of the ‘pull’ away from relapse. This process represents the insidious way in which the PG progressively slips into the altered state of awareness of the “zone”. It is very difficult to state exactly at which point the PG enters the “zone”: was it the relapse in fantasy; was it the urge and excitement once the PG had started to think about winning; or was it only when all capacity to exercise executive function had been lost? The sequence of relapse is clear; understanding the process has advanced with this research but needs to be further scrutinised, described, understood, and empirically tested.

Once in the “zone” and gambling again, the PG’s ability to think critically, to remember the harms, their motivation to change and abstain, or the fact that their excitement was based on erroneous exciting cognitions that are lies, were simply no longer available to the relapsing PG as, at this time, the PG had once again entered this possible, or even probable, dissociative state. The PG’s cognitive functions were once again impaired, having given in to the ‘push’ and the facilitatory lies, so that they were no longer able to engage in self-observation or critical thinking, nor were they able to access the many memories of negative consequences of their gambling or to exercise their will in respect of gambling cognitions, urges, and behaviour.

The second pathway to relapse occurred, more often, earlier in the natural history of problem EGM gambling. For some however, this pattern of relapse represents the way in which their lives were completely governed by this addiction to the EGMs, and had been this way for many years. Some of these PGs had almost given up thinking that they could change and simply lived for playing the poker machines;

many had lost their families, jobs, and relationships, and were “down and out” at rock bottom, living their lives one day at a time but still aching to gamble again.

These PGs described a linear process of immediate relapse where they did not struggle with the decision to gamble or did not consider the implications of engaging in gambling again; their ‘gambling sense’ was simply not questioned at all. This relapse was initiated by the presence of a trigger which immediately evoked the urge, and affected their critical thinking abilities as the gambler’s focus was narrowed towards relapse almost immediately as the powerful urge to win was given free reign.

The ‘pull’ aspect of the relapse process, which involved factors that were protective against relapse, has been extracted from the model so that it too can be described more clearly and simply. This process suggests that relapse may be halted by interacting factors that ‘pull’ the PG away from the process of mental and behavioural events, which follow the triggering of the urge and the cognitions to gamble. The ‘pull’ will be described in Section 5.5.

5.2 An Altered State of Awareness: the “Zone”

This section provides a description of how people continue to relapse over time, despite the ongoing harms associated with repeated relapse, and assists with a better understanding of this complex, seemingly illogical, and often paradoxical behaviour for otherwise sensible people. It is clear that the EGM design can entice the PG to enter an altered state of mind that becomes an attractive option to facing the worries and distress associated with the real world. For example, Schüll (2012, p 58) described the EGM as a “comfortable, ensconcing cocoon where designers outfit machines with every want or need of the gambler. These machine designers aim to balance ambient intensities to hold players in a balanced affective state described as the ‘zone’”.

Many of the participants in this study described losing contact with reality as they entered the “zone”, which exacerbated their relapse.

This ‘unthinking’ mode of behaviour has also been identified as the “zone” by Livingstone (2008), where PGs push to the background their concerns about the money they are losing until the session finishes as their money runs out (Australian Institute for Primary Care 2006). Similarly, in a report by the Washington Post, Natasha Schüll argued that the gambler’s motivation to escape their reality is only stopped when their all their credits are consumed. Even winning was not welcomed as it interrupted the “zone”: “Gamblers are motivated more by a need to escape reality than any desire for entertainment and excitement. Without the presence of social elements such as other players or a live dealer, they are able to exit the world and enter a state where everything fades away. Slot machines so completely concentrate players' attention on a series of game events that anything troubling about their life situations - physically, emotionally, or socially - gets blotted out. Players enter what's known as the "machine zone," where even winning stops mattering; in fact, it can be unwelcome because it interrupts the flow of play. Such players only stop when their credits are consumed” (Schüll, July 06, 2008).

The work of Schüll supports the findings in this study showing that the PG is not able to engage in critical thinking as they continue to spend all their available money in pursuit of an escape from reality. It is clear that the PG is not able to make critical decisions when in the “zone”, as demonstrated by Schüll (2012), who argued that money lost its value to the PG as it simply provided a way to disconnect from others and oneself: “Money typically serves to facilitate exchanges with others and establish a social identity, yet in the asocial, insulated encounter with the gambling machine, money becomes a currency of disconnection from others and even oneself.”

Furthermore, when mesmerised in the rhythms of the EGM, play time also loses its value: “Like money, time in the zone becomes a kind of credit whose value shifts in line with the rhythms of machine play” (Schüll, August 27, 2012). In another report, Schüll (2008) highlighted that slot machines deceive and exploit the gambler to play all their available money until it is exhausted. This highlights that the behaviour of the PGs when in the “zone” is not normal and seems to be induced by particular features of the EGMs, which facilitate the PG entering the “zone”. Schüll (2008) also described the deceptions associated with the EGMS, which are designed to exploit

the gambler: “Every feature of a slot machine - its mathematical structure, visual graphics, sound dynamics, seating and screen ergonomics - is calibrated to increase a gambler's "time on device" and to encourage "play to extinction," which is industry jargon for playing until all your money is gone. The machines have evolved from handles and reels to buttons and screens, from coins to credit cards, from a few games a minute to hundreds. Inside, complicated algorithms perform a high-tech version of "loading the dice" - deceptions that no self-respecting casino would ever allow in table gambling. The machines are designed to exploit aspects of human psychology, and they do it well. In the eyes of the gaming industry, this may look like success, but it comes at great expense for gamblers”. This thesis has described the significant expenses of relapse to the PG in detail and how, despite these harms, the PG continues to relapse.

Schüll provides an understanding about the enticing qualities of the EGM that make gambling difficult to resist for those who seek solace when they enter the “zone”, in which both money and time are no longer significant.

Therefore, this thesis adds to the understanding of this 'unthinking' mode of behaviour by providing a deeper understanding about the “zone”, and how PGs can repeatedly relapse into this altered state of awareness where they are unable to stop to self-observe and to halt this destructive pattern of behaviour. For example, participants described disturbances in their state of awareness, identity, memory, critical thinking, and moral judgement that occurred only within the EGM gambling environment, and which always prolonged the relapse episode until they had no further access to any money.

This state of mind included:

- Stereotypical behaviours such as repeatedly pushing the EGM machine buttons and repeatedly withdrawing small amounts of money from ATMs nearby. There was also stereotyped behaviour of a possessive type in respect of the particular machine that the PG was using. Participants in this research provided strong evidence that having easy access to ATMs in gambling

venues increased the risk of relapse, and of prolonged relapse until all the available money was spent. There is little regulation that prohibits or limits the number of times a person can return to an ATM to withdraw money from their bank account on the same day, and perhaps there should be, particularly as such repeated withdrawals of small amounts of money episodically on the same day at a venue located near a gaming venue, often at night or in the early hours of the morning, must be observable by the financial institutions who own the ATMs.

- Altered sensory perceptions and the use of metaphors to describe their experiences as being similar to being in a “zone”, a ‘cocoon’, a ‘bubble’, ‘hypnotised’, ‘delirious’, and ‘glued to the machine’. Participants described losing track of time, sensations of hunger, and the loss of somatic awareness, in that some had experienced loss of control of their bladders whilst gambling. Their perceptions of the machine also changed in that they often thought of it as having human qualities of being filled up by their money and that it would only be fair for it to be generous to them at any time soon. Such anthropomorphism often led PGs to become angry when the machine did not behave as they wished it would.
- Altered judgement by some PGs affected their perceptions of their identity where they felt powerful or invincible. This altered judgement was also the case when money was perceived differently than when they were not gambling. For some gamblers, their moral judgement was also distorted by taking money that was needed by the family or was contrary to a partner’s wishes or knowledge or that, in fact, belonged to their employer.
- Altered functioning of memory. Many PGs experienced amnesia as they were unable to remember their previous losses, their thoughts, or affective experiences whilst in the “zone”, nor were they able to reflect on previous or ongoing harms during the relapse episode or to remember that they had, in fact, set a limit on the amount they were going to use at the start of the relapse.

- Narrowing of awareness in that they described an intense focus on ‘their machine’, the lights, the music, the sounds of ‘winning’, all experienced within and as part of ‘the zone’.
- Culture-bound where the “zone” and relapse occur within the culture of the EGM gambling process and setting.

The participants in this study provided strong evidence that having easy access to ATMs in gambling venues increased the risk of relapse and prolonged relapse until all the accessible money was spent. This pattern of ATM use is unusual for people in other situations of ATM use and suggests the gambler is experiencing an altered state of awareness when gambling as this is an abnormal ATM withdrawal pattern which could be part of a stereotypical behaviour pattern which can occur as a part of a dissociative episode. Schüll (2012) has also described similar patterns of accessing money by PGs.

These descriptors appear to be consistent with the altered state of awareness experienced by people suffering a dissociative episode. In the DSM-IV - TR (American Psychiatric Association 2000), the diagnostic category of ‘Dissociative Trance Disorder’ appears to fit the above characteristics very closely. The findings in this relapse study are compared with the criteria for Dissociative Trance Disorder DSM-IV - TR in Table 13, Criteria for Dissociative Trance Disorder, below:

Table 13 Criteria for Dissociative Trance Disorder

Dissociative Trance Disorder (DSM-IV)	Zone symptoms when gambling
<p>Single or episodic disturbances in: The state of consciousness</p> <p>Identity</p> <p>Memory</p>	<p>Inability to think critically despite ongoing harm Unable to meet personal needs leading to incontinence</p> <p>Feeling powerful and invincible Putting personal morals and beliefs secondary to gambling</p> <p>Unable to access memories of past gambling harms</p>
Indigenous to particular locations and cultures	EGM Gambling specific culture (where people that are united by a common culture of gambling)
Narrowing of awareness of immediate surroundings	Only focus of awareness is the EGM screen, symbols, winning
Stereotyped behaviours	Stereotyped and repetitive actions while pressing buttons without a break or until all available money was spent; chasing losses; repeated withdrawals from ATMs located near the gambling area
Possession trance involves re-placement of customary sense of personal identity by a new identity, attributed to the influence of a spirit, power, deity, or other person, and associated with stereotyped "involuntary" movements or amnesia	<p>Feeling as if someone had taken over their body. For example, being in a cocoon or a bubble, feeling insane, and as if on drugs</p> <p>A loss of critical thinking; immoral and dishonest behaviour. No power or ability to exercise the will to leave despite significant harms</p>
Is not a normal part of a broadly-accepted collective cultural or religious practice	Behaviour is beyond the scope of social gambling for fun where gambler has ability to think critically

The criteria for Dissociative Trance Disorder are particularly suitable for this altered state of awareness as it is only specifically within the EGM culture that this mental dysfunction occurs. In some cultures, dissociation enables distancing from certain experiences as a stress-induced self-hypnotic emotional and physical analgesia (Somer 2006). This is entirely consistent with the dilemma of the PG where the conflict within the PG about gambling may result in dissociation. Interestingly, Culture Bound Syndrome (Tseng 2006) refers to a psychiatric syndrome closely related to culture, in this case the gambling environment/ culture, where there are particular expectations, rituals, and practices which may lead the gambler into a dissociative state.

This syndrome may provide some understanding about how gamblers can repeatedly continue to gamble and disregard the ongoing harm; however, we do need to take into consideration that these cultural elements are only the beginning of an understanding of why gamblers continue to relapse. The theory that the “zone” is, in fact, a culture-bound dissociative episode remains to be proven and further research is required to examine the effect that these elements together have to produce this altered state of awareness. In doing so, a number of methodologies, including observational studies and single case studies, where the behaviour of PGs can be closely monitored within the culture of their gambling, are needed. This theory derives considerable support from the detailed and painstaking work undertaken by Schüll (2013) who studied EGM problem gamblers in Las Vegas using anthropological methods over a ten-year period. It is also her view that PGs that are in the “zone” are in fact dissociated.

EGMs may contribute to the PG entering a dissociative state, which would indicate that EGMs are unethical as they seem to be instrumental in causing harm to consumers. This has legal implications as this study has shown that some PGs who engage in criminal activity to source money to relapse, may not have been able to think critically about their decision to engage in illegal behaviour. Therefore, PGs may not have intended to do something illegal, such as taking money from employers. However, at the time, the PG was in the process of relapse and may not have been able to think critically to understand that it was wrong at the time. Such an altered state of awareness may well constitute a breach of The M'Naghten rules - not knowing right from wrong is judged according to the following criteria: “The rule created a presumption of sanity, unless the defence proved "at the time of committing the act, the accused was labouring under such a defect of reason, from disease of the mind, as not to know the nature and quality of the act he was doing or, if he did know it, that he did not know what he was doing was wrong (Bursztajn)"; it may well be that the “zone” fulfils these criteria to establish that PGs “labouring under such a defect of reason, from disease of the mind, as not to know the nature and quality of the act he was doing or, if he did know it, that he did not know what he was doing was wrong.”

5.3 Commitment to Change

Some PGs have developed an increasing capacity to defer and finally to control the urge to gamble by maintaining abstinence. The level of motivation influenced the thought patterns and the struggle during each relapse episode. Many participants admitted that it was not until they reached 'rock bottom' with their gambling, that they were ready to seek help.

This suggested that there was a cumulative process of reappraisal of the consequences of personal gambling behaviour, and a commitment to change, that developed over time, which affected, but was independent of, each episode of relapse. As the gamblers commitment to changing their behaviour increased, this struggle reduced. Clearly, these patterns showed a progression in motivation and commitment to change, as well as some measure of success in doing so.

This progressive process of learning from the aversive consequences of gambling, demonstrated in this study, seems to fit with the concept of "readiness for change." This model describes five stages that people go through on their way to change: pre-contemplation, contemplation, preparation, action, and maintenance (DiClemente & Prochaska 1982). PGs are often caught at the pre-contemplation phase of this cycle of behavioural change, as they do not see their repeated relapses as a problem, and do not think about changing this destructive behaviour. These PGs engage in relapse without any struggle, as soon as money became available. However, each episode of loss confronts the PG with a sense of reality and the associated emotions, and thus needs to be dealt with by the PG. Often early in their gambling careers, the PGs admitted to themselves that they had a problem and that they needed to do something about it; 'but not today; soon.' These PGs may engage in vacillation about their decision to relapse, but nevertheless continue to relapse when money is available, as the process of relapse begins with facilitatory cognitions resulting in increased arousal, winning cognitions, and reduced critical thinking. Some of the gamblers, out of a sense of shock at that time, would enter a panic-inspired abstinent period, sometimes for quite a prolonged period. Then, in many cases, a habitual pattern of repeated relapse with little protest and thought would ensue, that for many, lasted for

many years. During this time, after engaging in repeated episodes of loss, most gamblers eventually began to learn to reflect upon their gambling behaviour. For some, despair took hold and suicide could eventuate because such despair with active suicidal ideation was frequently part of the agonising crisis resulting from large losses due to the protracted and repeated withdrawal of money during an altered state of consciousness until all the funds were gone and the tragedy of the reality finally hit. Each such crisis was an opportunity for learning; or each such crisis was the next risk for relapse in fantasy. For example, these PGs were often caught in the contemplation stage of change and engaged in gambling after deferring the decision to relapse. They would promise themselves that they would gamble at a later time and that they were not fully ready to commit to change.

Successful maintenance of vigilance, a focus upon their significant others, and the prevention of relapse, fed back into the motivation and commitment to change with concomitant changes in self-efficacy and support coming from others. The presence of positive support complemented this process of change as demonstrated in Figure 6, Halting of Relapse through Learning. Commitment to change was clearly stronger in those with the greatest awareness of the problematic nature of their gambling behaviour.

The presence of negative affect and other psychiatric disorders impacts on the gamblers' ability to engage in and complete their treatment (Stinchfield, Winters & Dittel 2008). This would therefore add to their risk of relapse, and highlights the importance of support in recovery.

This stage of the process of leaving a problem gambling lifestyle appeared to have repeated successes and failures and was a process where all the erroneous facilitatory cognitions needed to be challenged and progressively identified. For example, these cognitions needed to be questioned so that they no longer had the unfettered power that, together with the exciting cognitions about winning and the temptation to again experience the oblivion of the "zone", led to repeated relapse. An awareness of the harm associated with repeated gambling relapse was a difficult process for the PG to experience. As the PG was able to acknowledge these harms, it appeared to increase

their readiness to engage in positive change. For some, this was a gradual process of learning to acknowledge the harm and the associated distress, in order to remain abstinent.

Over time, the distress experienced by the PG subsided, in a similar manner to graded exposure (Oakes et al., 2008), so that the severity of the distress did not immediately lead to relapse in fantasy, and eventually they were able to maintain abstinence and have an improved quality of life. However, it was clear that maintaining abstinence was a complex process, and that self-reflection alone did not provide a gambler with protection from relapse in the long-term (Stinchfield, Winters & Dittel 2008). This process of learning and change could clearly be facilitated by many of the approaches that have been used in the literature in this action stage until commitment to abstain was achieved. The central elements appeared to be:

- Vigilance and retaining the capacity to think logically and critically
- Graded exposure to the real harms that have been suffered by the PG and their significant others
- Genuine and ongoing support from significant others, peers (PA), and therapists or counsellors
- Identifying and challenging both facilitatory and exciting erroneous cognitions that permitted the PG to fantasise about and plan their next relapse
- Creating options and alternatives for the PG to occupy their time in a more constructive manner
- Using distraction as an acute method to interrupt facilitatory cognitions leading to ‘gambling sense’ reasoning

The process involved a number of interacting factors where continued abstinence enabled ‘pull’ to overcome the ‘push’ towards relapse. There were two processes related to the “pull” away from relapse. These were management of the risk factors for relapse, and mastery over relapse, that enabled the gambler to recover without the ongoing risk of relapse. Participants saw the second strategy, where graded urge exposure and response prevention was used, as the most effective treatment of relapse because the urge had been extinguished. Similar outcomes were claimed in

the cognitive therapists' focus group, but unfortunately, there were no subjects interviewed who had been treated with cognitive therapy. This outcome has however been demonstrated to be the case by Smith, et al. (2013) in a randomised controlled trial.

Subjects who had exposure to PA best demonstrated successful maintenance of abstinence. Their success depended on vigilance, attention to harms and fears, level of motivation for change, and the provision of effective support. This required PGs to take responsibility for their gambling behaviour. The central feature associated with the 'pull' away from relapse initially described by the participants was the gambler's ability to remain vigilant to the risks of relapse. Ongoing vigilance enabled the gamblers arousal to remain manageable, and to maintain their memory, critical thinking, and decision-making capacity, thus reducing the risk of relapse. Increasing success appeared to lead to better social supports and a greater sense of self-esteem and personal self-efficacy which enhanced motivation and commitment to abstinence over time.

It can be seen that the model of learning (Figure 4) explains why it could be that this process works, through the elimination of the immediate relapse in fantasy at the end of another gambling episode so that learning from consequences can actually occur. This is demonstrated in Brown (1987) who highlighted the risks of relapse if the gambler does not remain vigilant, which suggests that the memory of the first big win can trigger reinstatement of the old pattern of gambling behaviour. This is a particular risk if the gambler does not have adequate coping skills readily available to face the arousal and the memories of previous wins (Brown 1987).

Participants described many different therapeutic approaches that contributed to their ability to remain vigilant and to manage the risk of relapse as shown in the literature. These included cognitive behaviour therapy (Jiménez-Murcia et al. 2007), stimulus control strategies (Doiron & Mazer 2001; Morasco et al. 2007; Thygesen & Hodgins 2003), learning appropriate management of irrational thinking patterns (Emond & Marmurek 2010) and environmental cues (Wood & Griffiths 2007). Participants admitted that these strategies were aimed at increasing their confidence and their

ability to cope with cravings, unwanted emotions, or conflict (Ricketts & Macaskill 2003).

It has been demonstrated by Thygesen and Hodgins (2003) that the relief that gambling provides from negative emotions makes it difficult for PGs to view gambling as a serious problem. Similarly, these authors suggested that negative emotional states may be too distressing to experience, so relapse can provide temporary relief as an immediate solution. Daughters et al. (2005) also suggested that those who relapse are less likely to tolerate the initial discomfort of an abstinence attempt. This may provide some insight into why even the provision of relapse prevention is not effective for some PGs (Hodgins, et al. 2007b) if support is not provided to enable them to acknowledge and deal with these negative emotions in an effective way.

It was also established that a reduction in arousal made it easier for the gambler to resist the desire to relapse by ‘pulling’ them away from gambling. Not having access to money was another important factor associated with the termination of relapse (Thygesen & Hodgins 2003). Ricketts and Macaskill (2003) suggested that PGs who were more confident in their ability to cope with cravings, unwanted emotions, and conflict were less likely to relapse, and when they accepted these negative consequences, recovery could then occur (Parke, Griffiths & Parke 2007). For some PGs, this may take many attempts as they slowly learn to accept the consequences of their behaviour. For example, Anderson, Dobbie and Reith (2009) suggested that, for some gamblers, recovery was fluid as they moved into and out of various stages of problematic behaviour over time.

Most participants sought social support (Hodgins & el-Guebaly 2010; Morasco et al. 2007; Oei & Gordon 2008) to help them manage the risks of relapse. For example, Hodgins and el-Guebaly (2010) suggested that ongoing support during follow-up from treatment helped gamblers manage the ongoing risks of gambling, particularly for those with an alcohol or mood disorder (Hodgins & el-Guebaly 2010). Pokies Anonymous (Gamblers Anonymous 2009) provided an important support network for some participants while some found that religion provided a safeguard or

motivation when trying to abstain (Hodge, Andereck & Montoya 2007). Over time and with support, the PG can become wiser about their behaviour and begin this gradual learning process towards recovery. However, the mechanisms of this change process are not clear.

Nevertheless, this study has enabled us to better understand the therapeutic elements of the PA and GA programs. The Gamblers Anonymous 12-step recovery program is intended to help addicted gamblers to accept responsibility for their behaviour and to do everything in their power to change it. The tenets of the program are as follows:

1. Gamblers must admit that gambling has taken over their lives in a complete and overwhelming way.
2. Gamblers should believe that a power greater than themselves is needed to overcome their addiction.
3. The gamblers will turn their lives over to this greater power.
4. Gamblers will take a complete moral inventory of their behaviour and lives up to the point they come to the organisation.
5. They will admit to themselves and another person everything they have done wrong.
6. The gamblers will have to truly believe they are ready to let their character defects go.
7. Gamblers must ask their higher power to help them overcome their shortcomings.
8. Gamblers must make a list of everyone whom they have harmed as a result of their addictions. They must make a promise to do everything in their power to make amends to those people.
9. They must make direct amends to the people whom they have hurt unless doing so would put those people or others at risk or in danger.
10. The gamblers must constantly take inventory of their lives. If they are wrong about something, they must admit it.
11. Gamblers need to use the power of prayer in order to stay in constant contact with their higher power. They will use prayer to maintain power over their deficiencies.

12. Gamblers will take everything they've learned from the 12-step program and use it to help other people who are struggling with compulsive gambling issues (Gamblers Anonymous 2009).

This research provides an understanding about how the 12 steps of the GA program are effective for many PGs in maintaining abstinence. Support, self-observation, and vigilance are the main components of the 12 steps. For example, PGs attending GA have to admit that they have a gambling problem, and the presence of ongoing support is essential for the PG to acknowledge the extent of this problem, to remain vigilant, and to manage the risks of gambling.

Interestingly, PGs are asked to give themselves over to a greater power than themselves as the GA model does not appear to contain within it the belief that the PG has the power to abstain on their own. This provides a level of support, even when the PG is alone. The PG is expected to repeatedly acknowledge the harms of their behaviour not only to themselves but also to their significant other. By acknowledging this harm publically, it appears to help the PG to maintain critical thinking about their behaviour, and to have the ability to learn from the harms of their gambling. In the GA model, support is vital which fits with the findings of this study where support has been identified as being essential for the PG to acknowledge and experience the distress associated with the consequences of their gambling. This support enables the PG to experience this distress rather than relapsing back to gambling as a means to escape the distress and the reality of their destructive behaviour.

These findings highlight the benefit of a supportive network in a gambler's recovery process by enabling them to maintain abstinence through an ongoing supportive environment. Interestingly, those who are older gamble less (Abbott et al. 2004; Nielson 2006), become wiser to their behaviours, and tend to have other priorities to distract them (Abbott et al. 2004).

Participants in this research supported these findings, which highlighted the fact that, as PGs became wiser about the harms of their gambling and learned lessons from the

repeated failure of their abstinence attempts, they gained more experience about how to change their cycles of relapse. This progressive learning process enabled the PG to reflect on the consequences of this destructive behaviour in order to begin the process of behaviour change.

Management of Abstinence

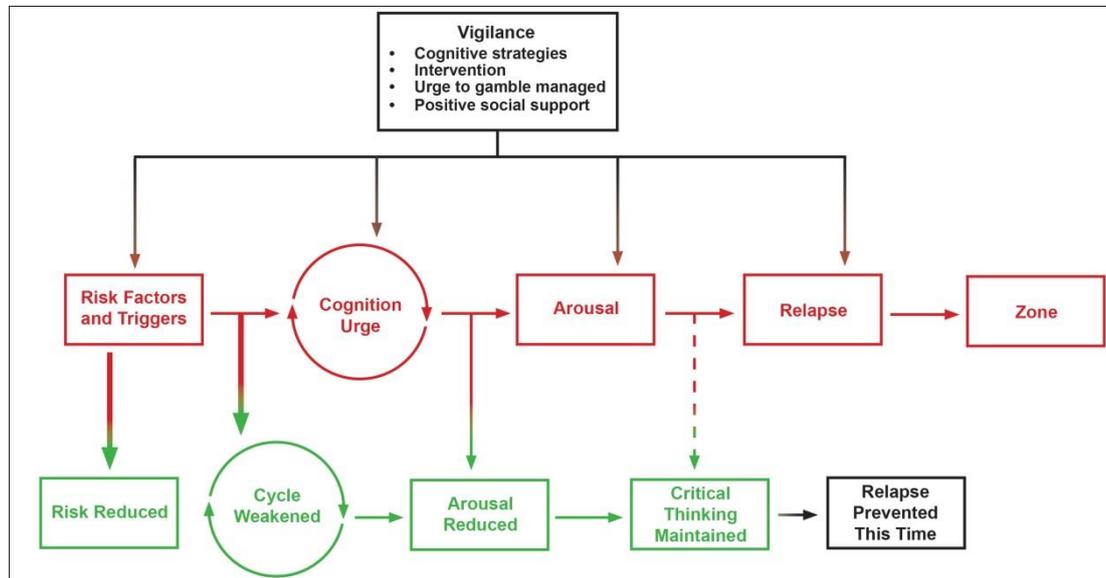
In an attempt to manage the triggers and erroneous cognitions (e.g. winning, being lucky, and having the skills to win and make money) that stimulate the desire to play the EGMs, some gamblers learnt to use distraction to re-direct their attention away from relapse by using coping skills and making lifestyle changes. Some managed the urge to gamble by managing triggers and enhancing their critical thinking faculties by remembering past harms to arouse fear, guilt, and shame, which together with support (Thygesen & Hodgins 2003), provided the gambler with the motivation to maintain abstinence by beginning the change process. The results from this study support the literature, that effective management strategies can enable gamblers to abstain from gambling (Stinchfield & Winters 2001), thus reducing their risk of relapse provided that they are vigilant to the ongoing risks.

There are a number of strategies that were used by the gamblers to manage the triggers and reduce the risk of relapse. The participants described the different strategies that they either developed themselves or that others provided, to remain vigilant in managing the triggers. These strategies included distraction, positive support, education, financial management, medication, avoiding gambling opportunities, counselling, peer support, and barring from hotels. However, the strategies used to avoid accessibility, such as barring, were largely ineffective. The development of individual relapse prevention plans, which include processes to manage the urge, and support for the gambler to maintain vigilance by those providing treating, can help the PG to maintain abstinence.

This relapse study has shown that management strategies are more effective at the beginning of the 'push' process when arousal is at its least intense because, as the PG progresses towards relapse with increasing urge and arousal, these strategies become progressively less effective as the gambler enters the "zone" and critical thinking is

reduced. As the PG progresses towards relapse and arousal increases, these strategies are less effective, as shown by the downward arrows that become weaker as the relapse process progresses in Figure 6, the Management of Abstinence, below.

Figure 6 Management of Abstinence



The ‘push’ to gamble commences with triggers and risk factors that initiate thoughts about gambling and stimulate the urge, with enhancement of the urge and arousal by thoughts of winning, resulting in the decision to relapse. It is difficult to understand how it is that such poor decision-making can occur in the face of gross evidence that gambling is not a good practice for such gamblers. It was therefore critically important when the subjects drew attention to the notion of ‘gambling sense’, where there are many permission giving and justifying, rationalising, and dismissive cognitions that downplay the importance of vigilance in the management of relapse prevention. This concept suggests that the capacity for objective reasoning is affected, possibly because of the high levels of arousal that are reached by the ‘push’ cascade of thoughts, urge, excitement, selective attention, and an underlying approach of avoidance conflict, such that an altered state of consciousness intervenes which the PGs referred to as the “zone”.

Some gamblers were able to prevent relapse by successfully managing the risk factors for relapse. The central feature associated with the ‘pull’ from relapse, was

the ability of the gambler to remain vigilant because the urge was kept low and manageable, and memory, critical thinking, and decision-making capacity were maintained. There were many variables that contributed to the ability to remain vigilant, and these can be summarised in three groups of skills that need to be present if relapse is to be avoided: cognitive/ behavioural skills associated with relapse prevention; attention to, and awareness of, past harms producing a fear of gambling; and skills for maintaining the motivation for abstinence.

In addition, cognitive behavioural skills also acted to ‘pull’ the gambler away from relapse by being vigilant about the possibility of relapse in the presence of triggers. These skills enabled the gambler to act on cognitions and the urge to gamble through critical self-talk about the outcomes of chance, or the harms associated with gambling. The use of coping skills and lifestyle change, and the remembering of past harms to arouse fear, guilt, and shame, together with support, also provided motivation for the gambler to maintain abstinence. For example, if the gambler was successful at managing the risk of gambling and arresting the increasing levels of arousal, they would be able to maintain the capacity to think critically, self-monitor, and maintain rational decision-making processes.

When all these strategies are examined, they have one important feature in common: they all address the undoing of the facilitatory, rationalising, and permission-giving erroneous cognitions that have so large a part to play in relapse and the failure to learn from the devastating consequences of problem gambling. This strategy of attacking these negative erroneous cognitions is an area that has not received any attention in the literature at this point in time. For example, the impacts of gambling-related debt on families and the wider community are poorly recognised and little understood, and remains an important issue that needs to be addressed by policymakers, advice services, health services, and employers (Downs & Woolrych 2010).

Whilst it has been common knowledge for clinicians for a long time in all areas of the addictive behaviours that addicted clients provide excuses for all their behaviours (Jonsdottir & Jonsdottir 2007), this has not been a focus in CT or CBT. In fact, the

only ‘erroneous cognitions’ that have been described for PGs, are excitement-inducing cognitions (Ladouceur & Walker, 1996).

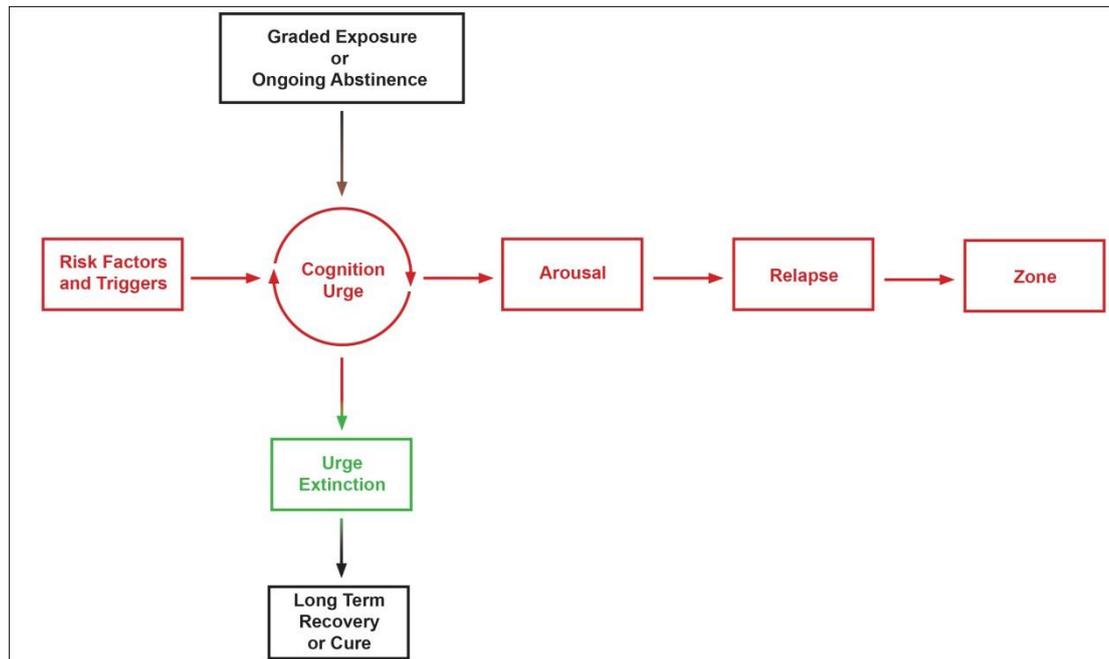
This state of affairs needs to be reconsidered, as this study has shown that facilitatory erroneous cognitions, erroneous cognitions related to the outcomes of gambling, and the urge, interact with each other to induce an altered state of mind for EGM PGs. These strategies of enhancing vigilance and the maintenance of critical thinking and abstinence are also those that underpin the other strategies that intervene with some success for individual PGs, such as general and financial counselling (Rodda, Lubman & Latage 2012) and PA, and that it may well be that the success of these strategies could be enhanced by identifying precisely which erroneous facilitatory cognitions are the ones most used by PGs in general. Such knowledge may well be useful for significant others living with the PG.

In acute relapse, the vicious cycle can be broken if the gambler is able to question their actions and, as a consequence, the urge would be reduced. Increasing success leads to better social supports and a greater sense of self-esteem and personal self-efficacy, thus enhancing motivation and commitment over time.

5.4 Mastery of relapse and recovery

The second strategy used was graded urge exposure and response prevention (Battersby et al. 2008), and was seen as the most effective treatment of relapse by the participants in this study. This was also confirmed by their significant others. The extinction of the urge to gamble was the reason this strategy was the most effective (Oakes et al. 2008; Oakes et al. 2010).

Figure 7 Recovery



When the urge to gamble had been extinguished, the participants no longer needed to rely on managing their gambling problems, as described in the Management of Abstinence (see Figure 6) through perpetual fear and vigilance. For these gamblers, the reduction or extinction of their urge to gamble enabled them to maintain critical thinking, volition, and recall, in the presence of previous high-risk triggers for relapse that would stop the process of relapse from starting and the gambler entering the “zone”. Mastery of the urge (see Figure 7, Recovery) was achieved, for some, by ongoing abstinence, and for others, by specific treatment programmes aimed at extinguishing the urge to gamble. These participants no longer needed to rely on managing their gambling problems and this highlighted the importance of facing their urges and eliminating them, rather than avoiding them or trying to manage them indefinitely through perpetual fear and vigilance. Therefore, ongoing vigilance and monitoring are needed to maintain recovery.

The findings of this study provide a more simplified approach to enabling the PG to either manage, or eliminate, the risks of relapse. Strategies to manage the risks of gambling/ relapse in the literature (for example, in Thygesen & Hodgins 2003) have been shown, in this study, to be effective. However, this study also highlights the

complexity of relapse and the need for ongoing vigilance and support for these strategies to remain effective.

Furthermore, these strategies that enhance the “pull” away from relapse are important and involve reducing, challenging, and eliminating facilitatory cognitions as part of an approach involving general counselling, PA, and relapse prevention strategies.

Eliminating the ‘push’ through cognitive behaviour therapy addressing erroneous cognitions (Ladouceur et al. 2001), or behavioural therapy addressing the gambling urge (Oakes et al. 2008), have been shown to be the most effective approaches to enable the PG to recover. For example, urge reduction and extinction are important in achieving good outcomes for EGM PGs and they clearly act through the PG’s newly acquired skill in preventing the cascade of behavioural and mental behaviours of increasingly exciting and permission-giving cognitions that enable normal people to progressively assent to increasingly unrealistic behaviours and thoughts that appear to be normal to them at the time.

This study highlights the importance of education for the PG and their significant other about the “zone” and the implications for the altered state of awareness on the failure to be able to learn from repeated harms. To complement this treatment approach, a process of “graded exposure” to guilt, grief, and despair should be considered to enable the PG to acknowledge the harms in a manageable process so that they can gradually take responsibility for learning and engaging in the change process.

5.5 Limitations

This study is limited by a relatively small homogenous sample. The conclusions reached in the final synthesis of this study need to be further developed both qualitatively and quantitatively. The examination of the “zone” was difficult in that there were a number of subjects who could not recollect what had happened whilst they were ‘in the zone’. The theory that the “zone” could be a dissociative episode that seemed to be precipitated by the EGMs also needs further examination and

testing. It is an important finding which has the support of many in the literature, especially in the work of Schüll (2012) and Livingstone (Livingstone et al. 2008b). However, relapse has not been thoroughly studied and researchers have come close, but have stopped short of describing and comparing this altered state of awareness with the formal diagnostic criteria pertaining to dissociative disorder.

The selection of subjects has also produced some weaknesses in the study. The first is the lack of impulsive young male PGs. Impulsivity is one of the most important variables (Goudriaan et al. 2008) considered as central to the development of problem gambling (MacKillop et al. 2006a) and relapse (Battersby et al. 2009; Goudriaan et al. 2008), and yet was rarely mentioned by the participants. This may have been because young males, for whom impulse is thought to play an important role in their gambling behaviour (Goudriaan, et al., 2008), were missing from this study, despite an attempt to recruit them. However, the immediate pattern of relapse described by the participants in this study suggests that impulsivity is associated with the “uncontrollable urge” to gamble and requires further study. The theory of relapse presented has, within it, a solid explanation for the impulsivity seen and commented on in the literature in the description of the immediate relapse in fantasy at the end of a gambling episode. This then acts to set up the next actual relapse that is simply no longer questioned. Nevertheless, this issue of impulsivity requires further exploration and the findings may not generalise to such PGs with impulsive personality characteristics.

In spite of a variety of recruiting approaches, no “spontaneously recovered PGs” came forward to enrol in this study and thus were not represented. Similarly there were no PGs treated through cognitive therapy; but, as indicated above, the recent data (Smith, David et al. 2013) suggests that CT and BT are equally powerful in their therapeutic efficacy for PGs, and both lead to urge reduction and extinction.

There is clearly a limit on the number of subjects that could be interviewed and selected for this study, so further examination is required to see if the theories proposed apply to these EGM PGs, or if they could apply to PGs from different cultures or those who partake in other forms of gambling such as horse or dog racing,

keno, or casino games. This, of course, includes such issues as internet gambling and allied complications which may have similar processes that could also potentially lead to altered states of consciousness, as with EGM PGs. However, the richness and saturation (Patton 2002) of the data obtained helps to counterbalance the missing participants with impulsivity, being young males, or those who have spontaneously recovered. Similarly, any associated gender, age, and ethnicity effects need to be further clarified.

The majority of participants in this research described entering an altered state of awareness during relapse. This also requires further exploration to determine if this feature is common to all relapsing PGs. Causality can, in no way, be established by qualitative methodologies, however, the very strong impression gained listening to so many PGs was that the EGMs and the gaming environment was such that PGs were led, and allowed themselves to be led, into a world of cognitions that had no relationship to the realities of the economics of the transaction between the PG and the gaming proprietor, and that their capacity to effect contractual economic transactions was clearly limited.

Furthermore, the small sample of PGs who self-reported their perceptions of relapse does not represent strong evidence that particular machine design, such as free spins, exacerbates relapse.

CHAPTER SIX

CONCLUSIONS AND IMPLICATIONS

6.1 Conclusions

This thesis has reported on the findings of research that has investigated relapse in (EGM) gambling.

6.2 Implications

This research has identified and fully described a sequential process of factors that either increase or reduce the risk of relapse in problem gambling. The development of future treatment methods could benefit from integrating and further investigating these findings, including the significance of the gambling urge, the “zone”, EGM design, and relapse, outlined below. This section firstly addresses issues related to clinical practice such as the implications for treatment looking at the urge, cognitions, negative affect, support, the “zone”, and other mental health disorders. Meanwhile, the public health issues identified in this study provide an understanding about possible implications for public health. However, these are not facts and much research still needs to be conducted to provide certainty. What is clear is that the environmental factors involving access and proximity appear to play a role in relapse. The implications identified in this study involved the theories related to the location of ATM/ EFTPOS facilities, banking responsibilities, and machine design.

6.3 Clinical Practice

Given the impact and costs of relapse to the PG and their significant others, there is a clear need for service responses to be tailored to assist those who continue to relapse, for example, providing evidence-based treatments that motivate the PG to complete treatment. Furthermore, for those who do not wish to engage in treatment programs, it is important that support focuses on enhancing the PGs’ skills and self-efficacy to identify and manage the ongoing risk factors for relapse.

Motivational interviewing must be an essential component of treatment for those seeking help for their PG to encourage them to engage in the change process by acknowledging the consequences of their behaviour. Therefore, motivational enhancement techniques play an important role in helping the PG to become aware of the harms of repeated relapse, address their behaviour, and engage in the change process needed for recovery. Support at this time is essential to enable the PG to experience and address these distressing emotions. During this process of self-observation, teaching the PG the importance of remaining vigilant to the risks of relapse is essential. A particular focus of treatment for the PG needs to incorporate education about the role that facilitatory cognitions, including lies to oneself and significant others, play in facilitating relapse and in decision-making during the relapse process. Effective support networks are imperative at this time to enable the PG to remain vigilant and to deal with the negative emotions they must deal with as they progress through the change process.

Alternatively, those providing supportive counselling to PGs may consider the role of the urge in relapse when they present for help. If the counsellor identifies that the PG is struggling to manage their urge, modifying their counselling strategies to help the PG to manage the risks associated with the presence of an urge may be helpful. For example, counselling directed at maintaining high levels of vigilance about the false rationalisations that create the fantasy of “available money” and the thousands of excuses that interfere with critical thinking, and the dismissal of the grief and harm caused to loved ones, is central. As well, counselling directed at inhibiting the escalation of the uncontrolled excitement necessary for relapse and the permission-giving that the PG allows as they enter the “zone” where dissociation and relapse go hand in hand, is also necessary.

It is essential that counsellors be aware that PGs who relapse habitually may already have planned and deferred their next relapse episode whilst they are seeing the counsellor for “treatment”. Many may already have planned and deferred their next relapse as they already have “available money” in mind to use. In this state of mind, learning becomes ineffective and may well be related to the high level of drop-outs that occur in treatment.

In addition, as the PG is assisted to face the harms of their gambling, this too may lead to treatment drop-out as this process may become too distressing for the PG who pursues relapse as a means of gaining immediate relief from this distress.

Therefore, practitioners who provide evidence-based treatment need to be employed to provide education and ongoing support to enhance gambling counsellors' practice. Consideration needs to be given to training in the exposure and cognitive restructuring aspects of cognitive behaviour therapy for gambling counselling or therapy services, for example, to teach these counsellors how to increase a PG's ability to effectively manage their gambling urges and the associated distress experienced by these PGs who must face the consequences of their gambling behaviour.

This research has shown that erroneous cognitions facilitate relapse in an interactive way so that there is a transition from rational critical thought to the "zone". This highlights the importance of more adequately describing and identifying these facilitatory cognitions related to permission-giving to relapse and creating "available money". Developing ways of possibly quantifying these cognitions in questionnaire form so that we can adequately assess and measure the impact of these erroneous cognitions on treatment outcomes is also required.

This research has many implications for treatment, including counselling, motivational, cognitive-behavioural, and group based treatments, including GA.

Cognitive Behaviour Therapy

As has been demonstrated, currently in clinical assessment, there has been an absence of focus upon the facilitatory cognitions, which also are "erroneous" as defined in the literature (Walker 1992). It is clear that both these sets of cognitions facilitate relapse and transition from rational, critical thought to "gambling sense".

This suggests that there is a need to review the assessment of PGs for CBT to ascertain these facilitatory cognitions and to see if more effective CBT could be

developed that addresses these particular cognitions. Currently, there is a substantial attrition associated with all treatments in problem gambling (Westphal 2007) and it may be that those with facilitatory cognitions, and their associated shame and guilt, may drop out as these cognitions and emotions have not been addressed by treatment providers. It may also be that, because treatment providers do not adequately access facilitatory cognitions, some PGs do not feel listened to and, therefore, cannot engage adequately in CBT, as the focus for some PGs needs to be on these very cognitions.

Counsellors

Counsellors working in financial and supportive counselling programs funded, for example, through mandatory levies and voluntary contributions (Productivity Commission 2010) would be very well aware of the “facilitatory cognitions” that have been described in this research. This suggests that more effective use could be made of this knowledge. For example, how a PG begins to convince themselves, using permission giving and facilitatory cognitions, that a relapse is affordable when it fact it is not. Alerting the PG about how these specific cognitions give rise to the urge and an inability to think clearly may be helpful. For example, by providing this information to PGs and their significant others to enable them to understand how these factors lead to relapse and how to manage this risk.

However, the therapeutic process of exploring the impacts of harmful gambling in the PG’s life may result in them “feeling bad” whilst making them “take responsibility” for their behaviours, and this may be too distressing for some. This may be the reason for PGs dropping out of treatment early or not attending all their scheduled appointments. Therefore, the entire assessment process can produce relapse by setting off an episode of “relapse in fantasy”, as described by the participants in this research, in order to void this negative experience. Furthermore, some PGs may already be in “relapse in fantasy mode” when they attend treatment as they plan for the next relapse. At this time, learning to address the issues necessary for recovery may become too difficult. These PGs may not be ready to address their gambling problems, and may find that planning their next relapse helps to distract

them from experiencing the distress needed to address their gambling problems and to begin to recover.

At this time, support is essential to enable the PG to experience this distress. However, further research is needed to explore and understand what “effective support” actually consists of that will enable these PGs to experience the distress of acknowledging the harms of their behaviours and to progress through the learning process to begin to recover.

Lifelong ongoing maintenance of vigilance has been found to be central to the management of problem gambling for as long as the urge to gamble is present, so that cognitions remain intact and relapse can be reduced. For these PGs, self-management techniques are highly effective. However, these PGs should be advised of the different treatment options available that may help them to recover by reducing the ongoing risks of relapse. This service strategy may result in the need for a review of the treatment provider’s capacity to provide PGs with a variety of options and choices, including the option of a number of possible evidence-based treatments.

Extinction of the Urge and Relapse

The presence of an urge (psychophysiological response to an external or internal trigger) has been demonstrated to increase the risk of relapse. For some, extinction of the urge to gamble was the most powerful factor in reducing relapse. Reduction of the gambler’s arousal can occur in a number of ways, including treatment by targeting urge reduction or addressing erroneous gambling cognitions and management strategies aimed at ongoing abstinence. Therefore, the reduction of the PG’s arousal plays a significant role in reducing relapse. This has implications for the treatment of PGs and ongoing management strategies. For example, training needs to be provided to those conducting treatment for PGs about the importance of extinguishing their urge using approaches such as CT or graded exposure. Therefore, these clinicians need to be aware of the importance of PGs completing treatment to achieve extinction of their urge.

Gambling support workers also need to be educated about the importance of teaching effective strategies to PGs to help them to manage their urges to gamble, particularly in the early stages before it escalates and becomes impossible to resist. Clients should therefore be educated about the need to eliminate urge and modify cognitions to prevent relapse.

Further research may help to provide a better understanding of the role of urge reduction and recovery from problem gambling in the longer term. Research addressing the long-term efficacy of treatment with a primary focus of extinguishing the urge to gamble, or teaching the gambler how to manage their urge resulting in ongoing abstinence, would provide a better understanding of urge reduction in preventing relapse. Urge and cognitions should be measured at the commencement of treatment and at discharge as potential predictors of relapse.

The immediate pattern of relapse described by the participants suggested that, for some, impulsivity was associated with an “uncontrollable urge”, and may be an artefact secondary to the urge or to a heightened level of arousal. Blaszczynski et al (1997) pointed out the clinical importance of understanding features of trait impulsivity and its association with pathological gambling in order to provide the best interventions for these gamblers. Therefore, research aimed at understanding the role of impulsivity in relation to the urge and relapse may provide insights into addressing PGs who struggle with an overwhelming urge to gamble. These findings may help with the development of strategies that target these PGs who may be at an increased risk of relapse, particularly as the presence of sensation-seeking traits leads to treatment drop-out (Lebold, Ladouceur & Blaszczynski, 2003; Smith, et al., 2010c). Therefore, health providers need to take into consideration the additional risks of PGs with impulsivity traits for ongoing relapse. Finally, as a public health issue, educational programs in schools, as a harm minimisation strategy, need to target young adolescent males in order to teach them about problem gambling.

Financial Management

Financial counsellors provide a valuable service that enables gamblers to develop effective strategies to manage financial stress, which is often a risk factor for relapse.

A significant finding from this research was the presence of erroneous cognitions regarding money that facilitated relapse. This central finding extends the previous concept of erroneous cognitions that have a primary focus on PGs' perceptions of the outcomes of gambling. These erroneous facilitatory and permission-giving cognitions regarding money, revealed the PGs' inability to think critically about their financial situation as they convinced themselves that they have 'available money' for relapse, which was often not the case. Some PGs fantasised about ways to obtain this money.

Furthermore, when the PG seeks financial assistance, they may, at this time, have an increased capacity to think critically, learn from the harms, and begin the change process.

It may well be that a more structured and educational approach surrounding facilitatory cognitions. Addressing permission giving cognitions opens up an area of formal therapy that is already being addressed by financial counsellors. Therefore, these financial counsellors are in a position to provide a stronger role in helping PGs understand the significance of these facilitatory and permission giving cognitions in the relapse process.

For example, teaching PGs to recognise and challenge facilitatory and permission giving cognitions that enable them to make the decision to source money to gamble when in fact this money is not available. Furthermore, educating financial counsellors to recognise that some PGs may already be planning their next relapse in "fantasy", as a way to deal with these difficult processes of recovery, may be useful. Asking the PG about their thought processes may also help these counsellors to identify those at risk of planning their next relapse, and enable them to use appropriate interventions to reduce this risk for these PGs, such as through helping the PG to realise that their perceptions of "available money" for gambling is, in fact, not often actually available.

Therefore, financial counsellors may benefit from education about these specific erroneous cognitions which facilitate relapse. The PGs' significant others need to be encouraged to attend financial counselling sessions. These sessions need to include:

- Teaching significant others and the PG about the relapse process and the presence of erroneous cognitions, in particular, related to their financial situation. Furthermore, the counsellor needs to highlight to the significant other that PGs have an inability to think critically during relapse which impacts on their financial decisions at this time
- Teaching significant others how to manage the PG's manipulative behaviours to obtain cash and how to say 'no' to requests for money
- Teaching PGs to be vigilant to their erroneous cognitions about the notion of "available" as opposed to "real" money
- Limiting the PG's access to bank accounts and credit cards
- Education about stereotyped use of credit cards during relapse, and how money loses its value as the PG chases their losses

Negative Affect

The findings from this research have extended the concept of the role of co-morbidity and the perpetuation of problem gambling behaviour. For participants in the current study, co-morbid mental health issues were often not the primary reason for a gambling relapse. Rather, it was the ways in which these problems created a mindset characterised by negative feelings and self-critical cognitions that created the risk. The negative affective states triggered the urge to gamble and the ongoing risk of relapse as the gambler attempted to avoid experiencing these distressing emotions.

It could be argued that a mental health assessment needs to be carried out with all PGs (Kim et al. 2006) as many of them suffer from depression or negative affective states, as described by many of the participants in this study. The mental health assessment could include the recognition and management of all co-morbidity, especially depression, which has been highlighted in this study as a significant risk factor for repeated relapse. From first principles, these interventions might include

evidence-based therapies, such as cognitive therapy, to deal with negative affective states (DeRubeis, Siegle & Hollon 2008) and behavioural interventions, such as behavioural activation with coping skills training (Jacobson et al. 1996). Antidepressants for psychological treatments may be beneficial to treat depression in PGs (Zimmerman, Breen & Posternak 2002) (www.BeyondBlue.org.au) and thus reduce their risk of relapse associated with such negative affective states.

Marital or relationship conflicts were almost universally present amongst the participants in this study, a phenomenon also found in other studies (Griffiths, 1999). Again, in these instances, the negative affective states experienced as a result of these relationship problems served to trigger the urge to gamble. There were also a number of examples amongst participants of dysfunctional relationships where couples clearly sabotaged one another to perpetuate their gambling problems. This has been described in the literature (Moos 2007), and it is clear that such dyads need to be treated as a couple. Therefore, these findings have implications for clinical practice as those providing counselling or treatment to PGs should assess the suitability of the PG for referral to relationship counsellors together with their significant others. Relationship counsellors treating PGs may also benefit from education about the importance of engaging significant others early in the gambler's recovery process and how important the significant other's role is to support the PG during this distressing time.

Support

Support by a significant other has been shown to be crucial in the "pull" away from relapse, enabling the PG to begin to tolerate higher levels of awareness of the real distress that they feel after relapse. Negative affective states, at this time, are often fuelled by the despair, guilt, and shame associated with the financial ruin of a relapse. If the PG is able to access support at this time, it may reduce the possibility of the PG entering a 'relapse in fantasy' until the next relapse is possible when money becomes available. With the help of a significant other, the PG can begin to acknowledge and reflect on the consequences of their behaviour and begin the process of change. Without this support, they have no option but to look for an

immediate solution to their desperate situation by either relapsing again, suicide, or trying to abstain on their own.

With support, the PG is able to experience improved self-esteem as they are able to commit to, and achieve, ongoing abstinence, which results in improved relationships. Furthermore, encouragement and support by significant others, or peers during the treatment recovery process, may assist the PG to successfully progress through treatment, or to utilise appropriate management strategies to prevent a relapse.

The role of support when the gambler begins to vacillate about their decision to relapse is essential. At this time, the PG may be able to retain their capacity to think critically about their decision to relapse before entering a deeper level of the “zone” where critical thought processes might not be possible.

However, this study suggests that support is complex. The significant other often struggles to understand how to help the PG who becomes increasingly determined to relapse and less receptive to support. At this time, relationship disharmony increases and trust is lost as the PG relapses repeatedly. As part of therapeutic interventions offered to the PGs’ significant others, helping them to understand the cycle of repeated relapse, where the PG often finds learning from the harms of their gambling overwhelming on their own, may be beneficial. In addition, teaching the significant other the risks of their "enabling behaviours" would be useful. . These enabling behaviours would include such practices as giving in to the requests of the PG for money to gamble, which may result in cementing the relapse process, as this enables the PG to engage in repeated relapse cycles.

Ongoing abstinence achieved by the PG through regular attendance at PA and peer support sessions appeared to have resulted in extinction of the urge to gamble for some participants. It appears that the PG develops an increasing awareness of the harms of repeated relapse. This process of becoming wiser about the harms of gambling appeared to occur as the PG remained abstinent, thus enabling them to engage in ongoing critical thinking and self-observation in the presence of ongoing peer support.

Some PGs may prefer to engage in peer support rather than in structured treatment programmes and, as appropriate, they need to be provided with this option to complement ongoing supportive counselling.

Advocating for consumers in the role of recovery may also be beneficial in the recovery process. For example, the role of peer support workers who have experienced problem gambling themselves, and have successfully overcome their urges to gamble, may provide valuable support. Furthermore, their stories of recovery may provide hope for both the PG and their significant others as they present for treatment. These peer workers would benefit from training to be able to explain the relapse process and would provide valuable insights for the PG about which strategies they can use to maintain critical thinking and to overcome the risk of relapse. Positive experiences about recovery from peer workers may help the PG to commit to treatment.

Implications of the “zone”

The majority of PGs in this study described entering what appeared to be an altered state of awareness however further research is needed to determine if this state is present in all relapsing PGs, or which PGs are more susceptible to entering this altered state of awareness. Research targeted at exploring the existence and nature of the “zone” while the PG is gambling on EGMs may help to establish if such a state of mind is involved in gambling relapse and in the prolonging of relapse. The “zone” been shown in this study to have similarities to ‘Dissociative Trance Disorder’ (DSM-1V - TR) (American Psychiatric Association 2000) and needs further exploration to determine if this is accurate.

Nonetheless, this study provides empirical qualitative data which suggests that the “zone” may be an EGM-induced altered state of awareness. This has important implications for harm minimisation, and has moral, ethical, and legal implications which may provide insight into treatment, as the capacity to learn may be reduced when gamblers are in the “zone”. For example, this research has shown that interrupting the “zone” allows the capacity for critical thinking to return.

Further research is needed to examine these elements of the “zone” and to use a number of methodologies, including observational studies and single case studies, through which the behaviour of PGs can be closely monitored within the gambling environment/ culture. These findings will help inform best practice for the treatment of PGs who continue to relapse, and will also provide direction for regulators, government, and the industry in their efforts to address problem gambling. Furthermore, it has been established that heart rate variability, EEG, and (functional) MRI are sensitive methods for the detection of physiological changes related to dissociation and dissociative disorders, and could possibly provide more information about the aetiology of these conditions (van der Kruijs et al. 2012). The use of such measures could help to provide an increased understanding about the presence of dissociation experienced by PGs, and earlier identification of PGs at risk of dissociative responses can then be made and appropriate treatments designed.

6.4 Public Health

The “zone” and ATMs / EFTPOS facilities

When in the “zone”, many PGs in this study described a constriction of attention and awareness. At this time, it appeared that the PG could not think critically, exercise normal cognitive abilities of self-observation, make a realistic appraisal of the value of money, see the consequences of their actions, and exercise the will to cease gambling or to learn from past negative experiences of ongoing relapses. This cognitive dysfunction appeared to inhibit PGs from terminating their relapse episode until they ran out of financial resources, thereby extending the duration of the relapse and exacerbating the losses and harms incurred. At this time, the PG often withdrew money repeatedly, as demonstrated by Schüll (2012), who also described how PGs draw on their bank accounts and credit resources to hasten the exhaustion of their funds, thus allowing a longer time in the “zone”.

These findings assist in explaining why having ATMs/ EFTPOS facilities within reach of problem gamblers is a risk factor for problem gambling behavior, often leading to ongoing cycles of repeated relapse and financial ruin. Therefore, simply

removing the ATMs/ EFTPOS facilities from the gaming room floor and leaving them inside the hotel environment is not enough to inhibit PGs who are experiencing a “zone”-like state, and have the ability to withdraw money repeatedly to gamble. These PGs will simply source the ATM facility and then return to their gambling.

It has been documented ATMs/ EFTPOS facilities enable PGs to access cash to continue gambling (Hare 2009). A report evaluating the removal of ATMs from gaming venues in Victoria, Australia conducted by Thomas et al (2013), who demonstrated that the removal of ATMs from venues with EGMs was an effective harm minimisation measure in the state of Victoria. However, the authors cautioned that entrenched problem gamblers are likely to access additional funds from external cash facilities (Thomas, A. et al. 2013). This study supports the findings of the current thesis suggesting that, for some PGs, the removal of ATMs/ EFTPOS facilities from venues may not be helpful. These PGs are so ‘entrenched’ in gambling or in the “zone”, that their ability to think critically about their decision to continue to gamble is impaired. The PG will then seek out ATMs/ EFTPOS facilities to prolong their gambling, often in a desperate pursuit to prolong their gambling experience as money loses its value in the process of relapse.

Similar findings have been documented in The Productivity Commission Report (2010) which suggests that if PGs are forced to have a break from being in the “zone”, for example by leaving the gambling venue, they may be able to reconsider their decision to continue to withdraw their money to maintain gambling. However, these gamblers would not be subject to restrictions that apply to in-venue ATMs/ EFTPOS facilities and a significant proportion of higher-risk gamblers would leave venues to seek out alternative ATMs (Productivity Commission 2010).

Implications of the “zone” and ATMs / EFTPOS facilities

It is clear that ATM/ EFTPOS limitations may not help all PGs. This current research, exploring relapse in EGM gambling, provides answers as to why PGs continue to source all their available money to gamble when in the “zone”. These PGs do not understand the full implications of what they are doing and are simply not able to reflect on their behaviour as their focus of attention is narrowed to

chasing their losses until all their available cash has been used. At such times, warning or help messages on ATMs would not be helpful until the PG had no available money left to withdraw and were confronted with the reality of their financial ruin.

Therefore, the findings from this research have explained why, for PGs who are in the “zone”, the close proximity of ATMs to EGMs next door to gambling venues (for example in the hotel area or near the casino) enabled PGs easy access to cash at the very time that their ability to think critically was diminished. While not directly in the gaming room, ATMs within the hotel establishment enabled gamblers to make multiple cash withdrawals, resulting in more money being withdrawn on multiple occasions. These withdrawals are often more than the PG initially plans, as they return on many occasions to withdraw cash repeatedly until there is no money left. This pattern of ATM use provides evidence that the PG is experiencing an altered state of awareness when gambling, and that this is an abnormal ATM withdrawal pattern with stereotyped behaviour typical of a state of dissociation.

The Productivity Report (2010) also highlighted that moderate-risk gamblers and PGs are far more likely to use credit cards and to access credit accounts than other gamblers for the purpose of gambling. Of further importance, this report suggested that gamblers are at risk of being placed in a position where they are unable to manage their financial affairs appropriately and should therefore have credit restrictions. This supports the findings of this thesis that PGs may not be able to make a rational financial decision when in the “zone” as their ability to think critically is not possible in this state. This raises the concern that a breach of duty of care is occurring by the gambling establishment for allowing PGs to continue to gamble when they are not able to make an informed decision about their financial situation. This breach of duty of care is also being enacted by banking establishments for allowing PGs to continue to access money when they are not able to make a critical informed decision about their finances. However, banking establishments need to be mindful to respect their customer’s decision-making throughout this process.

Furthermore, any gambling expenditure saved by these measures may be spent the next time the gambler visits the venue. In addition, banning the use of credit cards and access to credit accounts from venues is not likely to make a significant difference, as higher-risk gamblers can leave the venue to access an ATM elsewhere that permits the use of credit cards (Productivity Commission 2010). This highlights the difficulties of those helping PGs to reduce the financial harms they endure while in the “zone”, particularly, as there is no opportunity for these PGs to be able to break this abnormal mental state until all their available money has been withdrawn. Does this mean that these establishments are in some way liable for the loss that the PG has incurred?

The findings from this research suggest a number of possible considerations for the use of ATMs:

- Gaming room staff need to be educated to monitor PGs who make repeated patterns of withdrawals from ATMs and to provide PGs with education about the help that is available. However, ATMs are not allowed in gaming areas, by law, so it may be difficult for staff to observe such ATM use.
- Governance policies should be put in place. For example, banking institutions need to monitor the spending of those customers who make repeated withdrawals in hotels over a short period of time, to detect patterns of use in venues that suggest problematic gambling behaviour. These PGs need to be contacted and the offer of financial review provided. It is at this time that the PG can be provided with details of help services and methods to limit access to funds in gambling venues. Similar to the ways in which ATMs are programmed to retain credit cards after a certain number of incorrect pin numbers have been entered, ATMs could also be programmed to retain cards after a number of repeated withdrawals in hotel venues. This process would need to be discussed by banking institutions as part of the conditions for credit card approval. This should be part of the banks’ business practices as these institutions also have a duty of care to their patrons.
- Hotel staff should monitor PGs’ gambling and approach them when they finish their gambling session if it appears that their gambling was problematic

(such as observing the PG making repeated withdrawals from ATMs). It appears that this is the time when the PG may momentarily be able to think critically about their relapse behaviour. This strategy might take several approaches by the hotel staff before the PG is ready to seek help and to consider responding to the information provided.

Banks and duty of care

There are a number of ways in which banks can assist their customers to manage their finances. For example, the professional relationship between bankers and their customers means that the banker has a duty of care to ensure that their product does not harm their customers. If this is the case, then the duty of care to the banking customer is being neglected by the financial credit industry.

It would be more efficient and effective to address the source of a problem than to deal with its devastating consequences, where the PG repeatedly withdraws all their available money from the ATM. Targeting the banking industry would help to identify at-risk customers. Therefore, training is needed to alert bankers to their role of ensuring that their customers engage in responsible banking practices. This training must involve educational programs about problem gambling and the devastating financial ruin experienced by PGs from repeated relapse. Bankers need to be made aware that easy access to cash within the venue facilitates the harms experienced by PGs.

It is essential that bankers are vigilant to their customer's banking practices in relation to unusual ATM activity, especially within gambling establishments, for example, when they notice that a customer makes regular and repeated withdrawals from a gambling establishment ATM over a certain period of time. Interestingly, Schüll (2012, p 71) described a bank statement as a chronological index of a PG's withdrawals, and an index of the PG's subjective withdrawals whilst in the "zone". She described how a bank statement demonstrated one of her study participant's spikes of urgency that drove her trips to the ATM and the periods of suspension between them.

In addition, bankers must take into consideration the ATM use of these potential at-risk customers who may request credit that would add to their financial hardship. Specific gambling-related questions need to be raised between the banker and the customer to determine if credit would be detrimental to these customers. Credit should not be given under these circumstances, and the banker should be required to refer these customers for financial counselling and, if appropriate, provide gambling help information. If these rules are put in place, an overnight shift may be seen in the harm experienced by many PGs who would not have the ability to withdraw all their available money from their bank account.

Furthermore, it should be common practice for all creditors to look for patterns of spending behaviour that may indicate that their customer is engaging in risky gambling spending behaviour. If this is the case, the creditor needs to question their customer in order to determine the reason for the credit, and if allowing credit is appropriate for these clients.

Key points

If this abnormal pattern of ATM use by PGs is consistent with them experiencing an altered state of awareness, and is reflected in their bank statements, as reported by Schüll (2012), the following patterns of ATMs/ credit cards/ EFTPOS need to be reviewed with regards to possible PG behaviours, including:

- Withdrawal patterns from ATMs/ credit cards/ EFTPOS whilst PGs are in the “zone” are different to PGs who are not in the “zone”
- Withdrawals from ATMs/ credit cards/ EFTPOS of repeated small amounts of money
- Frequent withdrawals from ATMs/ credit cards/ EFTPOS made by people who show other signs of debt and financial troubles, especially when they are made immediately or soon after their salaries are deposited on a payday
- Frequent withdrawals, one after another, during a specified period of time, in venues from ATMs/ credit cards/ EFTPOS
- Frequent withdrawals at the same each day (particularly at unusual times such as early in the morning) from ATMs/ credit cards/ EFTPOS facilities, often

located near a venue or in a venue, or if this behaviour is different from the usual pattern of use by that person at other times and locations than in gaming venues

Key Recommendations

The findings of this study provide a theory of relapse from the PGs' perspective. They indicate that a number of key recommendations can be established, though the extent and detail of these recommendations requires further study to provide certainty about how they should be applied to practice in the treatment of PGs. However, if it is established that PGs experience an altered state of awareness, identified in this study as being similar to Dissociative Trance Disorder (American Psychiatric Association 2000), whilst gambling, the following recommendations need to be considered as harm minimisation strategies. However, this needs to be balanced with the possibility of infringing on individual civil rights.

- Banks should have a duty of care to identify and, if their customer is happy, to then assist that customer by monitoring their patterns of ATM/ credit card/ EFTPOS use (as identified above) as they do in respect of unauthorised use or financial scams. This could include the bank withholding the credit facility and/or contacting the customer when these patterns are apparent, in order to protect the customer.
- Once this abnormal pattern of ATM/ credit card/ EFTPOS use has been identified, a consultation process between the banking establishment, a gambling help worker, and the PG may then occur if the PG is comfortable with this process. This would help to determine the most optimal harm minimisation approach. For example, a program needs to be developed for the ATM that questions PGs making such out-of-character withdrawals automatically, with a warning message, or to withhold further withdrawals for 24 hours. Another option is that the card could be retained by the ATM and the patron be asked to attend a private discussion, or be provided with gambling help counselling, if appropriate.

- Expert health professionals in the area of problem gambling, and public health practitioners, need to be consulted regarding the development and implementation of such interventions to help these PGs. The legal capacity for PGs who are “in the zone” needs to be considered. For example, such abnormal patterns of ATM /credit card/ EFTPOS use suggests that the PG, at the time they are in the “zone”, cannot affect a legal contract. Therefore, the bank concerned may be liable for those financial losses when the PG is in this altered state of awareness. If this is the case, these findings may provide the basis for a class action by PGs against financial institutions with regards to their financial losses.
- Furthermore, it could then be argued that the banking establishment knew, or should have known, about this abnormal pattern of use by the PG whilst she/ he was in a disturbed state of mind. If this is so, the bank has been negligent in allowing such improper use of the ATM card to occur.

Machine Design

The features of EGMs that were found to exacerbate relapse included free spins, exciting lights, music accompanying wins, and the chance of a jackpot. Schüll (2012, p 95) provides a summary of some of the enticing features of EGMs. For example, illusionary player control conveyed by stop buttons and joysticks, and illusionary odds conveyed by teaser strips result in the gambler having an illusion of control and a distorted perception of the odds. It was also highlighted that PGs can see that they are beyond reason when in the “zone”, and knowledge of the machines inner functions will not curb their drive. It needs to be established whether the design of the EGMs do actually contribute to the PG entering this altered state of awareness and, if this is the case, strategies must then be put in place to reduce this harm. If this were to be the case, then the machines would be considered, in part, responsible for inducing a temporary state of acute mental ill health and, as a consequence, the machine manufacturers could be liable to be sued by the PG for the harm that the machines have caused.

Therefore, developing public health interventions to minimise the harm that occurs when PGs are in an altered state of consciousness (the “zone”) needs to be explored. This altered state of consciousness appears to have features consistent with the PG being in a dissociative state, i.e. being seriously psychologically impaired at the time. A minimum response requires that the potential exists for EGMs to be programmed to recognise patterns of use of these machines that are indicative of problem gambling and, in those situations, “pop up” messaging could assist PGs to escape from this altered state of awareness (cognitive function), as another harm reduction intervention.

Schüll (2012) highlighted that it is almost impossible for gamblers to track their losses, particularly when they are in the “zone”. The author made the following recommendations which fit with the findings of the current study:

- The duration of play needs to be reduced, with mandated time-outs at certain intervals
- Mandatory cash-out should occur, approximately every 150 minutes of continuous play. EGMs should have on-screen clocks and pop-up reminders of the time and amount spent, in order to interrupt the “zone”
- Periodic messages need to be displayed across the machines to encourage the gambler to take a regular break by facilitating the gambler’s rational choices

These recommendations need to be considered by governing bodies, and if the machine designers do not comply with these public health recommendations, licenses should not be provided.

Evidence from this study suggests that the following recommendations made by Schüll (2012) may not be helpful for PGs who are in the “zone”, as their ability to think critically is diminished at this time. These educational strategies would be more effective if they were aimed at gamblers who had not entered the “zone” as an early intervention strategy:

- To allow the gambler to see the real-time financial loss of their gambling, machine manufacturers should post games' average cost per hour and loss rates directly next to the play button, and the changing price of play in dollars and cents rather than as percentages
- Information for PGs should be explained with the introduction of modules displayed on gaming machines about randomness and probabilities of winning and near misses
- EGMs should show amounts in cash value, not in credits
- On-screen risk evaluation should be available

Removing the reserve option from the EGM would also force a break in play. This would assist the PG to take a break from play and to reconsider their decision to continue to gamble once they need to leave a machine. It is at this time that education and information about help services must be available for the PG.

6.5 Further Research Needs

What is relapse?

Predictors for gambling relapse have been significantly altered by the findings from this research. As such, it is recommended that there is a need to explore the relationship between the model proposed in this project and other aetiological and relapse models in problem gambling and other addictive behaviours, such as that developed by Witkiewitz and Marlatt (2004 and 2007).

The sequence of mental and behavioural events described in this research present a number of important questions that need to be answered if relapse in problem gambling is to be fully understood. A number of studies need to be commissioned to explore aspects of this process in order to test its generalisability and to better describe its characteristics. The following issues are recommended for further research:

The capacity for problem gamblers to learn when they appear to move into and out of an altered state of consciousness has important implications for treatment. This needs

to be examined, as therapy of any sort may be ineffective. If this is so, the methods of interrupting this altered state of consciousness during relapse (“the zone”) need to be explored to improve the efficacy of treatment.

The existence and nature of “the zone” needs to be examined in greater detail to establish how such a state of mind, with diminished responsibility and cognitive malfunction, is involved in both gambling relapse and the prolonging of relapse.

Establishing the role of support by significant others and consumer groups, such as PA, as the PG begins the learning process of recovery.

Case studies need to be conducted to explore the circumstances of employees convicted of fraud/ theft in relation to money stolen from employers to finance PG behaviours. It is important to understand the PG’s capacity to engage in critical thought about their behaviours when in the “zone”.

Research also needs to explore if machine design can interrupt the “zone” during problem gambling behaviour to enable the PG to stop and reflect on their behaviour in order to enable them to make a critical decision about their choice to continue to gamble.

The findings of this study need to be tested with a number of other populations and cultures not represented in this research to see if these findings are similar for these PGs or not. For example:

- a) The PGs who received treatment in this research received behaviour therapy (BT) addressing the urge. Further research needs to focus on PGs receiving CT, which focuses upon different aspects of the relapse process
- b) Non treatment-seeking PGs
- c) Aboriginal and CALD PGs, exploring the presence of cultural factors in the context of relapse
- d) PGs with co-morbid mental health disorders and personality traits, such as impulsivity, sensation-seeking, disinhibition, and susceptibility to reward

- e) Exploration of the role of abstinence and recovery from problem gambling
- f) Examining relapse with other forms of gambling, such as race betting and internet gambling
- g) Exploration of relapse with impulsivity and neuroticism using quantitative research with specific screening tools
- h) Comparing the results of this study with alcohol and substance use disorders using wider addiction literature to enable consideration of the similarities and differences between these disorders and PGs
- i) Facilitatory cognitions need to be reviewed with current CT questionnaires such as the Gambling Related Cognitions Scale (Raylu and Oei 2004)
- j) Facilitatory cognitions need to be reviewed as part of CT or CBT treatment interventions

Erroneous Cognitions

Further exploration is needed to explore the role of facilitatory erroneous cognitions or “Gambling Sense” and relapse behaviour, for example, in respect of how these act upon critical thought and the capacity for self-observation that results in the impairment of cognition and ongoing relapse.

Based on empirical observations, this research provides an understanding about the processes involved in relapse in problem gambling. It however, needs to be examined critically, replicated with other populations and different forms of gambling.

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APPENDICES

Appendix 1 GLOSSARY

Abstinence is a conscious decision to not engage in addictive behaviours such as using drugs, alcohol, or engaging in gambling.

Affect is a general term for feelings, emotions, or moods.

Positive affective states include emotions such as enjoyment, joy, and excitement.

Negative affective states include emotions such as anger, rage, disgust, shame, humiliation, sadness, depression, and distress.

Anxiety is a feeling of excessive apprehension (Clark, & Beck 2011).

Attention is partly an automatic process, and is central to perception and consciousness; it is the first step in processing a message.

Classical conditioning is when a neutral stimulus acquires the capacity to elicit a response originally elicited by another stimulus (Schacter et al. 2011).

Coding breaks a text from a transcript down to manageable segments. Open coding is conceptualising on the first level of abstraction from field notes or transcripts. These codes are conceptualised line by line. Axial coding is where identified categories are refined, developed, and related (Patton 1990).

Cognitive processes are higher mental processes such as perception, memory, language, problem solving, and abstract thinking.

Cognitive therapy is a type of psychotherapeutic treatment that attempts to change feelings and behaviours by changing the way a client thinks about, or perceives, significant life experiences (Clark, & Beck 2011).

Co-morbidity is the experience of more than one disorder at the same time.

Conditioning is the way in which events, stimuli, and behaviours become associated with one another. (Schacter et al. 2011).

Cue is a formerly neutral stimulus that acquires the ability to elicit craving through classical conditioning.

Craving is “a subjective” desire to experience the effects of the consequences of a given act.

Decision-making is the process of choosing between alternatives and selecting or rejecting available options.

Depression is a mood disorder characterised by persistent feelings of sadness and despair and a loss of interest in previous sources of pleasure.

Disinhibition is a term used to describe the condition of a person being unable (rather than disinclined) to control their immediate impulsive response to a situation.

Dissociation describes a wide array of experiences from mild detachment from immediate surroundings to more severe detachment from physical and emotional experience marked by a disturbance in the integration of identity, memory, or consciousness (Dell 2006).

Electronic gaming machines (EGMs) are based on random number generation where wins are generally represented with matched icons and games are non-strategic; however, players may control the stakes.

Environmental variables are external influences on behaviour.

Expectancy theory is a cognitive theory of motivation that proposes that people are motivated when they anticipate their efforts and performance to result in desired outcomes (Bandura, A 1977).

Executive function is a set of cognitive abilities that control and regulate other abilities and behaviours (Elliott, 2003).

Extinction in conditioning is the weakening of a conditioned association in the absence of a reinforcer or unconditioned stimulus.

Generalisability refers to the extent that findings in one situation can be transferred to another.

Grounded theory is the systematic generation of theory from data that contains inductive and deductive thinking (Patton, 1990).

Hypothesis is a tentative and testable explanation of the relationship between two (or more) events or variables; often stated as a prediction that a certain outcome will result from specific conditions.

Habituation in psychology is the psychological process in humans and animals in which there is a decrease in behavioural response to a stimulus after repeated exposure to that stimulus over the duration of time (Domjan, 2010).

Illusion is an experience of a stimulus pattern in a manner that is demonstrably incorrect, but is shared by others in the same perceptual environment.

Incentives are external stimuli or rewards that motivate behaviour.

Inhibition is the opposite of facilitation and refers to a mental state in which there is a hesitation or blockage of action.

Learning is a process based on experiences that result in a relatively permanent change in behaviour or behavioural potential.

Motivation is the innate or acquired drive that stimulates behaviour, and that may be negatively originated to solve or avoid a problem (for example) or positively originate for sensory gratification or social approval.

Operant conditioning is a form of learning. For example, behaviour is strengthened when followed by reinforcement, and weakened when followed by punishment. When an individual is reinforced for doing something they are more likely to do it again. When an individual is punished for doing something, they are less likely to do it again (Schacter et al. 2011).

Paralogical reasoning is illogical thinking where false inferences are drawn (Corsini 2002).

Perceived control is the belief that one has the ability to make a difference in the course or the consequences of some event or experience.

Perception is a process that organises information in the sensory image and interprets it as having been produced by properties of objects or events in the external, three-dimensional world.

Personality disorder is a chronic, inflexible, maladaptive pattern of perceiving, thinking, and behaving that seriously impairs an individual's ability to function in social or other settings.

Positive reinforcement is a process of increasing the likelihood of a response by immediately following the desired response with a desirable stimulus or reward.

Posttraumatic stress disorder (PTSD) is an anxiety disorder characterised by the persistent re-experiencing of traumatic events through distressing recollections, dreams, hallucinations, or dissociative flashbacks. These symptoms develop in response to life-threatening events such as rape, severe injury, and natural disasters.

Preoccupation is when a person becomes completely absorbed in their addiction. Their usual activities and relationships are overtaken by thoughts about engaging in the addictive behaviour and planning the next occasion where they can participate in the activity.

Problem solving is thinking aimed at solving specific problems and moves from an initial state to a goal state by means of a set of mental operations.

Probes are responsive questions asked to find out more about what has been raised in an interview process.

Quality of life is a subjective perception, which includes a person's physical health, psychological state, and level of independence, social relationships, personal beliefs, and their relationship to the main features of their environment.

Reasoning is the process of thinking in which conclusions are drawn from a set of facts; thinking directed toward a given goal or objective.

Reinforcer in operant conditioning describes any event that strengthens the frequency of the behaviour that immediately precedes it (Schacter et al. 2011).

Reliability is the degree to which a test produces similar scores each time it is used.

Relapse is to fall or slide back into a former state.

Sample is a subset of a population selected as participants in an experiment.

Schedules of reinforcement in operant conditioning are patterns of delivering and withholding reinforcement (Schacter et al. 2011).

Self-awareness is the top level of consciousness; cognisance of the autobiographical character of personally experienced events.

Self-concept is an individual's mental model of his or her abilities and attributes.

Self-efficacy is a set of beliefs that one can perform adequately in a particular situation. The individual's conviction or belief that he/ she can successfully execute a behaviour, or behaviours, that a situation requires to produce the outcome that is desired.

Self-esteem is a generalised evaluative attitude toward the self that influences moods and behaviour and that exerts a powerful effect on a range of personal and social behaviours.

Selective attention refers to the capacity to maintain a behavioural or cognitive set in the presence of distracting or competing stimuli, or a mental set whereby selective bias is given to information that accords with the beliefs held by an individual and the negation of information that contradicts those beliefs.

Sensation is the process by which stimulation of a sensory receptor gives rise to neural impulses that result in an experience, or awareness of, conditions inside or outside of the body.

Social role is a socially defined pattern of behaviour that is expected of a person who is functioning in a given setting or group.

Social supports are resources, including material aid, socio-emotional support, and informational aid, provided by others to help a person cope with stress.

State of consciousness is the state of being conscious with an awareness of the aspects of cognitive processing and the content of the mind.

Stigma is the negative reaction of people to an individual or group due to assumed inferiority or source of difference that is degraded.

Stress is the pattern of specific and non-specific responses an individual makes to stimulus events that disturb its equilibrium and exceed its ability to cope.

Stressor is an internal or external event or stimulus that induces stress.

Subconscious is the domain of the psyche that stores repressed urges and primitive impulses and acts automatically outside of awareness.

Suicidal ideation is the thoughts about suicide, which may be as detailed as a formulated plan, without the suicidal act itself.

Theory is a structured set of concepts that explains a phenomenon or a set of phenomena.

Tolerance is a situation that occurs with continued use of a drug, for example in which an individual requires increased dosages to achieve the same effect.

Triggers are formerly neutral stimuli that have attained the ability to elicit, for example, drug craving following repeated pairing with drug use.

Urge is a relatively sudden impulse to engage in an act.

Urge Exposure Therapy (gambling) is a specific therapeutic approach, which enables clients to slowly confront and extinguish their urge to gamble. It is based on the principles of learning such as classical and operant conditioning (Battersby et al, 2008).

Validity is the extent to which a test measures what it was intended to measure.

Zone is an altered state of cognitive function when the gambler is no longer able to engage in: self-observation, critical thinking, accessing memories of the negative consequences of gambling and exercise of the will in respect of gambling cognitions, urges, and behaviour.

Appendix 2 Gamblers Anonymous

Gamblers Anonymous (GA) is a fellowship of men and women where members share common experiences strength and hope they will solve their problems and help others to do so. GA is guided by its anonymity both public and individual. The program consists of the 12 steps of recovery based on the practice experience and insights developed over many years;

1. We admitted we were powerless over gambling - that our lives had become unmanageable.
2. Came to believe that a Power greater than ourselves could restore us to a normal way of thinking and living.
3. Made a decision to turn our will and our lives over to the care of this power of our own understanding.
4. Made a searching and fearless moral and financial inventory of ourselves.
5. Admitted to ourselves and to another human being the exact nature of our wrongs.
6. Were entirely ready to have these defects of character removed.
7. Humbly asked God (of our understanding) to remove our shortcomings.
8. Made a list of all persons we had harmed and became willing to make amends to them all.
9. Made direct amends to such people wherever possible, except when to do so would injure them or others.
10. Continued to take personal inventory and when we were wrong, promptly admitted it.
11. Sought through prayer and meditation to improve our conscious contact with God, as we understood Him, praying only for the knowledge of his will for us and the power to carry that out.
12. Having made an effort to practice these principles in all our affairs, we tried to carry this message to other compulsive gamblers.

GA is not a religious organisation the recovery program however it is based on certain spiritual values and concepts and regular attendance is encouraged. Gamblers who have been rehabilitated through the GA program realize they must live a life of

self-examination and self-improvement, as they are always vigilant against the impulse to gamble. Members are encouraged to channel energies into activities that foster productive character development as they abstain from gambling. During a typical meeting, members talk about their gambling and related experiences, how to handle the urge to gamble and how to deal with everyday life.

GA is considered effective because it :

- Undercuts denial, projection, and rationalisation
- Identifies the serious implications of gambling
- Demands honesty and responsibility
- Identifies and corrects character problems
- Gives affection, personal concern, and support
- Develops substitutes for the void left by the cessation of gambling
- Is non-judgemental

(Robert Custer MD May 1983 in Gamblers Anonymous 1984, p 6)

Gam-Anon

Gam-Anon is not affiliated with Gamblers Anonymous but the two fellowships cooperate closely sharing common goals. Gam-Anon meetings provide an opportunity for those affected by problems associated with problem gambling to find a new way of life for themselves as they learn to live with the fact that the “compulsive” gambler in their life has an illness. These members share a strong bond learning how to understand the compulsive gambling problem and its impact on their lives, and learn how to give emotional support to the compulsive gambler while not enabling the gambler in his/ her illness. GA and Gam-Anon cooperate with each other in their efforts to help the compulsive gambler and loved ones. Members of Gam-Anon are encouraged to make home life pleasant and are encouraged to have faith in doing their best to address their problem. Interestingly, examining every move and motive of the gambler is discouraged, as it is thought to lead to mutual degradation and loss of self-esteem. The partners are encouraged to accept that nothing they say or do can change the gambler (Gamblers Anonymous 1984).

Appendix 3 Example of Field Notes from an In-depth Interview

Natasha (I: SGTSC)

Participant was initially difficult to engage in the interview process answering in short sentences without elaboration and body language was closed with arms folded and head down. At the beginning of the interview, she seemed angry in her responses to my questions. As rapport was established, her anger subsided and body language was more open and eye contact improved. As the interview progressed, she became teary thinking about the harm ongoing relapse had done to her family and her financial situation.

She talked about her urge to gamble as a problem and being in the "zone" while gambling as a time out from the stress of being a mother and her lucky cognitions increased her risk of relapse.

As the interview progressed, she seemed to be reflecting on her problem gambling behaviour and become more determined to overcome this behaviour.

Support from her partner was important to her. She became teary again when realizing what she had put him through with her repeated relapses.

Appendix 4 Characteristics of the focus group participants

State-Wide Gambling Therapy Service workers

This group comprised 8 clinicians in the areas of CBT who had worked at the SGTS; all were graduates of the Mental Health Sciences Postgraduate Programs at Flinders University specialising in CBT; nine had achieved the Masters Degree.

Mental Health Sciences postgraduate programs

The Flinders University postgraduate programs in mental health sciences provide opportunities for people from mental health backgrounds to enhance their knowledge, skills, and attitudes in the area of mental health sciences. The course aims to equip graduates from a variety of health professions with profound knowledge and understanding of the theory, principles, and practice of mental health sciences with an emphasis on Cognitive-Behavioural Therapy (CBT). This focus group provided information from trained workers who specialised in CBT using cue exposure and response prevention. These workers have assessed clients with gambling problems, provided evidence-based treatment, and follow-up, as required. Significant others are also encouraged to participate in the treatment program at the State-Wide Gambling Therapy Service (SGTS). These workers had a range of experience in the area of problem gambling. The therapeutic program used at the SGTS is a cognitive behavioural therapy which is holistic with an emphasis on exposure therapy (ET) and response prevention (Oakes et al., 2008). This program enables clients to slowly confront and extinguish their urge to gamble rather than using avoidance or distraction techniques to manage their urge to gamble. The aim is to enable the client to return to a fully functional lifestyle when the urge to gamble has been extinguished.

Cognitive therapy techniques are used to help clients challenge their erroneous beliefs about gambling to correct cognitive errors, the illusion of control, and their belief in luck. Cognitive therapy is also used to help clients address their negative thought processes that can maintain a depressed mood. Clients are also taught problem-solving strategies, coping skills, daily activity scheduling, and relapse prevention strategies. Both financial and relationship counselling are also offered to clients.

SGTS clients

This group comprised 10 clients and each had their significant others attend the focus group study. These participants were from both rural and metropolitan areas who had been involved with the specific CBT programme offered at the SGTS. The clients were graduates of the SGTS program providing valuable data from their own and their significant others' experiences with gambling related problems and relapse.

NGO and other workers

This group comprised 7 workers from non-government organisations and the Gambling Helpline.

PEACE Multicultural Gambling Help Service (n=1 Social worker)

This service provides support to multicultural communities by raising awareness and providing community education and development projects around problem gambling. They provide a range of holistic and flexible services to people from CALD (Culturally and Linguistically Diverse) backgrounds and facilitate partnerships between CALD and non-CALD community service agencies and communities.

The Gambling Help Line (n=2 Registered Nurses)

The Gambling Helpline is a free SA Government, 24-hour counselling, information, and referral service to assist people in South Australia with gambling-related problems, or those affected by the gambling of others, including family members.

Nunkuwarrin Yunti (n=1; Social worker and financial counsellor).

This service provides health care and community support services to Aboriginal and Torres Strait Islander people.

Relationships Australia (n=3; 2 Social workers, 1 counsellor)

Relationships Australia is a community-based, not-for-profit organisation providing relationship support to people regardless of age, religion, gender, sexual orientation, lifestyle choice, or cultural or economic background. This organisation offers family and relationship counselling, as well as a range of specialist counselling services. The main counselling services are face-to-face, with some online counselling and telephone counselling for people in rural and remote areas of Australia.

This focus group provided information from a diverse range of both cultural and service delivery models including didactic counselling, financial counselling, and relationship counselling.

NGO Clients

Pokies Anonymous (n=4)

Pokies Anonymous is a self-help peer support organisation based on similar principles to AA, although as the name suggests, PA is about helping people abstain from poker machine gambling only. PA has regular meetings in Adelaide that are anonymous and incorporate the 12-Step recovery goals.

The Client Voice Program (n=1)

This program provides the opportunity for people who have overcome a gambling problem or been affected by problem gambling, to be trained and supported to share their personal stories on how problem gambling affected them, and their families.

All were PGs using Electronic Gambling Machines and two from PA were married to each other. These clients and their partners provided valuable data from their own,

and their significant other's experiences with gambling related problems and relapse. There was a total of 30 participants comprising 5 current or former PGs, 5 significant others and 7 workers from gambling treatment agencies. The 10 PGs comprised 5 clients from SGTS and 5 from PA including one couple and 2 from Consumer Voice. The 5 significant others were associated with the SGTS unit. Clients and significant others were represented from rural and urban areas. There were a total of 15 workers, 8 with a cognitive behavioural therapy (CBT) orientation and 7 NGO and referral service workers comprising 2 social workers, 2 nurses, 2 counsellors and 1 indigenous agency worker. Overall, it was considered that the groups were representative of the clients and workers as seen in the wider range of services provided for those affected by problem gambling in South Australia.

Appendix 5 Focus Group Guiding Questions

These were the guiding questions used in each of the focus group discussions used as a prompt by the facilitators.

What is a relapse and lapse in problem gambling?

What are some indicators of relapse? Examples:

Reasons for relapse in problem gambling

The question set focuses on gathering information at four levels.

A. Psychological factors (cognitive, affective, personality);

B. Psychobiological factors;

C. Social and environmental factors; and

D. Treatment modalities.

Examples of the themes asked in the guiding questions:

Coping ability with stressful situations?

Cognitive errors, e.g. illusion of controlling gambling?

Personality constructs, e.g. impulsivity?

Environmental cues on physiological reactions, e.g. lights, sound, cigarette smoke?

Demographic factors, e.g. number of venues in gamblers environment

Social support characteristics, e.g. accepted gambling behaviours amongst family and friends or a lack of social networks?

What intervention modalities has the participant engaged in, e.g. CBT, behavioural, pharmacological, self-directed?

Appendix 6 Focus Group Letter of introduction to attend a focus group interview

Dear

We hold the positions of Project Officer and Cognitive Behaviour Psychotherapist in the Flinders Therapy Service for PGs, Department of Psychiatry, Flinders University.

We are part of a team with the service undertaking research leading to the production of a project report and other scientific publications on the subject of predictors of relapse in problem gambling. Research outcomes will include a model explaining the processes of relapse. The project is funded by the Victorian Department of Justice. We would be most grateful if you would volunteer to spare the time to assist in this project, by participating in a focus group to develop key themes of reasons for relapse. Participants in the group will consist of clinicians affiliated with the Flinders Therapy Service for PGs. No more than two hours on one occasion would be required and will include a provided lunch. Attendance at this focus group is voluntary. If you wish you may attend a further session about the results. Be assured that any information provided will be treated in the strictest confidence and none of the participants will be individually identifiable in the resulting report or other publications. You are, of course, entirely free to discontinue your participation at any time or to decline to answer particular questions.

Since we intend to make a tape recording of the interview, we will seek your consent, on the attached form, to record the interview, to use the recording or a transcription in preparing the report or other publications, on condition that your name or identity is not revealed, and to make the recording available to other researchers on the same conditions.

Any enquiries you may have concerning this project should be directed to us at the address given above. We will contact you soon to discuss further details including a convenient time and location.

Thank you for your attention and assistance.

Yours sincerely,

Jane Oakes
(Cognitive Behaviour Psychotherapist) Statewide Gambling Therapy Service

David Smith (Project Officer)

This research project has been approved by the Flinders University Social and Behavioural Research Ethics Committee. The Secretary of the Committee can be contacted by telephone on 8201 5962, by fax on 8201 2035 or by email sandy.huxtable@flinders.edu.au.

Appendix 7 Focus Group Consent Form

(by focus group participants)

I
being over the age of 18 years hereby consent to participate as requested in the letter of introduction for the research project on relapse in problem gambling.
I have read the information provided.
Details of procedures and any risks have been explained to my satisfaction.
I agree to my information and participation being recorded on tape.

4. I am aware that I should retain a copy of the Consent Form for future reference.
5. I understand that:

I may not directly benefit from taking part in this research.
I am free to withdraw from the project at any time and am free to decline to answer particular questions.
While the information gained in this study will be published as explained, I will not be identified, and individual information will remain confidential.
I may ask that the recording be stopped at any time, and that I may withdraw at any time from the session or the research without disadvantage.

6. I agree/do not agree* to the tape/transcript* being made available to other researchers who are not members of this research team, but who are judged by the research team to be doing related research, on condition that my identity is not revealed. * delete as appropriate

Participant's signature.....Date.....
I certify that I have explained the study to the volunteer and consider that she/he understands what is involved and freely consents to participation.
Researcher's name.....
Researcher's signature.....Date.....

NB. Two signed copies should be obtained. The copy retained by the researcher may then be used for authorisation of Item 7.

7. I, the participant whose signature appears below, have read a transcript of my participation and agree to its use by the researcher as explained.
Participant's signature.....Date.....

Appendix 8 Flyer



Do you play the pokies?

Have you had a problem with gambling in the past and stopped with - or without - seeking help?

Have you gone back to gambling?

We need you for a gambling study!

People who gamble regularly are needed to take part in a unique study, which will investigate why people go back into gambling.

We hope this research will help us find the best ways to assist people who gamble and find it hard to stop.

Participants would be asked to make one visit to the Statewide Gambling Therapy Service at Flinders Medical Centre for an interview. A small reimbursement will be given for your time.



<http://www.gilf.gov.au/>



To find out more, please contact Jane at the Statewide Gambling Therapy Service at Flinders Medical Centre on 8204 6982 or email jane.oakes@health.sa.gov.au

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Appendix 9 In-depth Interviews Letter of Introduction

3rd September 2011

LETTER OF INTRODUCTION

Dear

I hold the positions of team leader and Cognitive Behaviour Psychotherapist at the Statewide Gambling Therapy Service. I am part of a team with the unit undertaking research leading to the production of a project report and other scientific publications on the subject of predictors of relapse in problem gambling. Research outcomes will include a model explaining the processes of relapse.

I would be most grateful if you would volunteer to spare the time to assist in this project, by participating in an interview to discuss reasons for relapse in problem gambling. Attendance at interview is voluntary. Be assured that any information provided will be treated in the strictest confidence and none of the participants will be individually identifiable in the resulting report or other publications. You are, of course, entirely free to discontinue your participation at any time or to decline to answer particular questions.

Since I intend to make a tape recording of the interview, I will seek your consent to record the interview, to use the recording or a transcription in preparing the report or other publications, on condition that your name or identity is not revealed, and to make the recording available to other researchers on the same conditions.

Please contact Jane - 8204 6982 to let me know if you would like to be involved and for further information. Thank you for your attention and assistance.

Yours sincerely,

Jane Oakes (Cognitive Behaviour Psychotherapist)
Team Leader & Lecturer
Statewide Gambling Therapy Service
Flinders Medical Centre
E2 The Flats, Flinders Drive

<p>This research project has been approved by the Flinders University Social and Behavioural Research Ethics Committee. The Secretary of the Committee can be contacted by telephone on 8201 5962, by fax on 8201 2035 or by email andrea.mather@flinders.edu.au</p>

Appendix 10 Consent Form for Participation in Research

3rd September 2011

CONSENT FORM FOR PARTICIPATION IN RESEARCH

I
being over the age of 18 years hereby consent to participate as requested in the letter of introduction for the research project on relapse in problem gambling.

1. I have read the information provided.
2. Details of procedures and any risks have been explained to my satisfaction.
3. I agree to my information and participation being recorded on tape.
4. I am aware that I should retain a copy of the Consent Form for future reference.
5. I understand that:
 - I may not directly benefit from taking part in this research.
 - I am free to withdraw from the project at any time and am free to decline to answer particular questions.
 - While the information gained in this study will be published as explained, I will not be identified, and individual information will remain confidential.
 - I may ask that the recording be stopped at any time, and that I may withdraw at any time from the session or the research without disadvantage.
6. I agree/do not agree* to the tape/transcript* being made available to other researchers who are not members of this research team, but who are judged by the research team to be doing related research, on condition that my identity is not revealed. * *delete as appropriate*

Participant's signature.....Date.....

I certify that I have explained the study to the volunteer and consider that she/he understands what is involved and freely consents to participation.

Researcher's name.....

Researcher's signature.....Date.....

Appendix 11 Interview Guide for In-depth Interviews

Negative affective states

- Co-morbidities
- Affective disorder
- Anxiety disorder
- Substance use
- Negative affective state
- Stress reactivity
- Intoxication with drugs or other substances
- Grief and loss
- Angry with self / angry with others
- Social isolation
- Internal cues leading to physiological changes
- Positive affective state

Environmental Factors

- Access to money
- Number, proximity, and types of gambling venues; opportunities to gamble
- Access to money
- Environmental cues leading to physiological changes
- Environmental cues leading to changes in expectations
- High-risk situations
- Access to money
- Specific learnt cues
- Advertising inducements
- Gambling culture

Relationships

- Lack of access to supportive social support networks
- Role models
- Peer and family norms
- Lack of involvement with supportive social networks
- Peer pressure
- Support

<ul style="list-style-type: none"> • Response to social and cultural cues (internal and external)
<p>Intervention</p> <ul style="list-style-type: none"> • CBT-cue exposure +/- response prevention • Stage of treatment achieved • Avoidance strategy vs mastering urge • Time since completing a treatment episode • CBT-avoidance and distraction focused • Treatment dose – homework done (hours) • Relationship with treatment provider/therapist • Avoidant coping styles • Episodes of treatment (number) • Inpatient treatment episodes (individual help) • Self-exclusion from venues • General counselling • GA/PA • Change in coping capacity <p>Motivation</p> <ul style="list-style-type: none"> • Voluntary help-seeking v/s other motivating factors • External motivator / coercion by others rather than personal decision • Previous episodes of relapse • Age
<p>Urges to gamble</p> <ul style="list-style-type: none"> • Strength of urge
<p>Cognitions</p> <ul style="list-style-type: none"> • Recurrence of cognition (erroneous)
<p>Altered State of Awareness</p> <ul style="list-style-type: none"> • Zone • Memory • Basic needs • Entering • Exiting • Awareness • Surroundings

Appendix 12 Examples of the Process of Axial Coding

For example, a code relating to a trigger for this SGTS client was:

There could be triggers like urges like a smell that could get the urge going again and that's why I relapsed.

An example of the code for urges for this NGO consumer was:

As you know I still have the urge every day.

Cognitions were more complex, having a number of different components, such as cognitions about winning, as can be seen by this SGTS client's quote:

I will win this time, it will be different.

An NGO worker stated:

You switch off your brain and that's what you learn to do as a coping mechanism (gambling was a coping mechanism implied).

Gambling as a way to make money is identified by this SGTS client:

I need some money to pay the bills so you go and play and think I will win.

Cognitions that gambling was exciting are identified by this SGTS client:

I really just enjoyed the thrill of a win.

This is an example of a quote for environmental factors by an SGTS client:

If you want to go out for a meal, yes its everywhere, it's impossible to not be near it.

An example of availability of gaming machines and accessibility was described in this quote by an SGTS client:

Yes they are open 24 hours now.

A statement relating to the gaming machine design was from an SGTS worker:

The more likely they will develop that problem with the random reinforcement.

This quote described gambling as a way to deal with stress (NGO worker):

That's one way for her that she sees in order to get away from everything and all the stress.

Relationships covered a number of codes including positive and negative support and peer support, dysfunctional supportive relationships, and communication patterns. A supportive relationship was considered as a protective factor against relapse. This is an example by an NGO client:

I am not saying I would never play again but I think I am a bit lucky because there are two of us because we support each other whereas some people don't have that.

A negative relationship as risk factor is seen by this following quote by an NGO worker:

They could be threatened by the loss of relationship.

Reduced resilience through poor coping strategies was evident in this comment by an SGTS client:

As you know I still have the urge every day, so anything big, trigger factors like stress, financial pressure, or when I am vulnerable, depression or anything like that, trying to get rid of the urges is a big thing.

Treatment interventions were considered important by SGTS clients:

I haven't had a lapse since I have done the programme.

and counselling alone was not considered helpful for this client:

you have had counselling and you have relapsed a lot.

Clients need to be able to apply the skills learnt in treatment to reduce the risk of relapse and improve treatment efficacy as reported by this SGTS client:

They can get through it successfully but all the stuff that we do, the people apply it to themselves.

Co-morbidity was considered important by some NGO clients in the following quotes:

In his life and the other client, he has an alcohol problem as well as gambling, and otherwise they become very depressed.

Culture was another code identified by this NGO worker:

Could we look at say a predictor of relapse and problem gambling as one of cultural ethnic background as far as access or non-access to certain parts of venues?

Motivation to stop gambling was important as a protective factor, and lack of motivation to stop gambling as a risk factor, by this SGTS client:

That's about whether they want to stop or not.

Mastery or management of relapse

After further review and discussion of the codes, the theme of mastery or management of relapse was identified across each group. A total of 100 codes were identified across the four focus groups. These quotes support the beliefs held by the

NGO workers and NGO clients about there being no cure for gambling addictions.

This NGO worker stated:

I tend to talk to the clients first up cause they say I want to stop and I say we can achieve that eventually if that is what you want but I am warning you now that you will go back to gambling at some stage.

An NGO client talked about the fear and relapse:

You are talking about relapsing; I haven't relapsed for one simple reason, its fear.

Some had the belief that they had overcome their gambling problems. As described in the following quote by an SGTS client:

So there is not even a coping mechanism for me, I no longer have that urge.

This is supported by an SGTS worker, who believes the treatment works and clients can have positive treatment outcomes:

We know the model works, we are pretty confident that it works.

Appendix 13 Examples of Focus group data for the generation of Themes

Section numbering follows section 4 'Results' in the main body of the report.

Environmental factors in relapse

Environmental factors
Gambling environment
Incentives

Gambling environments and accessibility to gambling opportunities

The opportunity to gamble was considered to be everywhere:

If you want to go out for a meal, yes it's everywhere, it's impossible to not be near. (SGTS client)

If you live in a suburb you can walk to 5 or 6 venues (and gamble implied) easy and that's quite accepted and one or two in the morning if you can't sleep. (NGO worker)

Even saying I am not going to go and I am in the car park and then think I am not going, next thing you know I am getting changed. It just takes over (gambling implied). (NGO client)

Yes so nowadays it's more accessible. If you couldn't go to a venue, you would just end up dealing with it (implied stress); I'm not sure, twiddling your thumbs. (SGTS worker)

The access to it (venue implied) is easy so their first coping mechanism might be to go back gambling. (SGTS worker)

It might be the relapse happens because the gambling is so available and it's so innocent, it's sold in a newsagent. (SGTS worker)

They just mail them to you (birthday vouchers implied), if it's your birthday they will send you something like the equivalent of \$50 so we went in there and got meal vouchers. But if I wasn't well or strong enough that could have tempted me because we walked through where all the machines were. (SGTS client)

We don't go to hotels, which is fortunate for me because I think if we are in hotels and I was left to my own devices I am not sure whether I wouldn't wander around again (and gamble implied). (NGO client)

This NGO worker described that, in one country hotel, Indigenous people were not allowed in the bistro and could only socialise in the gaming room:

Could we look at say a predictor of relapse and problem gambling as one of cultural ethnic background as far as access or non access to certain parts of venues? You said they are not allowed in the bistro part (Indigenous people implied); open doors to the gaming areas.

Once a client enters a gaming venue, the inducements and ambience make gambling increasingly difficult to resist, increasing the risk of relapse.

Incentives or reinforcements to gamble

The appeal of the gambling venue:

In the ... paper, they have tokens for hotel with a meal, this is my own theory but the ... paper particularly targets the elderly population of readers and lonely people and pensioners who can't really afford it but it's a social outlet and free tokens. (SGTS client)

Also the hotels are having free poker nights now so the incentive you can come in and you don't have to spend anything and that's when you can get hooked onto something further and further and that might be an external thing that could be a contributing factor to some form of gambling. (SGTS client)

Another SGTS client stated that loyalty points at the casino were incentives to gamble:

Think loyalty points ... Like the casino, I still have my card after I went.

This SGTS worker talked about how advertising enticed people to go into venues:

All the little bits and pieces that you drive along and see and go to the newsagent and see Keno.

I understand what the attraction is. It's just everything (gambling implied). We always hear about the atmosphere. If you are down, and you go there, it's just somewhere to go to escape. (NGO client)

There is one person who sits around and has coffee and he enjoys just the ambience of the whole venue. (NGO worker)

Similarly, this NGO client described the *nice vibe* inside the venue:

It's not really, its pretty ugly but on the exterior when you walk in its got a nice vibe, with the lights, the colours, the staff; the nice chairs.

And another:

there is music, comfortable chairs, you can have a fag, a drink, I don't drink, and you are sitting in front of these gorgeous flashing lights and isn't this exciting. (NGO client)

This SGTS worker described the gambling environment as an escape:

one of the studies they did was electronic gaming machines and the Victorian place, the big casino thing and one study they did that asked women what it was about the environment that attracted them and they said no clocks, time out was like being in a different world.

Accessibility of money:

I would definitely go to the venue where I could get the money easy. (NGO client)

Machine Design

Whilst discussing their understanding of the way in which problem gambling develops, this SGTS worker stated that:

the more likely they will develop that problem (gambling implied) with the random reinforcement paid out by the gaming machine.

Conclusions

Conclusion 1: Environmental cues provide triggers for relapse back to gambling.

Conclusion 2: There are multiple operant rewards in gambling venues which shape gambling behaviour and make relapse more likely.

Negative affective states as a factor for gambling relapse

Negative affective states as a factor for gambling relapse

Negative affective states
Co-morbidity
Stress
Escape
Boredom
Financial stress
Physical health

Co-morbidity resulting in negative affects acts as a trigger for relapse

The following statements provided evidence that negative affective states associated with mental health co-morbidity, including anxiety disorders, depression, and

substance use disorders increased the vulnerability of relapse. Similarly, those with a history of trauma and possible PTSD, pain, and physical illness also experienced many negative affects which appeared to initiate gambling relapse for some PGs.

Trauma and abuse

The negative affect associated with a history of trauma and abuse was considered to be a risk factor for relapse:

Things that affect treatment; things like co-morbidities, past history, abuse or whatever, what if it's those things, their past history of trauma. (SGTS worker)

... it could be so many other factors in the past that had affected them and we know that as a result of that people tend to do something (gambling implied) else in order to take their (emotional implied) pain. (SGTS worker)

At that moment or what they had been in the past. I think it could be so many other things (initiated relapse implied), it could be trauma. (SGTS worker)

Perhaps they need to escape (by gambling implied) from trauma, stress in their life. (NGO worker)

I often hear that from the hotel owners, they say we don't have a problem with intoxication here and they are quite happy, but that doesn't mean there is decreased domestic violence, it's probably increased because there is less money (due to gambling implied). (NGO worker)

This SGTS worker had seen clients with and without co-morbidities, but the key to treatment was considered extinction of the urge to gamble:

I have seen lots of gamblers with and without co-morbidity, even if the co-morbidities are not there, if the person doesn't extinguish that response aside from all of the added disorders and co-morbidities, just that basic learning theory, if its not extinguished (urge implied) the person is vulnerable.

Alcohol dependence

Drinking and gambling were identified as occurring together, drinking contributing to relapse through disinhibition:

The Fijian person has the drinking problem as well and now it seems to be more the drinking in his life and the other client, he has an alcohol problem as well as gambling. (NGO worker)

Many people say I am OK (gambling implied) as long as I don't have a drink. (NGO worker)

They are all drinking (gamblers implied), because alcohol is implicated a lot with breaking people's inhibitions and that I would say to you is another significant issue (for relapse implied). (NGO client)

In the literature it says a number of gamblers used to have problems with drugs and drink before they started gambling, so it would be interesting to see if when they stopped gambling if they started drinking again. (SGTS worker)

Depression

Depression was identified as either a consequence of gambling, or a risk for gambling, by the following participants:

I tend to talk to the clients first up cause they say 'I want to stop' and I say we can achieve that eventually if that is what you want but I am warning you now that you will go back to gambling at some stage and do not think that that is a failure because otherwise they are setting themselves up for that, otherwise they become very depressed; they avoid the counsellors then. (NGO worker)

If a person is not feeling strong or well (they will gamble implied), I am talking about depression. (SGTS client)

I would never want to go back and do something like that, its just self-destructive and makes you more depressed. (SGTS client)

One probability (relapse implied) is depression; women can be a bit more prevalent to depression. (SGTS worker)

We used to say Sydney Swans got done today, I am so depressed, I will go and play the pokies. (NGO client)

Depression and boredom, you need leisure activities. (NGO client)

If a person is not feeling strong or well, I am talking about depression and something or some big event occurs in their life, I haven't relapsed but I think that could lead to relapse. (NGO client)

Anger

Emotions such as anger were identified as predictors of relapse:

Anger is a big one (predictor for relapse implied). Angry with their partner; (NGO worker)

This SGTS client's wife seemed angry when talking about her husband when financial decisions had to be made:

I have let him come back into the financial situation but I still have my pulse on every financial aspect that we have in our life and I am the one that pretty much makes the major decisions

Shame and self-esteem

The shame that was often associated with gambling behaviours was a common theme identified as leading to relapse:

Do you think that has helped you from relapsing as I was really ashamed. (SGTS client)

I was really ashamed of this for a long time and then I started to speak to people and I told my friends and everybody else and now it's become just so open and we discuss it so often. (SGTS client, answering above question)

I think low self-esteem could be another predictor. (SGTS client)

Also the individual feels out of control; there is that mental harm to themselves, I am such a bad person (for gambling implied). (NGO worker)

This NGO worker provided a case example of a client who felt less worthy for being made redundant and went back to gambling:

Now this wasn't poker machines it was horse race betting on the TAB and when he went back to it (gambling relapse implied) \$600,000 later the family and the whole lot collapsed around him, he managed to keep it a secret for quite some years but what triggered that, he was in a responsible job, good position, he was made redundant and his position was the Bank Manager therefore money was no stranger to him and he should have known how to handle money but it was something to do with the fact by being made redundant he felt less than worthy or necessary.

Grief

Grief was also identified as a risk factor for relapse:

There a few there (risks for relapse implied), *dismay, there's grief* (NGO worker)

This NGO client seemed to experience a sense of grief over the money she has wasted as a consequence of gambling:

I have 3 sons with ordinary jobs and here I am spending hundreds of dollars and if my son asked for \$100 I have to say no I don't have that. To think that I have wasted all that money I could have given it to my sons

Grief in an Aboriginal community

An NGO worker talked about the grief associated with the death of a young girl leading to Aboriginal people from a wide area coming together in a poker machine venue:

I have seen people at funerals after at; ... there was a 14 yo girl in a car accident and that day the pokie area of the hotel was 3 or 4 deep in Aboriginal people, there wasn't one non Aboriginal person in there and there was a mixture of town people and the remote people who had come down and I went in there specifically that night to have a look and it was pay day for the funeral.

Stress

These NGO clients described gambling as an escape from difficulties:

I was going through hell at the time and it seemed like a place where I could just escape, and as time out: Yes I didn't want to be home, I am a single Mum going through hell and I did not want to be home.

This SGTS worker also recognised that the excitement of the gambling scenario provided time out from stress, in order to feel better:

They want to feel good, and so of course the gambling scenario provides an ambience of, its exciting.

The gambling, it's a relief, and it's an indicator of bigger issues in their life, like the screaming kids at home. (NGO worker)

I think stress definitely is a predictor (of relapse implied) but there is good stress and bad stress. There is stress that you are so busy with so much to do, but the negative stress. (SGTS client)

That's one way (gambling implied) for her that she sees in order to get away from everything and all the stress. They just go in to numb out. (SGTS worker)

This NGO client described that there were many layers to a relapse:

That has a few layers to it (gambling relapse implied). It's the actual stressful events and the things that are there, like annoying partners or it could be the thinking that you have always carried through with you about how you approach problems and how you define yourself.

This SGTS worker suggested that gambling was an ineffective way to deal with stress:

Ineffectual coping strategies (gambling implied) in dealing with stress.

Escape

I think that letting go of your mindfulness lets go of your stress and what you are worrying about so for the same reason that you are going to sit in front of a pokie machine and fill it up with your hard earned money to get away from everything, that's why you switch off your brain and that's what you learn to do as a coping mechanism. (NGO worker)

I reckon that it's like a coping mechanism like it is for many other reasons that people do things to get out of their brain because the brain is an uncomfortable place to be in. (NGO worker)

There could be 15 clocks around them, its totally irrelevant, they are just in a total numb zone and they don't have to think or feel anything for that period of time whether its 3 minutes, 3 hours or 3 days. (SGTS worker)

They don't think or feel they don't do anything and that's the different. It's like being on drugs (gambling implied). (SGTS worker)

Boredom

Participants described an inability to tolerate the emotions associated with being bored as indicating risk for a gambling relapse:

One thing that helped me when I gave up (gambling implied), I found that the problem came when you are sitting home with nothing to do, and its boredom, loneliness and I found that I had to find something else to do, go down to the library. (NGO client)

When you are bored, potentially you are in danger of relapsing I am sure. (SGTS client)

I think you have hit on another predictor there, when you are bored. When people are bored that's another tool. And boredom through maybe lack of social network, friends, people to talk to ... I am handling it differently now cause I am not bored, not pacing, not trying to put things in correct order any more. It's quite calming. I can understand boredom would be a problem (gambling relapse implied) if you are sitting around doing nothing. (SGTS client)

That helped me when I gave up, I found that the problem came when you are sitting home with nothing to do, and its boredom, loneliness and I found that I had to find something else to do, go down to the library, go to the TAB and have a bet, I don't have a problem with it, but I couldn't leave those pokie machines. (NGO client)

Financial stress

The following quotes provide examples of negative affective states caused by financial stress leading to the desire to gamble:

As you know I still have the urge every day, so anything big, trigger factors like stress, financial pressure, or when I am vulnerable, depression or anything like that, trying to get rid of the urge is a big thing. But certainly I think financial stress could absolutely be a predictor for relapsing. (SGTS client)

You waste what money you do have on the machines and you still have that bill to pay. I think the driving force (gambling urge implied) to play the machines is the fact that I need some money to pay the bills so you go and play and think I will win. (NGO client)

The financial stress boils down to what sort of relationship you have with your partner and your supporting network. I think in some situations it could spur people on to a relapse. (SGTS client)

If you are addicted to it you get that rush from it and it's easy to forget about the money you spent. (NGO client)

A negative affective state seems evident from this NGO client on account of the amount of money lost to gambling that could have been used to buy a house:

We just about lost enough money to buy a small house and occasionally I get the urge still even now.

To think that I have wasted all that money I could have given it to my sons. You become irrational when you get it (urge implied) into your system. (NGO client)

These are homeless women and probably don't have much money. That is totally irrelevant really because they haven't got lots and lots of money to keep on putting in and the \$500 they have got for the fortnight is an awful lot of money if they have got that much in their pocket but the difference for them is that they blank out, they just go into a total no zone, they don't think or feel they don't do anything and that's the different. It's like being on drugs and a lot of them do drugs. (SGTS worker)

Physical health

Physical illness and pain were acknowledged by some participants as playing a role in relapse:

But his sister is the one that is wanting just to minimise her gambling just to \$30 a week which she seems to be succeeding at the moment. She has got a lot of other issues as well as they always do, she has a lot of health issues. (NGO worker)

She has lots of car accidents and she has a lot of pain (causing her to gamble implied). (NGO worker)

I think a serious physical illness, yes his was life threatening. I feel that he has probably thought he's not going to come out of this. It's his second bout with cancer and a few weeks before he went in he's on his own so he's been hitting the gambling again. (SGTS client)

She said before he's in hospital at the moment, just getting over some cancer and he has had a hard time of trying to recover and what they have found out now, as he has no one an his neighbours have been looking after his affairs, what they have found out that what they think is slowing his recovery is that he has a gambling habit again (relapse implied), he went back gambling and borrowed against his house which was freehold, plus he has borrowed we don't know who, and so after digging deep they have found he's got this debt now and they think he doesn't want to come home. (SGTS client)

Conclusions

Conclusion 3: In some PGs, the presence of negative affective states initiates a sequence of events that increases the risk of relapse.

Conclusion 4: Negative affective states secondary to gambling problems create a vicious cycle where repeated relapse is likely.

Cognitions as a factor in gambling relapse

Cognitions as a factor in gambling relapse

Cognitions
Erroneous beliefs
Shame
Event
Gender
Stigma

Erroneous beliefs

The following section describes specific groups of cognitions or themes which emerged from the focus groups in relation to risk and the vulnerability to relapse.

Cognitions about winning are triggered by stress:

It seems to me that when I am short of money and I need to pay some bills I go on the pokie machines. (NGO client)

You waste what money you do have on the machines and you still have that bill to pay. I think the driving force to play the machines is the fact that I need some money to pay the bills so you go and play and think 'I will win. (NGO client)

If there was an extra bill that came in or N ... was upset about the finances as they were then, that may have been something that may have prompted me to get a small win in. (SGTS client)

What worries me with S ... we are still devastated financially and there is always pressure and that's my biggest concern that the pressure will push him back to it. (wife of SGTS client)

When I was gambling I saw it as a way of making money but now I would not dream of it because I know its ridiculous, it would make things worse, there is no chance it would make things better. (SGTS client)

But certainly I think financial stress could absolutely be a predictor for relapsing (SGTS client)

Cognitions about winning resulting in excitement and relapse:

I really just enjoyed the thrill of a win and that was what I missed (a trigger for gambling relapse implied), not so much the financial gain. (SGTS client)

It's a terrible drag once it gets into your system and I don't know what drags it, probably the thought of hitting that Jackpot or I have to get back that money that I have lost. (NGO client)

Whilst this sequence of events starts off as positive, the affect rapidly changes to a negative sense of “drag” that accompanies the temptation or urge to gamble.

Erroneous beliefs about the possibilities of winning

These SGTS clients described how correcting the information processing bias or erroneous cognitions in regard to the way that machines paid out was not sufficient to prevent a relapse:

If we are talking about a compulsive gambler, from that point of view, my history briefly is that I used to work with poker machines so I used to program the percentages of what they paid out etc at my father's hotel so that information clearly didn't assist me at all, that information on its own. I learnt more about the machines and the random number generator and it certainly opened my eyes to a certain extent but I don't think that on its own would have been sufficient (to stop me from relapsing implied)

These people that I talk to, they obviously still have the urge. They know all the reasons why they shouldn't but they can't help themselves (and gamble in spite of this knowledge implied).

This is more about relapses, if you are a compulsive gambler you are going to go there it doesn't matter what. If you have more information like now (since treatment) you would think twice about doing it, I can see that now.

This NGO worker gave an example of magical thinking that the specific machine would provide a win as a risk for relapse:

Does the vulnerability (to relapse implied) lie in the problem gambling in a sense of their distortions in cognitive thinking in a sense this machine is going to be successful.

An SGTS worker described some of her clients' magical thoughts:

There is still that thought that this time is going to be my time and I might win this time and it (gambling implied) will alleviate some of the problem this time.

So that's about your thinking and how you are actually rationalising it in your own mind and justifying it.(gambling relapse implied) (SGTS client)

You lie to yourself and you tell yourself the most stupid things (so you can rationalise a decision to gamble implied). (SGTS client)

Shame

A sense of shame relating to a lapse can be predictive of the progression to a relapse:

My parents and parent's in-law and friends have all been very positive since the course but there was a time when I thought they didn't have any trust in me, and I thought they thought I was weak so I went and gambled (a single episode).(SGTS client)

It's easy for them to say no I won't, but I say if you do, don't think you have done something wrong. (NGO worker)

An NGO worker gave this example of a client who had repeatedly said:

I am such a bad person.

Event

An event can trigger a gambling relapse:

If a football team won we would go down to the pokies and celebrate.
(NGO client)

Sydney Swans won today, isn't that fantastic, let's go and celebrate
(and gamble implied). (NGO client)

Gender

An SGTS worker stated that some women in particular had thoughts:

If you are watching your thoughts and feelings, there had to be a reason why those women ended up there, it's not possible that it just happens, it has to be thoughts and feelings first before you act.

This SGTS therapist referred to the environment for women that gave them time out in a different world:

One study they did that asked women what it was about the environment that attracted them and they said no clocks, time out was like being in a different world.

Stigma

As you are probably well aware there is a huge stigma attached to the whole gambling demon. (SGTS client)

Whilst some of the above examples have not been related to relapse by the participants, it was clear to the facilitators of the groups that these negative cognitions were being discussed within the context of exploring factors that were associated with relapse. As such, these negative cognitions would appear to be indirectly related to relapse by making PGs more vulnerable to having negative cognitions and negative affects precipitating further gambling and relapse at a future time.

Cognitions that make relapse less likely

Distraction as a cognitive strategy to manage relapse

At times, clients have been able to avoid the suspension of their critical thinking and reduce the possibility of a gambling relapse:

If you give yourself enough time away from them you get clarity and then you don't need to go back. (NGO client)

You have got to not harbour those thoughts when they come into your head so it's very important to have something else to do and that's where I programme my mind to do. (NGO client)

Cognitions deferring the decision to gamble

This NGO client described gambling as an addiction; she had to take one day at a time to be strong willed not to gamble:

I could block them now, but not then. One day at a time. Go tomorrow (gamble implied) because tomorrow never comes. Not with me; if you said that to me at 20 to 2 today, look go tomorrow, I am going tomorrow because I am strong willed and I have that fixed in my brain, OK I will get through today but when tomorrow comes I am off because I wasn't living in that program and that one day at a time.

She also clearly indicated that this has only been possible for her since she has had a different cognitive set because she was now “living the program”.

Cognitive strategies used to manage the urge – coping behaviour

I get out into my garden and I do some work and it refocusses me and I feel better about myself and those (gambling implied) thoughts go. (NGO client)

Vigilance: Heightening the memories about negative consequences of gambling

You come to the meetings and you listen to the stories of the people around the table and that's enough to drive you from not going to the machines, just to listen to their stories and what they go though and you can relate to it and it's true. (NGO client)

You are talking about relapsing; I haven't relapsed for one simple reason, its fear. (NGO client)

I said I haven't played for 18 months and touch wood we haven't had a relapse. The reason I haven't had a relapse is fear. (NGO client)

I like to get people to think that its always in the back of their mind that because in 10 years time if you think that you are cured then I think that you are more vulnerable because you have forgotten and you walk into the pub and something is happening in your life and you think well I am alright because I haven't gambled for 10 years and I am cured but you are more at risk so if you think I must not do that because its too dangerous. (NGO worker)

Correcting erroneous beliefs

An SGTS client described that extinguishing the urge to gamble will lead to the correction of erroneous beliefs about gambling:

When I was gambling I saw it as a way of making money but now (since completing treatment implied) I would not dream of it because I know it's ridiculous.

It would help (correcting erroneous cognitions implied) but not by itself though (treatment to extinguish urge was required implied). I think it does help because when I talk to people about it, when you say 88% of the time, its 88% over the life of the machine where a lot of gamblers are of the idea if they put in \$10 they will get 88% of it, they don't know about its 88% over the life time of that machine and its at random and you have to be very lucky if you could walk out with that much. (SGTS client)

Abstinence results in clarity of cognitions

If you give yourself enough time away from them you get clarity and then you don't need to go back (gambling implied) (NGO client)

I would say go and get me a couple of hundred dollars and I would say quick I need more money I couldn't get it into the machine quick enough but now to lose that particular amount of money in one day to me, I can't even understand how my cognitive processes were going at that time. It seems insane. (NGO client)

These quotes suggest that once the arousal associated with the urge to gamble has been overcome, cognitions remain logical and the client is able to critically observe the situation and put things into perspective, reducing the risk of relapse.

Conclusions

Conclusion 5: Cognitions can directly and indirectly increase or decrease the intensity of the urge to gamble and the likelihood of relapse.

Conclusion 6: The increasing arousal associated with an urge to gamble initiates a process of illogical cognitions about winning and a suspension of critical thinking about anticipated gambling resulting in relapse.

Conclusion 7: Treatment that effectively manages the urge will lead to the return of critical thinking processes and reduce the risk of relapse.

Urge as a factor in gambling relapse

Urge as a factor for relapse in gambling behaviour

Urges to gamble

Urges
Triggers
Addiction

Characteristics of the urge to gamble

Strength

The intensity of the urge to gamble was described as overwhelming and difficult to resist:

You would walk through walls, that's how strong the urge was. (NGO client)

They (past urges) were always so powerful. (SGTS client)

It's a build up of intensity and a force that you just go. (NGO client)

The function of the intensity of urge in relapse was commented on by an SGTS worker:

They haven't got over that uncontrollable urge.

Yes people just drop their bundle and the urge is really strong. (NGO worker)

You get that rush from it and it's easy to forget about the money you spent, we just about lost enough money to buy a small house and occasionally I get the urge still even now. (NGO client)

The urge may also remain dormant and then emerge again with enough intensity to cause relapse:

Well if you have got an urge and it pops up from time to time, there can be a time where you give into it (and relapse implied) (SGTS client).

Excitement

Feelings of excitement were often associated with the urge to gamble:

Well, as soon as they go there and start throwing the coins in, the lights go on and it gets exciting. (SGTS worker)

You remember all the lights and the rush you get from it. (NGO client)

After ceasing to engage in gambling activities, the longing for the thrill lingers, leaving a person vulnerable to relapse:

I really just enjoyed the thrill of a win and that was what I missed. (SGTS client)

You will get a client who says I still love it, it gives me a buzz ... but generally people don't, they say I hate them. So by the time they come to someone like yourself, they are still engaging in that type of gambling behaviour but they dislike what they do, there's the addiction side of it they just can't break. (NGO worker)

This again indicates an ongoing vulnerability to a gambling relapse.

Arousal

I watched this fellow walking up and down, he couldn't wait to finish his cigarette out on the footpath to get back into the gaming room and I thought he was really torn. (NGO worker)

Yes much bigger money and when you are betting that big for me, it's frightening, you come out shaking. It's an interesting process because you feel quite physically sick afterwards and you don't remember that.

Though this NGO client felt physically sick from the autonomic arousal after gambling, interestingly when the urge to gamble occurred again for him, he described an alteration of his cognition in that the memories of this physical sickness were forgotten increasing the risk of relapse.

Urge, cognitions and arousal reinforce each other:

Even saying I am not going to go and I am in the car park and then think I am not going, next thing you know I am getting changed. It just takes over indicating that the urge intensified to the point that he was no longer able to resist it. (NGO client)

Coping with the urge - absence of control:

I have been involved in horse racing for many years and I have bet regularly and it's never ever been a problem for me. But the pokies, I have absolutely no control over (urge implied). Except the only way you can control it is not to participate in it and I guess that describes me with pokies because I cannot participate in it because I cannot walk in (for fear of relapse implied). The excuse was 6 or 7 days of the week, I will just take \$20; and \$1,000 or \$2,000 later, that was just the opening excuse and I had no control. I can't understand that because I am not like that with horses at all. (NGO client)

The individual feels out of control, there is that mental harm to themselves, I am such a bad person and I obviously can't control this and that could swing either way, abstinence or to even going back to gambling, just giving up and a SGTS worker: I think it's worth just

considering about why is gambling such a difficult cycle to break. I am not saying that it's harder but it's a difficult cycle and why do they get into that cycle, they want to stop and they can't. (NGO worker)

People that don't gamble need to be educated because I thought he was weak and I have never had the urge to gamble and I couldn't understand and my family couldn't understand (why he gambled implied). People need to be educated. (wife of SGTS client)

The data from the four focus groups provided evidence of the way the urge to gamble is overwhelming and difficult to resist. It was demonstrated that, for some, when the urge is intense, they believe they have no control over their gambling and are vulnerable to relapse.

Struggle

Participants described how they always had to be on guard and could not be complacent for fear of relapsing; struggling with the urge was constant for them:

It has such a hold of me and we (PA member speaking about herself and her husband also a PA member) have always said we must never be complacent. (NGO client)

I think that's why its important to have meetings so you don't get complacent and you keep it on a daily programme where you are constantly aware (of the possibility of relapse implied). (NGO client)

Yes people just drop their bundle and the urge is really strong, and even in 10 years time they will still have that (possibility of relapse implied). (NGO worker)

Struggling with the urge is associated with vulnerability to relapse:

Well if you have got an urge and it pops up from time to time, there can be a time where you give into it (and relapse implied). (SGTS client)

I love sewing, I have got so much material and patterns I could sit all day and sew but there is still that drag (to gamble implied). (NGO client)

Triggers

There were a number of different types of triggers to gamble that were identified by the participants. These triggers interacted together or on their own to elicit the urge to gamble:

Some people might have a real clear thing that triggers them and it might be going out and buying a ticket or it might be some other event or stress. (NGO client)

Internal and external triggers

Now this wasn't poker machines, it was horse race betting on the TAB and when he went back to it \$600,000 later the family and the whole lot collapsed around him, he managed to keep it a secret for quite some years but what triggered that, he was in a responsible job, good position, he was made redundant_and his position was the Bank Manager therefore money was no stranger to him and he should have known how to handle money but it was something to do with the fact by being made redundant he felt less than worthy or necessary. (NGO worker)

Celebration

If a football team won we would go down to the pokies and celebrate (NGO client)

Sydney Swans won today, isn't that fantastic, let's go and celebrate (and gamble implied). (NGO client)

Smell

There could be triggers like urges like a smell that could get the urge going again and that's why I relapsed. (SGTS client)

Advertising and access

That's what I am saying, is that because, that's what people are trying to stop (gambling implied), the sign that says game machine open until 3am in the morning. All the little bits and pieces that you drive along and see and go to the newsagent and see Keno. (SGTS worker)

That goes back to the theory where all of a sudden it's connected. They are already past the therapy stage and its all still there and the access to it is easy so their first coping mechanism might be to go back gambling. (SGTS worker)

It was clear that there were a wide range of triggers that led to clients and workers in each of the groups to recognise that events, mood states, or sensory perceptions, precipitated a desire to gamble. In some cases, these appeared to be highly specific, such as the client who referred to *smell* being a powerful trigger for him, whilst others identified environmental triggers that were shared by others. Others indicated that emotional states, life events, or money were cues, precursors, or precipitants of the urge to gamble and risk for relapse.

Gambling as an addiction

Gambling was considered an addiction by some participants:

I could block them now, but not then. One day at a time. Go tomorrow because tomorrow never comes. Not with me. If you said that to me at 20 to 2 today, look go tomorrow, I am going tomorrow because I am strong willed and I have that fixed in my brain, OK I will get through today but when tomorrow comes I am off because I wasn't living in that program and that one day at a time. All I was hearing was I can go and play tomorrow. For me there is no doubt it's an addiction. (NGO client)

My husband told my parents when I had a drinking problem and short of threatening him I told him not to tell them about my pokie addiction. (NGO client)

But its funny I have heard from a few alcoholics that are going to AA now that they have started to develop a pokie addiction. (NGO client)

Most of them don't really drink now either because they have the gambling addiction. (NGO worker)

Individual variation in coping with the urge to gamble

Avoidance

Distraction techniques sometimes only provide minimal relief for the urge to gamble:

I love sewing, I have got so much material and patterns I could sit all day and sew but there is still that drag. (NGO client)

I think the habit becomes so strong like when you are in the thick of it, that to try any thing else, the pokies were always a lot stronger. (NGO client)

As you know I still have the urge every day, so anything big, trigger factors like stress, financial pressure, or when I am vulnerable, depression or anything like that, trying to get rid of the urges is a big thing (and not gamble implied). (SGTS client)

Mastery of the urge to gamble:

There could be triggers like urges like a smell that could get the urge going again and that's why I relapsed ... but since we have done the course, there is nothing there, a smell is just a smell, it doesn't mean anything to me. If I walk into a pub or wherever a venue and there are distinctive smells things like that, it has totally killed everything, I have no connection, and I don't care about it. (SGTS client)

I can't find a trigger that will influence me to go gambling again. (SGTS client)

After 8 months I don't have that great dragging (urge implied). I can go to the hotel and have lunch and walk past the machines. (NGO client)

I think what it sounds like is the key to preventing relapse is to ensure that the urge is extinguished. (SGTS worker)

We hypothesise that if people don't fully extinguish their urge to gamble then they are at greater risk of having a relapse. (SGTS worker)

So there is not even a coping mechanism for me, I no longer have that urge. (SGTS client)

I was really upset and emotional and I may have been a bit depressed but I didn't go and gamble and when I was gambling these are the sorts of things that would set me off, I have been really well. (SGTS client)

I had plenty going on with my life, my gambling was very quick, very secretive, in and out sort of thing, I didn't have spare time to do it, so for me this programme itself was what did it for me. There were no coping mechanisms; it just broke the link (between urge and gambling behaviour implied), this urge and physically releasing the money into the slot. That's why this programme worked wonders for me having had counselling before; this was obviously what triggered the best result for me without doubt. (SGTS client)

The idea of this course is what I understood is that you should actually be able to go to these venues these areas and still function normally and not have an urge to go into them. (SGTS worker)

Management of the urge to gamble

You have got to not harbour those thoughts when they come into your head so it's very important to have something else to do and that's where I programme my mind to do. Those thoughts come into my head and I know now not to dwell on them as that's disastrous (urge to gamble develops implied) so I get out into my garden and I do some work and it refocusses me and I feel better about myself and those thoughts go. (NGO client)

I think that is an absolute crucial part of the not having a lapse for me, was learning the coping mechanisms and replacing the gambling with other stuff but of course that takes a while to do but I think that is crucial. (SGTS client)

You hear people becoming fitness fanatics because they want to shift it to some other focus. (NGO client)

You are not literally there 24 hours a day so there is some point where you are home or doing other things but there is a point where you decide to go. (NGO client)

Support to resist the urge

It seems insane. I am not saying I would never play again but I think I am a bit lucky because there are two of us because we support each other (not to gamble implied) whereas some people don't have that. (NGO client)

Belief in a “higher power” can help, bringing about a symbolic cognitive shift: *Higher power is essential because if I understand that I myself can't do it and I can give it to a higher power then I have more trust, more faith and I can relax without struggling because I know it's going to be ok. (NGO client)*

Attendance at Pokies Anonymous was helpful for some clients. They found the peer support and stories of distress about gambling helped them to not gamble:

We inspire each other; no judgement. We have had a couple recently and they are in a bit of a mess through the pokies and you listen to them and one is a particularly heart breaking story, and it keeps you on track.

Everyone helps each other (with not giving in to the desire to gamble implied). We do talk about confidentiality however everyone helps each other and inspire everyone. You are inspired by their courage, and what they have been through, one in particular, and I don't know whether I would have had the courage to go through it. (NGO client)

I think in some situations it could spur people on to a relapse but in other situations after going through the course and knowing and being aware of what they are having to deal with it probably should make you a bit stronger. (SGTS client)

It has such a hold of me and we (PA member speaking about herself and her husband also a PA member) have always said we must never be complacent because it remains with you for a long time. (NGO client)

Urge and cognitions

Once the urge to gamble is present, and is strong enough, it appeared that it was difficult to think clearly about the consequences of one's choice to engage in gambling activities:

Even saying I am not going to go and I am in the car park and then think I am not going, next thing you know I am getting changed. It just takes over. (NGO client)

If you are addicted to it you get that rush from it and it's easy to forget about the money you spent. (NGO client)

The presence of the urge limits a person's ability to think clearly:

These people that I talk to, they obviously still have the urge. They know all the reasons why they shouldn't but they can't help themselves because they still have that urge there. (SGTS client)

Cognitions are increasingly affected as relapse occurs.

It's an interesting process because you feel quite physically sick afterwards and you don't remember that (NGO client),

suggesting that memory may be distorted.

A progression of cognitions and urges leading to relapse

These examples from clients demonstrate that cognitions can lead to the urge to gamble.

Thoughts about gambling lead to the urge that:

just takes over.

An NGO client talked about the urge taking over after thoughts about both wanting and not wanting to gamble:

Even saying I am not going to go and I am in the car park and then think I am not going, next thing you know I am getting changed. It just takes over.

You couldn't block them, if you sit there and thought about a drink for long enough I would be in the pub and it's the same with the pokies. You sit there and think about it long enough it just takes over. (NGO client)

A SGTS consumer provided an example of arousal:

I really just enjoyed the thrill of a win.

Another NGO client described his excitement as:

probably the thought of hitting that Jackpot

as that process of heightened arousal built up.

When you get that urge to play the machine nothing is going to stop you. (NGO client)

Cognitions about gambling, distress, urge and the threat of relapse

Cognitions about gambling may cause distress and the desire to gamble, which is followed by a relapse unless it is guarded against.

You have got to not harbour those thoughts (gambling thoughts implied) when they come into your head so it's very important to have something else to do and that's where I programme my mind to do. Those thoughts come into my head and I know now not to dwell on them as that's disastrous (gambling relapse implied). (NGO client)

Altered cognitions reinforcing relapse

Clinically, many clients describe being “in the zone” when they are gambling. This also came up in discussion in a number of the focus groups. This NGO worker reported some of her clients being:

Caught in some sort of trance. They talk about a zone,

suggesting altered cognitive processing.

You become almost robot like and you just sit there and it's almost as though the money loses its real sense of value. (NGO client)

This NGO client talked about her altered perceptions around money and how this exacerbated the relapse as they rationalise that it is not real money:

It's like a monopoly game; it's just pokie money, its not money to live on.

It appeared from this NGO client's comment that, at some point, he decided to gamble:

Something happens that's a critical point when you decide to either go or not go.

And another NGO client indicated that once the urge or arousal is sufficiently intense critical thinking, self-observation, and the exercise of the will seemed to be suspended:

When you get that urge to play the machine nothing is going to stop you.

Each of the clients indicated that there was a point at which they made the decision to gamble in response to a combined mental state where urge intensity, high arousal, and erroneous cognitions prevailed.

Paralogical reasoning focuses on winning cognitions and minimises negative ones:

So that's about your thinking and how you are actually rationalising it in your own mind (to gamble implied) and justifying it. (NGO client)

A mental chain of events was demonstrated by the NGO client who suggested that when he was short of money, he played the pokies hoping he would win money to pay bills:

You waste what money you do have on the machines and you still have that bill to pay. I think the driving force to play the machines is the fact that I need some money to pay the bills so you go and play and think "I will win."

This induced a driving force to gamble. The suspension of critical thinking was noted in this quote as the client thought that, on this gambling occasion, he would win enough money to pay his bills. Some clients are less aware of their thoughts:

With relapse you are talking about people who just suddenly find themselves (zone-like state implied), I have a lot of clients who don't know how they got there and I really think that so many people are so unaware of their own thoughts and their own feelings and that's how it can just happen like I am suddenly in this venue. If you are watching your thoughts and feelings, there had to be a reason why those women ended up there, it's not possible that it just happens, it has to be thoughts and feelings first before you act. (NGO worker)

Similarly, another NGO client described initial arousal as she had to get out of the house quickly to gamble and became almost "robotic" once at the machine. At this time, money lost its value and her critical thinking seemed to be suspended:

you get to the pub, you have to get out the house quick (arousal seemed to be implied here), because someone else could be on your favourite machine (magical thinking exacerbating arousal), and you become almost robot like and you just sit there and its almost as though the money loses its real sense of value.

This answer was offered to the question of why people want to be in the zone?:

They want to escape. (NGO worker)

Critical thinking returns when gambling is over:

Each night when I come home I would think never again am I going to play those machines again. (NGO client)

Extinguishing the urge

Extinguishing the urge to gamble extinguishes irrational thinking about gambling:

When I was gambling I saw it as a way of making money but now I would not dream of it because I know its ridiculous, it would make things worse, there is no chance it would make things better. When I was gambling I would sometimes think it was a way to make more money. (SGTS client)

Having completed the program (urge extinction), cues to gamble are no longer risk factors for relapse:

But lets say prior to actually being through this course (urge exposure), if there was an extra bill that came in or N... was upset about the finances as they were then, that may have been something that may have prompted me to get a small win in. (SGTS client)

Before doing the urge exposure program, that information alone about gaming machines was not enough to stop gambling:

If we are talking about a compulsive gambler, from that point of view, my history briefly is that I used to work with poker machines so I used to program the percentages of what they paid out etc. at my father's hotel so that information clearly didn't assist me at all, that information on its own. I learnt more about the machines and the random number generator and it certainly opened my eyes to a certain extent but I don't think that on its own would have been sufficient (implied treatment for the urge is required). (SGTS client)

Once not gambling, people are able to think rationally again:

I couldn't rationalise it when I was playing. I can now. This is what we often say at the meetings, where the meetings have helped me it's enabled me to put these things into perspective because when we were playing I didn't put anything in perspective. (NGO client)

Conclusions

Conclusion 8: There is a sequence of mental events involving the urge to gamble that increases or decreases the intensity of the urge, arousal, and the risk of relapse.

Conclusion 9: The intensity of urge and physiological arousal fluctuates over time.

Conclusion 10: Urge extinction was the most effective in reducing the risk for relapse.

Conclusion 11: The intensity of the urge or physiological arousal results in alteration of cognitive functions.

Quality of relationships as a factor in relapse of problem gambling

Social support as a factor in relapse

Quality of relationships
Social support
Loneliness
Culture
Religion

Social Support

Negative social support

Lack of social supports and gambling relapse

I think you have hit on another predictor there when you are bored. When people are bored that's another tool. And boredom through maybe lack of social network, friends, people to talk to. (SGTS client)

They might end up having lack of support but it wouldn't necessarily trigger a relapse but it may create a vulnerability to relapse. (SGTS worker)

Relationship conflict and relapse

That has a few layers to it. It's the actual stressful events and the things that are there, like annoying partners (leading to gambling). (NGO client)

Therapy relationships and relapse

This section addresses both the increased risk of relapse when involved in a counter therapeutic relationship and the protective factors associated with a supportive therapeutic relationship.

We had a lass go to a counsellor and she was a mess before she went to the counsellor and then she went once and then came here. She had gone to see the counsellor and she wanted some answers as she was in a bad place and said she was a pokie addict. The counsellor said why do you think you are a pokie addict and she said she had sold her jewellery etc and the counsellor had the best intentions but she said have you tried to control it and she really did a lot of damage to that girl. (NGO client)

A supportive worker as well as other peers were noted to have been important as protective factors against relapse:

It would be very hard for people not to have support because I think besides being able to talk to the worker when you are going through

the programme it does help to be able to talk to other people about it. That's reinforcing, therapeutic and all that. For R.... and myself going to consumer voice (peer support group) and talking to other people that have had the same problem, I found that very supportive too. (SGTS client)

Gambling couples and responsibility for relapse

There was one couple, both of whom were PGs. This couple's symbiotic relationship resulted in both partners rationalising the decision to engage in gambling activities, leading to frequent relapses.

It used to be part of our life, me and the wife, with highs and lows, if a football team won we would go down to the pokies and celebrate. (NGO client)

About 5 o'clock we would feed all our animals and then the night starts and I will say do you want to go and play the pokies, and he doesn't but I want to go and play. And this will go on for a couple of hours but he admitted one night at a meeting that he knew he would be going to the pokies but he didn't want it to be himself that suggested it, he would leave it up to me. (NGO client)

In more common situations of a PG with a non-gambling partner, complacency" of a significant other at keeping track of the family finances can result in relapse:

They (the significant other implied) get into this state of complacency and often the partner doesn't take enough note of their finances, they lapse back and think everything is OK now because he or she has stopped and isn't gambling and because they are not keeping that check. (NGO worker)

The loss of trust, guilt and shame in the context of relapse

This section describes the theme of the burden of social stigma, guilt, and shame which emerged as an axial code. This burden was carried by many PGs as a consequence of the effect of gambling on relationships, on the one hand, and as a trigger for relapse, on the other. When the loss of trust and shame was confronted, relationships appeared to change for the better, with increased support, a lessening of the impact of the stigma, guilt, and shame, and a reduced risk of relapse.

Loss of trust, guilt, and shame resulting from gambling

I would take issue with those people who want to define a lapse as one which doesn't do any harm to anybody else because you really can't determine that because the harm that's done is often hidden, it's in the relationship, it's in the loss of trust, it's in intangible things. (NGO worker)

Even like in a relationship, you might have gambled \$5 but because you have told your partner you are never going to gamble again, to them it could be \$5,000 so it's a trust issue. (NGO client)

Loss of trust, guilt, and shame resulting in relapse

There was a time when I thought they didn't have any trust in me, and I thought they thought I was weak so I went and gambled. (SGTS client)

Positive social support

In this section, a range of support networks were identified from the data as reducing the risk of relapse from the data. Open acknowledgement of stigma, guilt, and shame is seen as a protective factor against relapse.

This SGTS client shared that his wife had been supportive and comfortable about him telling others about his gambling problems and that this was an important protective factor which assisted him in preventing relapse:

I think absolutely opening up about it just having it out there. As you are probably well aware there is a huge stigma attached to the whole gambling demon if you like so bringing it out there and speaking to other people about it, I had made mention to my wife was she comfortable with me telling everyone about it, and the impact was the more people I tell the less likely I am to relapse. I guess again if nothing else it gave my wife a bit more assurance that it wasn't going to happen (gambling relapse implied).

Yes the more people we tell the safer we feel. There are people watching for me. I think it's good. (SGTS client)

Support from peers

The support gained from peers attending Pokies Anonymous (PA) was described as being important to “keep on track” and reduce the chances of relapse:

We inspire each other. No judgement. We have had a couple recently and they are in a bit of a mess through the pokies and you listen to them and one is a particularly heart breaking story, and it keeps you on track. (NGO client)

You can trust. If you can speak to someone on the same level you will open up to them. If someone is going to judge you and call you an idiot there is no way you are going to open up to them. You are going to pretend and lie. (NGO client)

Everyone helps each other. We do talk about confidentiality however everyone helps each other and inspire everyone. You are inspired by their courage, and what they have been through, one in particular,

and I don't know whether I would have had the courage to go through it. (NGO client)

Families tend to jump to judgement quick. (NGO client)

My husband told my parents when I had a drinking problem and short of threatening him I told him not to tell them about my pokie addiction. They don't need to know everything about what's going on in my life. (NGO client)

This NGO client talked about the positive support she and her husband had from attending regular PA meetings and also the support obtained from each other in reducing the risk of relapse:

For me, we have been going about 18 months or 2 years in June (to PA implied), since we started here. We haven't had a relapse.

Interestingly, this SGTS client explained that her friend was not honest about his gambling and did not take the offer of her support and continued to gamble:

He had a gambling problem and then I told him I have one and he told me that he just stopped. He said I never went again. I spoke to him when I was going to counselling and I told him about when I came here and every now and then we would talk on the phone and he would say have you been anywhere near those awful machines, and when I heard there were people knocking on his door for money I thought that I bet he has been gambling.

General support

I personally think left on my own I don't know that I could do it (not gamble implied), even though I decided to do it. I needed something else (support implied). (NGO client)

They might end up having lack of support but it wouldn't necessarily trigger a relapse but it may create a vulnerability to relapse. (SGTS client)

Support from partner

I am not saying I would never play again but I think I am a bit lucky because there are two of us because we support each other whereas some people don't have that. (NGO client)

Support preventing a lapse becoming a relapse

Preventing a lapse becoming a relapse is a complex process usually involving the support from significant others, peers, and workers. Therefore, if a lapse occurred, the ability to obtain support from a significant other was crucial in the prevention of

a gambling relapse. It was notable that the ability to obtain this support to prevent a relapse was only described by SGTS clients.

Knowing that you could get back on track even if you did have a lapse. Yes and if you did have one (lapse implied) knowing that your partner was there and supporting you. (SGTS client)

Yes that was all part of taking the pressure off of the whole lapse scenario which before it was a massive big threat (relapse implied). (SGTS client)

Return of trust and the reduction of guilt and shame reducing the vulnerability to relapse

Support from a significant other or a peer was considered an important protective factor against gambling relapse by these participants. It was noted that effective treatment could result in the return of trust from significant others and reduced the shame felt in relation to the problem gambling. This was considered important in reducing the risk of a gambling relapse:

To get that trust back that support grows and I become proud of myself the longer I go and I am sure everyone else is the longer I go. That builds confidence. If I didn't have those people, if I didn't have my wife my family, my extended family, my confidence would be so low and then it's back to square one. (SGTS client)

I was lucky T... stuck with me right the way though and my parents and parents in-law and friends have all been very positive since the course. (SGTS client)

Indirect effects of supportive relationships and gambling relapse

The presence of positive support could have an indirect effect on gambling relapse through increasing self-esteem, confidence, communication, and trust.

Partners described the importance of understanding what partners go through without taking responsibility for their gambling per se:

A... told me everything that went on and I wanted to know because I needed to understand to cope because I couldn't understand. Once you understand it was a revelation and you participate and if your partners know you are 100% with them, whereas before as soon as A... would have a relapse we wouldn't be talking and I would lose confidence and his self-esteem would go down, whereas with this it's completely different. (partner of SGTS client)

I was really ashamed of this for a long time and then I started to speak to people and I told my friends and everybody else and now it's become just so open and we discuss it so often. (SGTS client)

You are usually surprised when people have figured it out, they already knew and didn't want to say anything in case they upset someone, but they say they are here for you, so that's really helped there. (SGTS client)

Loneliness

Gambling provided social contact or an outing for some who were lonely:

She knows some other people there and that's her outing (gambling implied). (NGO worker)

They still want to go to the venue whether it's social or whatever they still want that without the issues. (NGO worker)

People in some cases are just totally disconnected from anything except the hotel or where other people gather. (NGO worker)

Gambling can *plug a hole* for some:

Do something to fill that side of it (gambling implied); plug the hole. That's what you have to do; these people that I talk to. (SGTS client)

She has ringed me from the car park of a hotel and its loneliness and not having friends. (SGTS client)

It appeared from this participant's comments that her friend was in caught in a cycle. She stated that even though the reasons not to gamble are evident to the gambler, when, for example, they are triggered by loneliness, they can't help themselves.

They know all the reasons why they shouldn't but they can't help themselves.

It appears that negative affective states secondary to gambling problems can create a vicious cycle where repeated relapse is likely.

Culture

Cultural issues related to an Indigenous community were identified by some NGO workers as having an impact on relapse:

I see in regional centres, its a lot harder for them. The meeting place is now the pub, there is very little on offer for them in these communities and there's a death, there's constant funerals, you have to get them collectively to give up in a community like T....

I think that's constant in any community. Any community I have seen if there is a funeral they will go to the pub, they don't go back to the house they go to the hotel.

This worker noted that she was treated badly if she dressed down in a venue:

I used to go and cash \$50 when I first started and down dress in the drop in centres and the way I was treated was absolutely appalling. Then I would go in the next day and ask for the Gaming Manager and say I would like to see that girl's licence and it was just really appalling and now I drop in unannounced but just to check on things.

This quote reflected the environmental impacts on the Indigenous communities and relapse:

In regional centres they really have no where else to go. If they want to go out, where are they going to go? They are welcome in the pokie area but not in the bistro as such. There are huge racial issues out there

Relapse as a community group

A community relapse seemed to describe how one Indigenous community coped with a significant traumatic event. After a funeral for a young girl killed in a car accident, the local Indigenous community congregated together to grieve at a local hotel after the funeral and then gambled together:

I have seen people at funerals after ... there was a 14 year old girl in a car accident and that day the pokie area of the hotel was 3 or 4 deep in Aboriginal people, there wasn't one non Aboriginal person in there

Furthermore, this NGO worker suggested that for Indigenous people to give up gambling, you need to treat them in a community:

The meeting place is now the pub, there is very little on offer for them in these communities and there's a death, there's constant funerals, you have to get them collectively to give up (gambling implied) in a community ...

This worker raised important issues in relation to the Indigenous community and relapse in relation to environmental factors and the possibility of a community relapse. This needs further exploration.

Religion

Religious beliefs were important for some clients as a protective factor against relapse.

It's the meetings for me and the belief and God or whatever, higher power and you ask for help. (NGO client)

Higher power is essential because if I understand that I myself can't do it and I can give it to a higher power then I have more trust, more

faith and I can relax (arousal reduced implied) without struggling (gambling implied) because I know it's going to be ok. (NGO client)

To have a faith which these groups help, that also is a big part of the healing process and keeping away from things (gambling implied). I think it's important to have that faith or belief. (NGO client)

Conclusions

Conclusion 12: All positive social support acts to reduce the vulnerability to relapse.

Conclusion 13: Relationship disharmony and negative social support can trigger relapse.

Intervention as a factor in relapse of problem gambling

Intervention as a factor in relapse

Intervention
Intervention
Motivation
Theoretical models

Intervention

The type and degree of treatment was an important factor for increasing resilience against a gambling relapse.

Urge exposure and response prevention

Participants from both the SGTS client and worker focus groups described how treatment that focused on urge extinction reduced the risk of relapse:

C... obviously responded really well to this (urge exposure), eight years of another programme, although it helped with lots of things, with our relationship and other things, but it didn't get to the nitty gritty because whenever something happened and he couldn't cope he would be down and then it would be another year, whereas this programme is completely different (wife of SGTS client)

For some, counselling alone did not help one overcome gambling problems:

That's why this programme (urge exposure) worked wonders for me having had counselling before; this was obviously what triggered the best result for me without doubt. (SGTS client)

You have never had a relapse but you have had lots of other relapses before this programme, you have had counselling and you have relapsed a lot. (SGTS client)

We hypothesise that if people don't fully extinguish their urge to gamble then they are at greater risk of having a relapse. (SGTS worker)

I think in some situations it could spur people on to a relapse but in other situations after going through the course (urge extinction implied) and knowing and being aware of what they are having to deal with it probably should make you a bit stronger. (SGTS client)

I haven't had a lapse since I have done the programme. (SGTS client)

There is not even a coping mechanism for me, I no longer have that urge. (SGTS client)

Life skills

It is important to teach clients to manage their lives:

You aren't protecting people from anything you are teaching people how to manage their lives. That's just another one (predictor implied). I have got a parking ticket. I am near the pub so I will go and gamble. I may as well drink. (SGTS worker)

I think some of this seems to be pointing to those global life skills because those kind of fall by the wayside when a person is absorbed and consumed with gambling and I think one of these target areas in terms of therapy is to really foster and develop those life skills and restimulate things like the goal directed behaviour. So when those global life skills are in tact they won't get derailed by a simple setback (lapse implied). It depends what's primary and what's secondary. What's primary in terms of therapy, what you are targeting is not only addressing the problem of pathological gambling but you are also restimulating and broadening their repertoire in terms of those life skills. (SGTS worker)

I think that is an absolute crucial part of the not having a lapse for me, was learning the coping mechanisms. (SGTS client)

Pokies Anonymous

Attending Pokies Anonymous was helpful in keeping people away from gambling:

You come to the meetings and you listen to the stories of the people around the table and that's enough to drive you from not going to the machines, just to listen to their stories and what they go through and you can relate to it and it's true. (NGO client)

Understanding; we inspire each other; no judgement it keeps you on track. (NGO client)

It keeps you from getting complacent; you know you have been there and felt that yourself. (NGO client)

Support is required to reduce relapse

These NGO clients believed they could not overcome their gambling problems on their own. Support was considered an essential protective factor against relapse:

I personally think left on my own I don't know that I could do it (manage gamble implied), even though I decided to do it. I needed something else. (NGO client)

Everyone helps each other. We do talk about confidentiality however everyone helps each other and inspire everyone. You are inspired by their courage, and what they have been through, one in particular, and I don't know whether I would have had the courage to go through it. (NGO client)

Counselling

Counselling approaches were identified by some as helpful in reducing relapse:

I discuss with them what they want to achieve and I have one person who actually prefers the control and she has budgeted to allow herself \$30 once a week. There have been a couple of relapses with her decision but overall she seems to be happy with the way she is going. The other ones want to abstain. (NGO worker)

Not all participants believed that controlled gambling was possible:

for continuing to gamble but turning it back into a social activity instead of the one it is at the moment and quite often they will choose the controlled and then in about 3 months time they will say this is not working so I will give it up and that usually follows a lapse which quite often seems them putting a whole lot of money through, more than they would have previously in one episode and that frightens people. (NGO worker)

A client said to me "I don't want to gamble at all" and I said I do understand that and I do understand that you have been wanting to for 10 years and this hasn't worked, this thinking of abstinence therefore we have to look at budgeting in your gambling otherwise you are ambiguous around your gambling and in denial and then when you get paid you blow a significant amount of your pay. I tend to talk to the clients first up cause they say I want to stop and I say we can achieve that eventually if that is what you want but I am warning

you now that you will go back to gambling at some stage. (NGO worker)

Some described counselling as a positive experience:

Today I am really grateful, I was about to see my counsellor and my daughter rang and said come to the Art Gallery and I thought yes I don't have to think about myself, I can think about my kids. Before it was all about what I wanted to do and it wasn't that I didn't love my kids it was just the time. (NGO client)

Motivation

Some believed they needed to hit rock bottom before anyone could help them:

You have to stop. You can't stop an addiction half way through. That person has to hit their bottom and you have to be on your knees before anybody can help you. (NGO client)

That's pretty right, first you have to admit that you have got a problem and then you are half way there. You don't really turn yourself around until you have got no where else to turn to. (NGO client)

There are all sorts of different levels but you know yourself, there is nothing anyone can say or do to help you until you admit you have got a problem (gambling implied). (NGO client)

But some clients did not want to stop gambling:

and yes they will go and do something with a counsellor and she's a really nice lady and I stopped gambling and so I don't think I need to go any more so really they probably didn't want to stop. (NGO worker)

Yes and that comes in where people leave half way through (treatment implied) and they feel fine about it and they might not ever come back themselves. (SGTS worker)

Some clients complete counselling too early, thinking they have control of their gambling and relapse:

sometimes our clients have counselling for a while and they have got quite good control and then they go away and perhaps finish counselling quite early and they often tend to relapse. (NGO worker)

Clients who are not motivated with treatment are more likely to relapse:

Well some people go through it (treatment implied) and all the measures are self-reporting measures, people tick the boxes and its all coming from some people we know, or maybe I am speaking for myself, I can tell I kind of get a gut feeling whether someone is giving you the stuff to put on the form that looks good, other people are just enthusiastic, you just know it. They are more likely to relapse, the gut feel ones, that aren't all that motivated that say yeah I am better now. (SGTS worker)

It's not just a matter of understanding the course; you have to want to not gamble. (SGTS client)

Yes I walked into the course and I hadn't gambled for eight months before I walked into the course but I wanted to make sure there was no chance of me ever going back again so I desperately wanted it out of me. But I can understand what you are saying about not being ready, it was very heavy and tiring and if you are not fully focussed on what you are doing you could get lost in it, in not wanting it. If you don't want it badly enough there is a huge potential to relapse there. (SGTS client)

Maybe men are less inclined to maintain the timeframe to extinguish the urge. (SGTS worker)

Theoretical models

Some participants believed gambling problems could be overcome:

We hypothesise that if people don't fully extinguish their urge to gamble then they are at greater risk of having a relapse. (SGTS worker)

This is crucial, even in the presence of other co-morbidities:

If the person doesn't extinguish that response aside from all of the added disorders and co-morbidities, just that basic learning theory, if its not extinguished the person is vulnerable. (SGTS worker)

People can get through treatment. (SGTS worker)

There are a whole lot of things that can impact on the effectiveness of therapies. One of the challenges that we as workers have is trying; we know the model works (urge exposure implied), we are pretty confident that it works. (SGTS worker)

Some participants identified issues related to theoretical models and relapse:

It's a behavioural thing to actually keep doing it and get further and further involved and you get further and further addicted and that's what's going on in your brain as well as your behaviour as a

physiological thing as well as a cognitive thing as well as the behavioural thing so it's the whole element. (SGTS worker)

And what we know about through learning theories, that random reinforcement then the more likely they will develop that problem (gambling implied) with the random reinforcement. (SGTS worker)

It's a learned response, there's something going on. (NGO worker)

And of course even though there is not an identified thing there because things automatically click into place, its like a conditioned response (gambling implied) so there must have been something that made it happen but you can just click into that state. (NGO worker)

It's (gambling) a bit of brain washing I suppose. (NGO client)

The provision of treatment

The type and degree of treatment was an important factor for increasing resilience against gambling relapse. This section will review relapse in respect to different interventions used, the impact of motivation and the perceptions held by participants about the ability of PGs to overcome gambling problems.

Effective treatment was considered important to reduce relapse

If treatment is effective, people don't relapse. (SGTS client)

To determine relapse would require obviously that they need to have sought treatment. (SGTS client)

I haven't had a lapse since I have done the programme (urge exposure). (SGTS client)

That's why I am particularly interested in having predictors, like it's an early intervention thing and catching it before it (relapse implied) happens (SGTS client)

Understanding and completing treatment in reducing relapse back to gambling

It is important for clients to fully understand the therapeutic process so that they can engage in and complete the treatment correctly:

Do you think the way people comprehend themselves completing the course, like R... had a very good understanding of the actual mindset of the course (urge exposure) and the way it was structured and what was to be achieved, yet I know when you talk to me and you would say this person really hasn't got it, and yet some people might think I have done this 12 week course and think I am cured but they have not grasped the ground roots which they need to be building upon. I wonder whether that leads to some people not actually coping as well, then leading back to a relapse. (SGTS client)

And it's often couples who come in and they might have one session where they talk about a whole lot of stuff and they have got some new strategies and I am sure that they think now I know what to do and I will be alright now and their partner will get all the money. (NGO worker)

Rapport with worker and effective treatment outcomes

This SGTS worker considered individual treatment style to be important for treatment delivery and outcome:

If your style doesn't actually fit the gambling model they might get through the therapy but then they are back gambling a week later.

The manner in which treatment was delivered by the worker was believed to be important for clients to engage in therapy:

We are talking about the way in which we deliver the treatment. (SGTS worker)

Its not even just motivation. Someone could desperately want to overcome it and still not get or understand it or be able to conceptualise. (SGTS worker)

Complexity of the client's presentation

I was also thinking about that thing of other predictors of relapse in terms of maybe different treatments do fit different clients depending upon where they are at in relation to the gambling and that sort of stuff as well so if we are set in one particular way of working, and that way of working maybe the way of working that is best for the majority of clients but what about for those that its not and what about for those that do have lots of co-morbidities and complex social issues, is it still the best way of working? (SGTS worker)

This SGTS worker suggested stress needed to be addressed or the client is at risk of relapse:

It's not as simple as extinguish the urge and it's gone. There is a reason why people go and gamble in the first place, they don't get a problem by going there once, if people are going there to escape stress.

Participants' perceptions of outcomes from a gambling intervention and relapse

The following examples highlight the different views held by participants in regards to the intervention used, the outcomes achieved, and the risk for relapse inherent in these perceptions.

Treatment and resilience in the gambling environment

Interestingly, some participants in the SGTS client and worker focus groups had a similar view that clients who have extinguished the urge to gamble would not be at risk in a gambling environment.

You should actually be able to go to these venues; these areas and still function normally and not have an urge to go into them (after urge extinction implied). The way I see it is the number of venues shouldn't actually affect whether you start relapsing. (SGTS worker)

Another participant suggested that once the urge to gamble was extinguished, it should not make a difference if gaming machines were in poorer areas:

If the urge is extinguished what difference does it make? (SGTS worker)

An SGTS client's wife stated that her husband no longer had a problem after doing the course. He could enter the gambling environments:

Yet they still to this day that G... 's course was still about avoiding the poker machines so you would organise a family luncheon and they would say: 'Oh no we can't go there, or just walk past there G..., the restaurant is over here', and it just gets to be a huge joke and G... has tried so many times to explain to them the way this course (urge exposure) is structured, he doesn't have a problem with them any more.

Gambling as an addiction which is a lifelong affliction that needs vigilance and management

Some participants could not believe that cure was possible and that this belief may in fact lead to risk for relapse:

I like to get people to think that its always in the back of their mind that because in 10 years time if you think that you are cured then I think that you are more vulnerable (relapse implied) because you have forgotten and you walk into the pub and something is happening in your life and you think well I am alright because I haven't gambled for 10 years and I am cured but you are more at risk so if you think I must not do that because its too dangerous that's just something I feel (NGO worker)

I tend to talk to the clients first up cause they say I want to stop and I say we can achieve that eventually if that is what you want but I am warning you now that you will go back to gambling at some stage (relapse implied). (NGO worker)

I am concerned and that is with any addiction and that is with complacency, you forget. (NGO client)

But the pokies, I have absolutely no control over. Except the only way you can control it is not to participate in it and I guess that describes me with pokies because I cannot participate in it because I cannot walk in. (NGO client)

Appendix 14 Research Audit Report

Research Project: Predictors of Relapse in Problem Gambling – A Focus Group Study

Researcher: Ms Jane Oakes

Auditor:

Dr Sharon Lawn

Senior Lecturer

Department of Psychiatry, School of Medicine

Flinders University

Bedford Park, South Australia

Date: 20th October, 2008

Preamble

I undertook this role as a clinician and academic staff member at Flinders University who is independent from this research and with no clinical relationship to the Gambling Therapy Services at Flinders or any other organisation that provides treatment for gambling problems. I have a sound general understanding of health issues, addictions and mental health issues, having worked in a clinical role within mental health and other health services for more than 20 years and done extensive research on addictions, among other health issues. I also have a sound understanding of research methods, having taught research topics to undergraduate and post-graduate students for the past 8 years and undertaking a broad range of research as part of my academic and clinical roles. I have a sound understanding of research audits, having undertaken an extensive literature review of audit processes and developing a rigorous framework for undertaking such audits of qualitative research as part of my own PhD thesis in 2001.

I conducted an audit of the focus group component of Ms Oakes' research in which she was engaged from late August 2007 to mid-October 2008. My contact with Ms Oakes consisted of bi-monthly one hour meetings for the duration of the project (8 meetings in total). The first meeting was used to establish the criteria for the audit and familiarise me with the research aims, process of recruitment of participants and methods of data collection. Subsequent meetings involved examination of the process and context of data collection and analysis.

Supporting Documentation Provided to the Auditor

(1) Literature:

Akkerman, S., Admiraal, W., Brekelmans, M., & Oost, H. (2008). Auditing quality of research in social sciences. *Quality and Quantity*, 42(2), 257-274.

Guba, E.G. (1981) Criteria for Assessing the Trustworthiness of Naturalistic inquiries." *Educational Communication and Technology Journal*, 29:2, 75-91.

Rodgers, B.L., & Cowles, K.V. (1993). The qualitative research audit trail: a complex collection of documentation. *Research in nursing & health*, 16(3), 219-226.

(2) Research Documents:

Ethics protocol and clearance for the research
Transcripts of Focus Groups
Reflective journal notes
Coding schemas, diagrams and notes following decision making processes
Draft reports to the Tenderer

Audit report

The main underlying questions for the auditor are whether the results and conclusions are grounded in the process of data gathering and data analysis in a way that the researcher made linkages that are visible (visibility), substantiated (comprehensibility), and logically and scientifically acceptable (acceptability) (Akkerman, Admiraal, Brekelmans, & Oost, 2008). Underlying this process is the ‘trustworthiness’ of the qualitative findings. This parallels validity and reliability terminology that is applied to research generally, and particularly to quantitative research. Guba (1981) discussed the four major concerns relating to trustworthiness. The following four criteria were followed in the audit process.

(1) Truth value – known as the internal validity and credibility of the inquiry.

Findings were reviewed with a number of data sources. Credibility of the data was enhanced with the researcher performing peer debriefing, reference group debates and discussions and extensive interactions with supervisors in order to test ideas and detach themselves from time to time from the immediacy of the data. Triangulation of the data sources and theories to support credibility was evident, the former by various consultations during the course of the study and the latter by extensive literature review encompassing ideas from several different paradigms and later expansion of this review and further insights and leads became apparent.

(2) Applicability – refers to both the external validity (generalisability) and transferability through the existence of “thick descriptions” about the content.

A review of all support materials (e.g. reflective notes and codes transcripts) revealed that the researcher had consistently made extensive notes and reflections about each focus group soon after it was performed. Through the series of audit meetings with the researcher, it was highly apparent that the researcher had followed a multilayered process of coding, questioning, reflecting, and interacting with the second coder through lively dialogue in supervision meetings to arrive at a rich process of thematic analysis.

(3) Consistency – is the reliability, dependability or replicability. This involves planning the process of how data is collected, analysed and interpreted, that is, establishing an “audit trail” to ensure the process has stability and trackability.

An audit trail and triangulation of the data sources was conducted to avoid problems associated with multiple realities and changing perceptions of the participants and focus group data more generally. Data was verified from at least two sources:

through the literature, experts from the Delphi process, expert supervisor and the research team.

This enabled the perceptions of several investigators to be compared. Different theories were discussed and alternative explanations were tested. The collection of data from a variety of perspectives, using a number of methods, and drawing upon a variety of sources enabled the predilections to be tested as strenuously as possible. A clear explanation of the process of data collection and analysis was provided. The auditor was satisfied that the audit trail was clearly established so that this research could be carried out by others if necessary.

(4) Neutrality – otherwise known as objectivity or confirmability.

This was conducted through the review of all the available data and the process of analysis. Any biases or motives of the researcher were balanced by seeking multiple viewpoints from the various focus groups and through extensive consultation with research team members and reference group experts from diverse areas of interest on this topic. The researcher clearly and openly briefed the auditor on research goals, their subjective experience of the research process, and their personal and professional motivations for the research. The researcher was open about their prior use of exposure therapy in their work and the potential bias that it may bring to the process. They took active steps to have independent facilitators for focus groups, to broaden the literature review of the topic and to consult widely to counter this, as well as having extensive conversations with the auditor and their supervisor about this.

After discussion with the auditor, the following further criteria were decided on to monitor the audit trail process:

Evidence of increased insight as a result of data analysis. This included:

- Ability to suspend preconceived ideas and notice unexpected data;
- Alert to categories of behaviour not covered by the general guide for the focus group process;
- Process open to revision if necessary;
- Transparency of interpretation and decision-making about data analysis and conclusions;
- Thick description;
- Appropriateness of the consent process;
- Maintenance of confidentiality in process and reporting; and
- Inclusion of all stakeholders.

Evidence of increased insight as a result of data analysis

There were numerous examples of new insights developed as a result of the data analysis. These ranged from making theoretical links or raising theoretical questions to highlighting multiple areas where new and contested ideas were apparent in the data that challenged the researcher's notions and/or the existing literature. The layered process of data coding also confirmed that the researcher arrived at a much more in-depth point of understanding of the main themes from the data at the

conclusion of data analysis. The auditor was able to track this progression and growth by viewing the building of themes and sub-themes, schemas used for determining this and through the researcher providing examples of their thinking process regarding this.

Appropriateness of the consent process

The methodology information provided to the auditor clearly listed the consent process to be followed. The researcher further provided the auditor of evidence of this through the transcripts of focus groups where consent appeared to be clearly discussed.

Maintenance of confidentiality in process and reporting

All transcripts and other support documentation provided to the auditor was meticulous in ensuring that the names or any other identifying information about participants was absent, thus ensuring confidentiality of participants.

Inclusion of all stakeholders

The diversity of stakeholders and types of focus group provided evidence that the researcher was willing to include as many alternative views on the issue of problem gambling as possible. This was further confirmed with the researcher's intention to run further focus groups with cognitive clinicians and people who had not sought help for their gambling problems, following recognition that the views of these stakeholders may also be important to enhance the rigour of the research.

Conclusion

I find this research to be conducted ethically, according to clearly described and justified methods. There is clear evidence of the derivation of insights and themes from the various data sources and their analysis. This research has established a clear audit trail.

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