Rumination, Time and Forgiveness: Are Changes in Thinking over Time Associated with the Development of Forgiveness?

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CONTENTS

SUMMARY

Forgiveness is a process of transformation occurring within victims whereby their motivations shift from avoidance of the offender and revenge seeking towards more prosocial motivations (McCullough, 2001). In order to make the shift, victims need to process the incident. Commonly, however, 'rumination' or thinking about an offence has been found to have a negative relationship with forgiveness (McCullough, Bono, & Root, 2007). Notwithstanding these findings, it makes sense that forgiveness requires a working through of the experience and thus an engagement at a cognitive level with the events that took place. However, research has also demonstrated that rumination declines over time and, further to this, the decline is associated with increases in forgiveness (McCullough, Bellah, Kilpatrick, & Johnson, 2001). The present paper proposes that it is the quality and timing of rumination which is important in the development of forgiveness.

Using the principles of Construal Level Theory, it is posited that when victims are temporally closer to the offence, their thinking tends to have more concrete properties and is focused on the details of the event which impedes forgiveness. However, with greater temporal distance and, therefore, more psychological distance from the incident, their thinking develops an abstract quality. The abstract nature of their thinking allows for a broader and more holistic view of the experience. The suggestion is that forgiveness becomes possible when victims view the incident through an abstract lens.

Consistent with this proposition, four empirical studies showed that the development of abstract thinking and the reduction of concrete thinking, over time, had

implications for the development of a victim's forgiveness of a wrongdoer. In Study 1, participants recalled a recent offence and the effects of concrete and abstract thinking were examined. Time was manipulated in Study 2, such that some participants rated their thinking about an offence immediately while another group waited to rate their thoughts. Study 3, was a prospective study, requiring participants to note when they experienced an interpersonal transgression and then complete a survey across five time points. Thinking was manipulated in Study 4, such that participants were instructed to think about a recent offence either in concrete terms or from an abstract viewpoint. Thinking abstractly about the offence was indirectly positively related to forgiveness via the reaffirmation of shared values with the offender. All four studies demonstrated that concrete thinking became more negatively related and abstract thinking more positively related to forgiveness over time. Importantly, it is the pattern of change in both types of thinking over time that is considered to be important for forgiveness.

The present paper makes an important and distinct contribution to the literature by proposing that is the type of thinking occurring in the aftermath of an interpersonal offence that is a determinant of forgiveness. Of note, it demonstrates that there is indeed more to rumination than negative thinking.

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 person except where due reference is made in the text.

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Anne-Marie Coughlin

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CHAPTER 1

Introduction

Forgiveness is a process of transformation that occurs within victims towards their transgressors whereby victims' motivations move away from wanting to avoid and/or harm the other following a victimisation and towards more prosocial inclinations (McCullough, 2001). However, such an intrapersonal transformation does not happen immediately, it requires time. Time is considered a necessary feature of the forgiveness process (McCullough, Fincham, & Tsang, 2003). In order to work through a transgression and to arrive at a place of forgiveness, victims require time to think about what happened so as to process the incident. Commonly, however, thinking about an offence or negative experience has been thought of as 'rumination' and research has considered rumination to be an impediment to forgiveness (McCullough, Bono, & Root, 2007). Put simply, rumination (about an offence) is characterised by people rehashing the incident over and over in their minds, unable to let go of their negative feelings regarding the offence and the offender. In addition to findings revealing the negative impact of rumination on forgiveness, research has also demonstrated that rumination declines over time and, further to this, the decline is associated with increases in forgiveness (McCullough, Bellah, Kilpatrick, & Johnson, 2001). But herein lies a conundrum: does this suggest that simply not thinking about the offence over time enhances forgiveness; or that the decay in repeatedly thinking about the offence with the passage of time create a space that forgiving attitudes fill? Surely, such ideas undersell the transformational nature of forgiveness. It stands to reason that the transformation

occurs as a result of working through the experience and thus engaging at a cognitive level with the events that took place.

This paper argues that it may be the type of thinking victims employ following an interpersonal offence that will determine the development of forgiveness. It may be that the decline in rumination paves the way for the development of another type of thinking: one that is more productive and may require less repetition, one that promotes the process of forgiveness. In other words, there may be less chewing over and more digesting of the harmful event by the victim.

The present paper proposes a new way of conceptualising the type of thinking that occurs in the aftermath of an interpersonal offence. The case will be argued for the introduction of a previously unrecognised ingredient into the understanding of the forgiveness process: a type of thinking which leads to a change of outlook on the event. The quality of thinking being proposed allows for the broader context of the incident to be considered rather than a narrow focus solely on the event. Such thinking is thought to be necessary to actively work through the experience and therefore transform the victim's attitude toward the offence and the offender. The notion of ruminative thinking as "working though" has not been considered in previous theories about the development of forgiveness. The proposition is that following an interpersonal transgression two distinct types of thinking, based on the tenets of construal level theory, can be distinguished: concrete and abstract thinking. Concrete thinking is characterised by a focus on the specific details of the incident such as the actions that occurred, the emotions felt and the chain of events as they unfolded whereas abstract thinking is considered to be more holistic and values-based, taking into account the

broader perspective, such as, where the transgression fits in the larger scheme of life, the role of the other person in the victim's life and possibly the lesson that can be learned from the event.

The suggestion is that these two forms of thinking may help to account for the relationship between forgiveness and time as it has been established in previous research. First, as time passes victims may gain greater psychological distance from the transgression, and their thinking becomes less focused on the concrete components of the offence (or less ruminative in nature); their concrete thinking decreases. With greater temporal distance from the offence victims may be able to access more abstract features of the event and thus contextualise the event within a "bigger picture". This type of thinking is termed 'abstract thinking' within the present paper. The waning of concrete thinking and waxing of abstract thinking, in the period after a transgression may account for effects of time on forgiveness. Alternatively, the effects of time on forgiveness may be contingent on the ebbing away of concrete thinking and the increase in abstract thinking.

It is proposed that continued concrete thinking with its repetitive or ruminative focus on the concrete features of the transgression will impede the development of forgiveness, whereas the emergence of abstract thinking will promote it. The claim put forward in the current thesis challenges scholarly thinking by suggesting that over time not only does rumination (thinking concretely about the offence) decrease but along with the decline another type of thinking develops, one which considers more abstract features of the event and encourages the forgiveness process, namely abstract thinking.

Specifically, it is the pattern of change in both types of thinking over time that is considered to be essential in the development of forgiveness.

In order to contextualize and develop the present argument within a theoretical framework, an elaborate review of the literature will be undertaken next. It will specifically address forgiveness and the role of rumination and identify the existing paradox which has given rise to the current inquiry. Chapter 2 will then address the role that Construal Level Theory may have in explaining the changes in type of thinking and the development of forgiveness and review the existing literature in the area.

Forgiveness

As previously stated forgiveness announces a transformation in thinking and attitude about the transgression and the transgressor. Interpersonal transgressions can have psychologically deleterious consequences for victims (Brown, 2003) and can produce the desire for retaliation against and avoidance of the offender and also the reduction in sentiments of goodwill towards the offender (McCullough et al., 1998; McCullough, Worthington, & Rachal, 1997). However, research has demonstrated that victims can also be moved to let go of negative feelings towards the offender, to relinquish the need for revenge or retribution, and possibly maintain the relationship (McCullough et al., 1997; 1998), thereby, altering the motivations related to the transgression and transgressor in a socially constructive way. This transformation in motivation of victims is known as forgiveness. Forgiveness is considered to involve the letting go of negative feelings and assuming a more generous attitude toward the offender.

Researchers in the forgiveness area share similar ideas about the nature of forgiveness and in particular seek to highlight some common misunderstandings. It is important to note that forgiveness does not imply forgetting. Nor does forgiveness seek to renounce or excuse the wrongfulness of the harmful act or the rights that have been violated (Exline, 2007). Rather, these are recognised along with the culpability of the offender. Research by McCullough et al. (2003) demonstrated when victims held their offenders responsible for the transgression, they seemed to become less avoidant and more benevolent over time. Importantly, forgiveness does not seek to play down the seriousness of the transgression. Nor does forgiveness necessarily imply reconciliation since victims can forgive without wanting to restore their relationship with the offender (Exline, 2007). Such distinctions highlight that the decision to forgive is underpinned by the victim's clear understanding of the offender, the offence and its implications (Witvliet, DeYoung, Hofelich, & DeYoung, 2011).

Forgiveness, when offered, can provide numerous important benefits to the victim. Such benefits can be experienced at both psychological and physiological levels. Karremans, Van Lange, Ouwerkerk, and Kluwer (2003) found that when commitment to the relationship with the offender was strong the participants in the forgiveness group (compared with the no forgiveness group) demonstrated higher levels of life satisfaction, positive affect, and state self-esteem. Enright and The Human Development Study Group (1991) developed a forgiveness intervention program and found that compared with the control group, the group receiving the intervention program demonstrated decreased levels of anxiety, anger and depression, as well as enhanced self-esteem. Witvliet, Ludwig and Vander Laan (2001) conducted research examining the effects of

forgiving and unforgiving thoughts on physiological responses. They found that forgiving thoughts (compared with unforgiving thoughts) produced lower physiological stress responses. Clearly, forgiveness can be personally advantageous for victims irrespective of whether there is any ongoing relationship with the offender.

While reconciliation is not a necessary feature of forgiveness, it may nevertheless be an outcome for some people (see Fincham, Hall, & Beach, 2006). The decision to grant forgiveness can enable a previously close relationship between the victim and the offender to move forward following the transgression (Zechmeister & Romero, 2002). For example, forgiving an offender has been shown to bring about restored emotional closeness for couples (McCullough et al., 1998) and increased positive emotional reactions (McCullough et al., 2001). Thus, forgiveness can be understood as promoting healing in interpersonal relationships. Forgiveness indicates the release of negative emotions such as bitterness, resentment and anger, and the increase in positive emotions. Greenberg, Warwar and Malcolm (2008) found that people who forgave the offender also indicated that they had let go of distressing feelings and unmet needs.

Because forgiveness has the potential to provide victims with various benefits, researchers have focused a considerable amount of attention on examining the possible predictors of forgiveness. A meta-analysis of 175 studies identified various dispositional predictors of forgiveness such as agreeableness, neuroticism, state empathy, trait perspective taking, trait anger, trait forgiveness and social desirability (Fehr, Gelfand, & Nag, 2010). The meta-analysis also revealed various situational predictors of forgiveness including intent, harm severity, negative mood, state anger, rumination as

negative predictors, and offer of an apology, relationship closeness and commitment as positive predictors.

Forgiveness may be thought of as either an initiator or an outcome of attitudinal and emotional change. Research has demonstrated that forgiveness may involve a conscious decision to forgive the wrongdoer (Witvliet et al., 2011). Thus, forgiveness can be thought of as a deliberate decision which activates changes in the victim and the victim's thoughts about the offence and the offender (Wenzel & Okimoto, 2010, 2012; Wenzel, Turner, & Okimoto, 2010). On the other hand, within the literature forgiveness is also considered to be an outcome. Enright, Gassin and Wu (1992) describe forgiveness as a consequence of a process, suggesting that forgiveness involves the "overcoming of negative affect and judgement toward an offender, not by denying ourselves the right to such affect and judgement, but by endeavouring to view the offender with compassion, benevolence, and love…" (p. 101). Moreover, McCullough, Pargament, and Thoresen (2000) indicated that at the heart of forgiveness is the prosocial change within an individual's motivations or emotions towards their offender. Put simply, victims experience a change in their thoughts, feelings and behaviours whereby their responses to the offender become more positive and less negative (McCullough, Luna, Berry, Tabak, & Bono, 2010). In research conducted by McCullough et al. (2003), when victims held their offenders responsible for the transgression, they seemed to become less avoidant and more benevolent over time. As such, it seems appropriate to consider forgiveness as a transformation within the person who grants it and such a process would require time in order to unfold.

The Relationship between Time and Forgiveness

The popular idiom "time heals all wounds" reflects the notion that as the temporal distance increases from an interpersonal transgression levels of forgiveness increase accordingly. Importantly, this idea does not rule out the potential for some transgressions to be deemed unforgivable due to their perceived severity or their long term consequences, regardless of the amount of time that has elapsed (Exline, Worthington, Hill, & McCullough, 2003). However, within the literature, time (between-subjects) has been theorized to moderate the relationship between various predictors and forgiveness. However, the number of studies speaking to this issue is rather limited, and the results of a meta-analysis indicated that the time-forgiveness relationship was non-significant (Fehr, Gelfand, & Nag, 2010).

Forgiveness research reveals various methods used by researchers to investigate the impact of time on forgiveness. First, researchers have used an experimental approach to manipulate the perception of the passage of time between a transgression and the present to examine the effects on forgiveness. In so doing, time is conceived of as a perception rather than an objective experience. This seemingly unorthodox approach is in keeping with research findings that one's experience of time is not always consistent with the actual duration since an event (Block, 1989; James, 1890/1950; Ross & Wilson, 2002; Wilson & Ross, 2001). Events that have occurred some time ago can seem as if they occurred very recently. Thus, the method of manipulating time is used as a means to separate the individual from a negative event by subjectively increasing (for example) the temporal distance between the individual and the incident, such that, the event will be perceived as having occurred some time ago. Wohl and McGrath (2007)

experimentally manipulated time by inducing people to feel relatively close or distant from a hypothetical transgression (Experiment 2) or a recalled (but not yet forgiven) transgression (Experiment 3). They found that the greater one's perceived temporal distance from a transgression the more the victim was willing to forgive the offender. They also found that empathy mediated the relationship between temporal distance and the victims desire to seek revenge on the perpetrator: when the event was perceived to be in the distant past, victims experienced more empathy towards the other person and, mediated through this, were less inclined to exact revenge on them.

In an experimental study focusing on time perspective, Allemand (2008) measured participants' willingness to forgive as a function of social proximity and future time perspective. Participants were informed that the transgressor was either a friend or an acquaintance and were instructed to imagine that they (or the transgressor) either had a long life ahead of them or not much longer to live. Results indicated that adopting the perception of time as limited versus open-ended influenced the participants' willingness to forgive. The same was true when the offender had a limited life-span. This study manipulated time by changing the frame of reference: if there was still a lot of time to experience, the past event seemed closer; if the life expectancy was short, then in relation to the rest of time, the incident seemed more distant. When confronted with the perception of limited time to live, people tend to be more emotion focused in their goal setting (Allemand, Hill, Ghaemmaghami, & Martin, 2012). In essence their priorities change.

The second method is the inclusion of time in the measurement of forgiveness (McCullough et al., 2003; McCullough & Root, 2005, McCullough et al., 2010).

McCullough et al. (2010) used longitudinal data gathered from 372 people who had experienced a recent interpersonal transgression. They found that forgiveness appears to be a logarithmic function of the passage of time since the offence occurred. It appears that the greatest change in forgiveness levels occurs very early on in the process but as time passes the rate of change in forgiveness becomes smaller. Further to this, it appears that forgiveness levels can fluctuate throughout the development of forgiveness (McCullough et al., 2003). Although people's forgiveness levels tend to increase in a continuous fashion, at different time points their forgiveness scores can deviate from what would be expected given the particular linear trend of their forgiveness. It may be that different factors have an influence on forgiving attitudes, for example, a person's negative mood or the occurrence of another transgression or perceived injustice. Such occurrences may trigger ruminative thinking (Trapnell & Campbell, 1999) which, in turn, may alter the amount of forgiveness the victim experiences at any particular time.

Rumination

Research suggests that rumination impedes forgiveness by reactivating the experience of negative cognitions and emotions associated with the transgression (McCullough, Bono, et al., 2007). One of the most widely used definitions in the literature proposes that rumination is a response to distress involving "repetitively and passively focusing on symptoms of distress and on the possible causes and consequences of these symptoms" (Nolen-Hoeksema, Wisco, & Lyubormirsky, 2008, p. 5). This definition is primarily associated with depressive rumination. Martin and Tesser (1996, p. 7) described rumination as "a class of conscious thoughts that revolve around a common instrumental theme and that recur in the absence of immediate environmental

demands requiring the thoughts". The second definition, while not as commonly used, provides important additional information regarding the uncontrollable and intrusive nature of ruminative thoughts. Both definitions have as their emphasis the process of rumination rather than the content of rumination.

In presenting a multiple-systems model of angry rumination, Denson (2013) proposes that rumination is a cognitive process triggered by an anger provoking event. In an extension of the previous ideas, Denson (2013) suggests that angry rumination has three core components, one of which is the extent to which a person centres on the features of the incident or the self (content focus). The other two components are related to ruminating about the causes versus the details of the event and the vantage point or perspective (first person versus third person) from which the event is considered. This last definition appears to focus less on the passive, intrusive and uncontrollable nature of rumination instead hinting that rumination may, in part, be more deliberate in nature.

Research has investigated the motivations victims may have for thinking repetitively about a transgression. McCullough et al. (2001) found positive associations between trait vengefulness, rumination, and revenge motivation. They argue for the possibility that the relationship exists because of a victim's conviction that looking for retribution and holding onto ill feeling towards the offender is a morally correct response to an interpersonal transgression in order to restore the moral balance. The forgiveness literature maintains that ruminative thinking has the capacity to impede victims' abilities to relinquish their antagonism towards the offender and replace it with a more compassionate attitude (McCullough et al., 1998; Metts & Cupach, 1998). Kachadourian, Fincham and Davila (2005) found an association between victims

experiencing more frequent transgression ruminations and reduced forgiveness of a spouse toward whom they held both positive and negative feelings.

Thinking repeatedly about a harmful transgression and its implications is likely to have negative consequences for victims (Watkins, 2008). Negative cognitive rehearsal regarding a transgression, that is, rumination, has been found to lead to transient increases in negative affect regarding the offence (McCullough, Bono, et al., 2007). Witvliet et al. (2001) found that when people were ruminating and bearing a grudge compared to when they were empathetic and forgiving, they experienced an increase in blood pressure and heart rate, their high perspiration levels persisted, their brows furrowed, and their negative emotions increased. Furthermore, findings by McCullough, Orsulak, Brandon and Akers (2007) indicated when participants had ruminated more than usual about a personal experience of an offence their salivary cortisol levels were higher than their typical levels.

Angry rumination was shown to elevate anger compared with a distraction task (Rusting & Noel-Hoeksema, 1998). For example, Bushman (2002) found that participants who ruminated "out loud" by venting while ruminating about their transgressor felt angrier and were more aggressive than those in the distraction and control groups. While other research found that rumination was also linked to displaced aggression (Miller, Pedersen, Earleywine, & Pollock, 2003). Furthermore, persistent rumination about a transgression results in an adverse concentration on the event and the offender, thus inhibiting a forgiving response (Worthington, Berry, & Parott, 2001; Worthington & Wade, 1999). When considering the vast array of negative

repercussions of rumination, it is important to attempt to uncover the function that rumination plays in the aftermath of an offence.

It has been proposed that people may engage in ruminative behaviour due to the physiological reactivity that occurs during hurtful or negative events facilitating the encoding and retrieval of the memory (cf. Witvliet, 1997). Thus, when people have experienced a transgression and are emotionally and morally wounded they often rehearse the memory of the painful experience. However, in so doing they tend to maintain the associated negative emotion and damaging psychological effects (Witvliet, 1997; Worthington, 1998).

Cognitive rehearsal can occur spontaneously, in that, memories of the transgression can be experienced as unwanted and intrusive recollections about the details of the event. When using the Impact of Event Scale (Horowitz, Wilnerr & Alvarez, 1979) as an approximate measure of rumination after a specific offence, McCullough et al. (1998) revealed a relationship between intrusiveness and the desire to exact revenge against the offender. Such a finding may not be surprising given that other research (McCullough, Root, Tabak, and Witvliet, 2009) considers the desire to seek revenge as an "in-built" response to harmful transgressions. It is possible that rumination may be an unsuccessful attempt to rid oneself of the negative affect associated with the intrusions by mentally representing an act of revenge against the offender: rather than relieving oneself of the negative affect, rumination reactivates negative consequences. Thus, it seems that rumination after a transgression leads to a spiralling of negative consequences for victims. Contrary to this, in time, people's rumination subsides and this coincides with increases in forgiveness for their offenders. In an experimental study, Witvliet, Mohr,

Hinman, and Knoll (2014) found that when participants practised compassion after experiencing offence related ruminations, their ruminations took on a more empathetic quality. These findings provide important evidence that rumination does not necessarily have a static quality with a narrow focus but, rather, can change, such that the quality of victims' thinking can take on a broader emphasis. Is it possible that some kind of change occurs in the victim's rumination following an offence that facilitates the development of forgiving attitudes?

Rumination and Forgiveness

As previously stated, the research indicates that when individuals ruminate about a transgression repeatedly, they are less likely to forgive; but as rumination diminishes over time people become more forgiving (McCullough et al., 1998). McCullough, Bono, et al. (2007) measured university students' rumination, affect and forgiveness levels following an interpersonal transgression at five fortnightly intervals. They found that decreases in rumination over time were associated with increases in forgiveness, and the association was mediated by anger. In other related research, Pronk, Karremans, Overbeek, Vermulst and Wigboldus (2010) found evidence for their proposition that executive functioning reduces rumination and thereby increases forgiveness. They suggest that executive functioning regulates the reduction of negative thoughts and feelings and reinstates positive thoughts and feelings resulting in greater forgiveness. Their measures of executive function included tasks for inhibition, task switching and updating ability without investigating the specific role of each. The authors recognise that this is possibly a limitation of the research. By not teasing apart the different aspects of executive control, the studies do not provide satisfactory evidence for the

transformational nature of forgiveness. In particular, the research does not specifically take into account any insight or new thinking that may have been gained as part of the forgiveness process. Nevertheless, it does provide some evidence that cognitive engagement is necessary for forgiveness.

The literature does not provide an explanation for the relationship between decreases in rumination and increases in forgiveness. Could it be that forgiveness is related to the amount of ruminative thinking, such that, by not thinking about the event forgiveness is enhanced? It seems implausible that by not thinking about an experience one can process it. Surely, such explanations do not truly capture the transformational nature of the forgiveness process (McCullough, 2001). Forgiveness implies that there has been a change in the form of thinking about the offence and the offender and the way in which the offence is viewed with respect to the relationship with the offender (Wenzel & Okimoto, 2010). As has been previously stated, there is some evidence that the nature of rumination can change under experimental conditions so that victims have more empathy for the offender (Witvliet et al., 2014). Thus, it may be possible that a more sophisticated process takes place whereby, over time, the negative recursive thinking somehow develops into a more productive type of thinking that may no longer be considered "rumination".

It is reasonable to consider that some form of reflection about an offence is necessary for victims to process the event and reach a point of forgiveness. In an interesting study examining the immediate aftermath of an offence, Wenzel et al. (2010) found that initial amounts of rumination were related to the development of forgiveness over time. Their study, providing somewhat of a challenge to the established research,

demonstrated an interesting relationship between the two factors whereby higher levels of rumination at Time 1 predicted an increase in forgiveness to Time 3. How do higher levels of rumination at an earlier time point assist in the development of forgiveness? Perhaps these findings indicate that thinking about a negative event may be necessary for forgiveness.

It is possible that ruminative thoughts about a victimisation may have constructive components and, therefore, may be beneficial to the eventual development of forgiveness. Given the findings that rumination declines over time and that the decline is associated with increased levels of forgiveness (McCullough, et al., 2001), it may be reasonable to assert that less repetition is required once the victim has gained some insight about the offence. Greater insight may result in a more positive attitude. Therefore, it is possible that a more constructive type of thinking may develop following a transgression; one that requires less repetition and is more predictive of forgiveness.

Support for Adaptive Rumination

While the majority of research has focused on the negative outcomes of rumination there is a growing body of research attempting to identify the type of thinking or rumination that enables some people to successfully work through negative feelings and experiences. There is considerable empirical support for the suggestion that the frequency and severity of emotional disturbances can be reduced by the constructive processing and analysing of negative feelings (e.g., Greenberg, 2002; Pennebaker & Graybeal, 2001; Rachman, 1980; Stanton, Kirk, Cameron, & Danoff-Burg, 2000). Processing, which usually refers to the repetitive thinking occurring as a result of a traumatic experience or negative emotion, is thought to aid in the recovery of patients

(Segerstrom, Stanton, Alden, & Shortridge, 2003). Calhoun, Tedeschi, Fulmer, and Harlan (2000), using a cross-sectional design, found that early event-related rumination following a trauma was positively related to post-traumatic growth. In other research, Schorr and Roemer (2002) found that using repetitive thinking in order to make sense of a traumatic event was associated with better outcomes.

Researchers have investigated the cognitive processes that occur following traumatic events and their potentially adaptive functions. Horowitz, (1985; Horowitz, Field, & Classen, 1993), in research regarding post-event processing for a trauma, proposed that following aversive events one experiences the cognitive processes of *intrusion* and *working through*. Intrusions are described as a first stage in acceptance and accommodation and working through is the next stage, characterised by conscious deliberation leading to a change in interpretation of the event or emotion (Janoff-Bulman, 1989). Repetitive thoughts serve an adaptive function in response to a person's need to have a "stable integrated, conceptual system" (p.220, Janoff-Bulman & Thomas, 1989; Epstein, 1980, 1981, 1984; Janoff-Bulman, 1985; Janoff-Bulman & Frieze, 1983). The new information (about the incident) needs to be gradually merged into pre-existing understandings of the self and the world (Janoff-Bulman, 1989). Furthermore, when there is successful integration, the intrusive recurrent thoughts become less distressing and increasingly less frequent.

While the previous concepts flow from trauma research, they may also have some relevance to the present research. It may be that to move forward following a transgression people have to integrate the new information (namely, the offensive event) into their pre-existing worldview: for example, their understanding of morality, their

sense of control and power in their relationship with the offender and where this event fits into the larger scheme of things. It may be that once their interpretation of the event has been understood in light of these more abstract ideas, their aversive ruminations (which may incorporate the desire to seek revenge) may subside. Furthermore, the insight gained from the deliberation about the event may enhance forgiving sentiments toward the offender. Given the plethora of literature highlighting the maladaptive nature of rumination, the challenge of this research is to, firstly, differentiate adaptive cognitive processing from maladaptive offence-focused rumination and, secondly, to uncover the mechanism for the adaptive type of processing.

Differentiating Adaptive and Maladaptive Rumination

Many attempts have been made to extricate the adaptive versus the maladaptive components of rumination within the literature. Some examples of constructive processing and analysis include cognitive and emotional processing, rehearsal, problem-solving orientation, experiential mindfulness and intellectual self-reflection (for recent reviews, see Nolen-Hoeksema et al., 2008; Watkins, 2008). The results of research seem to show conflicting evidence with regard to the focus of one's rumination. Treynor, Gonzalez and Nolen-Hoeksema (2003) found support for a two factor model of rumination which they termed reflective pondering and brooding. Reflective pondering is characterised by a purposeful introspection to employ a problem-solving approach to relieve the negative affect. Brooding, on the other hand, is characterised as a passive consideration of the negative aspects of one's life and wishing it was better. They found that reflective pondering was associated with less depression over time but more depression concurrently whereas brooding was considered to be maladaptive due to its

relationship with depression concurrently *and* over time. By making salient the negative parts of one's life, brooding increases the availability of additional negative thoughts and feelings and in the long run serves to maintain depression (Nolen-Hoeksema, 1991; Nolen-Hoeksema et al., 2008). However, one of their post hoc considerations was that reflective pondering may be triggered by negative affect or lead to negative affect in the first instance but it may assist in the reduction of negative affect over time through effective problem solving. Hence, it appears introspective, analytical thinking can at times provide benefits.

A study by Watkins and Teasdale (2004) distinguished analytical rumination from experiential rumination and their findings provided somewhat conflicting evidence to the previous research. In an experimental study they induced experiential, concrete processing in one group of depressed patients where participants were instructed to focus their attention on the experience of their feelings, mood, and symptoms. The other group were induced to adopt a more analytical, evaluative, abstract processing style and were instructed to focus on the causes, meanings and consequences of feelings, mood and symptoms (Watkins, 2008). The findings indicated that the experiential rumination induction reduced overgeneral autobiographical memory, a measure found to be predictive of poorer long term outcome in depression. Overgeneral autobiographical memory refers to the idea that when people are asked to recall self-referent memories, they generate lists of repeated events categorising themselves as "making mistakes" or "playing tennis each week". Overgeneral memory is higher in depressed individuals compared with controls since those with depression tend to overgeneralise with negative global thoughts about themselves. Findings by Watkins and Teasdale (2004) suggest

that analytical thinking compared with concrete thinking is more important in overgeneral categoric memory.

Other research comparing experiential self-focus with analytical self-focus found that experiential self-focus reduced negative global self-evaluations (Rimes & Watkins, 2005) and enhanced social problem-solving (Watkins & Moulds, 2005). Of note, it must be remembered a clinical population was used in these research studies and thus results from a non-depressed group of people who have experienced a transgression may provide different results. As has previously been found, rumination following a transgression will have as its focus the offence and the offender rather than negative global self-evaluations (McCullough, Bono, et al., 2007). In summary, the central message from the literature is that researchers have characterised different types of rumination, both maladaptive and adaptive. Importantly, they have identified that it is beneficial to cognitively process a negative experience in order to work through the event.

Self-immersed and Self-distanced Thinking

It appears not only the type of rumination, but the perspective from which an individual ruminates about an experience has implications for outcomes for the person. One body of research with encouraging findings has examined alternative forms of thinking about negative experiences when adopting different self-referent perspectives which have been termed “self-immersed” thinking and “self-distanced” thinking (Ayduk & Kross, 2010; Kross, 2009; Kross & Ayduk, 2011). According to this research the perspective people adopt when reflecting on aversive experiences can determine whether there is a maladaptive or adaptive consequence. Recent studies have found that

reflecting on negative events from a self-immersed perspective increases emotional intensity while a self-distanced perspective decreases it (Ayduk & Kross, 2008, 2010; Grossmann & Kross, 2010; Kross & Ayduk, 2008, 2009; Kross, Ayduk, & Mischel, 2005; Wisco & Nolen-Hoeksema, 2011).

By adopting a self-immersed perspective when thinking about an experience, the context of the event being considered is narrow, and people recall and relive the experience through their own eyes. This leads to recounting the experience with a focus on the concrete details (the chain of events, the emotions felt, the words said and actions done). Thinking from a self-immersed perspective may be likened to the ruminative thinking which occurs in the aftermath of a transgression.

In contrast, when adopting a self-distanced perspective, people take a step back and recall the experience as though through the eyes of an observer, thus removing or distancing themselves psychologically from the experience. A self-distanced perspective extends the context from which the experience is being considered and promotes a re-construal of the event (Kross & Ayduk, 2011). More specifically, adopting a self-distanced perspective enables people to transcend their egocentric, first-person viewpoints and to consider the situation as if "a fly on the wall". The implication of so doing is that the event is considered in light of past and current experiences, thereby enhancing the individual's ability to reinterpret the causes underlying the event and the feelings experienced as a result of the event (Kross, Duckworth, Ayduk, Tsukayama, & Mischel, 2011).

Results from studies examining self-immersed versus self-distanced thinking in experimental and short-term longitudinal designs found that less recounting and more

re-construal of an experience promoted insight and closure which led to reduced distress (Kross & Ayduk, 2008, 2009; Kross et al., 2005). The result was the same regardless of whether the experience under scrutiny was sad or anger provoking. Furthermore, in other research the same authors found that self-distancing occurred in everyday situations and it had the same effect of promoting adaptive self-reflection. Thus, the result was the reduction of emotional reactivity, physiological distress, and reciprocation of negative behaviour in conflicts while also enhancing constructive problem-solving behaviour (Ayduk & Kross, 2010).

This last line of research identified a key relationship, namely the relationship between self-distancing and adaptive self-reflection which occurred naturalistically in people's lives. Taking a self-distanced perspective enabled people to gain a broader picture when considering the event. This facilitated taking in more information and the re-interpretation of the situation. The benefits that flowed from adopting a self-distanced perspective may be along the same lines as those experienced by a victim when moving towards forgiving an offender. Accordingly, the principles underscoring the concept of "self-distancing" may be relevant in determining the cognitive mechanism at the heart of the development of forgiveness.

To summarise, the present research proposes that some form of thinking about an offence is necessary for victims to process the event and reach a point of forgiveness. However, the existing forgiveness literature considers that rumination impedes forgiveness. The "self-distancing" research may provide some balance to this one-sided story. The concept of self-distancing is underpinned by Construal Level Theory (CLT) and the next chapter will integrate the principles of CLT into the current understanding

of forgiveness to formulate the theoretical argument outlining the development from rumination to forgiveness.

CHAPTER 2

Towards a Model of Post-Transgression Thinking Types and their Role in Forgiveness

The previous chapter identified an important body of research which may provide relevant information in an attempt to develop a model of the thinking that occurs after a transgression and the effects on forgiveness. Ayduk and Kross (2010) found that when people encountered negative experiences in everyday situations and were able to reflect on the event from a self-distanced perspective rather than a self-immersed perspective, there were adaptive consequences. In other words, they thought about the event more abstractly and in broader terms rather than with a concrete, narrow view implied by adopting a self-immersed perspective. This allowed for a re-interpretation of the event. Importantly, when adopting a self-distanced perspective, people create a psychological distance between themselves and the event. In this way they transcend the 'here and now' and go beyond their egocentric view, and instead create a more panoramic view of the incident.

The demonstrated adaptive consequences of adopting a self-distanced perspective may be relevant when considering victim reactions in the aftermath of a transgression, for example, the reduction of emotional reactivity, physiological distress, and pay-back behaviour in conflicts, as well as the enhancement of problem-solving behaviour (Ayduk & Kross, 2010). It is important to now investigate the principles underpinning "self-immersed" and "self-distanced" perspectives in an attempt to determine their applicability to the cognitive mechanisms which may be involved in the development of forgiveness.

Construal Level Theory

The constructs of self-immersed and self-distanced thinking are consistent with Construal Level Theory (CLT), which links psychological distance to the level at which one construes an event or object. The connection between psychological distance and construal level has been demonstrated with temporal, spatial and social distance, as well as with assumed distance (i.e., hypothetical situations) (for a review, see Liberman, Trope, & Stephan, 2007). Psychological distance implies that, as individuals are removed from the direct experience of an event or object, detailed information may become less accessible or less reliable. For example, the distance from an event or object created by time (temporal distance) may alter the way in which the event or object is mentally construed. CLT proposes that an event or object can be considered at multiple levels (Trope & Liberman, 2003). One could consider an event from a different time perspective, the perspective of being in a different place or from the perspective of another person. Furthermore, more distant events or objects are construed more abstractly and with less concrete details. Indeed, a clear distinction is made between abstract and concrete construals. Abstract construals involve the construction of higher-level mental representations about events or objects and the filtering of features deemed relevant to the events or objects (Fujita, Trope, Liberman & Levin-Sagi, 2006). Such high-level construals are concerned with more highly ranked, central features of an event or object, and thus, abstracting these features expresses the general meaning of the event or object (Fujita et al., 2006). On the other hand, concrete construals involve lower-ranked, incidental features where events and objects are considered to be unique and specific (Fujita et al., 2006). Low-level construals are considered to be precise and

distinct, whereas high-level construals are more reasoned and holistic (Liberman, Sagristano, & Trope, 2002; Nussbaum, Trope, & Liberman, 2003).

The question to be addressed is whether the principles of psychological distance and construal level can make a relevant and novel contribution to the existing knowledge about the development of forgiveness. Specifically, can they provide a key to understanding the progression from rumination to forgiveness? While no studies have examined psychological distance or CLT and the impact on forgiveness directly, various research has been conducted examining the effects on judgements of blame, moral judgements, anger (moral and personal) and aggression with contradictory results.

On the one hand, some research has found that construal mindset can impact the perception of temporal distance from an (fictional) event in memory and, in turn, judgements regarding culpability (Kyung, Menon, & Trope, 2010). More precisely, Kyung et al. found that a concrete mindset (versus an abstract mindset) led people to feel closer to the event and to take into account mitigating circumstances more and attribute less blame. In studies examining psychological distance and moral judgements, Eyal, Liberman and Trope (2008) found that when considering distant future experiences (versus temporally close experiences), distant events were characterised with more abstract features and with a greater tendency to make moral, dispositional attributions and assign less value to contextual factors. Specifically, greater distance led people to find moral transgressions more offensive and acts of virtue more admirable. In addition, a further study by the researchers indicated that when participants were instructed to imagine moral transgressions from a first person perspective (low social distance) or from the perspective of another person (high social distance), participants in

the more socially distant group judged the transgressions more harshly. Their proposition is that moral standards are given greater weight in judgements of more distant situations because they tend to be conceptual in nature requiring higher-order, abstract thinking, and are generally deliberated upon using more general and schematic features. On the other hand, situational considerations are more influential when judging near occurrences.

In a similar line of research as that conducted by Eyal et al. (2008), Agerström and Björklund (2009) found that people made tougher moral judgements of others' questionable behaviour (not acting altruistically when they had the means and the opportunity) and rated themselves as more angry when they considered behaviours which were to occur in the distant future relative to those which were to occur in the near future. Further to this, results indicated that those in the distant future condition also attributed morally suspect actions to abstract, general personal dispositions rather than concrete, situational reasons.

On the other hand, conflicting results were found by Gong and Medin (2012) when conducting four experimental studies examining the impact of construal level on moral judgement. High-level construals elicited a reduced tendency to judge wrong-doings as severely as low-level construals and to attribute less positive evaluations to virtuous behaviours than low-level construals. The pattern was maintained for two different priming manipulations. A replication of Study 2 by Eyal et al. (2008) was also conducted in an attempt to resolve the discrepancy between results from Eyal et al. and their own. Yet again, consistent with their findings from the previous three studies, thinking about actions that would occur in the near future led to more extreme moral

judgements than those that were to occur in the distant future.

In an attempt to gain a clearer picture of these discrepancies, a replication study was undertaken by Žeželj and Jokić (2014) which included a direct replication of Studies 2, 3 and 4 by Eyal et al. (2008) and Study 1 by Gong and Medin (2012). They found no effect of temporal distance (there was no difference between judgements of distant future or near future actions); and there was a main effect of social distance (a third-person perspective judged actions more harshly than a first-person); there was a main effect of construal level (when in a low-level construal mindset actions were judged more harshly than by those in a high-level construal mindset). It would appear from such conflicting results across various studies (including replication studies) that moral judgements of isolated events pose many challenges for CLT researchers and no definitive statements can be made about the effects of CLT on moral assessments.

Further, adding to the established work using psychological distance to promote adaptive ways of reflecting on negative experiences, Mischkowski, Kross and Bushman (2012) found that following a provocation, participants instructed to move away and view the event from a distance (self-distanced perspective) displayed fewer angry thoughts and feelings (Experiment 1) and lower levels of aggression (Experiment 2) than participants who viewed the event from their own eyes (self-immersed perspective) or those in the control group. They used an in vivo procedure such that participants evaluated their personal experience of an anger inducing transgression. These findings reveal that psychological distance (temporal or social) appears to have a significant role in the reduction of personal anger. Distance, as previously stated, influences the level of construal at which an individual mentally represents an event or object, such that more

distant events or objects are construed more abstractly and with less concrete details. Therefore, as one moves away from an inflammatory event the content of thinking alters and one is less likely to focus on the anger inducing concrete ("who said what") details and rather consider the event more abstractly (taking into account the "bigger picture"). One theoretical possibility is that distance from an experienced provocation allows one's angry feelings to decline.

The findings by Mischkowski et al. (2012) regarding the influence of psychological distance on the reduction of anger following an offence have important implications for forgiveness. McCullough, Bono, et al. (2007) demonstrated that the negative association between rumination and forgiveness was mediated by angry feelings. That is, after controlling for other factors, when people had higher levels of rumination than was typical for them they also had temporarily higher levels of angry feelings. The more people ruminated about the offence the angrier they became. It was considered that anger for their transgressors psychologically mediated the relationship between rumination and lower levels of forgiveness. It stands to reason that the more a victim thinks about the transgression and the more intense their anger experience, the more difficult it will be to forgive the offender. Considering the findings by Mischowski et al. (2012) together with McCullough et al.'s (2001) results that rumination declines over time, it may be that psychological distance and CLT could provide some relevant insights when exploring the development from rumination to forgiveness.

A Model of Post-Transgression Thinking Types and their Role in Forgiveness

By including the principles of psychological distance and construal level, it is proposed that we may be better able to understand the role of victims' thinking

processes in the development of forgiveness. It is thought that immediately after an offence victims tend to ruminate due to the fact that they are still very close to the event. Such rumination will have a narrow, self-referent focus with a *concrete* quality. I refer to this type of thinking as *concrete thinking.* Concrete thinking may be characterised by victims reliving the event through their own eyes, and dwelling on the details of the experience including the chain of events, the emotions felt, the words said and actions done. This type of thinking is likely to be recursive in nature and it may reactivate negative feelings associated with the experience of the transgression.

According to McCullough, Bono et al. (2007), a decline in rumination is associated with increases in forgiveness over time (temporal distance). More specifically, however, it is possible that the increase in forgiveness is (partly) due to a reduction in *concrete thinking* as time progresses. As time passes and victims experience greater (psychological) distance from the event, they will tend to use less concrete details when thinking about the incident, which will likely reduce the intensity of negative feelings experienced as a result of the transgression (Trope & Liberman, 2010). However, reductions in rumination alone do not adequately explain the transformative process of forgiveness. Thus, some form of processing of the event must occur over time in order to promote the change. Consistent with CLT, it may be that over time, abstract construals become more accessible to the victim, and there may be a gradual change in thinking about the transgression and transgressor. The change in thinking may enable a change in the victim's forgiving sentiments. To date, the forgiveness literature has not considered the contribution that concrete and abstract construals may have in understanding the development of forgiveness.

I propose that for a transformation in forgiving attitudes to take place, the transgression must be considered within a broader context and at higher levels of abstraction. Within the process of forgiveness, over time more complex higher order concepts become salient other than just the moral principle that has been violated. For example, victims may consider the broader implications of the event for their relationship with the offender. The present thesis proposes that over time an *abstract* [1] type of thinking develops which is able to consider the broader situation and the many issues at stake.

It may be that when recalling the harmful incident with the passage of time, it is reflected upon more abstractly providing a 'big picture' focus. When adopting such a focus, more contextual features are likely to be taken into consideration. The term 'contextual' does not necessarily imply situational (pertaining to the details of the event). Rather, contextual refers to broader, more holistic features such as the meaning of the event within the context of the relationship and within the larger scheme of things. Importantly, I argue that abstract thinking does not excuse the offender's actions or play down the rights that have been breached. Nor does it diminish the severity of the incident. Rather, the flexible nature of victims' abstract thinking, while taking the former issues into consideration, may also include values-based considerations such as the role of the offender in their life, the personal value of the relationship to the victim and where the event fits in the broader scheme of things. It is possible that with the passage of time the development of an abstract type of thinking enables victims to think

[1] The "concrete" versus "abstract" modes of thinking proposed in this thesis are distinct from the concrete versus abstract (self-focused) rumination considered in the clinical psychology literature (e.g., Watkins & Moulds, 2005). The latter ruminative styles have their foundation in the *reduced concreteness theory of worry* (Borkovec et al., 1998; Stöber, 1998; Stöber & Borkovec, 2002).

about what is important to them whereas concrete thinking may limit victims' focus to a narrow consideration of the violation only (Eyal, Sagristano, Trope, Liberman, & Chaiken, 2009).

Time Effects on Forgiveness Mediated by Concrete and Abstract Thinking

I propose that, in the time following an interpersonal transgression, victims will engage in two distinct types of thinking: concrete thinking and abstract thinking. On the one hand, concrete thinking will focus on the details of the event, the way it unfolded and the emotions felt. Victims will predominantly engage in concrete thinking in the immediate aftermath of an interpersonal offence but, consistent with prior research, this type of offence-related cogitating will decrease over time. On the other hand, as time passes, victims will become psychologically distanced from the event and therefore gradually construe the transgression more abstractly and thus take into account the 'bigger picture'. So, over time the intensity of the concrete thinking and emotion connecting victims to the transgression fades. With greater temporal distance, victims have more cognitive resources (high-level construals) available to consider the abstract features of the event such as the role of the offender in their life, the personal value of the relationship to the victim, and the possible lesson(s) that can be learnt from this event and in so doing levels of forgiveness will increase.

Therefore, one possible implication of the central proposition of the present thesis is that the effects of time on forgiveness are mediated by the type of thinking victims engage in following a transgression. Concrete thinking tends to decrease with greater temporal distance from the transgression; and with its decrease there is less rehearsing of painful or disturbing event details, less rekindling of negative emotions, less

vengefulness and more forgiveness. On the other hand, abstract thinking tends to increase with temporal distance, and with this there is a broader perspective on the incident, a relativizing of its significance, and its integration into meaning structures, which should facilitate understanding and forgiveness. Due to both decrease in concrete thinking and increase in abstract thinking time may promote forgiveness.

Effects of Concrete and Abstract Thinking on Forgiveness Moderated by Time

However, one cannot ignore a more complex theoretical possibility deriving from the same primary argument within the present research. Is it possible that the different types of thinking serve different functions for victims with differing temporal distance from the transgression? Prior research highlighted the importance of perceptual validation (verification that victims are correct in their interpretation of the wrongdoing) in facilitating forgiveness (Eaton, Struthers, & Santelli, 2006). It may therefore be possible that concrete thinking, with its recurrent focus on the details of the event, may initially serve the purpose of some form of perceptual validation process for victims and so serve an adaptive psychological function.

Interpersonal offences have the power to undermine the predictability of the standard of behaviour once assumed within the relationship. Therefore, transgressions may pose a threat due to the fact that they bring about uncertainty for victims. Such uncertainty may be related to perceptions about the transgression itself (e.g. “Is my interpretation of the incident accurate?”) or about the self (e.g., “Did I do something to warrant such bad behaviour?”) (Eaton et al., 2006). Oftentimes, victims are left to ponder the possible reasons for ambiguous incidents with their post-event perceptions as their only guide (Kelley, 1967; Weiner, 1995). Thus, it is reasonable to assume that in

the wake of an offence victims' thoughts will invariably contain a replay of the events in an attempt to confirm (to themselves) that the behaviour was indeed inappropriate or to identify an underlying cause for the transgression. Concrete thinking may have a role in providing implicit validation regarding the victim's interpretation of the events as they unfolded and, thus, to justify the distress experienced. Alternatively, it may be that retelling the events of the situation to oneself is a form of internal communication necessary for encoding the incident to memory (Witvliet, 1997). As victims consider they are making progress towards achieving either of these outcomes there is probably less need for victims to rehearse the concrete details of the transgression.

However, while over time there may be less need to rehearse details and a generally declining tendency to concrete thinking, certain dynamics may cause such thinking to persist. For example, the cognitive rehearsal initiated by thinking concretely about the details of the event and the distress experienced may set up a feedback cycle whereby thoughts about the chain of events reignite the distress and the distress maintains the thoughts about the event. If victims are thinking concretely in order to check out their interpretation or indeed in an attempt to encode the incident to memory, it is reasonable to consider that there may be greater levels of concrete thinking in the initial aftermath of a transgression. Victims may be able to tolerate the distress caused if the goal of their thinking is proximal. However, if concrete thinking persists and victims cannot move past rehashing the details over and over, it has been demonstrated that they maintain the negative emotions and adverse psychological effects (Witvliet, 1997; Worthington, 1998). This is, then, likely to be an impediment to the transformative process of forgiveness. In other words, with the passing of time concrete thinking will have

increasingly negative implications for forgiveness.

Similarly, while abstract thinking may generally increase with time, to the extent that thinking abstractly about the transgression might aid people in their ability to forgive, one might expect that forgiveness could be achieved quickly and easily by engaging in abstract thinking at an earlier time point. Contrary to this, research has shown that forgiveness takes time. I propose that time is indeed the necessary ingredient in creating the psychological distance from the harmful incident that enables abstract construals to become more available, meaningful and effective. Abstract thinking may not be as readily accessible to the victim in the early phase following the incident given that thinking abstractly requires psychological distance from an object or event to develop. Furthermore, engagement in abstract thinking may not be effective in the immediate aftermath of a transgression as victims may not have full access to the more abstract features of the event such as the broader implications of the wrongdoing for the relationship. By struggling to see the bigger picture initially, thinking abstractly may have similar consequences to reflective pondering which was thought to be triggered by negative affect or lead to negative affect in the first instance (Treynor et al., 2003). As previously stated, the researchers found that reflective pondering assisted in the reduction of negative affect over time but was not helpful immediately. It is possible then that in the immediate aftermath of a transgression, without the benefits of a broad focus, abstract thinking may have damaging effects on forgiveness.

As time passes and such high-level concepts (construals) become more available, victims may develop valuable insights as a result of re-construing the offender and the offence: such insights may serve to highlight the long held beliefs about the relationship

and the role of the other in the victim's life. These higher-order insights may provide a renewed psychological framework within which to examine the event. It may be that the victim comes to a renewed understanding of the relationship with the offender. It is in light of such higher order insights that forgiveness becomes possible. In other words, only with the passing of time abstract thinking will have increasingly positive implications for forgiveness.

Time leads to greater forgiveness depending on the type of thinking victims employ

In summary, the proposition is that victims are likely to engage in concrete thinking in the immediate aftermath of an interpersonal transgression. If their concrete thinking persists over time it is expected that it will have damaging effects on the forgiveness process. I propose that high levels of concrete thinking (vs low levels) with the passage of time will be detrimental to the development of forgiveness. On the other hand, with the passage of time, abstract construals become more accessible to victims and they are able to consider the 'bigger picture' features of the event. It is considered that having a 'bigger picture' focus over time will more likely facilitate forgiveness. I therefore propose that high levels of abstract thinking (vs low levels) with the passage of time will enhance forgiveness.

The present argument about the nature of thinking about a transgression, the timing of the type of thinking and the effect on forgiveness is quite complex. I have proposed that on the one hand, high levels of concrete thinking with the passage of time will be damaging to forgiveness but, on the other hand, high levels of abstract thinking with the passage of time will be beneficial to the forgiveness process. These predictions are based on the idea that when the information to be processed (a transgression) and the

state at which the individual is mentally construing the information is well matched, outcomes tend to be more adaptive (e.g. Higgins, Idson, Freitas, Spiegel, & Molden, 2003; Labroo & Lee, 2006).

Generally, information may be more meaningful when there is a good match between the concreteness//abstractness of the information and the person's mental representational state. Kim, Rao, and Lee (2009) found that participants who were provided information from a candidate that an election would occur in the distant future perceived the candidate more favourably when the information featured high-level ideas compared to when the information featured low-level ideas. In contrast, when the election was said to be soon, the candidate's message featuring low-level (versus high-level) ideas was perceived more favourably. In the context of this thesis it may be that when thinking about a transgression with the passing of time, thinking that emphasizes abstract elements of the event will more likely match the way in which victims mentally represent that event. Therefore, abstract thinking will likely have adaptive outcomes for victims with the passage of time. Similarly, when thinking about the wrongdoing in the immediate aftermath, thinking that emphasizes the concrete aspects of the incident will more likely be consistent with the way in which victims mentally represent the transgression. Concrete thinking will likely have maladaptive outcomes for victims with the passage of time.

To recapitulate, there are two possible implications of the theoretical argument of the present thesis. The first is that time leads to greater forgiveness and is mediated by the changes in the type of thinking victims employ. The second is that time leads to greater forgiveness depending on the type of thinking (concrete versus abstract) victims

employ. Both possibilities will be investigated empirically in this research.

Hypotheses

A. Mediation: (1) With greater passage of time since the transgression, (a) forgiveness levels will be higher, (b) concrete thinking lower, and (c) abstract thinking higher. (2) (a) Concrete thinking will be negatively, (b) abstract thinking positively related to forgiveness. (3) Concrete and abstract thinking will mediate the relationship between time and forgiveness.

B. Moderation: (1) With greater passage of time since the transgression, (a) concrete thinking will be more negatively related to forgiveness, and (b) abstract thinking will be more positively related to forgiveness. Conversely, (2) (a) when concrete thinking is lower, and (b) abstract thinking is higher, time will be more positively related to forgiveness.

CHAPTER 3

All in Good Time: Abstract Thinking Provides a Broader Perspective and Promotes Forgiveness Over Time.

Forgiveness is often considered an outcome, however, many scholars think of it as an effortful process that unfolds over time (McCullough et al., 2003). Much of the psychological literature deems forgiveness to be a transformation, within the victim, of attitudes and motivations reducing feelings to seek revenge, avoid the offender and increasing feelings of benevolence (McCullough et al., 1997). Such a transformation requires victims to undergo a process of working through the experience and this suggests that some form of cognitive engagement with the event has taken place. However, research has demonstrated repetitive thinking about a transgression activates negative emotions and can impede feelings of empathy and forgiveness in victims (Witvliet, et al., 2001; Witvliet, Hinze, & Worthington., 2008; Witvliet, Knoll, Hinman, & DeYoung, 2010). In a longitudinal study increases in rumination were associated with impairments in forgiveness and were mediated by angry feelings towards the offender (McCullough, Bono, et al., 2007). The challenge of the present thesis, then, is to uncover how victims process a transgression when thinking about it is fraught with so many negative outcomes.

Yet, despite the reported negative effects on forgiveness, rumination has also been found to decline over time, and furthermore, the decline is associated with increases in forgiveness. Such results present somewhat of a paradox. On the one hand, the research shows that reductions in repeatedly thinking about the offence are beneficial in the forgiveness process. On the other hand, there is evidence that forgiveness signals a

change in the victim's thoughts and feelings. It does not seem feasible that such a transformation can occur simply by not thinking about the experience or not trying to make sense of it at a cognitive level. The present research attempts to address the contradiction by proposing that it is the type of thinking victims engage in over time that determines the development of forgiveness.

Repetitive Thinking

It is possible that repetitive thinking following a transgression has adaptive and maladaptive functions. Watkins and Teasdale (2004) distinguished analytical rumination and experiential rumination. Experiential rumination is the tendency to use concrete processing and focus on the experience of feelings, mood and symptoms whereas analytical rumination is the tendency to use a more analytical processing mode and focus on the causes, meanings and consequences of feelings, mood and symptoms (Watkins, 2008). The concrete processing mode was found to be more beneficial for depressed individuals than analytical processing.

In contrast, Treynor, et al. (2003) proposed a two factor model of rumination which they labeled reflective pondering and brooding and found support for an analytical thinking style enhancing adaptive outcomes. Reflective pondering is described as a determined analysis to engage a problem-solving approach to relieve the negative effect. Brooding, on the other hand, is described as passively thinking about the negative aspects of one's life and wanting it to be better. Reflective pondering was associated with less depression over time but more depression concurrently while brooding maintained a relationship with depression concurrently and over time. They proposed negative affect may trigger reflective pondering in the first instance or may be triggered

by thinking about the event thus explaining the initial association with depressed mood. However, reflective pondering may support the reduction of negative affect by successful problem-solving over time.

An alternative body of research added another dimension for consideration in this debate when they identified that the perspective from which people think about negative experiences can have implications for the consequences. Ayduk and Kross (2010) differentiated two perspectives from which people may view an event: a "self-immersed" perspective and a "self-distanced" perspective. When adopting a self-immersed perspective the context of the event being considered is narrow, and people recall and relive the experience through their own eyes. This leads to a recounting of the event with a focus on the concrete details and shares similarities with 'experiential rumination' (Watkins & Teasdale, 2004). In contrast, when adopting a self-distanced perspective, people move away from the event and recall it through the eyes of their distant selves. In so doing, they create psychological distance between themselves and the event. A self-distanced perspective extends the context and promotes a re-construal of the event (Kross & Ayduk, 2011).

Adding another contradiction to the 'rumination' conversation, experimental and short-term longitudinal research found less recounting and more reconstrual of an event promoted insight and closure and, in turn, less distress for participants regardless of whether the experience under scrutiny was sad or anger provoking (Kross & Ayduk, 2008, 2009; Kross et al., 2005). Thus, it would appear that creating psychological distance from a negative event when thinking about it can produce adaptive consequences. The present research, while not seeking to resolve the apparent tensions

within the debate regarding adaptive versus maladaptive rumination, will attempt to adapt these findings and extend them to further develop the theoretical understanding of forgiveness.

Psychological Distance and Construal Level Theory

According to Trope, Liberman, and Wakslak (2007) an event or object can be considered as psychologically distant whenever it is removed from direct experience. Furthermore, psychological distance suggests that as one is separated from the direct experience of an object or event detailed information may become less available or less reliable. Construal Level Theory (CLT) connects psychological distance to the level at which an individual construes or interprets an object or event. Self-immersed and self-distanced thinking are in line with the principles of CLT. The association between distance and construal level has been determined with temporal, spatial and social distance and also with artificial distance (i.e., hypothetical situations) (for a review, see Liberman et al., 2007). As an example, the passage of time (temporal distance) from an event may vary the way in which the event is mentally construed, such that with a greater passing of time the event will be construed more abstractly and with less concrete details.

CLT makes a distinction between abstract and concrete construals of events or objects. Abstract construals are considered to be higher level mental representations where only the relevant features are included (Fujita et al., 2006). These high-level construals are concerned with the general meaning or gist of the event or object. They are schematic and are seen to be decontextualized mental representations (Trope et al., 2007). In contrast, concrete construals involve lower ranked mental representations

which focus on incidental details where events and objects are thought of as unique and specific (Fujita et al., 2006). These low-level construals tend to be somewhat unstructured and contextualised mental representations (Trope et al., 2007). CLT and, in particular, the concept of abstract and concrete construals may be relevant in attempting to understand the way in which victims cognitively process a transgression and eventually become more forgiving.

When considering the level of construal individuals use when processing an interpersonal offence, I propose that in the immediate aftermath victims will focus on the concrete details of the transgression. Over time, though, they will likely focus less on the incidental details and may focus more attention on the meaning of the event via mentally representing the incident in a more abstract way. It may be that viewing the offence through a higher level cognitive lens is necessary to bring about the transformation of thoughts and feelings to forgiveness. If so, how does this occur?

It may be that the principles of CLT and psychological distance provide a contribution to our understanding of the progression from rumination following a transgression to forgiveness. Adding to the research investigating the benefits of psychological distance in promoting adaptive functioning, Mischkowski and colleagues (2012) demonstrated that participants instructed to move away and view an angry provocation from a distance (self-distanced perspective) displayed fewer angry thoughts and feelings (Experiment 1) and lower levels of aggression (Experiment 2) than participants who viewed the event through their own eyes (self-immersed) or those in a control condition. These findings suggest that psychological distance may have a part to play in the reduction of personal anger following a transgression.

Events closer in time and space are generally experienced more intensely at an emotional level and psychological distance helps to reduce the intensity of the emotional reaction to the incident (Trope & Liberman, 2010). By instructing the participants in the self-distanced condition to imagine their experience of the provocation through the eyes of an observer, a 'distance' (social) was created from the event and their level of anger was reduced compared with those in the self-immersed condition. According to McCullough, Bono, et al., (2007) angry feelings mediated the rumination and forgiveness relationship. Specifically, higher levels of offence-based rumination activated higher levels of anger which impaired levels of forgiveness. The principles of psychological distance and CLT and the findings by Mischkowski et al. (2012) may be relevant to gaining an understanding of the reduction of anger following an offence and in clarifying the development from rumination to forgiveness.

Concrete Thinking

Using the principles of psychological distance and CLT, I propose that in the immediate aftermath of an offence victims' thinking will tend to have a concrete quality due to the close proximity to the event. Such thinking will be characterised by a narrow, self-referent focus whereby victims tend to relive the event through their own eyes, and dwell on the details of the experience including the chain of events, the emotions felt, the words said and actions done. I have termed this type of thinking *concrete thinking.* The repetitious nature of this thinking is likely to reinforce the victim's negative feelings towards the offender and maintain any associated negative affect. However, according to CLT, with greater temporal distance victims tend to use less concrete details which likely reduce the intensity of their negative emotions (Trope & Liberman, 2010). As

previously stated declines in rumination are associated with increases in forgiveness over time (McCullough, Bono, et al., 2007). It is thought that with the passage of time there will be reductions in concrete thinking and along with the change in thinking will be greater forgiveness.

Reductions in rumination or concrete thinking alone do not adequately explain increases in forgiveness. Although, reductions in the overall amount of thinking about the offence will no doubt occur over time, there must be some form of higher level processing that happens in order for victims to integrate the event within the broader context of their life and their relationship with the offender. It is suggested that this higher level processing will promote the transformation to a more forgiving attitude. Consistent with CLT, it may be that over time, as abstract construals become more available to the victim, changes in attitude toward the transgression take place.

Abstract Thinking

Consistent with the principles of CLT and psychological distance, the proposition is that there will be an abstract quality to victims' thinking about the incident with the passage of time. It is suggested that the reason for distant events to be represented more abstractly may be a result of the relationship between direct experience and knowledge about an event (Trope et al., 2007). When an event occurs "here and now", people have a lot of information about it and it is thought about in concrete terms (i.e. specific, incidental details). On the other hand, when an event has occurred in the past, the details become less available and less reliable and therefore people establish more abstract and schematic mental representations of the event. Hence, CLT assumes that a relationship

develops between psychological distance (in this instance, temporal distance) and abstraction.

As abstract construals become more accessible, thinking will have a broader focus with higher order considerations. The concept of taking a "self-distanced perspective" (Ayduk & Kross, 2010) indicates that people view the event from an observer's vantage point rather like a "fly on the wall". Importantly though, "the process of abstraction is not an all-or-none phenomenon" (Trope et al., 2007, p.2). The more incidental details that are left out when thinking about an event, the more abstract the construal of the event becomes. Mental representations are often organised in a hierarchical manner. For example, when considering trait categorization one can consider various hierarchical elements (plays tennis – athletic – talented). Each level of the hierarchy demonstrates a less specific and more abstract representation (Trope et al., 2007). Furthermore, in other research Liberman and Trope (1998) used assessments of action identification whereby actions are linked either to a superordinate purpose (high-level identification), in other words, the "why" of the activity, versus being linked to a subordinate means (low-level identification), namely the "how' of the activity. They found that distant future events were more likely to be described in high-level terms rather than low-level terms.

The present research contends that there will likely be more complex abstractions involved when processing an interpersonal transgression than simply thinking about the event from a "self-distanced perspective" (Ayduk & Kross, 2010). Instead, taking the view of Trope et al. (2007), the abstract quality of their post-transgression thinking may enable victims to take into consideration multiple high-level perspectives of the incident and hierarchical categorizations. Thus, allowing victims to accommodate holistic

features such as the meaning of the event within their relationship with the offender and the meaning of the event in the bigger picture of life. Wakslak, Nussbaum, Liberman, and Trope (2008) investigated the effects of temporal distance on self-representation. They found that distant future representations employ broader categorizations, were more integrated and less complex than near future representations which employed more specific categorizations, were more contextualised and less structured. Furthermore, their research signals the use of high-level construals as a means for people to maintain an integrated sense of self, even when faced with contextual characteristics of the self that depart from the schematic sense of self.

This last line of research may have important implications for the understanding of the development of victims' post-transgression thinking involving a close other over time and its effects on forgiveness. With temporal distance, more high-level construals (abstract thinking) and will be accessible to victims. Abstract thinking may help victims view the offence (notwithstanding its wrongfulness) within the context of a coherent relationship, one that has an integrated history across various situations. Victims' abstract thinking may include such deliberations as the role of the offender in their life, the personal value of the relationship to the victim, and the lesson(s) that can be learnt from the experience. This type of thinking, then, impedes the hurtful incident being viewed as the central and defining feature of the relationship. The re-construal of the offender and the offence in such a way is thought to facilitate the transformation of the victim's attitudes to those of forgiveness.

Type of Thinking, Time and Forgiveness

The theoretical argument developed thus far is that concrete thinking with its focus on the chain of events, the hurt felt by the victim and the things the other person said or did is likely to serve as an impediment to forgiveness. However, this type of thinking is thought to decrease over time and forgiveness to become more likely. On the other hand, as victims become more temporally distanced from the event they may develop a more abstract type of thinking about the offence and the offender. Notwithstanding their judgement about the wrongfulness of the act, victims may think less about the details of the incident with the passage of time and more about higher-order aspects such as the meaning of the event in the 'bigger picture' of the relationship and the role of the other person in the victim's life. It is the development of this type of abstract thinking over time that is thought will lead to forgiveness. Therefore, the first theoretical proposition that can be derived from the principal claim of the present research is that time leads to greater forgiveness and is mediated by the changes in the type of thinking (less concrete and more abstract) victims employ.

Importantly, there may be an alternative (or qualifying) theoretical proposition that can be derived from the main argument of this thesis; namely, that time leads to greater forgiveness depending on the type of thinking that victims employ. As previously stated, victims are likely to use a more concrete type of thinking in the immediate aftermath of a transgression. The purpose of this may be to determine whether they are correct in their interpretation of the event and whether their distress is warranted (Eaton et al., 2006). Initially, thinking repeatedly about the event in concrete terms may serve to provide some form of internal validation for victims. It may be that once they feel

affirmed in their judgements about the wrongfulness of the incident and the responsibility of the offender, they can let go of recurring thoughts about the incident. If, however, victims' concrete thinking persists over time it will likely become more dysfunctional and have disastrous consequences for forgiveness. The proposition is that concrete thinking will be an impediment to forgiveness with the passage of time.

Conversely, adopting an abstract level of construal immediately following a transgression may not be useful as it may not allow the proper encoding and appraisal of what happened; it may sidestep a proper understanding of the seriousness and wrongfulness, akin to merely brushing the incident aside. Only over time may victims be able to put the incident in context without diminishing it. With increasing distance they may be able to access and process abstract information in line with their developing higher level of construal; they more effectively take into account more high-level considerations such as the meaning of the offence within the context of the close relationship and the role of the other person in the victim's life. It is considered that thinking about the event in more abstract terms will more likely facilitate forgiveness. Thus, it is proposed abstract thinking will lead to greater forgiveness with the passage of time.

The latter arguments - that the effectiveness of the different types of thinking depends on time and the distance from the incident - amount to a "matching" proposition. The type of thinking has to match or fit the distance the individual has gained from the incident and the representational state this distance implies. This is consistent with the idea that a 'good fit' tends to lead to more favourable outcomes because information can be processed more easily and meaningfully (Higgins et al.,

2003; Labroo & Lee, 2006). Note that this moderation prediction can also be viewed from the alternative perspective, with types of thinking as the moderators of effects of time. It thus has implications for the relationship between time and forgiveness: forgiveness would be predicted to increase with time only to the extent that victims' concrete thinking would reduce and their abstract thinking increase.

Overview of the Current Study

This thesis seeks to address an important question: Is it the type of thinking victims engage in over time which promotes forgiveness? Research has suggested that thinking about a negative event can have deleterious consequences for people. Furthermore, rumination has been found share a negative relationship with forgiveness over time. Yet, rumination also declines with the passage of time and it is this decline which has been associated with increases in forgiveness. This finding is not in and of itself being challenged here, but rather the assumption that seems implicit in the finding. There is no doubt that there will be reductions in the total amount of thinking victims engage in following a transgression in the development of forgiveness. People who have forgiven the offender do not continue to think about the event. The relationship between forgiveness and declines in rumination over time may be capturing only part of the story. As yet, the forgiveness literature has not considered the role that a more productive type of thinking may have in 'filling the theoretical gap' between the decline in rumination and the development of forgiveness over time.

To recapitulate the proposition of the current thesis: following a hurtful transgression victims will often engage in thinking that focuses narrowly on the concrete aspects of the offence including the actions, the emotions felt and the chain of events

(concrete thinking). However, as time passes and victims gain distance from the event, their concrete thinking will decline and their forgiveness of the offender will be greater. With the passage of time abstract construals of the event will become more accessible and as such, victims' thinking will take on a more abstract quality, one which is more holistic and concerned with the meaning of the event within the valued relationship with the offender. It is the development of this type of thinking over time which allows victims to consider the event more broadly and abstractly, and may gradually bring about a transformation in their attitude towards the offender to that of greater forgiveness. Alternatively, if victims persist in thinking concretely about the event over time it will likely not allow victims to move on from the hurtful incident to developing forgiving attitudes. Thinking abstractly about the event over time will, on the other hand, be associated with increases in forgiveness.

To summarise, two possible theoretical propositions derive from this approach:
1.) Time leads to greater forgiveness and is mediated by the changes in the type of thinking victims employ;
2.) Time leads to greater forgiveness depending on the type of thinking (concrete versus abstract) victims employ.

In the present study a retrospective approach was used. Participants were recruited if they had experienced an interpersonal transgression involving a close other (family member, partner, or friend) within the last month. They described the transgression, indicated the number of days since the transgression and rated the closeness of their relationship with the offender prior to the occurrence of the offence. Participants were asked to measure the total amount of thinking about the transgression they had engaged

in since the event occurred and then rate their levels of concrete and abstract thinking in relation to the offence. Their levels of forgiveness toward the offender were then measured. The purpose of Study 1 was to test both theoretical possibilities: the mediation of changes in type of thinking over time leading to greater forgiveness; and the moderating effects of thinking type over time on forgiveness.

Hypotheses:

A. Mediation: (1) With greater passage of time since the transgression, (a) forgiveness levels will be higher, (b) concrete thinking lower, and (c) abstract thinking higher. (2) (a) Concrete thinking will be negatively, (b) abstract thinking positively related to forgiveness. (3) Concrete and abstract thinking will mediate the relationship between time and forgiveness.
B. Moderation: (1) With greater passage of time since the transgression, (a) concrete thinking will be more negatively related to forgiveness, and (b) abstract thinking will be more positively related to forgiveness. Conversely, (2) (a) when concrete thinking is lower, and (b) abstract thinking is higher, time will be more positively related to forgiveness.

Method

Participants were 105 first year Flinders University psychology students who were recruited for the study via an online advertisement. The first-year students received some course credit for their introductory psychology courses. All participants reported that they had experienced an interpersonal transgression with a close other (friend, partner, family member, etc.) within the last month.

Procedure

Participants opted to be involved in a study that was researching people's responses to the experience of an interpersonal hurt or transgression after reading the information about the study provided online. A definition of an interpersonal transgression was provided to all potential participants:

> An interpersonal transgression may be when someone treats you unfairly, demonstrates a lack of consideration for you or your relationship, or someone betrays you. This may not just be a person's actions – it may be the lack of action that hurt you. The other person may or may not be aware of the consequences for you. That doesn't matter for this study – we are interested in you and your thoughts.

The study information clearly described to potential participants that in order to be eligible for the study they would have experienced an interpersonal transgression within the last month. It was stated that the transgression was to have involved a close other (family member, partner, friend, and so on).

Once they had given their informed consent to participate in the study online, participants were able to continue with the questionnaire. The first step was to provide a description of the transgression in a text box on the computer. Next, they were asked to provide some demographic information including their relationship to the offender and the type of transgression that took place. Following this, they were required to indicate the number of days since the transgression. Variables were included to control for the total amount of thinking about the transgression the victim had engaged in since it occurred and the closeness of the relationship between the victim and offender prior to

the transgression. The participants then rated their levels of concrete and abstract thinking regarding the incident and their current views regarding the incident on rating scales which measured their levels of forgiveness.

Measures

All scales used 7-point rating scales and most used multiple items. For the multiple-item scales item responses were averaged to create a composite score for each rating scale.

Amount of rumination. The amount of rumination is a one-item scale measuring the extent to which victims have been thinking about the transgression since it occurred. Participants were asked to rate the extent to which they had been thinking about the transgression in the previous 48 hours on a 7-point scale (1 = *not at all*, 7 = *all the time*).

Pre-offence relationship closeness. The pre-offence closeness variable is a one-item scale measuring the how close victims considered their relationship to the offender to be before the transgression occurred (based on McCullough, et al., 2003). Participants were asked to rate the level of relationship closeness on a 7-point scale (1 = *not at all*, 7 = *very much*).

Concrete and abstract thinking. The measures of concrete and abstract thinking were based on research examining construal level and psychological distance. The concrete and abstract scale measures the degree to which participants engage in concrete and abstract thinking. Specifically, the concrete thinking scale assesses the extent to which people engaged with concrete (low-level construals) thoughts following a transgression and was measured by six items prefaced by the following sentence beginning "*My thoughts have mainly been about…"* Some examples are: "the actions that occurred", "the hurt done to me" and "the emotions I felt". The abstract thinking

scale assesses the extent to which people engaged with abstract (high-level construals) thoughts following an offence and was also measured by six items prefaced by the same sentence beginning "*My thoughts have mainly been about…*" Some examples of abstract thinking are: "the harm done to my relationship", "where the event fits in the larger scheme of things", and "the other person's role in my life". Participants were asked to rate their extent of their thinking from 1 = *strongly disagree*, 7 = *strongly agree*.

A confirmatory factor analysis (CFA) using AMOS was conducted to verify the predicted two-factor structure for the 12 concrete and abstract thinking items. Since such a factor analytical test, to be solid, required a larger sample size than each individual study to be reported in this thesis afforded for this exercise, the samples of the four studies were pooled for a total *N* of 459. Any participants with missing data in the 12 items were excluded from this analysis. (The method for recruiting the samples will be outlined in the report for each study). The four samples were treated as four subgroups within a multi-group analysis. However, no restrictions were put on the subgroups; the item loadings and latent correlations were allowed to vary between groups, as some contextual variability in these was considered reasonable. Only the designation of items to factors was set. The complete list of items is reported in Table 1.

The CFA testing a two-factor model showed at first a suboptimal fit; χ^2 (212) = 614.18, RMSEA = .065. However, further inspection showed that two of the items (c5 and a3; see Table 1) had a considerable residual correlation. Looking at their content, the two items overlapped semantically in that both referred to the individual's possible communications or actions, albeit "concrete" (in the situation) versus "abstract" (after stepping back). It thus seemed reasonable to include the error covariance in the model,

so as to avoid that the incidental overlap would confound their conceptual meaning. The two-factor model showed an acceptable fit, $\chi^2(208) = 498.39$, RMSEA = .055, χ^2-ratio = 2.396. A χ^2-ratio of less than 3 is adequate (Kline, 1998); and the RMSEA is lower than the cut-off of .060 proposed by Hu and Bentler (1999) for a good fit. Further, the two-factor model was contrasted with a one-factor solution, $\chi^2(212) = 592.12$, RMSEA =.063. The chi-square difference test was significant, $\Delta\chi^2(4) = 93.73$, $p<.000$. Thus, the two-factor solution was indeed superior.

These results provide support for the factorial distinction of the six-item measures of concrete versus abstract thinking, which were therefore used in all four studies reported in this thesis. For each construct the relevant six items were averaged to obtain scale scores. The correlations between the averaged concrete and abstract scales ranged between .52 and .72. In the present study the internal consistencies of both scales were satisfactory (Concrete thinking: α = .80; abstract thinking: α = .73).

Forgiveness. Forgiveness is the degree to which participants experience feelings about seeking revenge or avoiding the offender or feelings of goodwill towards the offender. It was accordingly measured here with the 18-item Transgression-Related Interpersonal Motivations scale (McCullough, Root, & Cohen, 2006) that tap the three aspects of revenge, avoidance and benevolence. Some examples are: "I'll make him/her pay", "I am trying to keep as much distance between us as possible", "Although his/her actions hurt me, I have good will for him/her" (1 = *strongly disagree,* 7 = *strongly agree*). However, for parsimony, and because the internal consistency (α = .94) of the total scale afforded this, all items were (after appropriate re-coding) averaged for a single forgiveness score.

Table 1

Factor Loadings from the Standardized Solution of a Confirmatory Factor Analysis of the Correlated Two-Factor Model

	Study 1		Study 2		Study 3		Study 4	
Factors correlated at	*r* =.53		*r* =.88		*r* =.78		*r* =.85	
My thoughts have mainly been about…	concrete	abstract	concrete	abstract	concrete	abstract	concrete	abstract
1. the actions that occurred (c1)	.64	-	.79	-	.61	-	.70	-
2. the hurt done to me (c2)	.74	-	.81	-	.69	-	.50	-
3. the emotions I felt (c3)	.81	-	.77	-	.78	-	.65	-
4. the things the other person did or said (c4)	.68	-	.69	-	.59	-	.72	-
5. the things I should have done or said then (c5)	.38	-	.47	-	.41	-	.57	-
6. the chain of events (c6)	.56	-	.74	-	.46	-	.75	-
7. the harm done to my relationship(s) (a1)	-	.65	-	.75	-	.65	-	.57
8. how I feel about myself (a2)	-	.44	-	.65	-	.48	-	.53
9. the things I could say or do now (a3)	-	.37	-	.48	-	.44	-	.75
10. where the event fits in the larger scheme of things (a4)	-	.54	-	.44	-	.36	-	.60
11. the other person's role in my life (a5)	-	.86	-	.76	-	.51	-	.32
12. what I can learn from this event (a6)	-	.51	-	.26	-	.38	-	.64

Results

Consistent with instructions, most reported transgressions involved persons in a close relationship with the victim, for example a friend (52.2%), partner or spouse (16%), or a family member (14.9%). Victims reported feeling very close to the offender prior to the occurrence of the transgression (M = 5.80, SD = 1.47). Offences ranged from minor (e.g., a family member disagreeing with what the victim said) to severe (e.g. discovering partner in the act of cheating with victim's best friend). Offences occurred between one day and 60 days prior to the survey being completed (M = 13.46, SD = 9.40). However, the majority (57.4%) occurred within the previous fortnight. Victims' self-reported thinking about the transgression (amount of rumination) in the time since it occurred was moderately high (M = 4.36, SD = 1.72).

A first inspection of intercorrelations (see Table 2) showed that, as expected, concrete thinking was negatively related to forgiveness. However, abstract thinking had an unexpected negative and non-significant association with forgiveness. Contrary to the prediction, time since transgression had a negative but non-significant relationship with forgiveness. Likewise, neither concrete nor abstract thinking showed a significant association with time (see also Tables 3 and 4). The amount of rumination (thinking about the transgression) had significant positive relationships with both concrete thinking and abstract thinking and a significant negative relationship with forgiveness. The sense of relationship closeness between the victim and offender prior to the transgression was positively related to forgiveness.

Table 2

Correlations of Study Variables

	Amount of rumination	Pre-offence closeness	Days since offence	Concrete thinking	Abstract thinking	Forgiveness
Amount of rumination	-					
Pre-offence closeness	*.12*	-				
Days since offence	*-.04*	*.01*	-			
Concrete thinking	*.46***	*.09*	*-.06*	-		
Abstract thinking	*.32***	*.02*	*-.07*	*.65****	-	
Forgiveness	*-.22**	*.35****	*-.11*	*-.22**	*-.13*	-

*Note. *p < .05, **p < .01, ***p < .001*

Testing for Mediation by Changes in Types of Thinking

While the intercorrelations reported earlier demonstrate that there was no effect of time on forgiveness, concrete or abstract thinking, a more thorough test of these predictions while controlling for covariates is required to test Hypotheses A1a, b and c. First an investigation of whether time indeed affected the two thinking variables while controlling for amount of rumination and pre-offence relationship closeness was conducted. Therefore, hierarchical multiple regression techniques were employed in

SPSS 22 and concrete thinking and abstract thinking were added separately as dependent variables.[2] All independent variables were centred (Aiken & West, 1991). Amount of rumination was entered in the first step in order to control for its effects on the different thinking variables. Note that amount of rumination was controlled for as a potentially confounding factor of both thinking types; the focus of this research is on the type of thinking individuals engage in, aside from the amount. Pre-offence relationship closeness was also entered for consistency in the first step as it covaries with forgiveness and therefore will be controlled for when testing the time-forgiveness relationship Next, the time variable (days since transgression) was entered in the second step.

Amount of rumination was positively related to both concrete and abstract thinking while pre-offence relationship closeness did not demonstrate any effects on either of the thinking variables (see Tables 3 and 4). Importantly, there was no main effect for time since transgression on concrete or abstract thinking. These results are also reflected in the intercorrelations of the study variables (see Table 2). The possible relationship between time and the predicted mediators (concrete and abstract thinking) was not established (Hypotheses A1b and c).

[2] This study was originally designed as an experimental study (using concrete and abstract thinking manipulations). However, the manipulation checks (and dependent variables) suggested that the manipulation was not successful. Nonetheless, to account for the fact that participants were subjected to different conditions, the manipulated variables were dummy coded and controlled statistically. The two dummy coded variables, representing concrete thinking abstract thinking conditions, respectively, relative to the no thinking condition, were included in Step 1 of the regression analyses. There were no significant effects and the results will not be detailed or discussed here.

Table 3

The Relationship between Time and Concrete Thinking

Predictor	*B*	*SE*	*β*	*t*-value
Dependent variable: concrete thinking				
Step 1				
Amount of rumination	.33	.06	.46	5.39***
Pre-offence relationship closeness	.02	.07	.02	.27
R^2 =.28, $F(4,100) = 9.73$, p =.000				
Step 2				
Amount of rumination	.33	.06	.46	5.34***
Pre-offence relationship closeness	.02	.07	.02	.27
Time	-.003	.01	-.03	-.29
R^2_{Change} = .001, $F_{Change}(1,99) = .09$, p = .77				

Note. ***p < .001

Table 4

The Relationship between Time and Abstract Thinking

Predictor	*B*	*SE*	*β*	*t*-value
Dependent variable: abstract thinking				
Step 1				
Amount of rumination	.23	.07	.32	3.39**
Pre-offence relationship closeness	-.02	.08	-.02	-.24
R^2 =.11, $F(4,100) = 3.16$, p < .017				
Step 2				
Amount of rumination	.23	.07	.32	3.35**
Pre-offence relationship closeness	-.02	.08	-.02	-.23
Time	-.01	.01	-.05	-.55
R^2_{Change} = .003, $F_{Change}(1,99) = .31$, p = .58				

Note. **p < .01

Another hierarchical regression was employed in order to investigate the relationships between time and forgiveness (Hypothesis A1a) and the relationships between each of the thinking variables and forgiveness (Hypotheses A2a and b). Forgiveness was entered as the dependent variable, and amount of rumination and pre-offence relationship closeness were entered in the first step in order to control for their effects on forgiveness. Amount of rumination was negatively related to forgiveness, while pre-offence relationship closeness was positively associated with forgiveness. Next, the time variable (days since transgression) was entered along with the measured variables for concrete and abstract thinking in the second step. After the inclusion of the measured type of thinking variables into the model, the amount of rumination variable was no longer a significant predictor of forgiveness, while pre-offence relationship closeness was still a moderately strong predictor of forgiveness in Step 2. Importantly, there was no main effect for type of thinking or time since transgression on forgiveness. It is noteworthy that the previously reported negative intercorrelational relationship between concrete thinking and forgiveness was no longer significant once the covariates were entered. Therefore there was no support for the predictions in Hypotheses A1a, 2a or 2b. Therefore none of the conditions for mediation were met and therefore no further investigation was warranted and mediation was ruled out (Hypothesis A3).

Testing for Moderation of Type of Thinking

The product terms for the interactions between the measured thinking variables and time since the transgression were built and entered in the third step (see Table 3). Importantly, after controlling for other variables, the interaction terms explained a small but significant additional 7.5% of the variability in forgiveness in Step 3.

Table 5

Time, Concrete Thinking, Abstract Thinking, and Forgiveness

Predictor	*B*	*SE*	*β*	*t*-value
Dependent variable: TRIMS forgiveness				
Step 1				
Amount of rumination	-.20	.07	-.26	-2.90**
Pre-offence relationship closeness	.34	.08	.38	4.25***
R^2 =.22, $F(4,100) = 7.21$, $p < .001$				
Step 2				
Amount of rumination	-.14	.08	-.18	-1.81
Pre-offence relationship closeness	.35	.08	.39	4.40***
Time	-.02	.01	-.12	-1.37
Concrete thinking	-.25	.14	-.23	-1.81
Abstract thinking	.08	.13	.07	.62
$R^2_{Change} = .04$, $F_{Change}(3,97) = 1.80$, $p = .15$				
Step 3				
Amount of rumination	-.19	.08	-.24	-2.44*
Pre-offence relationship closeness	.35	.08	.39	4.56***
Time	-.02	.01	-.13	-1.45
Concrete thinking	-.13	.14	-.12	-.90
Abstract thinking	.04	.12	.04	.35
Time X Concrete thinking	-.05	.02	-.41	-3.21**
Time X Abstract thinking	.03	.02	.23	1.85†

$R^2_{Change} = .08$, $F_{Change}(2,95) = 5.37$, $p < .01$

Note. $*p < .05$, $**p < .01$, $***p < .001$, † $p < .07$

In the third step in the regression model the negative relationship between amount of rumination and forgiveness turned significant again, while pre-offence relationship closeness remained a strong predictor of forgiveness. Time since transgression was not significantly related to forgiveness and nor were the measured thinking variables.

There was a significant negative interaction between concrete thinking and time. To illustrate the meaning of this moderation, the regression analysis was repeated with the concrete thinking variable being transformed by one standard deviation up and down, respectively (Aiken & West, 1991). As predicted (Hypothesis B1a), at a low level of concrete thinking (-1SD) there was a marginally significant positive relationship between time and forgiveness (B =.05, SE =.02, t = 1.93, p = .056); but at a high level of concrete thinking (+1SD) time was negatively and significantly related to forgiveness (B = -.08, SE = .02, t = -3.54, p =.001) (Figure 1). Alternatively, this interaction could be considered with time as the moderator: when only relatively little time had passed since the transgression (-1SD) concrete thinking was positively but not significantly related to forgiveness (B = .36, SE = .23, t = 1.56, p = .123); however, as predicted (Hypothesis B2a), with more time passed since the transgression, concrete thinking was negatively and significantly related to forgiveness (B = -.61, SE = .18, t = -3.46, p = .001).

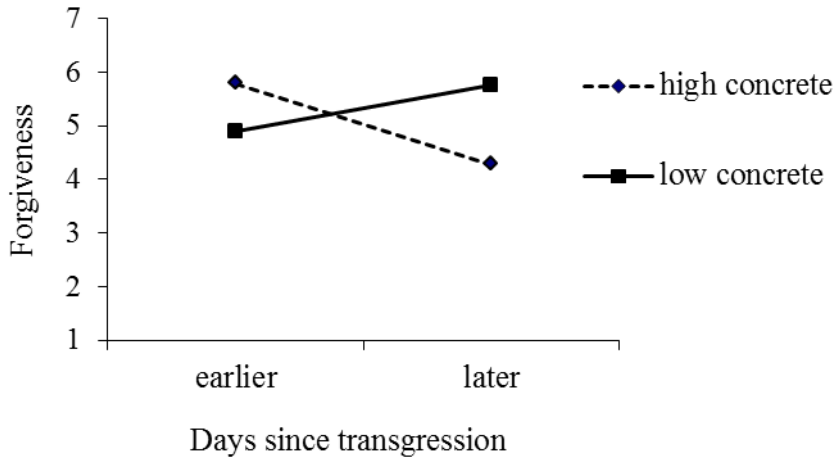

Figure 1. The interaction between time since the transgression and concrete thinking on forgiveness.

The interaction between abstract thinking and time was marginally significant. To probe the meaning of the interaction, again, the regression analysis was repeated with the abstract thinking variable being transformed by one standard deviation up and down, respectively (Aiken and West, 1991). It was revealed that at a low level of abstract thinking (-1SD) time was negatively and significantly related to forgiveness (*B* = -.06, *SE* = .02, *t* = -2.56, *p* = .012) but, in partial support of the prediction (Hypothesis B1b), at a high level of abstract thinking (+1SD) there was no significant relationship between time and forgiveness and the direction was positive (*B* = .02, *SE* = .03, *t* = .74, *p* = .464) (Figure 2). Again, this interaction could also be interpreted with time as the moderator: when only relatively little time had passed since the transgression (-1SD) there was a negative relationship between abstract thinking and forgiveness (*B*= -.24, *SE* = .20, *t* = -1.19, *p* = .237). As predicted (Hypothesis B2b), when relatively more time

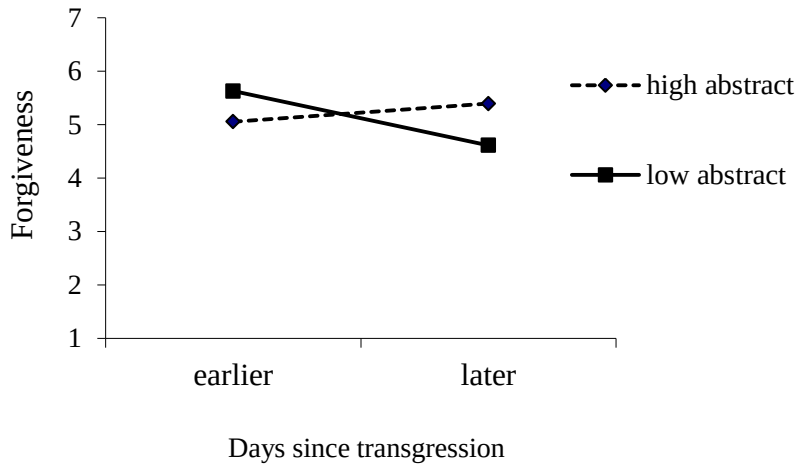

Figure 2. The interaction between days since the transgression and abstract thinking on forgiveness.

had passed since the transgression (+1SD) there was a marginally positive relationship between abstract thinking and forgiveness (B = .32, SE = .19, t = 1.70, p = .092).

Discussion

This study was designed to test two possible theoretical propositions as to whether it is the type of thinking that victims engage in over time that predicts the development of forgiveness. The first proposition suggests that time leads to greater forgiveness and is mediated by the changes in the type of thinking victims employ. There was no evidence to support the mediation prediction. Next, the second proposition to be tested was that time leads to greater forgiveness depending on the type of thinking (concrete versus abstract) victims employ. The present findings are consistent with the idea that forgiveness develops over time but is qualified by whether they engage in higher levels of abstract thinking or concrete thinking.

The results from the regression analysis provided some support for the proposition that the increases in forgiveness over time are not simply an outcome of a decline in rumination, as suggested by the established research. The total amount of thinking about the offence victims engaged in was controlled for in the regression analysis and this may explain the lack of effects of concrete and abstract thinking on forgiveness. The amount of rumination measure was designed to tap all of the possible offence related thinking victims may engage in following an offence which include concrete and abstract thoughts but may include other offence-related cognitions not captured by the measured thinking variables. The amount of rumination was negatively related to forgiveness and demonstrated that when people engage in greater amounts of total thinking about the offence their levels of forgiveness for the offender is low.

Relationship closeness prior to the offence was controlled for in the regression analysis. Research has demonstrated that when victims feel that they share a close relationship with their offender they are more likely to forgive the offender (e.g., Karremans & Aarts, 2007; McCullough et al., 1998). According to McCullough et al. (1998) victims are more likely to empathise with someone to whom they feel close rather than distant and it is their feelings of empathy that promote a more forgiving response. Wenzel and Okimoto (2012) argued that there are distinct psychological implications of forgiveness for close and distant others. They found that when there is a close relationship between victims and offenders an expression of forgiveness by victims can foster a hope of a sense of shared values and in so doing repair any justice concerns experienced by victims following a transgression.

Counter to predictions, the present findings also indicated that forgiveness is not merely a function of time as popular idioms would have people believe. Time had no effect on forgiveness and the direction was negative. This result may have more do to with the retrospective nature of the study. In effect, time was operationalised by the recall of a transgression that occurred within the last month. This type of recall design can be confounded with other aspects of the transgression, including how forgivable victims consider the offence to be or how severe they consider the offence to be. Presumably when a transgression is perceived as being severe (for example, being cheated on by a relationship partner) it would likely take longer than a month to forgive the offender. Another possibility is that the experience of calling the transgression to mind in the study may have had the unintended effect of reactivating negative feelings about the offence and may have undermined any previous forgiveness motivations by triggering further questioning by the victim about the wrongful act. Thus, the reported levels of forgiveness in the study may not be an entirely accurate reflection of the effect that time had on forgiveness in the naturalistic setting. This will be an important consideration for the design of the next study.

The findings also provide evidence that thinking about an offence, rather than being detrimental to forgiveness, can over time promote greater forgiveness if the timing matches the type of thinking. When disentangling the interaction effects of time and type of thinking on forgiveness, it was revealed that when more time had passed since the transgression concrete thinking was unhelpful for forgiveness but, on the other hand, there was a marginally positive relationship between abstract thinking and forgiveness. Conversely, when relatively little time had passed since the transgression concrete

thinking tended to have a positive effect on forgiveness whereas abstract thinking tended to be unhelpful for forgiveness. In effect, forgiveness relies on the timing of victims' thinking about the transgression being a good fit with the type of thinking victims engage with. At earlier time points concrete thinking may serve a function in forgiveness but abstract thinking appears to not be beneficial. At later time points, though, abstract thinking may be important in enhancing forgiveness but concrete thinking impedes it.

The initial support found in this study for the additional cognitive component in the processing of an interpersonal transgression, namely abstract thinking, is an important development in the theoretical understanding of forgiveness. This study provides preliminary evidence to support the use of the concrete and abstract thinking scale to measure the levels of the different types of thinking victims engage in following a transgression. The development of this thinking measure with its basis in Construal Level Theory provides a useful addition to the forgiveness research. Study 1 is, however, limited by the correlational-retrospective nature of the design. Therefore, a further investigation of the relationship between thinking, time and forgiveness using an experimental design is warranted in an attempt to determine the causal mechanism involved. An experimental design will therefore be employed for Study 2.

CHAPTER 4

Time is of the Essence: Testing the Effects of Time and Type of Thinking on Forgiveness

The results of Study 1 support the argument of the current thesis in that a narrow focus on the offence-based ruminative thinking occurring in the aftermath of a transgression does not fully capture the ways in which victims process the offence at a cognitive level. The findings appear to validate the conceptualisation of two distinct thinking modes based on the tenets of CLT, which are employed by victims as part of the process of developing a more forgiving attitude: concrete and abstract thinking. Concrete thinking is characterized by lower level mental representations of a transgression, such as the details of 'who said what'. On the other hand, abstract thinking is characterized by higher level mental representations which focus on more holistic concerns, thus, contextualizing the transgression within the broader landscape of the victim's life. Abstract thinking, then, attends to higher order concerns such as the role of the other person in the victim's life and the importance of the relationship. It is the proposition of the present thesis, in part supported by the findings of Study 1, that the two distinct modes of thinking are fundamental elements of the forgiveness process. Moreover, it is argued that previous research findings suggesting that increases in forgiveness are associated with decreases in ruminative thinking over time is only part of a more complex story. The findings have missed an essential ingredient in the unfolding of forgiveness: namely, the development of another type of thinking providing an alternative and more holistic view of the transgression.

The outcomes of Study 1 also highlight that the proposed thinking processes require time in order to unravel the issues surrounding the offence and to consider what is "truly at stake". Notwithstanding the correlational nature of Study 1, the pattern of the interactions from the regression analysis provided evidence that, while the amount of time since the transgression alone did not demonstrate any effects on forgiveness, in conjunction with the distinct types of thinking time showed the predicted effects on forgiveness.

The purpose of Study 2 was to test again both theoretical propositions derived from the present framework, namely (A) that the two types of thinking mediate the effects of time on forgiveness, and (B) that the two types of thinking moderate the effects of time on forgiveness, as found in Study 1, namely that time leads to an increase in forgiveness *if* victims engage less in concrete and more in abstract thinking Conversely, at a later time point (more than at an earlier point), concrete thinking would be negatively and abstract thinking positively related to forgiveness.

Study 2 was designed to be improvement on the previous study by employing an experimental design. Specifically, having experienced a recent transgression (within the previous 24 hours) involving a close other participants were eligible to be involved in the study. Once they logged in to the study, participants either completed the study immediately or they were instructed that they would be delayed by a week and at that time would be sent a different survey link. Thus, the factor time was manipulated experimentally. It was also attempted to manipulate participants' type of thinking about the transgression through a series of cognitive tasks, however the attempt failed and will

not be further considered. Instead, the same scales as in Study 1 were used to measure concrete and abstract thinking.

Method

Participants were 143 first-year Flinders University psychology students and paid participants who were recruited for the study via an online advertisement. Participants were randomly assigned to the immediate time condition or the delayed time condition. Originally, 159 participants signed up for the study, however five subjects from the immediate time condition and eleven subjects from the delayed time condition dropped out. The first-year students received some course credit for their introductory psychology courses. Upon signing up, all participants reported that they had experienced an interpersonal transgression with a close other (friend, partner, family member, etc.) within the last 24 hours.

Procedure

As in Study 1, participants opted to be involved in a study entitled "Does the experience of a transgression interfere with performance on an organisational task?" after reading the information about the study provided online. The same definition of an interpersonal transgression used in the previous study was provided to all potential participants in the preliminary information about the study. The study information clearly described to potential participants that in order to be eligible to sign up for the study they would have to have experienced an interpersonal transgression within the last 24 hours. However, they were notified that if they had not experienced a transgression they could wait and if one did occur they could sign up then. It was made clear that the transgression was to have involved a close other (family member, partner, friend, and so

on). They were informed that upon signing up for the study they would be asked to provide some demographic details and very brief details about the transgression. They were then advised that they would either gain immediate access to the questionnaire *or* be instructed that the new link to the questionnaire would be sent to them via email in 7 days. They were instructed to fill out the questionnaire within 24 hours of receiving it.

Once they had given their informed consent to participate in the study online, participants were able to continue with the questionnaire. They were asked to provide some information regarding the transgression by answering the following questions:

"What is the relationship of the other person (who caused offence) to you?"

"Where did the incident take place?"

"In one sentence describe the offence. (No more than 5 words)."

Participants were then randomly directed to the next page in the survey or were redirected to a page which stated the following:

"The researcher, Anne-Marie Coughlin, will email you the link to the study in 7 days. You are asked to complete the study within 24 hours of receiving the link.

Thank you for participating in this study."

To ensure that the participants allocated to the "delayed" condition would remember the offence, the information regarding the transgression they had originally outlined at the time of signing up was emailed to them in the following format:

"Thank you for participating in this research study.

The link to the study/questionnaire "Does the experience of a transgression interfere with performance is below. Please fill it in within 24 hours of receiving this email.

So you remember the transgression that occurred, the answers you provided to the brief questions about the transgression initially are listed below.

a) *What is the relationship of the other person (who caused offence) to you? (mother/father; brother/sister; boyfriend/girlfriend; friend; etc) (Participant's response)*

b) *Where did the incident take place?* (*Participant's response)*

c) *In one sentence describe the offence. (No more than 5 words).* (*Participant's response)"*

All participants then provided demographic information and responded to the questions outlining their level of closeness to the offender prior to the transgression, the amount of thinking about the offence and the number of days since the offence occurred. Following this, all participants rated their levels of concrete and abstract thinking regarding the incident. They then rated their current views regarding the incident on rating scales which measured their levels of forgiveness. They also indicated on a one-item measure the extent to which they had been thinking about the incident since it occurred.

Measures

All scales used 7-point rating scales and most used multiple items. For the multiple item scales item responses were averaged to create a composite score for each rating scale.

Amount of rumination. The amount of rumination is a one-item scale measuring the extent to which victims have been thinking about the transgression. Participants

were asked to rate the extent to which they had been thinking about the transgression in the previous 48 hours on a 7-point scale (1 = *not at all,* 7 = *all the time*).

Pre-offence relationship closeness. Based on McCullough et al. (2003), an evaluation of closeness was measured by one item: "How close were you to the other person before the transgression?" (1 = *not at all*, 7 = *very much*).

Concrete and abstract thinking. The concrete and abstract thinking scale is the same as was used in Study 1 and measures the degree to which participants engage in concrete and abstract thinking. Participants were asked to rate their thoughts about the transgression (1 = strongly disagree, 7 = strongly agree). The concrete scale has six items and some examples of the scale items are: "My thoughts have mainly been about …" "the actions that occurred", "the emotions I felt", "the chain of events" ($\alpha = 0.75$). Some examples of from the six-item scale are: "My thoughts have mainly been about…" "where the events fit in the larger scheme of things", "the other person's role in my life", "what I can learn from this event" ($\alpha = 0.64$).

Forgiveness. Forgiveness is the degree to which participants experience feelings about seeking revenge or avoiding the offender or feelings of goodwill towards the offender. It was accordingly measured here with the 18-item Transgression-Related Interpersonal Motivations scale (McCullough et al., 2006) that tap the three aspects of revenge, avoidance and benevolence. Some examples are: "I'll make him/her pay", "I am trying to keep as much distance between us as possible", "Although his/her actions hurt me, I have good will for him/her" (1 = *strongly disagree,* 7 = *strongly agree*). However, as in Study 1, for parsimony, and because the internal consistency ($\alpha = .95$) of

the total scale afforded this, all items were (after appropriate re-coding) averaged for a single forgiveness score.

Results

Most transgressions involved a person in a close relationship with the victim, for example a partner or spouse (28%), friend (25.2%), or a family member (22.4%). Victims reported feeling very close to the offender prior to the occurrence of the transgression (M = 5.63, SD = 1.55). The most common offences were rated as being a fight or argument (30.1%), an insult (26.6%) or a betrayal of trust (18.2%). Offences ranged from relatively minor (e.g., a partner unfairly yelling or being ignored by parent) to severe (e.g. discovering a family member lying about taking drugs). Offences occurred from one day (19.6%) to eleven or more days (41.3%) prior to the survey being completed.[3] Victims' self-reported thinking about the transgression (amount of rumination) in the time since it occurred was moderately high (M = 4.40, SD = 1.67).

A preliminary inspection of correlations (see Table 6) showed that concrete thinking was negatively related with forgiveness, whereas abstract thinking showed no relationship. The amount of rumination (thinking about the transgression) again demonstrated significant positive relationships with both concrete thinking and abstract thinking and a significant negative relationship with forgiveness. The sense of relationship closeness between the victim and offender prior to the transgression was positively related to forgiveness and to the abstract thinking measure.

[3] A considerable number of participants did not comply with the requirements of the study and reported a transgression that occurred more than 24 hours prior to them completing the study. Since it was not possible to exclude them all for this non-compliance, and because the 24-hour was an arbitrary limit only meant to encourage participants to refer to an event as recent as possible, all cases were left in the sample.

Table 6

Correlations of Study Variables

	Amount of rumination	Pre-offence relationship closeness	Concrete thinking	Abstract thinking	Forgiveness
Amount of rumination	-				
Pre-offence relationship closeness	.10	-			
Concrete thinking	.44***	.05	-		
Abstract thinking	.33***	.25**	.58***	-	
Forgiveness	-.30***	.39***	-.24**	.003	-

Note. $*p < .05$, $**p < .01$, $***p < .001$

Mediation

Regression analyses were employed to test the predictions regarding thinking types and time, while controlling for amount of rumination and pre-transgression relationship closeness (for simple means and standard deviations as a function of the time manipulation, see Table 7).[4]

[4] This study was originally designed as a 2 × 3 experimental design with time (immediate, delayed) × thinking (concrete, abstract, no thinking), with the latter factor representing an attempt to manipulate the type of thinking participants would engage in, However, statistical analyses showed no effects of the thinking manipulations on the type of thinking or any other outcome variables. Nonetheless, to make sure that the analyses involving measured thinking types were in no way confounded by the manipulation attempt, the experimental thinking conditions (represented through two dummy variables) were statistically controlled in all regression analyses but will not be discussed in the Results section. Further details can be obtained from the author.

Table 7

Means and Standard Deviations of Study Variables

	Immediate Time condition		Delayed Time condition	
	M	*SD*	*M*	*SD*
Amount of rumination	4.56	1.66	4.25	1.67
Pre-offence relationship closeness	5.79	1.44	5.48	1.63
Concrete thinking	5.09	1.03	5.12	1.06
Abstract thinking	4.86	1.03	4.64	1.04
Forgiveness	5.01	1.37	4.88	1.45

First, the mediation prediction was tested, postulating that a decrease in concrete thinking and increase in abstract thinking over time might account for an increase in forgiveness over time. Regressing concrete thinking on the experimental factor of time (effect coded: immediate = -1, delay = 1) and the covariates amount of rumination and pre- relationship closeness, yielded no significant effect of time; only amount of rumination was significantly positively related to concrete thinking (see Table 8). A similar regression for abstract thinking likewise yielded no significant effect of time; both amount of rumination and pre-relationship closeness were positively related to abstract thinking (see Table 9).

Table 8

The Relationship between Time and Concrete Thinking

Predictor	*B*	*SE*	*β*	*t*-value
Dependent variable: concrete thinking				
Step 1				
Amount of rumination	.28	.05	.44	5.77***
Pre-offence relationship closeness	.01	.05	.01	.15
$R^2 = .20$, $F(4,138) = 8.44$, $p < .001$				
Step 2				
Amount of rumination	.28	.05	.45	5.80***
Pre-offence relationship closeness	.01	.05	.02	.21
Time	.06	.08	.06	.75
$R^2_{change} = .003$, $F_{change}(1,137) = .56$, $p = .46$				

Note. *** $p < .001$

Table 9

The Relationship between Time and Abstract Thinking

Predictor	*B*	*SE*	*β*	*t*-value
Dependent variable: abstract thinking				
Step 1				
Amount of rumination	.19	.05	.31	3.90***
Pre-offence relationship closeness	.15	.05	.23	2.85**
$R^2 = .16$, $F(4,138) = 6.43$, $p < .001$				
Step 2				
Amount of rumination	.19	.05	.30	3.81***
Pre-offence relationship closeness	.15	.05	.22	2.77**
Time	-.06	.08	-.06	-.78
$R^2_{change} = .004$, $F_{change}(1,137) = .61$, $p = .44$				

Note. *** $p < .001$, ** $p < .01$

Finally, forgiveness (TRIMS) was subjected to the same analyses, with concrete and abstract thinking added as predictors in a second step, showed no significant effect of time; amount of rumination was negatively and pre-relationship closeness positively related to forgiveness. Furthermore, concrete thinking was significantly negatively related to forgiveness while abstract thinking showed no significant relationship (see Table 10, Step 1 and 2).

In all, the mediation prediction did not receive any support. The time manipulation did not affect forgiveness, nor the two presumed mediators, concrete and abstract thinking. The preconditions for mediations were thus not met.

Moderation

Next, the regression analyses were extended to test the moderation hypothesis, predicting that the role of concrete and abstract thinking depends on the time passed since the transgression. Note that all predictor variables were centred, and interaction terms were the product of centred variables. The regression model reported above for forgiveness (TRIMS) as dependent variable was extended by a third step that included the interaction terms of the experimental factor for time and concrete thinking, and the experimental factor for time and abstract thinking.

Similar to Study 1, the interaction between concrete thinking and time had a negative and significant relationship with forgiveness and the interaction between abstract thinking and time showed a marginally significant (p = .057) positive relationship with forgiveness.

Table 10

Time, Concrete Thinking, Abstract Thinking and Forgiveness

Predictor	*B*	*SE*	*β*	*t*-value
Dependent variable: TRIMS forgiveness				
Step 1				
Amount of rumination	-.29	.06	-.35	-4.72***
Pre-offence relationship closeness	.37	.07	.41	5.54***
Time	-.04	.10	-.03	-.37
R^2 =.280, $F(5,137) = 10.64$, $p < .001$				
Step 2				
Amount of rumination	-.25	.07	-.29	-3.57***
Pre-offence relationship closeness	.35	.07	.39	5.11***
Time	-.01	.10	-.01	-.11
Concrete thinking	-.27	.13	-.20	-2.12*
Abstract thinking	.16	.13	.12	1.25
$R^2_{Change} = .023$, $F_{Change}(2,135) = 2.26$, $p = .109$				
Step 3				
Amount of rumination	-.26	.07	-.30	-3.78***
Pre-offence relationship closeness	.35	.07	.39	5.10***
Time	-.01	.10	-.01	-.14
Concrete thinking	-.25	.13	-.18	-1.96†
Abstract thinking	.15	.12	.11	1.19
Time X Concrete thinking	-.29	.19	-.21	-2.43*
Time X Abstract thinking	.23	.12	.17	1.92†
$R^2_{Change} = .032$, $F_{Change}(2,133) = 3.16$, $p < .05$				

Note. *$p < .05$, **$p < .01$, ***$p < .001$, † $p < .07$

To illustrate the meaning of these moderations, the regression analyses were repeated with the concrete thinking variable being transformed by one standard

deviation up and down, respectively (Aiken & West, 1991). At a low level of concrete thinking (-1*SD*) time had a marginal positive effect on forgiveness (*B* = .28, *SE* = .16, *t* = 1.80, *p* = .075). In contrast, at a high level of concrete thinking (+1*SD*), there was a marginally significant negative relationship between time and forgiveness (*B* = -.31, *SE* = .16, *t* = -1.95, *p* = .054).

Alternatively, this interaction could be considered with time as the moderator. The regression analyses were repeated with the experimental time variable being transformed by 1 up and down, respectively (Aiken & West, 1991), so that either the immediate or the delayed time condition was represented by 0, at which the simple effects nested under the interaction term would be estimated. First, in the immediate time condition there was no significant relationship between concrete thinking and forgiveness and the direction was positive (*B*=.04, *SE* =.18, *t* = .22, *p* = .82775); but in the delayed time condition concrete thinking had a significant negative relationship with

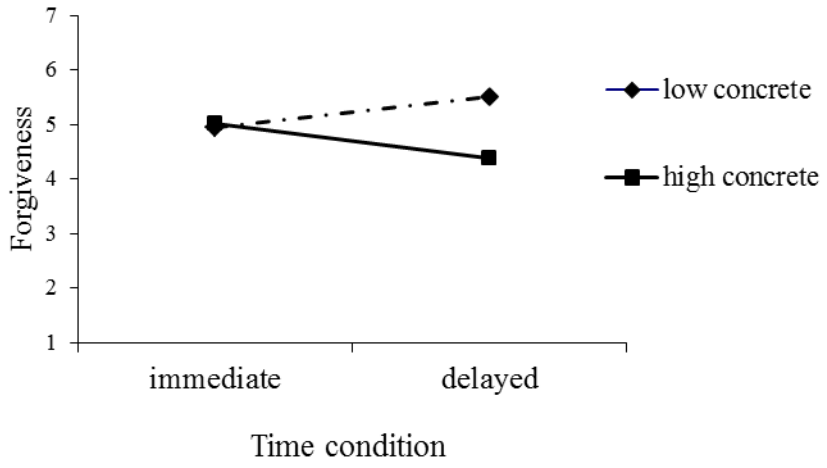

Figure 3. Interaction between Time and Concrete Thinking on Forgiveness

forgiveness (*B* = -.53, *SE* = .17, *t* = -3.19, *p* =.002) (Figure 4).

Second, the interaction between abstract thinking and time was marginally significant. To probe the meaning of the interaction, the regression analysis was repeated with the abstract thinking variable being transformed by one standard deviation up and down, respectively (Aiken & West, 1991). At a low level of abstract thinking (-1*SD*) time tended to be negatively related to forgiveness, but not significantly so (*B* = -.26, *SE* = .16, *t* = -1.59, *p* = .115), whereas when abstract thinking was high (+1*SD*), there was a non-significant positive effect of time on forgiveness (*B* = .23, *SE* = .16, *t* = 1.41, *p* = .162) (Figure 4).

Again this interaction could also be interpreted with time as the moderator: in the immediate time condition there was no significant relationship between abstract thinking and forgiveness and the direction was negative (*B* = -.09, *SE* = .18, *t* = -.48,

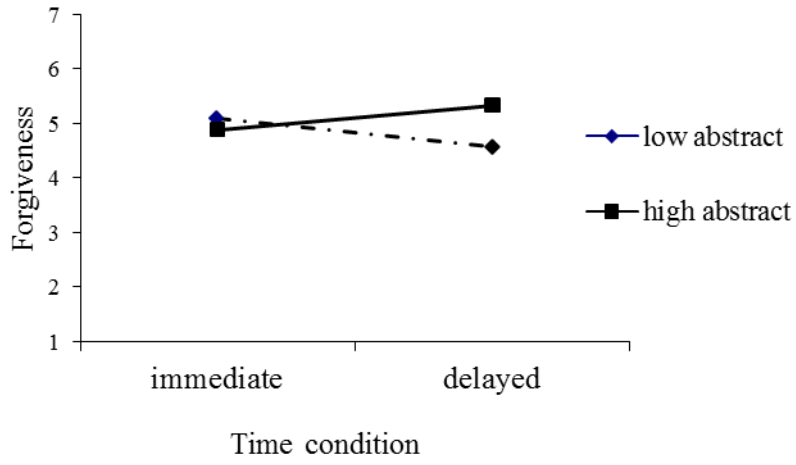

Figure 4. Interaction between Time and Abstract Thinking on Forgiveness

p = .631) while the delayed condition demonstrated that abstract thinking had a significant positive relationship with forgiveness (B = .38, SE = .17, t = 2.26, p = .026) (Figure 4).

Discussion

In Study 2 an experimental design was employed to further investigate the relationship between thinking, time and forgiveness. The two possible theoretical implications of the central proposition of this thesis were again tested. It may be recalled that the first proposition suggests that time leads to greater forgiveness and is mediated by the changes in the type of thinking victims employ. There was no support for the mediation hypotheses. The next proposition to be examined was that time leads to greater forgiveness but is qualified by the type of thinking (concrete versus abstract) victims employ. The findings of Study 2 are consistent with the moderation prediction: forgiveness develops over time depending on whether victims engage in higher levels of abstract thinking or concrete thinking.

The results from Study 2, in concert with findings from the previous study, support the claim of the present thesis that increases in forgiveness with the passage of time are not merely attributable to decreases in rumination. As in Study 1, the total amount of post-transgression thinking victims entered into was controlled for in the regression analysis. Therefore, any effects demonstrated by concrete or abstract thinking were relative to their total amount of thinking. Their total rumination was again negatively related to forgiveness.

This study again demonstrated the importance of the pre-transgression relationship closeness between the victim and the offender in terms of predicting forgiveness.

Relationship closeness again demonstrated a positive relationship with forgiveness. It makes sense that people are more motivated to want to preserve a close relationship (McCullough et al., 1998) and forgiveness is one strategy by which the relationship can be maintained.

An additional finding of interest was that relationship closeness was also positively related to the measured variable of abstract thinking irrespective of the time condition. In other words, the closer the victim considered the relationship with the offender to be, the more engagement in abstract thinking there was. It may be that feeling close to the offender means that victims are more likely to engage at an abstract level about their relationship. Aron and colleagues (1991; 1999) have shown that relationship closeness extends victims' thinking so that they are more likely to consider extenuating circumstances surrounding the transgression, thus suggesting that relationship closeness allows for more abstract thinking. However, the present framework is not advocating that abstract thinking enables a reappraisal of the offence as this may imply condoning or discounting the severity. Instead, the proposition is that when the pre-transgression relationship is identified as being close then there is clearly at lot at stake following an offence. It behoves victims to think carefully; but not just about the transgression itself. Rather, it appears that a close relationship enables, perhaps compels, victims to ponder where the event fits within the broader framework of this important relationship and to consider among other things, the role of the other person in their life.

As a further account for the observed association between relationship closeness and abstract thinking, it may be that when they share a close relationship with the offender victims may be more likely to consider their shared identity ('we') rather than

the two separate identities (‘I’ and ‘he or she’). The ‘we’ is a more inclusive concept of self, which is in itself an abstraction (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). Objects represented more broadly or abstractly can facilitate a more global processing style (Förster, Friedman, & Liberman, 2004; Wakslak, Trope, Liberman, & Alony, 2006). Thus, the closeness of the relationship is more likely to be associated with a more abstract style of thinking about the transgression for victims. However, due to the correlational nature of the relationship a converse explanation may be that abstract thinking brings the focus of attention to the closeness of the relationship prior to the transgression. An abstract construal level has been found to be associated with a focus on similarity, more inclusive groupings, and a broader thinking style (Förster, 2009). Therefore, thinking abstractly may bring more attention to the high level social concept of ‘we’ as close friends, partners, or family and victims may consider more the similarities they share with the offender rather than what sets them apart.

Again, in this study there was no relationship between time and forgiveness and, as before, the direction was negative. Furthermore, there was no difference between the manipulated time conditions (immediate and delayed). The study had a prospective design and therefore participants’ involvement in the study occurred only when they had experienced a transgression within the previous 24 hours. The delayed condition differed from the immediate condition by a week (7 days) only. This time frame may have been essentially too short for forgiveness to develop for particular wrongdoings. The manipulation may have been more effective had the delayed time condition been further removed temporally from the immediate time condition.

Another interesting finding was that, while controlling for other variables, concrete thinking was negatively related to forgiveness in the first two steps of the regression analysis and marginally in the third step. This finding provides support for the position of the present thesis, namely, that on the whole concrete thinking is detrimental for the development of forgiveness. Specifically the findings point to the idea that when people engage in greater amounts of concrete thinking their levels of forgiveness are lower. Conversely, when people engage in less concrete thinking their levels of forgiveness are higher. This parallels with previous findings in the literature about the effects of rumination on forgiveness. Importantly, it represents only part of the story. I argue for forgiveness to develop, the transgression must be fully processed. It is not enough that thinking about the details of the offence and the offender's actions subsides. Such a reduction in concrete thinking does not imply a transformation in attitudes and behaviour. The wrongdoing must also be worked through and integrated into the broader picture of the victim's life and this requires a more productive type of thinking.

The interactions between the mode of victims' thinking and time indicate that with more time since the transgression the type of thinking victims engage in is important for forgiveness. When probing the interactions in an attempt to explore their meaning, it was demonstrated that for participants in the delayed time condition more concrete thinking was detrimental to forgiveness. On the other hand, at this later time point abstract thinking tended to be more conducive to forgiving attitudes. The findings of the decomposition of the interactions did not fully support the idea that for forgiveness to unfold the timing of victims' thinking must be a 'good fit' with the type of thinking victims employ. The important implication from the findings of both studies is that with

more time from a transgression abstract thinking may be important in facilitating forgiveness but concrete thinking hinders it.

Through the employment of an experimental design there is evidence of a causal nature that time can lead to forgiveness but it surely depends on the mode of thinking victims engage in. While there is support for the role of time and the mode of thinking in the development of forgiveness, Studies 1 and 2 employed correlational and experimental designs, respectively, that focused on between-subjects variance only, without considering the role of intra-individual changes in type of thinking. A within-persons design exploring the progression of thinking related to naturally occurring transgressions across time would be a worthwhile next step in this present research. Such a design would attempt to capture the *intra*individual progress victims may make in the subsequent days following a transgression and therefore distinguish this from the *inter*individual differences at a given time. Study 3 will employ a prospective longitudinal methodology to test *intra*individual changes in concrete thinking and abstract thinking, the importance of time in the change process, and the effects of such changes (mediation or moderation) on forgiveness over time.

CHAPTER 5

It's Time for a Change: Intra-Individual Change in Thinking over Time is the Key to the Development of Forgiveness.

Studies 1 and 2 sought to test the suggestion that the type of thinking victims engage with over time influences forgiveness. The findings revealed that higher levels of concrete thinking over time or at a later time point are negatively related to less forgiveness and higher levels of abstract thinking over time or at a later time point are positively related to greater forgiveness. Certainly, the results highlight the idea that time is an essential factor in processing a transgression and the development of forgiveness. Therefore it was important for the present research to continue to include time as a variable of interest in Study 3. However, to progress with the research it was important to critically reflect on the theoretical argument central to this thesis and to recognise that the empirical focus has so far been on the inter-individual (between-persons) level.

When in the previous studies participants divulged their victimisation and rated their thoughts about the event it was at one time only and, furthermore, it was a retrospective (within 24 hours or longer) recollection of the event. Such methodology cannot distinguish between the inter-individual differences in the effects of the type of thinking over time on forgiveness and the intra-individual changes in thinking that may have already taken place or, indeed, the way in which progress unfolds at an intra-individual level towards forgiveness. Instead the methodology treats all of these factors together and the results, then, do not provide a clear indication of within-persons

changes that occur over time in the cognitive processing of a transgression that leads to forgiveness.

Hence, a prospective design was created for Study 3 whereby participants interested in the study signed up and had a two to three week waiting period for some form of transgression to occur with a close other. Then they completed their first survey and subsequently filled in four more questionnaires at 48 hour intervals. The design employed enabled the differentiation between, on one hand, inter-individual differences in types of thinking and forgiveness at certain time-points following a transgression and, on the other hand, intra-individual *changes* in thinking and forgiveness over time. This approach would allow us to investigate which of these variance components are implicated in the observed effects of type of thinking. Is it the case that, rather than thinking in certain way at a given time, individuals need to go through a change or *transformation* of their thinking, towards less concrete and more abstract thinking over time, for this to benefit forgiveness?

To date, it does not appear that there has been any research which has conducted a prospective study looking at intra-individual changes over time and the association with forgiveness. Most previous forgiveness research has relied on the recollection of an event experienced within the previous seven day period. McCullough, Bono et al. (2007) conducted three short term longitudinal studies examining rumination, emotion and forgiveness to investigate within-persons changes in rumination and forgiveness. Other longitudinal research relying on the recall of a transgression examined intra-individual associations between forgiveness and self-reported well-being (Bono, McCullough, & Root, 2006). Orcutt (2006) conducted research on previously

experienced transgressions and the prospective between-persons effects on psychological distress among women. In a novel approach, Wenzel et al. (2010) conducted a prospective study examining rumination, empathy, cognitive appraisals and forgiveness in which participants were instructed to sign up prior to the experience of a transgression and complete a questionnaire within 24 hours of being subjected to an interpersonal offence. They then completed two further questionnaires at 24 hour periods. Study 3 in the present thesis developed a prospective design extending the design by Wenzel et al. (2010).

Overview of Study 3

The idea of Study 3 was to replicate the findings of Studies 1 and 2, namely that it is the type of thinking a victim engages in following an interpersonal transgression over time that influences the degree to which a victim is willing to forgive the offender. Notably, the prospective longitudinal methodology employed in this study enabled the separation of inter –individual and intra-individual variance components and to test the moderation predictions of the previous studies for both independently. Even though the mediation prediction did not receive any support in the previous studies, this theoretical possibility would also be tested once again but now with a focus on intra-individual changes as mediators. Specifically, we will test variations (italicised) of the same two broad hypotheses as in the previous studies:

A. Mediation: (1) With greater passage of time since the transgression, (a) forgiveness levels will be higher, (b) concrete thinking lower, and (c) abstract thinking higher. (2) (a) *Within-individual decrease* in concrete thinking, and (b) *within-individual increase* in abstract thinking, will be

positively related to forgiveness. (3) *Within-individual* decrease in concrete thinking and increase in abstract thinking will mediate the relationship between time and forgiveness.

B. Moderation: (1) With greater passage of time since the transgression, (a) concrete thinking – *as either inter-individual difference or intra-individual change* – will be more negatively related to forgiveness, and (b) abstract thinking – *as either inter-individual difference or intra-individual change* – will be more positively related to forgiveness. Conversely, (2) (a) when concrete thinking is lower (*inter-individually) or decreases* (*intra-individually)*, and (b) abstract thinking is higher (*inter-individually) or increases (intra-individually)*, time will be more positively related to forgiveness.

Method

Design and Participants

A prospective design was used to measure the development of forgiveness over time following an interpersonal transgression. Participants were recruited prior to experiencing an offence and were instructed to complete an online questionnaire within a 24 hour period of a transgression occurring, and another four questionnaires after 48 hour intervals. We selected this approach in order to capture the changes in thinking in the development of forgiveness. We anticipated that the severity of transgressions reported would be relatively low and therefore the forgiveness process could occur closer to the event.

Participants were 93 first-year Flinders University psychology students and paid participants who were recruited for the study via an online advertisement. The first-year students received some course credit for their introductory psychology courses and the paid participants were reimbursed up to $30 dependent on their completion of all questionnaires in the study (i.e., 5 time points). All participants reported that they had recently experienced an interpersonal transgression involving a close other (friend, partner, family member, etc.).

Procedure

Participants elected to be involved in a study that was investigating the thoughts that people have following an interpersonal hurt or transgression after reading the information about the study provided online. The same definition of a transgression used in the previous studies was provided to all potential participants in the information about the study.

The study information clearly described to potential participants that they had two to three weeks to become aware of an interpersonal hurt or transgression in their life. During this time they would receive automated 'friendly reminder' emails reminding them about the study and to note any transgression that occurred during this time which involved a family member, partner, friend, work colleague, university student/staff member, or close other. They were instructed to use the web link provided to access the secure website for this study as soon as possible (within three to six hours) after experiencing the transgression. It was explained to interested potential participants that in the present study there were five study time-points, each 48 hours apart, at which time

they would complete questionnaires and that they would receive automated emails between times reminding them to complete the next questionnaire.

Once participants had experienced an interpersonal transgression and deemed themselves eligible to participate in the study they used the web link to log onto the study. First, they were instructed to provide a description of the transgression and comments about any associated feelings and thoughts in no more than three sentences. They were then instructed to answer some questions regarding the offence that would then be used to generate a "unique cue". Participants were informed that the cue would be used to remind them about the transgression at the beginning of each of the five questionnaires to be completed at 48 hour intervals. The questions were: "What is the first name of the person who caused offence to you?"; "Where did the incident take place?"; and "In no more than five words please describe the offence". Participants were then asked to provide some demographic information including their relationship to the offender and the type of transgression that took place.

In all of the questionnaires, participants were instructed to recall the transgression and to take notice of the thoughts and feelings experienced while recalling the incident. They were further instructed to write exactly the stream of thoughts they experienced in no more than three sentences. When instructed to write their stream of thoughts, participants actually typed into an open text field on the computer screen and communicated their expressions. Following this, participants rated their current views regarding the incident on rating scales which measured the effects on forgiveness.

Measures

All scales used 7-point rating scales and most used multiple items. For the multiple item scales item responses were averaged to create a composite score for each rating scale.

Amount of rumination. The amount of rumination is a one-item scale measuring the extent to which victims have been thinking about the transgression. Participants were asked to rate the extent to which they had been thinking about the transgression in the previous 48 hours on a 7-point scale (1 = *not at all*, 7 = *all the time*).

Pre-transgression relationship. Based on McCullough et al. (2003) and using a one-item measure, participants were asked to evaluate their level of closeness to the offender prior to the occurrence of the transgression on a 7 point rating scale: "How close were you to the other person before the transgression?" (1 = not at all, 7 = very much).

Concrete and abstract scale. The concrete and abstract scale was the same as in the previous studies and measured the degree to which participants engaged in concrete and abstract thinking. Participants were asked to rate their thoughts about the transgression on a 7-point scale (1 = strongly disagree, 7 = strongly agree). Some examples of concrete thinking are: *My thoughts have mainly been about* … "the actions that occurred", "the emotions I felt", "the chain of events" (α = .80, .71, .87, .87, .89). Some examples of abstract thinking are: *My thoughts have mainly been about*… "where the events fit in the larger scheme of things", "the other person's role in my life", "what I can learn from this event" (α = .76, .78, .85, .84, .88).

Forgiveness (TRIMS – 18) (McCullough et al., 1993)**.** Forgiveness is the degree to which participants experience feelings about seeking revenge or avoiding the offender or feelings of goodwill towards the offender. Participants were asked to rate their forgiveness using a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*). It was measured using 18 items. Some examples are: "I'll make him/her pay", "I am trying to keep as much distance between us as possible", "Although his/her actions hurt me, I have good will for him/her". (α = .92, .94, .94, .95, .95).

Statistical Analysis

In the current study linear mixed modelling (LMM) was the statistical method used to analyze the quantitative data collected to investigate the research questions regarding changes in thinking over time and the effects on forgiveness. Linear Mixed Modelling is also known as hierarchical linear modelling (HLM), growth modelling, multi-level modelling (MLM), mixed-effect modelling, multi-level regression modelling, and random-coefficient modelling. There are a number of advantages in adopting LMM to analyze data collected across multiple time points. Traditionally, statistical analyses were employed from the family of general linear models (GLM) such as analysis of variance (ANOVA) and analysis of covariance (ANCOVA) but such methods have limitations when investigating longitudinal data. GLM, traditionally, assume that observations in longitudinal data are independent of one another and do not take into consideration that independence is somewhat compromised by the higher-level clustering unit (e.g., time).

Another advantage of employing LLM is that it provides a sophisticated technique for distinguishing processes which occur at the intra-individual level and the influences

of more stable individual differences at the inter-individual level. Therefore, LMM permits the explicit modelling of between-persons and within-persons variance in the variables of interest. In addition, when modelling intra-individual change over time using LMM, each participant may have their own intercept and slope (rate of change) and these unique differences may be calculated and predicted (Hoffman & Stawski, 2009). Importantly, LLM allows for the fact that the number of observations can vary across participants. As a final point, both time-varying (measures collected over several time points) and time-invariant predictors (properties which are stable and therefore measured once only) can be included when modelling change over time (Heck & Thomas, 2009). In conclusion, by drawing together patterns of change and effects at both the inter and intra-individual levels, LMM was used as the analytical method for the current study because it has the capability to provide us with a comprehensive picture of the development of forgiveness over time.

Maximum Likelihood (ML) was used for the estimation of parameters in the longitudinal analyses. The covariance structure selected for the analyses was the unstructured covariance matrix as it does not set any restrictions on the residual covariance matrix (Peugh & Enders, 2005), ensures the lowest deviance statistic, and, in addition, is appropriate for measurements taken across a small number of time points (Singer & Willett, 2003). It is most commonly found in longitudinal data as it is the most parsimonious (Shek & Ma, 2011).

Centering improves the interpretability of the model intercept (the predicted value when the covariates are at zero) and main effects in the company of higher-order interactions (Hoffman & Stawski, 2009). The variables representing between-persons

(time-invariant) effects were centered around the grand mean at Time 1. That is, the grand mean of the Time 1 values for abstract thinking, concrete thinking and amount of rumination were used as the centering constants and thus were subtracted from the Level-1 predictors. These Time 1 predictors were entered as fixed effects to measure the association with forgiveness regardless of time.

Time was centered around the Time 3 measure for time (Time 3 = 0) and was entered into the models as a fixed and random effect. Within-persons variables (time-varying covariates) were represented by change or deviation scores calculated to measure the amount of intra-individual change across the different time points to Time 5 in concrete thinking, abstract thinking and amount of rumination whilst controlling for Time1 levels (baseline measurements). To calculate the deviation scores an individual's Time 1 total score was subtracted from their total raw score for the individual construct measure at each subsequent time point (Willett, 1989).

Results

Most transgressions involved a person in a close relationship with the victim, for example a friend (36.6%), a family member (23.7%), or a partner or spouse (21.5%). Victims reported feeling very close to the offender prior to the occurrence of the transgression (M = 5.7 SD = 1.56). The most common offences were rated as being a betrayal of trust (29.0%), an insult (17.2%), a fight or argument (16.1%), or an experience of rejection (12.9%). Offences ranged from relatively minor (e.g., "my sister keeps using my belongings without permission and leaves them lying around instead of putting them away") to severe (e.g. "…found out boyfriend cheated and lied about it several times. I found out through a mutual friend"). Victims' self-reported thinking

about the transgression since it occurred when completing the first questionnaire (amount of rumination) was moderately high (M = 4.64, SD = 1.61). (Means and SDs for all time points are reported in Table 11.)

Table 11

Means and Standard Deviations for Study Variables

	Time 1		Time 2		Time 3		Time 4		Time 5	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Concrete thinking	5.1	1.18	4.9	1.05	4.55	1.51	4.08	1.61	3.96	1.67
Abstract thinking	4.66	1.28	4.76	1.25	4.49	1.44	4.34	1.48	4.02	1.66
Amount of rumination	4.64	1.61	3.43	1.49	2.57	1.50	2.58	1.67	2.44	1.68
Forgiveness	4.88	1.26	5.00	1.29	5.22	1.29	5.19	1.35	5.19	1.41

Forgiveness

The first model is an unconditional means model (Singer & Willett, 2003)for forgiveness as the dependent variable. In this model, no predictors or units of time measurement were included. The unconditional means model was used as a baseline model to study individual variation in forgiveness without considering the element of time (Singer & Willett, 2003). Such a model measures the mean of the dependent variable (forgiveness) and the amount of variation in the dependent variable at the inter- and intra-individual levels (Shek & Ma, 2011). Results indicated that the mean estimated initial status of forgiveness was 5.08. The intra-class coefficient had a value of 1.50/(1.50 + .27) = 0.8475 (1.50/1.77), suggesting that about 84.75% of the total variance in forgiveness can be explained by inter-individual differences and the

remaining 15.25% can be explained by intra-individual differences. This confirms that both inter-individual and intra-individual variance components are worth investigating.

The next model tested our first prediction that forgiveness would increase over time. Using an unconditional linear growth curve model, forgiveness was entered as the dependent variable. Time was entered as a fixed and random effect. Results supported Hypothesis A1a, indicating that there was a significant positive relationship between time and forgiveness, $F(1, 93.71) = 21.68$, $B = .11$, $SE = .02$, $p < .001$.

Changes in victim's thinking

It was hypothesized that there would be a change in victim's thinking over time such that there would be: 1) a decrease in concrete thinking and 2) an increase in abstract thinking. An unconditional linear growth curve model was again employed and concrete thinking was entered as the dependent variable. Time was entered as a fixed and random effect. The first part of the hypothesis (A1b) was supported, namely the results demonstrated that concrete thinking declined over time, $F(1,92.10) = 41.83$, $B = -.32$, $p < .001$.

To control for the absolute amount of offence related thinking participants engaged in, a further analysis was conducted. An unconditional growth curve model was used again with concrete thinking as the dependent variable. In this instance, however, amount of rumination was added to the model as a fixed effect and Time was again added to the model as a fixed and random effect. The results demonstrate that even when controlling for the total amount of thinking about the offence, the relative amount of concrete thinking participants engaged in declined over time, $F(1, 123.04) = 12.07$, $B = -.17$, $p = .001$.

To test the predictions about abstract thinking, another unconditional linear growth curve model was built and abstract thinking was entered as the dependent variable. Time was entered as a fixed and random effect. Abstract thinking decreased over time, $F(1,90.19) = 19.30$, $B = -.178$, $p < .001$. To again control for the total amount of offence related thinking participants engaged in, another unconditional growth curve model was developed with the addition of amount of rumination as a fixed effect. Unexpectedly and contrary to Hypothesis A1c, results demonstrated that even when controlling for the total amount of thinking, the relative amount of abstract thinking by participants decreased over time, $F(1, 127.158) = 6.70$, $B = -.12$, $p = .011$.

It was also expected that the total amount of thinking about the offence would reduce over time. Employing an unconditional growth curve model with amount of rumination as the dependent variable, time was again entered as a fixed and random effect. Results demonstrated that the overall amount of thinking did indeed decrease significantly with the passage of time, $F(1,90.45) = 93.25$, $B = -.54$, $p < .001$.

Investigating the relationship between type of thinking, time and forgiveness

As previously stated in the present theoretical argument there are different approaches that could be considered to examine the effects of the type of thinking over time on forgiveness. Specifically, we can explore the between-persons differences in type of thinking and/or we could examine the within-persons differences. First, some people tend to generally engage in greater levels of concrete or abstract thinking than others. One possibility is therefore that such an interindividual difference may affect the trajectory of forgiveness over time; conversely, such a tendency might be more or less conducive to forgiveness at different points in time. Second, people go through a change

in their thinking about a vicitmization they experiences. A second possibility is that this intraindividual change (while controlling for interindividual differences) may account for, or mediate, the effect of time on forgiveness. Third, whereas mediation implies that a change in thinking (less concrete and more abstract) is directly predictive of forgiveness, another possibility is that the implications of this intra-individual change are dependent on time. In other words, only *with time* an increase in concrete thinking and a decrease in abstract thinking will be positively related to forgiveness (akin to a process of maturing). These possibilities will now be tested in turn.

Moderation of between-persons differences on forgiveness over time. When testing for a moderating effect, it is assumed that there is a (presumably causal) relationship between the independent variable and the dependent variable. A moderating variable is one that varies the strength of the relationship (Kenny, 2011). In the context of the current study, the relationship between time and forgiveness has been demonstrated and also confirms previous findings in other research. One theoretical possibility is that the between-persons differences in concrete thinking and abstract thinking may influence the level and, in particular, the trajectory of forgiveness. Inter-individual differences are in the present model represented by the individuals' different entry points for the two modes of thinking; that is, their levels of concrete and abstract thinking at Time 1 immediately following the transgression. These are the individually varying "intercepts", independent from the slopes that define the "growth curve" in concrete and abstract thinking over time.

To test the proposition, another LMM was built. Time and the Time 1 predictors of concrete thinking, abstract thinking, pre-offence relationship closeness and rumination

were entered along with the product terms of time and type of thinking (Time 1 concrete thinking and Time 1 abstract thinking). Forgiveness was entered as the dependent variable (see Table 12 for results). There was no significant effect of concrete thinking at Time 1 on forgiveness, $F(1,90.27) = 1.05$, $B = .14$, $p = .308$; or the amount of rumination at Time 1 on forgiveness, $F(1, 88.39) = .64$, $B = -.07$, $p = .425$. Abstract thinking at Time 1 demonstrated a marginally significant negative effect on forgiveness, $F(1,88.86) = 3.68$, $B = -.22$, $p = .058$. The effect of the pre-offence relationship closeness on forgiveness was significant $F(1, 88.82) = 7.39$, $B = .211$, $p = .008$.The relationship between time and forgiveness also remained significant, $F(1,89.22) = 21.24$, $B = .11$, $p < .001$. Importantly, the interaction terms demonstrated no significant effects, time × concrete thinking at Time 1, $F(1,88.84) = 1.68$, $B = .03$, $p = .199$; time × abstract thinking at Time 1, $F(1, 89.22) = .53$, $B = -.015$, $p = .467$. Therefore the relationship between time and forgiveness as stipulated in Hypothesis B is not significantly affected by between-persons differences in concrete or abstract thinking.

Table 12

The Moderating Effects of Between-Persons Differences on Forgiveness over Time

Predictor	*B*	*SE*	*t*
Dependent variable forgiveness			
Time	.11	.02	4.61***
Concrete thinking Time 1	.14	.14	1.03
Abstract thinking Time 1	-.22	.11	-1.9†
Pre-offence closeness	.21	.08	2.72**
Rumination at Time 1	-.07	.09	-.80
Time × concrete thinking Time 1	.03	.02	1.30
Time × Abstract thinking Time 1	-.01	.02	-.73

Note. *$p < .05$, **$p < .01$, ***$p < .001$, †$p < .07$

Mediating influence of changes in thinking on forgiveness over time. Next, it was tested whether intra-individual changes in types of thinking may mediate the effects of time on forgiveness. The first step in testing for mediation is to confirm that the independent variable (time) is a significant predictor of the dependent variable (forgiveness) (Baron & Kenny, 1986). This precondition was established in the above mentioned unconditional linear growth curve model. It may be recalled that forgiveness significantly increased over time. The next step in testing for mediation is to confirm the significance of the relationship between the independent variable and the proposed mediator (Baron & Kenny, 1986). In this instance the preconditions for this second step were also met in the previous unconditional linear growth curve models which confirm the significance of the relationship between (a) time and concrete thinking and (b) time and abstract thinking. Although it was predicted that concrete thinking (while controlling for the amount of rumination) would decrease over time, it was an unexpected finding that abstract thinking (while controlling for the amount of rumination) also decreased over time.

The third step in testing for mediation is to regress the dependent variable on both the proposed mediator(s) and the independent variable (Baron & Kenny, 1986). Forgiveness was entered as the dependent variable. Next, time was entered with the deviation scores (within-persons change) for concrete thinking, abstract thinking and rumination. After controlling for amount of rumination and pre-offence relationship closeness, and adding the within-persons deviation scores for concrete thinking, abstract thinking and rumination, it was apparent that the only variables which demonstrated significant relationships with forgiveness were pre-offence relationship closeness, $F(1,$

87.85) = 7.56, *B* = .21, *p* = .007, and the within-persons rumination deviation score, *F*(1,272.83) = 17.18, B = -.097, *p* < .001 (see Table 13). Therefore the results did not provide any support for Hypothesis A1c and a possible mediation of effects of time on forgiveness via intra-individual changes in the different types of thinking.

Table 13

The Mediating Effects of Changes in Type of Thinking on Forgiveness over Time

Predictor	B	SE	t
Dependent variable forgiveness			
Time	.048	.03	1.80
Pre-offence closeness	.211	.077	2.75**
Amount of rumination Time1	-.096	.08	-1.25
Rumination deviation	-.097	.02	-4.14***
Concrete thinking deviation	-.042	.03	-1.35
Abstract thinking deviation	.032	.03	1.02

Note. *$p < .05$, **$p < .01$, ***$p < .001$

Moderation of within-person differences on forgiveness over time. The third theoretical possibility was that the intra-individual changes in thinking over time would moderate levels of forgiveness. Forgiveness was entered as the dependent variable. Time (centred) was entered as a fixed and random effect which enabled us to test the relationships between factors controlling for developments related to time. The pre-offence relationship closeness variable and thinking variables centred at Time 1 (abstract thinking, concrete thinking and rumination), deviation scores (abstract thinking, concrete thinking and rumination), and product terms (abstract thinking × time and concrete thinking × time) were entered simultaneously.

Results supported the hypotheses indicating that there was a significant negative interaction between the change in concrete thinking and time, $F(1, 265.74) = 4.71$, $B = -.04$, $p = .031$, and conversely a significant positive interaction between the change in abstract thinking and time, $F(1, 267.47) = 6.42$, $B = .05$, $p = .012$ (see Table 1) . There was a significant positive effect for pre-offence relationship closeness ($p = .008$) and a negative effect for changes in rumination over time ($p = .000$), with an intra-individual decline in rumination being positively related to forgiveness.

Table 14

Intra-Individual Changes in Thinking over Time and the Moderation Effects on Forgiveness

Predictor	*B*	*SE*	*t*
Dependent variable Forgiveness			
Time	.04	.03	1.37
Pre-offence closeness	.21	.08	2.70**
Rumination Time 1	-.11	.09	-1.28
Concrete thinking Time 1	.09	.14	.70
Abstract thinking Time 1	-.18	.11	-1.64
Rumination deviation	-.11	.02	-4.45***
Concrete thinking deviation	-.04	.03	-1.10
Abstract thinking deviation	.02	.03	.65
Time×concrete thinking deviation	-.04	.02	-2.17*
Time×abstract thinking deviation	.05	.02	2.53*

Note. *$p < .05$, **$p < .01$, ***$p < .001$

To evaluate the significant interaction effects the simple slopes for time were tested at -1SD and +1SD of change in thinking. Based on Aiken and West (1991) the moderator variables (concrete and abstract thinking) were transformed up and down by one standard deviation before recalculating the interaction terms and re-running the LMM. First, for concrete thinking as moderator, time was not significantly related to forgiveness when concrete thinking increased by 1SD, $F(1, 181.54) = .335$, $B = -.02$, $p = .563$, but time was significantly positively related to forgiveness (i.e., forgiveness increased over time) when concrete thinking decreased by 1SD, $F(1, 202.59) = 7.71$, $B = .09$, $p = .006$ (see Figure 5).

Second, for abstract thinking as moderator, time was not significantly related to forgiveness when abstract thinking decreased by 1SD, $F(1, 188.06) = .24$, $B = -.02$, $p = .623$, but time was significantly positively related to forgiveness (i.e., forgiveness

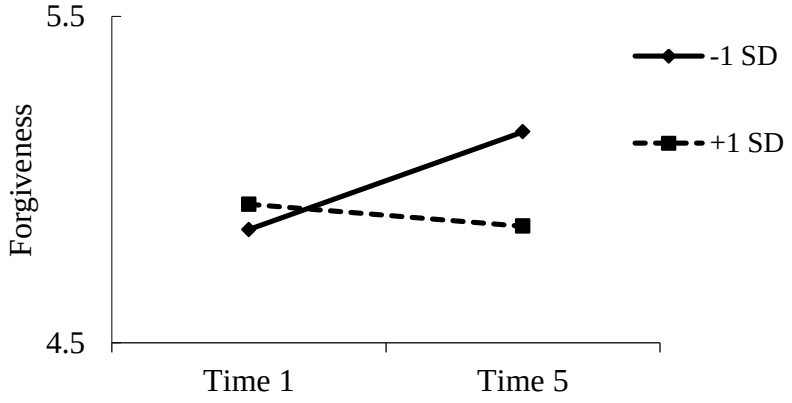

Figure 5. Interaction between changes in concrete thinking and time on forgiveness.

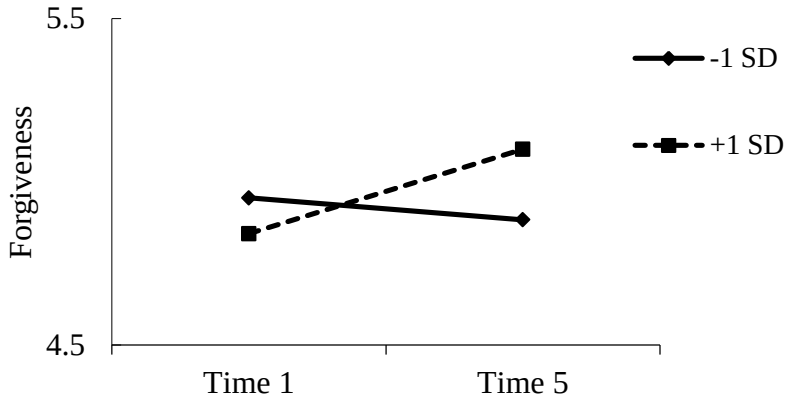

Figure 6. Interaction between changes in abstract thinking and time on forgiveness.

increased over time) when abstract thinking increased by 1SD, $F(1, 205.09) = 5.54$, $B = .09$, $p = .020$ (see Figure 6). The findings are in line with Hypotheses B2a and b.

An alternative way to understand the findings is to consider time as the moderating influence on changes in thinking and their relationship with forgiveness. Of interest are the gradual changes that can be observed at each time point. At Times 1, 2 and 3 changes in concrete thinking demonstrated no significant effects on forgiveness: Time 1 ($B = .04$, $p = .40$); Time 2 ($B = .005$, $p = .904$); Time 3 ($B = -.035$, $p = .274$); but by Time 4 ($B = -.07$, $p = .028$) reductions in concrete thinking were significantly associated with forgiveness and the association further strengthened at Time 5 ($B = -.11$, $p = .010$). Similarly, at Time 1, 2 and 3 there were no significant relationships between change in abstract thinking and forgiveness: Time 1 ($B = - .08$, $p = .143$); Time 2 ($B = -.03$, $p = .456$) ; Time 3 ($B = .02$, $p = .513$); but, again by Time 4 an increase in abstract thinking was positively and significantly associated with forgiveness ($B = .07$, $p = .04$) and the

association further strengthened at Time 5 (B = .125, p = .010). The findings are consistent with Hypotheses B1a and b.

Discussion

The primary purpose of the present study was to distinguish inter-individual variation in concrete and abstract thinking from intra-individual changes in concrete and abstract thinking and their respective effects on the development of forgiveness over time. People's thinking was measured across five time points following a transgression which created a naturally occurring temporal distance from the event at the later time points thus allowing the forgiveness process to unfold. Therefore, we were able to capture the changes to victims' thinking as they moved further away from the event and test the effects on forgiveness. The first theoretical possibility that the relationship between time and forgiveness could be explained by the contribution of the moderating influences of between-persons differences in concrete or abstract thinking immediately following an interpersonal transgression was not supported. Nor was there support for the possibility that the increase of forgiveness over time is mediated by intra-individual changes in the type of thinking employed by victims. However, findings supported the third theoretical possibility that changes in thinking *over time* impact the level of forgiveness. Precisely, a) decreases in concrete thinking are associated with greater forgiveness over time but b) increases in abstract thinking are associated with greater forgiveness over time. Further, when the interactions are considered from the alternative view, with time as the moderator of the effects of changes in thinking on forgiveness the importance of time becomes very clear: a decline in concrete thinking becomes over time increasingly beneficial for forgiveness, and so does an increase in abstract thinking.

Indeed, time "is of the essence" in the effects of the intra-individual changes in thinking on forgiveness.

In support of the hypothesis, forgiveness did demonstrate increases when it was modeled over time. This finding is contrary to the findings of the two previous studies. This is likely due to differences in methodology. It may be that the required survey completion over five time points provided a means for viewing the progress forgiveness makes. It could also be that the regular formal cognitive engagement with the wrongdoing, in thinking about it and writing about it as required by each study time point, acts in some way as a therapeutic intervention and allows forgiveness to develop. The findings relating to the changes in concrete and abstract thinking were only partially consistent with the hypotheses. Concrete thinking was found to decline over time. Crucially, this effect also held when controlling for the total amount of thinking about the offence. However, contrary to the prediction, abstract thinking was also found to decrease over time, even when controlling for the total amount of thinking about the offence. While the finding was counter to the prediction it perhaps makes sense. As predicted, the total amount of thinking about an offence was again found to reduce over time and the total amount of thinking factor is deemed to be inclusive of concrete and abstract thinking and any other offence related cognitive engagement. One would not expect victims to continue thinking about the offence in any form for all time, however, they may mentally revisit it occasionally depending on the nature of the incident. Rather, one would imagine that as victims make progress with their abstract thinking about the incident, less abstracting from the event would be necessary. After a certain amount of cogitating at an abstract level, they may feel that the incident is now in

perspective and has been considered within the context of the and therefore there is no further need to reflect upon it. In effect, the transgression has been "worked through".

Of note, the patterns of the interactions for intra-individual changes in thinking over time and the effects on forgiveness mirror the patterns of interactions in the previous studies. There is therefore mounting evidence for the proposition that lower levels of concrete thinking over time are more helpful to the forgiveness process but higher levels of abstract thinking over time are predictive of higher levels of forgiveness.

A consistent finding in all studies has been that participants who felt closer to the offender prior to the offence occurring showed greater levels of forgiveness. Interestingly, participants who showed greater reductions in their overall amount of thinking about the offence showed greater levels of forgiveness. This may suggest that as victims consider themselves to be making progress with processing the event, they have less reason to continue thinking about it as often and therefore limit their cognitive engagement with the event. An alternative explanation is that increasing sentiments of forgiveness may extinguish the need for continuing reflection on the matter.

These results add to the forgiveness literature by identifying the differential nature of concrete and abstract thinking at an intra-individual level in the aftermath of an interpersonal offence and their effects on the development of forgiving attitudes. Specifically, it is the changes that occur in both types of thinking at an intra-individual level which support the development of forgiveness over time. Consistent with the previous studies is that abstract thinking does not appear to have beneficial effects at either an inter-individual or intra-individual level in the time immediately following the victimization but rather may initially be detrimental to the process of forgiveness. The

implication is that following a transgression abstract thinking requires time: either for its effects to be felt or for it to mature. According to CLT, abstract construals become more available and consistent as individuals move further away from an event. Therefore, a maturation process may be necessary for abstract thinking, such that, some abstract construals may be available early in the process but they may not be accessible in a consistent and helpful way. Abstract thinking may require the passage of time for victims to truly gain a more holistic view of the situation. Reductions in concrete thinking at an intra-individual level seem to be very important to the process of forgiveness also. It may be that the reduction in concrete thinking about the event frees victims so that they are less encumbered by the incidental details and features of the incident.

While advancing the argument central to the present thesis by modelling intra-individual change, the present study still only dealt with correlational data which means that no inferences can be made about causality. In another attempt to investigate any causal influences Study 4 will use an experimental design to manipulate thinking type. Furthermore, an attempt will be made to inspect the possible reasons for the benefits of the development of abstract thinking for forgiveness. Is it possible that thinking abstractly allows victims to reflect on the values that they share with the offender: common values that may have attracted them to each other in the first instance? If so, perhaps it is in the recognition that these values are still very dear to both of them that forgiveness occurs. Alternatively, does thinking abstractly about the incident and considering the bigger picture provide victims with a sense of power? It may be possible that when viewing the proverbial “forest” instead of the individual “trees” victims may

have a sense that they now have the key to alleviate the threat raised by the wrongdoing. Study 4 will also attempt to examine both of these possible mediating processes.

CHAPTER 6

It's a Question of Values: Determining the Effects of Abstract Thinking on Forgiveness by Addressing Victims' Symbolic Concerns

The present research is interested in the way victims cognitively process an interpersonal transgression. In order to gain a clearer picture of the role of abstract thinking, it is important to also take into account the symbolic nature of the harm that has occurred as a result of the offence. It may be important for a victim to cognitively address the harm for a restorative response such as forgiveness to ensue. There seems to be more at stake than the pain and suffering caused by the offence. Specifically, it is possible that transgressions signal two poignant symbolic threats for victims: first, a violation of the values they considered they shared with the offender (Okimoto, Wenzel, & Feather, 2009; Okimoto & Wenzel, 2009; Tyler, Boeckmann, Smith, & Huo, 1997; Vidmar, 2000) and, second, concerns that the offender has illegitimately elevated his or her status above that of the victim whereby the victim is left feeling humiliated and disempowered (Wenzel & Okimoto, 2010).

Abstract Thinking and Value Consensus

The concern about the violation of a shared value system indicates that the offence is in breach of the implied code of behavior underpinning their relationship. There are agreed and often unspoken rules governing behavior between individuals within a relationship or within a group. Such rules embody a deeper level of understanding between the parties about the values which are cherished by them and the shared identity these values define. Conversely, a shared identity between victim and offender enhances the importance of the value consensus. Therefore, the transgression has the potential to

create doubts about the social bond and the authenticity of the identity-defining values (Okimoto & Wenzel, 2009) and to question the validity of the implicit agreement (Vidmar, 2000). Consequently, a transgression may threaten values that define a shared identity, and victims may need to address or resolve this concern as part of the process of developing forgiveness (Wenzel & Okimoto, 2010). It may be possible for abstract thinking to assist victims in alleviating this symbolic threat.

Indeed, following construal level theory a higher-level construal orientation may be beneficial for victims when addressing concerns regarding their shared value system with the offender. According to Eyal et al. (2009) such (identity-defining) values communicate a shared meaning to various actions and circumstances and are, therefore, considered to be high-level abstract constructs which may render the perception of the violation of values as more severe. But in order to redress the situation, thinking at a higher-level will be necessary so as to consider high-level abstract constructs such as values.

The idea that has the greatest bearing on the current research is the finding that a more abstract (versus concrete) construal level is related to a focus on similarity between objects or events (Förster, 2009). For example, inducing an abstract processing style has been shown to promote attention towards identifying similarity between stimuli (Förster, 2009) as well as category inclusiveness (i.e. addition of more uncommon exemplars into a single conceptual category; Friedman, Fishbach, Förster, & Werth, 2003) relative to inducing concrete processing. Luguri and Napier (2013) demonstrated that, when thinking abstractly (vs concretely), making a superordinate group identity salient (national identity) reduced polarization between two political

(subordinate) groups on their attitudes to political policy matters. Ledgerwood, Trope and Chaiken (2010) found that low-level concrete evaluations altered in response to changes in an incidental conversational partner's attitude, in contrast to higher-level abstract evaluations which remained constant since they tended to reflect people's ideological values. Previous research has shown that ideological values are generally shared with significant relationship partners or groups (see Jost et al., 2008, for a review). Therefore, taking all lines of research together, thinking abstractly about the symbolic values concerns resulting from a transgression may provide victims with the reassurance necessary of the consensus in shared values.

With this in mind, the current proposition is that when the victim's thinking has an abstract quality the focus will move away from the specific, immediate concrete details and rather capture the broader landscape of the relationship with the offender (i.e., a superordinate identity), the role of the offender in the victim's life and where the event fits into this "bigger picture". In the first instance, abstract thinking enables a refocussing on values and affords the victim greater certainty and clarity about their shared values system, thus countering the questioning of values implied by the wrongful actions of the offender. Next, a higher level construal generally implies a focus on similarity and inclusion (in particular, perhaps, if such an inclusive identity is already salient; Napier & Luguri, 2013), which promotes the perception of value consensus and thus social validation. It is thought that forgiveness will follow as an adaptive response to an action which once threatened to undermine the symbolic meaning of the value system but has been resolved through abstract thinking. In sum, it is proposed that

abstract thinking will address the symbolic concern raised by the transgression and lead to greater value consensus which will, in turn, lead to increases in forgiveness.

Abstract Thinking and Status/Power

The symbolic threat regarding the status/power of the victim vis-à-vis the offender implies that the offence symbolizes that the offender has taken advantage of the victim and has put himself or herself above the victim and the rule (Wenzel, Okimoto, Feather, & Platow, 2008). The experience of the transgression may diminish the victim's sense of dignity and self-worth (Bies, 1999; Steele, 1988). Furthermore, the victim may feel degraded, disempowered and have a sense of loss of control. Victims may be left replaying thoughts and harbouring negative feelings about their experience of humiliation and perceived inequality. Is it conceivable for abstract thinking to help victims in alleviating these symbolic concerns also?

When plagued by concrete thoughts about the details of the incident, it stands to reason the victim would most likely be confronted with the humiliation of the situation and, in particular, their lack of power and control. It is possible that thinking abstractly, with its broad focus on the "bigger picture" rather than the limitations of the details of the event, may bring about a renewed perception of power despite the degradation of the transgression. Smith, Wigboldus, and Dijksterhuis (2008) demonstrated that priming people with abstract thought induced a greater sense of power than for those primed with concrete thinking or the control group. The authors argue that the sense of powerfulness increased due to the less constraining quality of abstract thinking. Their results also indicated participants in the abstract thought condition had a greater sense of control than those in the concrete thought condition. Thus, abstract thinking with its

intellectual freedom puts victims in "the driver's seat" of the situation. With the lack of restraint in their cognition, they are able to take more features into account and to focus their attention on the meaning of the offence within the "bigger picture". Indeed, they may now be able to see the broader landscape of the whole relationship rather than be blinkered by the narrow view of the incident alone. When thinking abstractly and filled with a renewed sense of power and control, victims may recognize that the wrongdoing has not diminished their status vis-à-vis the offender. Therefore it is argued that when the symbolic concern regarding the status/power of the victim vis-à-vis the offender has been addressed through thinking abstractly, an increase in forgiving feelings will occur.

The Present Study

The first main objective of Study 4 was to find experimental evidence that the type of thinking victims engage in following an interpersonal transgression would affect forgiveness. Secondly, it was thought that the pathway from the type of thinking to forgiveness would be mediated by addressing the symbolic meaning attached (by the victim) to the offence (Wenzel & Okimoto, 2010). More specifically, the prediction of Study 4 was that when thinking abstractly, victims will address their symbolic concerns by reaffirming a value consensus and restoring status/power to the victim, thus bringing about forgiveness.

In Studies 1 and 2, participants were required to write a description of the offence at the beginning of the study prior to being randomly assigned to the experimental conditions. It is possible that recalling the details of the wrongdoing had the unintended consequences of creating a more concrete mindset within participants across all conditions and this may be one reason that the manipulations failed to show any effects.

Additionally, the strong reminder of the incident may have reactivated thoughts and feelings about the offence which may have provided another confound to the thinking manipulations that followed.

In order not to contaminate any thought processes participants were not asked to describe the transgression at the start of the study; instead, participants randomly assigned to the concrete and abstract thinking conditions in Study 4 were instructed to complete an expressive writing task at the beginning of the study whereas those allocated to the control ("no thinking") condition proceeded immediately to the questionnaire in order to minimize any incidental thinking about the offence. Participants in the concrete thinking condition were instructed to write a paragraph focusing on the concrete details of the offence whereas those randomly allocated to the abstract thinking condition, were instructed to write a paragraph focusing on the "bigger picture" of the relationship with the other person and the role of the other in the participant's life.

In the current thesis, it is suggested that a manipulation instructing participants to think about the "bigger picture" may have an impact on their information processing (Wakslak & Trope, 2009). By focusing on the central features of the relationship victims are likely to think more broadly about the incident and view it through the 'wide-angle lens' and thus process it within the context of the "bigger picture". As has been previously argued, it is proposed that when thinking more broadly or abstractly victims will recognize the similarities between themselves and their offender and, furthermore, will have a greater sense of power and control which will serve to address the symbolic concerns raised by the transgression. Once the sense of a shared value system with the

offender has been reaffirmed and the victim's status/power vis-à-vis the offender has been restored it is considered that forgiveness will increase.

Hypotheses

To recapitulate, Study 4 was designed to test the proposition that abstract thinking (but not concrete thinking) would facilitate the reestablishment of the perception of a shared value consensus with the offender and the restoration of status/power of the victim vis-à-vis the offender. Furthermore, it was expected abstract thinking (but not concrete thinking) would promote a forgiving attitude in the victim. It was thought that the positive relationship between abstract thinking and forgiveness would be mediated by value consensus and status/power.

It was therefore hypothesized that:

1. Abstract thinking will lead to greater feelings of value consensus with the offender and status/power vis-à-vis the offender, compared to concrete thinking or no thinking conditions.
2. The victim's perceived value consensus and status/power will be positively related to forgiveness.
3. As a consequence, abstract thinking will enhance the victim's forgiving attitude, compared with concrete thinking or no thinking conditions, mediated by perceived value consensus and status/power.

Method

Design and Participants

Participants were 115 people from the United States of America who were recruited for the study via Qualtrics, an internet-based data collection service. Participants were

randomly allocated to one of three conditions (concrete thinking, abstract thinking, or no thinking) of a between-subjects design investigating the effects of the experimental conditions on the dependent variable of forgiveness.

Procedure

Participants elected to be involved in a study that was investigating responses to an interpersonal offence. Before they began the questionnaire they were asked to provide details of their gender and age and then confirm that they had experienced an interpersonal transgression caused by a close other within the last month. The same definition of a transgression as used in the previous studies was provided for the benefit of the participants' understanding. The details were included at the beginning of the online study. If they indicated they had not experienced a transgression they skipped the questionnaire and were thanked for their time. In the concrete thinking condition, participants were instructed to think about the transgression and then complete a writing task:

> You are asked to focus on the transgression itself. In the space below, please write a paragraph (<u>it must be at least 5 sentences</u>) outlining the details of the incident/ transgression. Please be as specific as possible – include the actions that occurred, the chain of events as they unfolded, the things the other person said or did, the emotions you felt, and the hurt caused to you.

Once the writing task was completed, participants in the concrete thinking condition continued on to the questionnaire.

Alternatively, in the abstract thinking condition participants were instructed to think more broadly and then complete a writing task:

> You are asked to focus on the "bigger picture", that is, your relationship with the other person. In the space below, please write a paragraph (it must be at least 5 sentences) about your relationship with the other person. Please include the broader features such as the role this person plays in your life, the importance of the relationship to you, the connection you share, the kind of person you want to be in the relationship, and what it is that is important to you.

In keeping with the procedure for the concrete thinking condition, after the participants in the abstract thinking condition had completed the writing task they continued on to the questionnaire.

In the no thinking condition participants were not required to think or write about any aspect of the transgression and instead they advanced straight to the questionnaire.

Measures

All scales used 7-point rating scales and most used multiple items. For the multiple item scales item responses were averaged to create a composite score for each rating scale.

Amount of rumination. The amount of rumination is a one-item scale measuring the extent to which victims have been thinking about the transgression. Participants were asked to rate the extent to which they had been thinking about the transgression in the previous 48 hours on a 7-point scale (1 = *not at all*, 7 = *all the time*).

Pre-offence relationship closeness. Based on McCullough et al. (2003), an evaluation of closeness was measured by one item: "How close were you to the other person before the transgression?" (1 = *not at all*, 7 = *very much*).

Concrete and abstract scale. The concrete and abstract scale measures the degree to which participants engage in concrete and abstract thinking, and was the same as in the previous studies. Participants were asked to rate their thoughts about the transgression (1 = strongly disagree, 7 = strongly agree). Some examples of concrete thinking are: "My thoughts have mainly been about …" "the actions that occurred", "the emotions I felt", "the chain of events" (α =.80). Some examples of abstract thinking are: "My thoughts have mainly been about…" "where the events fit in the larger scheme of things", "the other person's role in my life", "what I can learn from this event" (α =.75).

Forgiveness. Forgiveness is the degree to which participants experience feelings about seeking revenge or avoiding the offender or feelings of goodwill towards the offender (McCullough et al., 2006). Participants were asked to rate their forgiveness using a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*). It was measured using 18 items. Some examples are: "I'll make him/her pay", "I am trying to keep as much distance between us as possible", "Although his/her actions hurt me, I have good will for him/her" (α =.94).

Perceived consensus with the offender. The perceived value consensus is the degree to which victims believe that relevant values are shared with the offender. Adopting measures used by Wenzel and Okimoto (2010), participants were asked to rate their perceived value consensus with the offender using a 7-point Likert scale (1 = *strongly disagree,* 7 = *strongly agree*). The perception that the offender and the participants shared relevant values was measured by six items (3 positively, 3 negatively worded). Some examples are: "I feel like the other person and I both hold dear the values that are at stake here", "I feel the other person and I share the same values", "I

feel like the other person rejects values widely shared in our community" (reverse--coded) (α =.86).

Perceived status/power vis-à-vis the offender. The perceived status/power is the degree to which victims believe the offender respects or challenges their control and power. Modelled on the measures used by Wenzel and Okimoto (2010), participants were asked to rate their perceived status/power (1 = *strongly disagree*, 7 = *strongly agree*). It was measured by six items (3 positively, 3 negatively worded). Some examples are: "The other person believes that we are equals", "The other person feels that we share the power and control", The other person feels he/she is better than I am" (reverse-coded) (α = .77).

Results

Four participants failed to comply with the instructions of the study (either by not writing about the details of the offence (2), citing an offence that happened to a relative in World War 2, or providing details of an accident rather than a transgression) and their data was excluded. Therefore, results were determined from the remaining sample of 111 participants. An examination of the means revealed that most participants (76.5%) rated themselves as having a close to very close relationship with the offender prior to the occurrence of the transgression; however, when asked how close they considered the relationship with the offender to be "now" (following the transgression) the mean was below the scale midpoint (M = 3.46, SD = 2.14). Most violations were committed by close relationship partners, a friend (31.5%), boyfriend or girlfriend (11.7%), spouse (9.9%), or a family member (16.2%) and occurred within the two weeks prior to

completing the study (56.7%). The means and standard deviations for the study variables are presented in Table 15.

Table 15

Means and Standard Deviations for Study Variables

	M	*SD*
Forgiveness	4.50	(1.49)
Pre-offence closeness	5.58	(1.65)
Rumination	5.16	(1.70)
Value consensus	3.62	(1.53)
Status/power	3.44	(1.39)
Days since offence	4.53	(1.86)
Concrete thinking	5.58	(1.01)
Abstract thinking	5.17	(1.13)

Abstract thinking, value consensus, and status/power

Manipulation checks were conducted to identify whether the experimental thinking conditions differed significantly from each other in their effects on the measured variables of concrete and abstract thinking. However, there was no difference between the thinking conditions in concrete thinking, $F(2, 108) = .58$, $p = .559$, or abstract thinking, $F(2,108) = .86$, $p = .428$. It was predicted that participants in the abstract thinking condition would have greater feelings of value consensus with the offender and an increased perception of status power vis-à-vis the offender. As a first, omnibus test, a one-factorial ANOVA demonstrated a significant main effect for the experimental thinking condition (which has three levels), $F(1,108) = 4.38$, $p < .05$, indicating that the

first part of the prediction was correct. However, the second part of the prediction was not correct as the manipulation did not have any effects on status/power. (See Table 16 for the cell means and standard deviations.)

Table 16

Cell Means and Standard Deviations

	Abstract thinking condition		Concrete thinking condition		Control condition	
	M	*SD*	*M*	*SD*	*M*	*SD*
Forgiveness	4.46	1.45	4.82	1.40	4.20	1.60
Pre-offence closeness	5.79	1.52	5.63	1.57	5.30	1.85
Rumination	5.59	1.58	5.31	1.59	4.57	1.79
Value consensus	4.03	1.47	3.39	1.45	3.40	1.60
Status/power	3.36	1.25	3.55	1.46	3.42	1.50
Days since offence	4.41	1.99	4.49	1.69	4.70	1.90
Concrete thinking	5.66	0.96	5.42	0.99	5.63	1.09
Abstract thinking	5.32	1.00	4.98	1.20	5.20	1.19

Further results were obtained using regression techniques; experimental variables were represented through two dummy variables (effect-coded: 1, -.05, -.05), with the control condition as reference category. All predictor variables were centred (Aiken & West, 1991). To test the impact of abstract thinking on the perception of a shared value system with the offender, value consensus was entered as the dependent variable. The dummy variables were entered in Step 1 along with the control variables (amount of rumination, pre-offence closeness, and days since transgression). The product terms for

thinking conditions and days since transgression were built and entered in Step 2. See Table 17 for the results of the regression analysis.

Consistent with Hypothesis 1, abstract thinking elicited greater feelings of perceived shared values than the control condition, whereas concrete thinking did not significantly differ from the control condition. Pre-offence closeness demonstrated a significant positive relationship with value consensus and it was revealed that the amount of rumination had a significant negative relationship with value consensus. A curious finding was that the interaction of concrete thinking condition and days since transgression was positively associated with value consensus. This suggests some benefits of concrete thinking on value consensus over time. It is not clear what is underpinning this surprising result. Simple slope analysis with days since transgression as moderator showed that for events dating further back (-1*SD*), concrete thinking tended to have a positive effect on value consensus, $\beta = .25$, $p = .070$, whereas for transgressions that were less long ago (+1*SD*) concrete thinking tended to have a negative effect, $\beta = -.24$, $p = .092$.

Table 17

Hierarchical Regression for Value Consensus

Predictor	*B*	*SE*	β	*t*-value
Dependent variable value consensus				
Step 1				
Concrete thinking (dummy)	.03	.21	.01	0.14
Abstract thinking (dummy)	.45	.21	.21	2.17*
Pre-offence closeness	.43	.08	.47	5.37***

Amount of rumination	-.30	.08	-.33	-3.80***
Days since transgression	-.14	.07	-.16	-1.99†
	R^2= .29, F(5,105) = 8.76, p <.001			
Step 2				
Concrete thinking (dummy)	.01	.21	.01	.05
Abstract thinking (dummy)	.43	.21	.20	2.09*
Pre-offence closeness	.45	.08	.48	5.60***
Amount of rumination	-.30	.08	-.34	-3.86***
Days since transgression	-.12	.07	-.14	-1.74†
Concrete thinking X days	.28	.10	.23	2.44*
Abstract thinking X days	.15	.10	.14	1.46
	R^2_{change} = .04, F_{change}(2,103) = 3.06, p = .051			

Note. †p<.10, *p < .05, **p < .01, ***p < .001

When a similar regression analysis was employed with status/power entered as the dependent variable, there was no significant relationship demonstrated between abstract thinking and status/power (see Table 18). Concrete thinking was likewise not significantly negatively related to status/power. However, consistent with the pattern of results in the previous regression analysis, pre-offence closeness was positively related to status power and the amount of rumination about the offence was negatively related to status/power. Hence, there was partial support for Hypothesis 1, in that abstract thinking led to greater perceived value consensus, but not to a greater sense of status/power. Therefore, given the first requirement for mediation was not established with status/power, no further exploration was undertaken for its mediation role as it was predicted in Hypothesis 3.

Table 18

Hierarchical Regression for Status and Power

Predictor	*B*	*SE*	*β*	*t*-value
Dependent variable status/power				
Step 1				
Concrete thinking (dummy)	.09	.19	.05	.46
Abstract thinking (dummy)	-.05	.19	-.03	-.27
Pre-offence closeness	.47	.07	.56	6.50***
Amount of rumination	-.23	.07	-.28	-3.12**
Days since transgression	-.02	.06	-.03	-.31
R^2= .30, F(5,105) = 8.93, p <.001				
Step 2				
Concrete thinking (dummy)	.08	.19	.04	.41
Abstract thinking (dummy)	-.06	.19	-.03	-.33
Pre-offence closeness	.48	.07	.57	6.52***
Amount of rumination	-.23	.07	-.28	-3.19**
Days since transgression	-.01	.06	-.02	-.20
Concrete thinking X days	.16	.11	.14	1.52
Abstract thinking X days	.12	.10	.12	1.29
R^2_{change} = .02, F_{change}(2,103) = 1.37, p = .259				

Note. *p < .05, **p < .01, ***p < .001

The effect of abstract thinking on forgiveness

It was also predicted that abstract thinking would enhance a victim's forgiveness of the offender, and this would be mediated by value consensus and status/power. A regression analysis (SPSS 20) was again employed to test this prediction. Forgiveness

was entered as the dependent variable. The experimental factors and control variables were entered in Step 1 of the regression and there was a significant effect on forgiveness (see Table 19). Pre-transgression closeness was positively and amount of rumination negatively related to forgiveness. Unexpectedly, time showed a negative relationship to forgiveness. Further, concrete thinking had an unexpected positive effect on forgiveness. The product terms of thinking conditions and days since transgression were built and entered in the second step, and there was no significant effect on forgiveness. Value consensus and status/power were entered in Step 3 and they demonstrated a significant effect on forgiveness. Specifically, partly in line with Hypothesis 2, value consensus, but not status/power, was positively related to forgiveness.

Table 19

Hierarchical Regression for Forgiveness

Predictor	*B*	*SE*	*β*	*t*-value
Step 1				
Concrete thinking (dummy)	.45	.20	.21	2.32*
Abstract thinking (dummy)	.28	.19	.11	1.17
Pre-offence closeness	.43	.08	.48	5.76***
Days since transgression	-.17	.06	-.22	-2.76**
Amount of rumination	-.39	.08	-.44	-5.17***
$R^2 = .358$, $F(5,105) = 11.72$, $p < .001$				
Step 2				
Concrete thinking (dummy)	.45	.20	.21	2.29*
Abstract thinking (dummy)	.21	.20	.10	1.09
Pre-offence closeness	.44	.08	.49	5.82***
Days since transgression	-.16	.06	-.20	-2.53*
Amount of rumination	-.38	.08	-.43	-5.05***
Concrete (dummy) X days	.07	.11	.06	.65
Abstract (dummy) X days	-.04	.10	-.04	-.40
$R^2_{change} = .01$, $F_{change}(2,103) = .52$, $p = .598$				
Step 3				
Concrete thinking (dummy)	.44	.18	.21	2.46*
Abstract thinking (dummy)	.06	.18	.03	.30
Pre-offence closeness	.24	.09	.26	2.79**
Days since transgression	-.12	.06	-.15	-1.96†
Amount of rumination	-.25	.07	-.28	-3.34**
Concrete (dummy) X days	-.05	.10	-.04	-.47
Abstract (dummy) X days	-.11	.09	-.10	-1.16
Value consensus	.38	.09	.39	4.05***
Status/power	.07	.10	.07	.71
$R^2_{change} = .12$, $F_{change}(2,101) = 11.72$, $p < .001$				

Note. *$p < .05$, **$p < .01$, ***$p < .001$, † $p < .07$

Mediation/indirect paths were then investigated using bootstrapping techniques which tolerate the consideration of numerous mediators and calculate specific indirect effects (Preacher & Hayes, 2008). Despite the lack of a total effect on forgiveness, abstract thinking had a significant positive effect on forgiveness through value consensus, consistent with Hypothesis 3, *B* = .48, *SE* = .11 (95% CI = .05-.39). Inconsistent with the hypothesis though, the indirect effect via status/power was not significant, since (as already shown) abstract thinking did not affect status/power perceptions; likewise status/power was not significantly related to forgiveness.

The effects of different types of thinking over time on forgiveness

It may be recalled that the manipulation of thinking types did not register any effects on the measures of concrete or abstract thinking. This is despite there being some effects of the manipulations on forgiveness (concrete thinking directly and abstract thinking indirectly). It is possible that the manipulations and the measures reflect two different aspects of a similar phenomenon (it is possible that the measures point towards a more enduring type of deliberating about the transgression). Therefore, it was thought to be valid to test for the role of the measured thinking variables and their relationship to forgiveness. In light of previous findings it was considered important to include the time since the transgression and test for the moderating effects. It may be recalled that the results presented in Table 19 demonstrated that there was no significant moderation by time of the effects of the manipulated variables on forgiveness.

The measured variables of concrete thinking and abstract thinking and time since the transgression were again tested for their effects on forgiveness. A regression technique was once again employed (See Table 20). The dummy coded experimental

factors and control variables were entered in Step 1. The measured variables of concrete and abstract thinking were entered in Step 2. In Step 3, the variable distinguishing the number of days since the transgression was entered. Next the product terms for the interaction between the measured thinking variables and time since the transgression were built and entered in the fourth step. Both the interaction of concrete thinking with time and abstract thinking with time were significant, once again providing a similar pattern of results to previous studies.

Table 20

Time, Thinking and Forgiveness

Predictor	*B*	*SE*	*β*	*t*-value
Step 1				
Concrete thinking (dummy)	.49	.20	.23	2.41*
Abstract thinking (dummy)	.27	.20	.13	1.36
Pre-offence closeness	.42	.08	.47	5.50***
Amount of rumination	-.40	.08	-.45	-5.20***
$R^2 = .31$, $F(4,106) = 12.01$, $p < .001$				
Step 2				
Concrete thinking (dummy)	.46	.21	.22	2.23*
Abstract thinking (dummy)	.24	.20	.12	1.19
Pre-offence closeness	.34	.08	.37	4.05***
Amount of rumination	-.34	.11	-.38	-3.13**
Concrete thinking	-.43	.18	-.29	-2.37*
Abstract thinking	.33	.16	.25	2.03*
$R^2_{change} = .04$, $F_{change}(2,104) = 3.40$, $p = .037$				

Step 3				
Concrete thinking (dummy)	.41	.20	.19	2.01*
Abstract thinking (dummy)	.18	.20	.09	.93
Pre-offence closeness	.36	.08	.40	4.40***
Amount of rumination	-.30	.11	-.34	-2.87**
Concrete thinking	-.41	.18	-.28	-2.30*
Abstract thinking	.25	.16	.19	1.54
Days since transgression	-.16	.06	-.20	-2.52*
	$R^2_{change} = .04$, $F_{change}(1,103) = 6.34$, $p = .013$			
Step 4				
Concrete thinking (dummy)	.46	.20	.22	2.33*
Abstract thinking (dummy)	.21	.19	.10	1.10
Pre-offence closeness	.34	.08	.38	4.32***
Amount of rumination	-.31	.10	-.36	-3.06**
Concrete thinking	-.17	.19	-.12	-.90
Abstract thinking	.80	.17	.06	.48
Days since transgression	-.16	.06	-.19	-2.52*
Concrete thinking X days	-.24	.09	-.29	-2.73**
Abstract thinking X days	-.19	.08	.26	2.55*
	$R^2_{change} = .05$, $F_{change}(2,101) = 4.25$, $p = .017$			

Note. *$p < .05$, **$p < .01$, ***$p < .001$

To illustrate the meaning of the negative significant interaction between concrete thinking and days since transgression, the regression analysis was repeated with the concrete thinking variable being transformed by one standard deviation up and down,

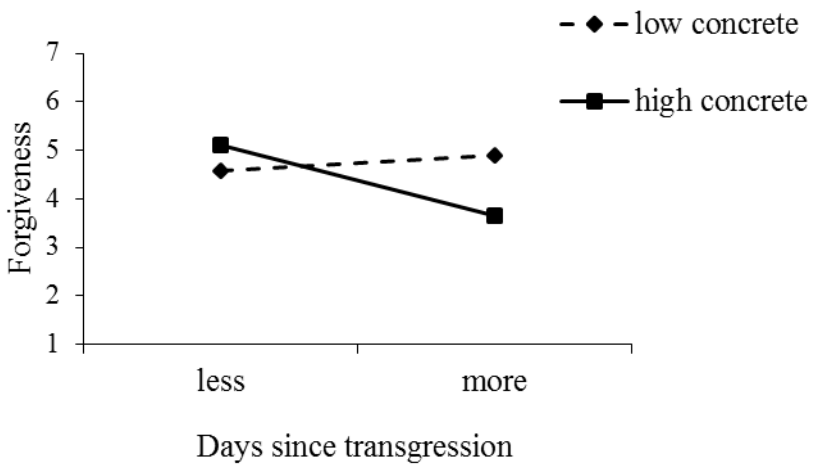

Figure 7. The interaction between days since a transgression and concrete thinking on forgiveness.

respectively (Aiken & West, 1991). At a low level of concrete thinking (-1*SD*) there was no significant relationship between days since transgression and forgiveness and the direction was positive (*B* =.08, *SE* =.11, *t* = .76, *p* = .448); whereas at a high level of concrete thinking (+1*SD*) days since transgression was significantly negatively related to forgiveness (*B* = -.40, *SE* = .11, *t* = -3.77, *p* < .001) (See Figure 7).

Alternatively, this interaction could be considered with time as the moderator: when there were less days since the transgression (-1*SD*) concrete thinking was not significantly related to forgiveness, although it tended to be in positive direction (*B* = .27, *SE* = .30, *t* = .91, *p* = .367) but when there were more days since the transgression (+1*SD*), concrete thinking was significantly negatively related to forgiveness (*B* = -.61, *SE* = .19, *t* = -3.22, *p* = .002).

The interaction between abstract thinking and days since the transgression was also significant. To probe the meaning of the interaction, again, the regression analysis was repeated with the abstract thinking variable being transformed by one standard deviation

up and down, respectively (Aiken and West, 1991). It was revealed that at a low level of abstract thinking (-1*SD*) days since transgression was significantly negatively related to forgiveness (*B* = -.37, *SE* = .11, *t* = -3.51, *p* = .001) but at a high level of abstract thinking (+1*SD*) there was no significant relationship between abstract thinking and forgiveness and the direction was positive (*B* = .06, *SE* = .10, *t* = .59, *p* = .559) (See Figure 8).

Again, this interaction could also be interpreted with days since the transgression as the moderator: when there were less days since the transgression (-1*SD*) there was a negative but not significant relationship between abstract thinking and forgiveness (*B*= -.28, *SE* = .25, *t* = -1.11, *p* = .271). When there were more days since the transgression (+1*SD*) there was a positive relationship between abstract thinking and forgiveness (*B* = .44, *SE* = .18, *t* = 2.46, *p* = .016).

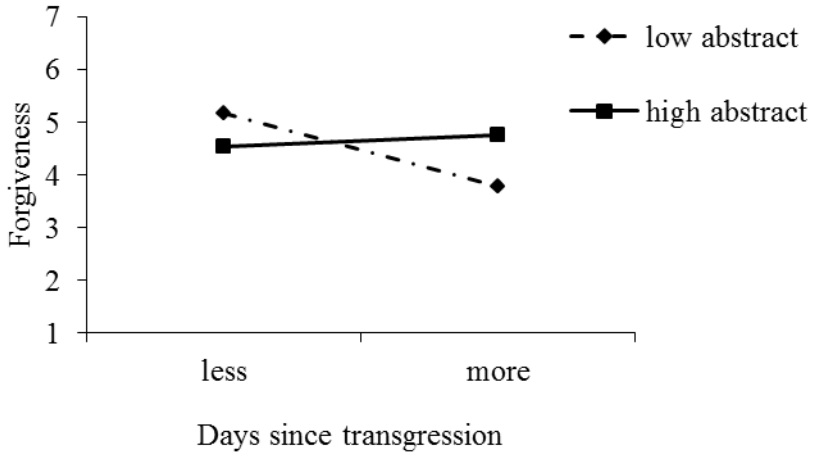

Figure 8. The interaction between days since the transgression and abstract thinking on forgiveness**.**

Discussion

The first main intention for Study 4 was to find experimental evidence to support the proposition that the type of thinking victims engage in affects forgiveness. It may be recalled that the manipulations in Studies 1 and 2 failed to demonstrate any effects and the possible reasons for this were outlined. Study 4 sought to ensure that victims' thinking was not contaminated by recalling and writing the details of the transgression prior to the experimental manipulations. Given that the manipulation checks did not show any demonstrable effects, there is no clear indication that the manipulations achieved what they were intended to achieve, i.e., stimulate a particular thinking style. The anticipated effects of thinking style on forgiveness were not achieved. Instead, the significant effect of concrete thinking on forgiveness was in the opposite direction to that expected. In partial support for the predictions, an indirect pathway was revealed from abstract thinking to forgiveness via value consensus but there was no effect of the manipulations on status/power. Each of these findings will be discussed separately.

The results indicated there was no effect of abstract thinking on forgiveness. The reasons for the lack of effect can be speculation only. It may be that with the focus in the abstract thinking condition on the relationship and the importance of the person in the victims' lives, the manipulation had the unintended effect of causing some people to judge the transgression more harshly precisely because of the importance of the relationship and the role of the other person. It is possible that some victims had thoughts along the lines, "My relationship with the other person is so important to me, how could he/she possibly have done this to me?" Alternatively, it is also conceivable

that there may have been a number of people who recalled an offence they deemed as unforgivable.

An interesting finding but contrary to predictions was that the concrete thinking condition was positively related to forgiveness. The manipulation instructions required participants to write about the details of the event, the emotions felt and the things the other person said or did. Such sentiments would not be expected to be associated with increases in forgiveness. However, it is possible the manipulation had an unintended therapeutic effect for participants in this condition which unexpectedly promoted increases in forgiveness. It has already been suggested that concrete thinking, by calling to mind the details of the transgression, may provide some kind of perceptual validation for victims (Eaton et al., 2006). Victims may lack certainty about their interpretation of the offence or, indeed, it may raise questions about their role in the event, "Did I do something to deserve that?" Other research has identified that writing about distressing events is connected to numerous behavioural, emotional and physiological benefits (Pennebaker, 1997). Therefore, it may be that by writing the details of the offence, victims clarify their understanding of the chain of events. Once this reassurance has occurred they may have a sense of closure and arrive at a forgiving attitude.

It was anticipated that abstract thinking (condition) would lead to greater forgiveness and this would be mediated by a reaffirmation of shared values between the victim and offender. Rather than a direct effect being revealed, an indirect pathway was demonstrated whereby abstract thinking was related to value consensus which, in turn, was positively related to forgiveness. By manipulating abstract thinking so that participants focused on their relationship with the offender, higher order themes

pertaining to their joint identity were made salient (Luguri & Napier, 2013) and by reflecting on higher order concepts it was expected they would adopt a higher level of construal more generally. A higher construal level implies a focus on similarity and inclusion and thus, if an inclusive identity was already salient (Napier & Luguri, 2013) it seems their perceptions of a shared value system was reestablished. It was through the commitment to the perception of a value consensus with the offender that increases in forgiveness were achieved.

A similar mediation path was expected between a victim's abstract thinking and forgiveness via status/power vis-à-vis the offender. However, no support was found for these relationships. It is possible that a transgression involving a 'close other' calls the shared value system into question more than perceptions of status/power between the victim and offender. Wenzel and Okimoto (2012) found that a close relationship with the offender predicted greater value consensus than when the offender was a distant other but no such effects were found for status/power perceptions. Instead, they found that a victim's perceived status/power vis-à-vis the offender was associated with a sense of justice when the offender was a distant other but not when there was a close relationship. Thus, it may be that the psychological concerns raised by a transgression are different depending on the context of the relationship between victim and offender.

While the intention of Study 4 was to find experimental support for the central argument of the present thesis it was useful to see if there was any evidence to corroborate the previous findings regarding time, type of thinking and forgiveness. Supporting findings of the three previous studies, the correlational results of Study 4 reflected the idea that time may be an important ingredient in helping to "heal" the

wounds of a transgression. Importantly though, time alone did not demonstrate effects on a forgiving response. Instead, there is a clear pattern throughout all present studies that forgiveness is dependent upon the type of thinking a victim employs in conjunction with time. Specifically, with greater temporal distance and more abstract thinking, victims appeared to show increased forgiveness of their offender. In addition, with more time from the transgression and less concrete thinking about the details of the incident, there appeared to be greater forgiveness.

CHAPTER 7

General Discussion

The present thesis tested the idea that it is the type of thinking victims engage in, following an interpersonal transgression, over time that predicts the development of forgiveness. This proposition challenges the one-sided understanding in the literature of the role that rumination plays in forgiveness. It may be recalled that rumination has been found to be negatively associated with forgiveness but it also declines over time. The declines in rumination have been associated with increases in forgiveness. The implied logic of these findings is that by not thinking about a transgression it can be processed and victims can become more forgiving. The present research sought to refute this suggestion and to examine the potentially complex role that thinking plays in the development of forgiveness. By investigating and acknowledging the claim that working through a transgression at a cognitive level has an adaptive function, this thesis attempted to disentangle the different components of post-offence rumination. The conceptualization developed in this paper integrated the principles of Construal Level Theory (CLT). It is well understood that forgiveness takes time and CLT provides a clear framework for explaining the changes in construals (concrete and abstract) of an event that occur when coupled with psychological distance. The CLT literature has demonstrated the connection between construal level and psychological distance in particular with temporal distance (for a review, see Liberman et al., 2007). This final chapter will discuss the key findings of the research presented in the thesis, together with the limitations and possible future directions.

The proposition of this thesis was that following an interpersonal transgression there may be two distinct types of thinking which influence the development of forgiveness. I proposed that victims' thinking would initially have a narrow focus: attending to the concrete features of the offence including the chain of events, the emotions experienced and the things the other person said or did (concrete thinking). With the passage of time and when victims gain distance from the event, there would be reductions in their concrete thinking and increases in their forgiving sentiments. In addition, with the passing of time, victims' thinking would take on a more abstract quality and be concerned with higher level considerations surrounding the event (abstract thinking). I proposed that the development of abstract thinking over time, with its focus on the meaning of the event within the broader context of the relationship and the role of the offender in the victim's life would likely facilitate forgiveness.

The following two possible theoretical propositions were derived from this argument and were investigated thoroughly within the present research:

1.) Time leads to greater forgiveness and is mediated by the changes in the type of thinking (concrete versus abstract) victims employ;

and

2.) Time leads to greater forgiveness depending on the type of thinking (concrete versus abstract) victims employ.

Importantly, the present research did find support for two distinct types of thinking that occur following a transgression: concrete thinking and abstract thinking. Studies 1 and 2 tested the first proposition, yet without yielding support for mediating processes; but there was evidence to support the second proposition and moderation.

The results from both studies demonstrated that forgiveness may be facilitated by lower levels of concrete thinking at later time points and higher levels of abstract thinking at later time points. A prospective short-term longitudinal methodology in Study 3 advanced the two theoretical possibilities by enabling the separation of inter-individual and intra-individual variance components. Therefore, the third study was able to test whether intra-individual changes in thinking were mediating the presumed time forgiveness relationship. Additionally, the moderation prediction was able to be tested for both inter-individual and intra-individual variance independently. The findings showed that inter-individual variation in thinking types did not moderate time effects (or were not moderated in their effects by time). Rather what seems to be important to the development of forgiveness is the intra-individual change; the transformation within the individual. The findings indicated that greater reductions in concrete thinking over time and greater increases in abstract thinking led with time to increased levels of forgiveness. Study 4 sought to find experimental evidence that the type of thinking victims engage in following an offence would affect forgiveness. The results of Study 4 revealed an indirect path from abstract thinking to forgiveness via the reaffirmation of a value consensus. Furthermore, there was the unexpected finding of the positive relationship between concrete thinking and forgiveness. While not a primary focus of the study, it is noteworthy that Study 4 also replicated at a correlational level the findings of the previous studies supporting the moderation of time effects by thinking type on forgiveness.

The impressively consistent interaction patterns involving type of thinking and time revealed in the four studies are the main outcome of this research. They indicate the

important connection between the passage of time since an offence and the level at which the transgression is construed in the forgiveness process. However, this is not the whole story. The transformation of victims to that of greater forgiveness towards the offender is undeniably complicated. The construal level at which the transgression is being considered and the temporal distance need to be carefully matched in order for victims to derive benefits. Precisely, the levels of concrete and abstract thinking and when they occur is crucial to the development of forgiveness. At a later time lower levels of concrete thinking but higher levels of abstract thinking predict greater forgiveness. A mismatch between time and construal level could instead be damaging for victims or is at least far less likely to assist in the transformation process. For instance, high levels of concrete thinking at a later time and low levels of abstract thinking at a later time were unhelpful for forgiveness.

Concrete Thinking

I proposed that concrete thinking with its focus on the details of the offence, the feelings and the things the other person said and did would be harmful to the development of forgiveness over time. The findings supported this contention. It was found that when concrete thinking persists over time it proves detrimental to forgiveness. The constant rehearsing of the negative event with the passage of time may exacerbate the threat created by the offence because of the associated sense of uncertainty. The continuation of such repetitive thinking may prolong feelings of self-doubt or diminished self-worth (Eaton et al., 2006) which are likely to create a roadblock to increases in forgiveness.

The Positive Effects of Concrete Thinking on Forgiveness

The Study 4 manipulation for the concrete thinking condition provided an unexpected finding of a positive effect on forgiveness. This may be explained by the nature of the activity itself. Perhaps the experience of writing the details of the transgression and by focusing on the chain of events, one's feelings and the things the offender said or did, may have provided some internal validation for victims (Eaton et al., 2006). Validation has been described as "finding the truth in what we feel and think" (Leahy, 2005). Therefore, it is reasonable to consider that victims might rehearse the chain of events and the details of the transgression as a means for confirming their interpretation of the event as an unwarranted wrongdoing and, thus, justify their feelings of hurt and moral outrage. Once the 'truth' has been found, it may be that victims do not need further cognitive rehearsal of the incident. Certainty about the event has been achieved and therefore the threat has been alleviated at an intra-personal level. When victims feel confident about their interpretation they may be more willing to come to the internal decision to stop blaming and rather forgive the offender (Enright & Zell, 1989).

Research investigating emotional processing of a negative experience found that experiential self-focus writing enhanced better recovery compared with conceptual-evaluative self-focus (Watkins, 2004). The suggestion was that experiential self-focus writing improved self-regulation and increased emotional processing of the event. According to Leary, Adams, and Tate (2006) construing events at a more concrete level aids self-regulation by a) keeping the focus on the demands of the immediate situation; b) lowering anxiety levels and; c) minimizing use of effort and of self-regulatory resources. By focusing on the task, having reduced anxiety and expending little

cognitive effort they may be better able to make a judgment about their interpretation of the event and resolve any doubts.

In other research investigating the effectiveness of narratives following distressing events, findings indicated that people who can write organized and coherent accounts of their experiences benefit because their cognitions and emotions can be more fully assimilated (Capps & Bonanno, 2000; Pennebaker & Seagal, 1999; Stein, Folkman, Trabasso, & Richards, 1997). Taking all of this together the suggestion is that there may be alternative ways to facilitate forgiveness that appear counter to current theoretical understandings about the role of rumination. Future research into the functional role that concrete thinking may have as an internal self-validation process following a transgression would be very useful.

Abstract Thinking

Abstract thinking was proposed to be a productive form of post-offence thinking that develops over time. When victims think abstractly about the transgression I posited that they would have a broader view of the situation and would take into consideration the "bigger picture" of the event: their relationship with the close other who offended them and the role of the other person in their life. It was predicted that abstract thinking would increase over time. However, when modeled over time this was found not to be the case and it, in fact, decreased over time. It may be that once victims consider they have been productive with their thinking they no longer need to engage with the topic as much. Victims' total amount of offence-related thinking decreases over time and it makes sense that their relative amounts of abstract thinking would decrease too as is the case for concrete thinking.

The Importance of the 'Fit' of Abstract Thinking and Time for Forgiveness

Abstract thinking was found to assist in the forgiveness process at later time points but not earlier time points. If abstract thinking is helpful in the development process why is it only at later time points? This research has focused on transgressions occurring within close relationships and therefore victims may be conflicted with their thinking in the immediate aftermath of a wrongdoing. First, they may experience the negative thinking and affect that follows an interpersonal offence but at the same time have a sense of the importance of the offender and the relationship they share. It may be that the negative thinking and affect are so intense in the early stages after the offence that it may be difficult for victims to exert self-control to downplay their negative reactions (e.g. Baumeister & Heatherton, 1996; Kavanagh, Andrade, & May, 2005; Kross & Mischel, 2010; Metcalfe & Mischel, 1999). Self-control requires following one's central, higher-order considerations when faced with immediate alternatives (Liberman & Trope, 2008). So victims may not be able to effectively think abstractly with the immediate concerns of the transgression occurring simultaneously.

Furthermore, victims may have a sense of the importance of the relationship and feel that they want to let go of the negative thoughts and feelings but perhaps it is too soon for their abstract thinking to be effective. According to CLT, psychological distance from an event is required for higher-level construals to become accessible, enabling people to think more broadly and abstractly about the event. At an earlier time and with the reaction to the event still intense, victims may try to access higher order construals about the event but without temporal distance from the event they may not have all of the necessary cognitive tools at their disposal. Temporal construal theory

suggests the importance of an event or object will become more positive (or less negative) with the passage of time when the importance of the high-level construal is more positive (or less negative) than the lower-level construal of the event or object (Liberman & Trope, 2008). Thus, it takes time for the more important things to be put in perspective following a transgression and for abstract thinking to develop. Therefore, victims' attempts at thinking abstractly and moving forward at an early time point do not yet bear fruit. As previously discussed the level of construal and temporal distance have to fit for victims to experience the benefits.

Abstract Thinking Reaffirms a Sense of Shared Values with the Offender

The higher-level construals associated with abstract thinking were experimentally manipulated in Study 4. Participants were instructed to focus on the "bigger picture" such as the importance of the relationship with the offender, the role of the other person in their lives and what is important to them. In this way, higher order themes relating to their shared identity were made salient (Luguri & Napier, 2013). The rationale for this procedure was that by calling to mind higher level concepts it was thought they would adopt a higher-level of construal overall. A higher level of construal involves an emphasis on similarity which may have brought about a renewed understanding of the shared values they once enjoyed. Indeed, it was through the reestablishment of a value consensus with the offender that increases in forgiveness occurred.

This finding may have potential for an intervention technique for victims who may be finding it difficult to let go of the negative thoughts surrounding an offence involving a close other. By inducing the joint identity of the relationship involving the offender and victim, victims may be able to see past the details of the incident and rather place it

within the broader context. In so doing they may gain a renewed sense of the jointly held values and move to a place of forgiveness.

Time

The role of time is of critical importance to the development of forgiveness. However, it appears that forgiveness is not merely a function of time. Forgiveness has often been thought about as taking time. Well-meaning advisors will often say "You just need time" when providing counsel about resolving a recent wrongdoing. But what is that time for? I would suggest that it is time in conjunction with thinking that is necessary to integrate a harmful incident into one's life and move on. Importantly, it is the time at which particular thinking is employed that is critical. High levels of abstract thinking and low levels of concrete thinking will be helpful to the forgiveness process but only at later time points.

Importantly, as the prospective-longitudinal Study 3 suggests, it is the intra-individual *change* in thinking that matters to forgiveness. Change needs time. It is not that a high level of abstract thinking (relative to other individuals) per se promotes forgiveness, but rather it is the individual's increase in abstract thinking, and decrease in concrete thinking (relative to their own thinking before), that promotes forgiveness. The individual's thinking has to undergo change, or a *transformation* – quite in line with the common definition of forgiveness as a transformation of motives (McCullough et al., 1997). True forgiveness, one may argue, cannot be instant, because the appropriate thinking cannot be instant.

Intensity of Emotion

It is important to note that the present thesis investigates cognitive processing only and does not address any other types of processing that may be important in the development of forgiveness. Importantly, victims experience various emotions in the aftermath of an interpersonal transgression and these emotions need to be worked through in order to forgive the offender.

CLT provides an explanation as to the way in which psychological distance diminishes affective concern, signaled by the intensity of the emotions experienced (Williams, Stein, & Galguera, 2014). According to CLT people experience more intense emotions to events that are closer to them in time and space, events they have experienced rather than another person has experienced and to real rather than imagined events (Trope & Liberman, 2010). Conversely, distance reduces the emotional intensity of events (Williams & Bargh, 2008). Williams and colleagues (2014) found across numerous domains that distance (compared with closeness) diminished the discontent associated with adverse experiences. Following the line of argument proposed in this thesis, the intensity of the hurtful emotions experienced following an interpersonal transgression would be expected to decrease with greater temporal distance from the event.

Moreover, the decline in negative affect may allow abstract thinking to emerge. Labroo and Patrick (2009) found that positive affect enhanced abstract thinking whereas negative affect promoted a focus on immediate concerns and goals (concrete thinking). The suggestion, according to CLT, is that thinking and affect occurring after an event are linked. Taking these lines of research together, it seems reasonable that in the

immediate aftermath of a transgression, victims' negative emotions will be quite intense and their focus will be on the concrete details of the offence. However, as time passes and they have greater psychological distance from the event, the intensity of the negative emotions will reduce. With greater temporal distance their thinking will take on an abstract quality and they will consider the event within a broader and more holistic framework, calling to mind aspects such as the importance of the relationship and the role of the other person in their life. Thinking abstractly will likely activate positive evaluations of the relationship. With more abstract thinking victims are more likely to consider more positive reasons to forgive the offender.

In regards to the present findings, it is also possible that the reduction in negative affect accounts for the moderation by time of thinking type effects. Specifically, abstract thinking may have benefits for forgiveness only with time because the temporal distance allows negative affect to decline. The predominance of negative affect in the initial stages following a transgression may be the reason why abstract thinking is not effective at that stage, because it prevents victims from accessing positive thoughts and contextualizing the transgression within a positive relationship. This also might have practical implications for interventions, in that it could be useful to first "work on" the affective state of the victim (actively so, not just by letting time do its work), in order to make interventions geared to abstract thinking more effective.

It may not be possible to fully understand the development of forgiveness without considering the affective consequences of a transgression along with the cognitive consequences. These two factors may be intimately linked and further research is required to disentangle the differential effects that may occur following a transgression.

Limitations

The research in the present thesis concentrated on transgressions that occur within the context of close relationships. However, transgressions can occur between coworkers within a workplace and numerous other settings. While the concrete thinking scale may be applicable across the variety of settings in which people transgress against one another, the abstract thinking scale as it currently presents may require adaptation for a different setting. For example, it may be relevant within the workplace environment for the abstract thinking scale statements to highlight the shared identity of coworkers in the organization as a team who work together in order to benefit the organization**.** First, by encouraging victims to think of their relationship with the offender in terms of superordinate identities such as the team and the organization, they are being primed to use higher order, abstract construals. Then when rating how much they have been thinking abstractly about the transgression, they may be more inclined to think about the transgression within the bigger picture of the team and the organization and perhaps the values of the organization. It may be through this type of thinking that victims are able to let go of the workplace offence and become more forgiving of the offender.

Although there was a consistent pattern in the results of the four studies, the research relied largely on the results from regression analyses and correlational data from which to draw its conclusions. The limited amount of experimental data means that there is little evidence for causal processes. Certainly, future experimental research could investigate more effective means of manipulating thinking after a transgression

given that the manipulations failed to demonstrate any effects on forgiveness. This may enable a causal sequence to be established between type of thinking and forgiveness.

One important limitation of correlational data is the third-variable problem, that is, the possibility that any relationships found are spurious and merely due the influence of a third variable that has not been measured or controlled for. On the other hand, however, it is likewise important to be critical as to what variables to control for, so as to not wrongly absorb relevant variance and take it away from what might be a genuine effect. For example, the present research designs did not control for transgression severity or offender responsibility. These two factors may have affected thinking and forgiveness. Certainly, when a transgression is considered to be severe victims may think about the event more. This is most likely the case if the relationship between victim and offender is considered to be close. As previously discussed, concerns regarding their shared value system come into question with a transgression and, so, if the transgression was severe their concerns would likely be greater and might require greater levels of abstract thinking. However, there is evidence that forgiveness can conversely lead to a lowering of the perceived severity of a transgression (Wenzel, Turner, & Okimoto, 2010). Controlling for severity in the present research would have run the risk of taking relevant variance away from the phenomenon that is to be explained: forgiveness.

The relationship between time and forgiveness appeared to be sensitive to the methodology employed within the studies. The prospective design in Chapter 5 demonstrated a positive relationship between forgiveness and time whereas the other studies which relied on the recall of a transgression either demonstrated no relationship

(Studies 1 and 2) or a negative relationship (Study 4). The negative association found in the final study may be due to participants recalling something that is only memorable because it is not forgiven and is possibly more severe. This is an important consideration for researchers when planning study designs in the area of forgiveness.

Another limitation was that post-transgression interactions between victims and their offenders were not controlled for. Later acts of remorse or expressions of apology might have confounded the forgiveness process and altered victims' thinking about the offence and the offender. In a related matter, notwithstanding any act of apology, there was no mechanism in the current research by which to determine how much forgiveness had already occurred prior to the studies being undertaken.

None of the study designs used a transgression paradigm (experienced or imagined) within the context of the study. All transgressions were individually experienced by participants and were therefore heterogeneous. The research was unable to control for the ways in which the events differed across people. Future work could use vignettes or actual transgressions experienced in the study session so as to be more homogeneous and to reduce possible interference by post-transgression interactions.

An important consideration is that the current research focused on forgiveness as the outcome of temporal distance and type of thinking following a transgression within a close relationship. Importantly, there may be occasions in close relationships when the content of abstract thinking may work in the opposite direction to the conceptualization presented within this thesis and the result may be one of unforgiving sentiments. There are two possibilities for the way abstract thinking might operate. First, thinking about the superordinate identity that the two people share, for example, couple, family, or

close friends, may trigger expectations about the trust implied by such a relationship. When the strong expectations and the trust have been violated through the wrongful act, the transgression may perhaps be judged more harshly. Secondly, the relationship may not be as close as its joint identity might imply. There may be a history of hostilities between the pair. With the passage of time and greater abstract thinking victims' thinking may categorize the recent transgression with other offences that have occurred along the way. They may begin to see a pattern of bad behavior that has affected them and decide that the recent wrongdoing cannot be forgiven because it is yet another example of disrespect. Therefore, the role of the other and the importance of the relationship in the victim's life may be perceived quite negatively.

Conclusion

The research presented in this thesis contributes to the body of knowledge on the development of forgiveness over time. Forgiveness provides numerous physiological, psychological and emotional benefits for victims regardless of any continuing relationship with the offender. Importantly, this research has provided evidence that forgiveness is not simply a consequence of decreases in rumination. Rather, the implication of this research is that thinking about the offence in order to: first, provide some form of internal self-validation of the offence and, next, to productively work it through is crucial for forgiveness and this process requires time. Within the literature, the advantages of thinking about a transgression in order to work it through have not been fully addressed. This research may have valuable applications for the design of forgiveness interventions and counseling techniques for those struggling to let go of hostility and hurt following an interpersonal transgression.

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