The Value of Truth for Justice Restoration and Victims' Healing

By

Blake Quinney
Bbsc, BPsySc. (Hons).

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Summary

Bringing the full truth about crime or wrongdoing to light is heralded as a means for repairing the harm done to victims and facilitating the healing process (De la Rey & Owens, 1998). Yet, the truth being a remedy to victims of wrongdoing is also regarded with scepticism by others (Mendeloff, 2004; Weinstein, 2011). However, 'the truth' considered so far in the literature is the truth that is provided to victims in truth commissions or in legal settings (Gibson, 2004; Hayner, 2000). The consequence of conceptualising truth in this way is that the effects of knowing the truth *per se* are confounded with content effects of the truth (e.g., how the crime was committed) or effects of how the truth is delivered (e.g., whether the offender appeared forthcoming with the truth). Therefore, it is unclear whether simply knowing the truth in itself has value for victims.

Accordingly, the focus of this thesis is whether knowing the truth *per se* has value for victims. Specifically, whether the truth has value for victims by providing a feeling of knowing the complete truth about the wrongdoing - termed *truth knowing* (Quinney et al., 2022). The unique approach of this thesis is to isolate the feeling of truth knowing from truth content effects (e.g., the victim learning the crime was not a personal vendetta against them). To achieve this aim, the method used makes salient either the completeness or incompleteness of victims' knowledge about a crime or wrongdoing without changing any details or providing any additional information.

The findings in this thesis support the proposition that knowing the truth has value in itself for victims. First, the perceived completeness of knowledge (vs. incomplete) elicits greater truth knowing, greater psychological closure, reduced anger, and truth knowing is associated with increased forgiveness. However, there is a lack of consistent effects of truth knowing on decreasing victims' rumination about the wrongdoing. Finally, the perceived completeness of knowledge (vs. incomplete) also increases victims' readiness for an apology,

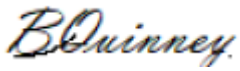
increases the perceived completeness of an apology, and increases the acceptance of an apology issued by an offender in victim-offender mediation. Thus, the truth has value that is independent from the value derived from specific truth content, by providing a feeling of truth knowing, that is valuable for justice restoration and victims' healing.

Declaration

I certify that this thesis:

1. does not incorporate without acknowledgment any material previously submitted for a degree or diploma in any university
2. and the research within will not be submitted for any other future degree or diploma without the permission of Flinders University; and
3. to the best of my knowledge and belief, does not contain any material previously published or written by another person except where due reference is made in the text.

I confirm that I received an Australian Government Research Training Program Scholarship to support the completion of this thesis (2018-2021).



Blake Quinney, January 14th, 2022.

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Blake Quinney.

Statement of Co-Authorship

Chapter 2

Quinney, B., Wenzel, M., & Woodyatt, L. (2022). Truth is its own reward: Completeness of information, the feeling of truth knowing, and victims' closure. *British Journal of Social Psychology, 61*, 389–409. https://doi.org/10.1111/bjso.12486

Chapter 4

Quinney, B., Wenzel, M., & Woodyatt, L. (in prep.). Truth and Victim-Offender Mediation.

Statement of Pre-Registration and Data Availability

All studies reported in this thesis are pre-registered. All pre-registrations include a study design, statement of hypotheses, power analyses, inclusion/exclusion criteria, and pre-planned primary analyses. The pre-registrations, and data that support the findings of this thesis are publicly accessible through the Open Science Framework repository.

Chapter 2

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Chapter 3

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Chapter 4

https://osf.io/jzarf/?view_only=47102f4446734b4faf99466a864df1f2

Chapter 1: Truth Knowing

And ye shall know the truth, and the truth shall make you free – John 8:32.

Truth, an abstract, universal notion, has long been appreciated for its inherent value. Indeed, the goodness of seeking and knowing the truth is built into the mottos of universities, legal systems, religions, and nations. Such is the high regard for truth that some have attempted to harness the power of truth to address past injustices, reconcile warring communities, provide closure, and heal the wronged (De la Rey & Owens, 1998; Gready, 2010). Conversely, others fear the power of truth. Some oppose uncovering the truth because they believe it will only revictimize the wronged by reopening old wounds or even making fresh grievances (e.g., reports in South Africa, see Gibson, 2006). Current academic literature also reflects divergent views on the value of truth for victims. Some have taken a sceptical view about the truth as there are concerns about a theoretical or explanatory gap between how truth could provide victims with closure, and doubts about the proposed role of truth in justice restoration (e.g., Mendeloff, 2004; Weinstein, 2011). Others are sceptical of the truth because it may not deliver on expected outcomes (e.g., offenders were not held legally accountable after disclosing the truth about their crimes; Daly, 2008; Mendeloff, 2009).

However, previous research and theorising has generally considered 'the truth' in the form of truth-telling in courtrooms or truth commissions (Gibson, 2004; Hayner, 2000). This has conflated the effects of victims receiving or knowing the truth *per se* with the effects of the procedures that disseminate the truth and the content of the truth (e.g., details of how the crime was committed). As it stands, we lack an understanding of what knowing the truth in itself provides victims.

Accordingly, the aim in this thesis is to isolate the effects of simply knowing the truth. That is, victims of interpersonal wrongdoings and crime may have a psychological need simply to know the full story (Goodrum, 2007), and be satisfied with having the truth or

feeling like they have the truth. This psychological state of feeling like one knows the 'whole' truth is termed *truth knowing*, the subjective sense of knowing the full account of what happened (Quinney et al., 2022). The addition of truth knowing to academic literature may help clarify the value of truth for victims and expand our understanding of how the truth *itself* may bring about justice restoration and victim healing.

The Truth, the 'Whole' Truth, and nothing but the Subjective Construal of Truth

Whole libraries could be dedicated to the philosophical literature on truth so this review will necessarily be limited. In the first instance, the issue of truth in philosophy was largely an ontological question of what truth is. The focus then shifted towards an epistemological question of veracity or how we can know what we know is true. This has led philosophers to largely consider two major theories of truth that have different views about how the veracity of a proposition can be established (Kirkham, 1992). First, Correspondence Theory posits that the veracity or falsity of a proposition is determined by the accuracy of its relation to facts about the world or objects within the world (i.e., how well something corresponds to reality). An alternative view is offered by Coherence Theory that posits that truth is afforded by the 'whole complete truth', not strictly in its relation to the world itself (Davidson, 2001). That is, whether something is true or not is determined by its coherence or relation to other propositions that are likely to be true (Walker, 1989). The position taken for this thesis is agnostic as to whether truth objectively exists and whether we can objectively know that what we know is the truth. Instead, this thesis takes a psychological lens to examine the knowing of truth that is subjectively construed.

Existing psychological research into the subjective construal of truth has largely been investigated within a *metacognitive* framework. Generally defined, metacognition is the process of thinking about thinking, the attending to one's own cognitive processes (Flavell, 1979), or one's knowledge about one's own knowledge (Dunlosky & Metcalfe, 2008).

Research in social psychology has more recently expanded to consider metacognition and how people's knowledge about their knowledge affects their inferences and interpretations. Research within this field has focused on investigating what people infer from *metacognitive experiences* - the cognitive or affective feelings that coincide with metacognitive processes. One notable example is the *feelings as information* theory that posits people attend to subjective experiences as information - such as their feelings and how these can be meta-cognitively construed or understood - when making judgments (Schwarz, 2012; Schwarz & Clore, 2003).

This relatively new line of thinking about the influence of metacognitive experiences has framed research into what underlies people's subjective construal of truth. So far, this research has taken a leaf from the philosophical focus on veracity with the focus being on determining what metacognitive experiences affect people's judgments of what is true or false (Reber & Unkelbach, 2010). The most notable and researched example is the *illusory truth effect* - the observed tendency for people to believe something is true due to previous repeated exposure (for a review, see Dechêne et al., 2010; Hasher et al., 1977).

The accepted explanation for the illusory truth effect is a *fluency bias* - the metacognitive experience of feeling of ease - increases the perceived truth of a proposition (Schwarz, 2015; Unkelbach & Greifeneder, 2013; 2018). The impact of the fluency-based bias on truth judgments has been reliably demonstrated by numerous studies using varied manipulations of fluency such as perceptual fluency (e.g., easy to read font colour; Reber & Schwarz, 1999), and conceptual fluency (e.g., photos related to a proposition; Newman et al., 2012). Typically, these studies examine the subjective construal of truth in the context of trivia statements (Newman et al., 2015), but more recently the research has extended to the phenomenon of how people believe in the truth of *fake news* (Greifeneder et al., 2020) and in forensic contexts (Derksen et al., 2020).

The findings of the illusory truth effect and the inherent fluency-based bias may also speak to how victims make piecemeal truth-judgments (i.e., how pieces of information are judged as being factual) or assess the truthfulness of a presented account about the crime or wrongdoing. For example, victims may consider during truth-telling - victims hearing what happened by an offender - whether the offender is speaking truthfully or spinning fiction. They might be led to believe the offender is telling the truth if the account is received with a sense of fluency such as the speaker being comprehensible, or disbelieve the offender if the account is disfluent (Pennington & Hastie, 1992).

Truth Knowing: The Subjective Construal of Knowing the 'Whole' Truth

However, there appears to be a gap in the literature looking at the value of truth for victims in satisfying their need for knowledge. That is, a victim may be satisfied that the pieces of information they have are true, but may still wish to know more, especially if there appear to be missing pieces in the account (Goodrum, 2007). This suggests there are different strands to truth. On the one hand, there is truth in veracity – the judgement of whether information is true or false. So far, this conceptualization of truth has received the majority of researchers' interest (i.e., the illusory truth effect, Hasher et al., 1977). On the other hand, there appears to be a value in truth by affording completeness or the 'whole' truth. Thus, the present thesis is an investigation of the value that truth provides victims by affording a subjective construal of knowing the 'whole' truth - akin to a metacognitive experience (Koriat, 2000). This is what I term *truth knowing* - the subjective sense of knowing the full account of what happened (Quinney et al., 2022).

The truth having value in affording a sense of truth knowing presents a contrast to the common view that truth is valuable by its content (i.e., the pieces of information or the plain facts about what happened). The view that truth is valuable by its content would hold that if a victim were to gain additional information about a crime such as learning that the offender

was a stranger to them, then the new information may make the victim feel better (or worse) depending on how they appraise this information (e.g., it was not personal). This view describes the truth as a means to an end and reflects how both truth advocates and victims generally perceive the truth to be valuable. For example, a common motivation for victims wanting the truth is the desire for specific information in the hope that it might afford sense-making details (e.g., why the offender committed the wrongful act or why the offender targeted them; Borton, 2009; Stretesky et al., 2010) or mitigating information (e.g., the offender did not target them because they were an easy target, it was not personal). This perspective of truth thus relates to a meaning-making framework (also termed sense-making), for which there is an extensive literature on how victims recover after traumatic events including experiencing crime and wrongdoing (for a review, see Park, 2010). Investigating the value of truth then would be aimed at examining the effects of knowing specific information or what kinds of truth might help facilitate sense-making such as what types of truth provide a sense of comprehensibility (i.e., understanding what happened and why), or what truths help with benefit-finding (i.e., finding a 'silver lining'; Davis et al., 1998).

In contrast, the truth may have value for victims in simply satisfying the need to know and providing *truth knowing* (Quinney et al., 2022). This represents the judgment or subjective *feeling* that one knows the 'whole' truth, the complete picture, or a full account. Other information related constructs such as uncertainty have made similar distinctions between an informational component and subjective experiential component. For example, Bar-Anan et al. (2009) investigated whether the effects of uncertainty on intensifying affective reactions would be observable even when people *feel* like they are missing information, and not in fact missing information. Accordingly, a manipulation was used that had participants watch a film and either repeat uncertainty-inducing phrases (e.g., "*I don't get it"*, p. 125) or certainty-inducing phrases (e.g., "*That makes sense*", p. 125) while

keeping actual information content about the films constant across conditions. The results indicated that participants in the uncertainty condition reported greater subjective feelings of uncertainty and greater affective responses to the film than participants in the certainty condition.

There are benefits to thinking about the effects of truth similarly in terms of the subjective feeling of truth knowing rather than purely the informational component. Any investigation of the effects of specific pieces of truth or different versions of the truth would be heavily confounded by the content. For example, would a victim be satisfied with the truth because they learned *why* the offender targeted them or simply because they feel like they have the full story? Solely thinking of truth as a conduit for meaning-making would also constrain its value to certain types of truth that afford victims with a sense of understanding or put a positive spin on the wrongdoing. Instead, there may also be psychological effects of truth that depend on what victims *feel* - like uncertainty - rather than what they actually know or learn.

However, there is a challenge in studying the psychological effects of the subjective feeling of truth knowing without confounding truth knowing with the effects of content. The solution to this problem is to use experimental manipulations to induce a feeling of truth knowing (or reduce the feeling) by altering the *perceived* amount of information available but holding the actual amount of information available constant. Alternatively, the potential effects of the content of the truth can also be measured and controlled for in non-experimental designs. This isolation of truth knowing from the content of truth allows for the value of truth knowing to be explored for cognitive/interpersonal factors (e.g., psychological closure, forgiveness, transgression-related rumination), and justice restoration factors (i.e., restorative dialogue between victim and offender).

Truth Knowing and Psychological Closure: A Gestalt Perspective

One downstream consequence of truth knowing may be the experience of closure – consistent with much anecdotal evidence and common views that truth provides victims with closure. The concept of closure originated in Gestalt psychology as the observed tendency to perceive fragmented objects as complete by means of an automatic mental process of connecting detached pieces to recognize a complete *Gestalt* - the 'whole' or the full picture (Koffka, 1922; Wagemans et al., 2012). The ability to perceive a Gestalt by 'closing' the gaps requires one to abstract from the pieces or details to see the 'big picture' (Liberman & Trope, 2008).

Closure was translated into social psychology and victimology more recently. In doing so, the experience of closure was reconceptualised from a Gestalt grounding in perception (i.e., mentally closing figures and perceiving complete figures) to *psychological closure* - a release from the emotion tied to the event with a sense that the event is complete, and in the past (Beike & Wirth-Beaumont, 2005). Psychological closure more aptly captures the kind of closure people may search for following a traumatic or distressing event (e.g., Skitka et al., 2004). Lay views of closure similarly reflect a want for psychological closure after painful events such as the end of a romantic relationship (see Berns, 2011).

There is psychological research to support the proposition that psychological closure can be experienced after painful events. For example, Li et al. (2010) had participants physically enclose written material related to an emotional/tragic event. Results indicated that sealing written material related to the event led to greater psychological closure, and reduced affectivity, towards the event.

Research in transitional justice has also taken on the concept of psychological closure with an expectation that obtaining the truth about what happened will deliver closure to victims (Hamber & Wilson, 2002). There is evidence that victims themselves believe that

obtaining the truth will provide closure. For example, Stretesky et al. (2010) examined interviews with co-victims (family members to victims) of unsolved homicide cases. Co-victims reported that they would experience closure, and resolution, if they knew the full truth about their loved one's murder. Similarly, victims are dissatisfied with incomplete information even in cases where they expect the full truth to be painful because their desire to know the full truth is stronger than the expected discomfort (Goodrum, 2007).

However, the concept of psychological closure has also attracted controversy within academic literature. Some have considered the reconceptualising of closure to psychological closure as misappropriating the Gestalt notion (Lilienfeld et al., 2015). Others have similarly questioned the validity of the concept based on a scepticism around the possibility and necessity of psychological/emotional resolution after disturbing events (Weinstein, 2011). Additionally, the link between action and psychological closure has mixed findings. Other events of symbolic importance such as victims witnessing the execution of offenders often fail to deliver the promised psychological closure (Eaton & Christensen, 2014). This has led some critics to consider a 'myth of closure' has been created and perpetuated by closure-advocates (Boss & Carnes, 2012). Essentially, victims and closure advocates are making *affective forecasting* errors because the level of closure victims actually feel after witnessing symbolic acts such as the offender being executed does not equate to the predicted level of closure (Wilson & Gilbert, 2005).

Similar concerns around the relationship between truth and psychological closure have been raised (e.g., Mendeloff, 2004). Specifically, the concerns that have been raised are that the truth does not deliver on everything that proponents of the truth promise it will (Daly, 2008). The conclusions drawn from truth-sceptics is that we may need to reconsider the importance of truth and whether there are alternatives that may provide victim healing (Weinstein, 2011).

Yet, the problems raised about truth may lie in the type of truth considered and not with the truth *per se*. The problem in previous theorising from truth to psychological closure is the inclusion and focus on mediating outcomes that are external to the truth in itself (e.g., public shaming of offender, punishment, offender accountability, victim empowerment). Clearly, not all versions or deliveries of the truth will provide these expected outcomes. For example, some victims may not get the soothing truth they were hoping for; the victim may be outraged that the offender was granted amnesty for delivering the truth about immoral actions (Mamdani, 2002), or the victim may feel disempowered by not being given the opportunity to provide their voice in the truth-telling process (Mendeloff, 2004).

Indeed, other theorists have considered that psychological closure may be grounded in how one *thinks* about the event (Beike & Wirth-Beaumont, 2005). Certain symbolic acts (e.g., witnessing offender being executed, truth-telling) may not deliver psychological closure because they did not change how the victim views the event or the offender (e.g., the offender never took responsibility for their actions; Eaton & Christensen, 2014). In other words, the expectation of psychological closure pinned to truth is simply a reiteration of the myth of closure where mediators are placed between psychological closure and its theorised precursors. The described failure of truth to provide psychological closure is because the truth did not deliver *expected* outcomes that are independent to the knowing of truth. Essentially, an explanatory gap or inconsistencies between truth and closure exist because theorists are putting a gap between truth and closure; there is something in between, a mediator, or an extra step, that depends on something external to the truth (e.g., the offender being held accountable).

Conversely, victims may be satisfied by the truth *per se* in simply having the need for truth satisfied and obtaining the feeling of having the whole truth (i.e., truth knowing). That is, there need not be anything external to knowing the truth for satisfaction to be derived.

Thinking about the value of truth for victims in simply satisfying the need for truth and providing truth knowing eliminates the need to make the value of truth conditional on external needs, outcomes, or goals, that the truth must meet. More recently, some theorists have considered that the truth may convey a judgment or a 'psychological truth' that may account for the relationship between truth and psychological closure (Hadjigeorgiou, 2021). Yet, the psychological connection between truth and psychological closure remains unspecified. However, the notion of truth knowing put forward in this thesis may be the judgment that obtaining the truth provides or the psychological aspect of truth that defines this relationship.

The psychological connection between truth knowing and psychological closure may be accounted for by returning to a Gestalt understanding of how closure is experienced. Truth knowing may suggest to a victim that they have all the pieces of the puzzle, they have the full story, the complete picture, or the 'whole' truth (i.e., a complete Gestalt). An important aspect to consider here is that victims with a sense of truth knowing may not strictly have all the information. In fact, it is unlikely or rare that anybody could have the full truth about an event in terms of every single piece of information. However, it is not necessary to have all the pieces to experience closure. The point is that victims with the feeling of truth knowing are satisfied with their level of information and believe they have the full picture (i.e., they perceive a Gestalt). The representation of the event may change to be 'closed' with the perception of Gestalt because of our innate tendency to perceive closure once we see the 'whole' or the 'full picture' (i.e., the Law of Closure; Wagemans et al., 2012; Wertheimer, 1938). Thus, truth knowing with the sense of having the full account may allow victims to mentally or psychologically 'close' the event and experience psychological closure. Conversely, the absence of truth knowing may leave victims unable to perceive a Gestalt. Victims may therefore experience a lack of closure because of an inability to perceive the

'whole' and fill in the gaps. This leaves the event psychologically 'open' as the examination of the issue is incomplete, unresolved, or open-ended.

Finally, there are further possible affective/cognitive downstream consequences for truth knowing providing psychological closure. There is empirical evidence that psychological closure provides emotional relief from the hurtful event. For example, Beike and Wirth-Beaumont (2005) asked participants to recall a painful event in their lives that felt subjectively open or closed. It was found that memories rated as closed were experienced with less intense or fewer emotional details than memories rated as open. There is also a link between psychological closure and forgiveness. For example, Zechmeister and Romero (2002) had participants provide a first-person narrative account of an instance of somebody hurting or angering them (i.e., the victim) and a time when they hurt somebody else (i.e., the offender). Narratives from the victim perspective that expressed forgiveness were those that portrayed the event as 'closed' rather than continuing or 'open'.

In sum, the proposed pathway from truth knowing to psychological closure provides a possible explanation and predictions for how getting the truth may help victims achieve closure. Chapter Two is a stand-alone, published, empirical investigation of the connection between truth knowing and psychological closure in addition to the downstream consequences of reduced affectivity and forgiveness. The relationship between truth knowing, psychological closure, and rumination is also explored empirically in Chapter Three.

Truth Knowing may Reduce Victims' Rumination

Truth knowing may have further psychological/cognitive consequences for victims such as decreasing *rumination* - the experience of frequent, repetitive thoughts about the experience (Watkins, 2008). In particular, the Control Theory of rumination (Martin & Tesser, 1996) may provide a fitting theoretical grounding for the relationship between truth

knowing and rumination. According to Control Theory (Martin & Tesser, 1996), rumination is instigated and maintained by incomplete tasks or incomplete goal obtainment. Control Theory draws on seminal work by Zeigarnik (1938) who observed that people tend to remember and recall incomplete tasks more easily than completed tasks (i.e., the *Zeigarnik effect*). Control Theory builds on this to suggest that rumination is a function of receiving any feedback either internal or external that suggests goal pursuit is not moving towards completion or the goal has not been achieved by the expected time (Carver & Scheier, 1990). That is, the task or goal remains incomplete.

Empirical research supports the proposition that incomplete goal obtainment may drive rumination. Experience sampling studies have found perceived insufficient goal obtainment predicts rumination (Gebhardt et al., 2010; Verkuil et al., 2015). For example, Moberly and Watkins (2010) asked participants eight times a day for one week to report on their level of rumination, depressive symptoms, and perceived level of goal progress on a personally relevant goal. It was found that perceiving low goal progress was associated with increased rumination and increased depressive symptoms. Roberts et al. (2013) used an experimental design with a single between-subjects factor of goal condition (unresolved, resolved) to test the key proposition of Control Theory that rumination is a function of perceived goal incompleteness. Participants were asked to either identify an ongoing, unresolved concern that they ruminated on recently (unresolved), or identify a concern that had previously bothered them, but no longer was a concern (resolved). Thought probes were then used intermittently to assess the content of participants' thoughts during a subsequent sustained attention to response task (Robertson et al., 1997) with one response being the index for rumination (i.e., thoughts about the concern identified earlier). It was found that participants cued with the unresolved concern reported greater rumination during the

attention task than the resolved concern thus providing causal evidence that rumination may be a function of incomplete goal attainment.

The proposed function of truth knowing would theoretically fit a Control Theory account for how rumination may be instigated and cease (Martin et al., 2004). As described earlier, truth knowing is theorised to arise with the perception of complete information or knowledge about the event (i.e., the need or *goal* for truth is met). Rumination, on the other hand, has been theorised to be instigated and maintained by incompleteness (i.e., the Zeigarnik Effect). Accordingly, victims with a sense of truth knowing may cease ruminating on the issue because of how truth knowing affords a subjective sense of completeness that would negate the incompleteness driving rumination. In other words, truth knowing might signal to the victim that there is no longer a need to continually rehash or replay the event, to further examine the issue, or to dwell on the event any longer. By analogy, a victim with a sense of truth knowing may be like a detective who finds out the truth about the crime and is therefore able to cease re-examining the evidence.

Victims would need to have a goal or need for truth for it to drive rumination according to Control Theory (Martin & Tesser, 1996). There is evidence that victims have a strong need for the whole truth; victims want the full story. For example, qualitative research provides testimony that victims will search for the complete truth no matter the cost. Stretesky et al. (2010) conducted interviews with co-victims (i.e., loved ones of unsolved homicides) and one theme was that co-victims pursued the truth to great lengths often taking on the investigation of the unsolved case themselves to great financial expense (e.g., experiencing periods of homelessness) or personal risk (e.g., receiving threats of harm). Similarly, victims have a goal to get the complete truth even when they expect the truth itself to be hurtful. Goodrum (2007) conducted interviews with advocates for crime victims and

one observation by an experienced crime victim advocate was “Victims want the truth, no matter how painful it is” (Goodrum, 2007, p. 748).

However, the motivation attributed to victims wanting the complete truth is that victims want to know *why* the event happened. Accordingly, the need for meaning-making would be what is driving rumination (for a review, see Park, 2010), not a desire for the complete truth *per se.* That is, victims may ruminate as a function of a want to understand, to find an explanation, to make sense of what happened, or find meaning in the event (Michael & Snyder, 2005; Milman et al., 2019).

A satisfied goal to make sense of the event could be a possible alternative explanation for why victims ruminate less when they get the truth. Yet, this meaning-making function of truth would require the truth to actually provide understanding or help the victim to make sense of the event to stop rumination (Wilson & Gilbert, 2008). Clearly not all truths will be understandable to victims or able to be fashioned into something more palatable. Indeed, some victims describe the offender’s actions as senseless (e.g., Baumeister et al., 1990).

However, the truth may reduce rumination simply by affording a sense of completeness in truth knowing. It may not be a strict requirement for truth to provide understanding or make the event seem more benign because truth knowing is simply the satisfaction derived from feeling like one has the full picture, independent of the truth making sense to victims, or providing a different interpretation of the meaning of the event. Accordingly, the empirical work conducted in Chapter 3 includes measures that control for possible meaning-making functions of the truth or uses a manipulation that provides no additional information thus limiting the effects of understanding or reappraisal through severity mitigating details.

The Role of Truth in Victim-Offender Mediation

Truth knowing may also shape more effective apologies and increase the likelihood of restitution agreements in *victim-offender mediation* – a facilitated meeting between victim and offender based in restorative justice (Umbreit & Armour, 2011). Truth knowing aiding processes of interpersonal repair is consistent with theorising based in restorative justice that the uncovering of the full truth is useful for preparing victims for effective conflict resolution at the intergroup level (De la Rey & Owens, 1998; Hamber, 2009). However, there is a lack of empirical examinations as to whether the provision of the full truth about crime shapes effective restorative justice mediations at the *interpersonal* level such as victim-offender mediation.

Victim-offender mediation is grounded in the restorative justice philosophy of aiming to repair harm inflicted by an offender's actions (Braithwaite, 1999). This focus on repair translates into general principles of bringing victim and offender together in mediation to share information, come to a consensus on the nature of the wrong or values violated, negotiate restitution, and the offender to apologise (Umbreit et al., 2007). Restorative justice with the focus on repairing harm has established itself as an adjunct to - not opposition to - the traditional justice as punishment ethos present in the criminal justice system (Wenzel & Okimoto, 2016).

Procedures aimed at resolving intergroup conflict with a grounding in restorative justice have considered truth as a necessary condition to resolving past transgressions. Perhaps nowhere is this link between restorative justice and truth more explicit than in *truth and reconciliation commissions* such as the one established in post-apartheid South Africa (Allan & Allan, 2000). These truth commissions often valued the truth so highly that they would grant amnesty to offenders willing to describe their wrongful acts so that victims would have the full story of what happened (Mamdani, 2002).

Truth advocates have promoted establishing the full truth about wrongdoing as a means to foster justice restoration and moral repair by repairing broken relationships, resolving conflict, and achieving victim healing (Hayner, 2000; Walker, 2010). There is some empirical evidence to suggest the truth may help achieve these goals. For example, Gibson (2004) conducted interviews with an ethnically representative sample of South Africans to examine their attitudes towards racial reconciliation. It was found that the acceptance of the truth was linked to reconciliatory attitudes towards other ethnicities, albeit this link between truth and reconciliation was not observed for black South Africans who were religious.

However, there are mixed opinions about the purported benefits of truth. Some truth sceptics believe that truth advocates have oversold the value of truth (i.e., the truth is promised to deliver too much; Daly, 2008; Mendeloff, 2009) or assume with little evidence that the relationship between truth and reconciliation translates from the intergroup level to the individual level (Mendeloff, 2004). Thus, while previous research has examined the effect of truth on reconciliation at the intergroup level, there is little research, if any, on the requirement of truth for reconciliation at the *interpersonal* level; in particular, whether the truth helps achieve reconciliation in victim-offender mediation - the most used/widespread conflict management mechanism in restorative justice (Hansen & Umbreit, 2018).

There are some key similarities between victim-offender mediation and truth and reconciliation commissions. For example, victims and offenders are given an opportunity for *truth-telling* (i.e., to provide their perspective and experience of the wrongdoing). However, the emphasis in dialogue is much more on the interactive processes between victim and offender; in particular, *restorative* communications aimed at conciliation and repair. For example, two important outcomes of victim-offender mediation are the offer and acceptance of an apology, and the crafting of a mutually agreed upon plan for restitution (Dhami, 2012; Strang et al., 2006). Although the offer of an apology is a common feature of victim-

offender mediation (Dhami, 2016a; Hansen & Umbreit, 2018); offenders' apologies are not always accepted by victims and restitution plans are not always constructed (Choi & Gilbert, 2010; Choi & Severson, 2009). Beyond these mixed findings, there is a general lack of understanding what contributes to the success of victim-offender mediation despite its popularity and widespread usage (Choi et al., 2010).

Previous research into what makes apologies acceptable has theorised that there must be a readiness for an apology and apologies must be 'complete'. For example, the timing of the apology must be delayed until after other needs have been met for victims to feel ready for an apology (Frantz & Bennigson, 2005). An apology must also be 'complete' by containing certain elements such as acknowledging the wrongfulness of the action (Choi & Severson, 2009). Similarly, psychological research has considered whether apologies must contain elements that align with victims' beliefs and preferences for how wrongdoings should be dealt with (e.g., some victims may believe compensation is required in an apology; Fehr & Gelfand, 2010).

Notably, little (if any) research has considered the role of truth in mediation despite truth being seen as necessary for reconciliation at the intergroup level (Rotberg, 2010; Walker, 2010). As it stands, there is a considerable lack of evidence as to whether victims having their need for truth satisfied may be necessary for effective apologies and the increased likelihood of crafting restitution plans in victim-offender mediation. The omission of truth is notable considering there is evidence to suggest victims are very much motivated by the need for truth in dialogue. For example, Borton (2009) examined archival interviews that had been conducted with victims interested in meeting with the offender. Victims reported that their main motivation for wanting to speak to the offender was to ask questions such as what happened (e.g., what happened to a loved one's body). Similarly, Choi et al. (2010) conducted interviews with victims that had participated in dialogue. Victims reported

being motivated to speak with the offender to get further information about the crime from the offender. The pervasiveness of this need for the truth has led some to recommend that mediation be promoted as a way of obtaining answers about what happened as a means to enhance victim participation in dialogue (e.g., Paul, 2018). Moreover, both truth and reconciliation commissions and victim-offender mediation are grounded in restorative justice theory.

Accordingly, this thesis examines whether truth knowing may help shape more effective apologies and increase the likelihood of restitution planning in victim-offender mediation. Two studies with experimental designs in Chapter 4 are investigations of the effect of victims focusing on the completeness (vs., incompleteness) of their knowledge about a hypothetical crime. It was predicted that participants who focused on the completeness of their knowledge would report greater truth knowing, greater readiness for an apology, greater completeness of the apology, greater acceptance of an apology issued by the offender in dialogue and report greater intentions to negotiate a plan for restitution with the offender.

Summary and Overview

Victims of wrongdoing may have their recovery aided by simply knowing the truth (independent of content) and experiencing *truth knowing*, the subjective sense of knowing the full account of what happened (Quinney et al., 2022). Specifically, truth knowing may produce downstream consequences such as increased psychological closure, reduced post-transgression affectivity, and increased forgiveness (Chapter 2; Quinney et al., 2022). Truth knowing might also reduce victims' rumination (Chapter 3). Finally, truth knowing might help shape effective apologies and increase the likelihood of restitution planning in victim-offender mediation (Chapter 4).

Chapter 2 is a published empirical paper that examines how truth *per se* may be valuable for victims of crime (Quinney et al., 2022). For this question, it was essential to

distinguish an instrumental value of knowing the truth from the inherent value of knowing the truth. That is, on the one hand, the truth may be useful or wanted by victims as a means to an end. The truth could have instrumental value in its content by helping victims to make sense of the wrongdoing (Park, 2010) or reduce the threat of the crime (e.g., the crime is unlikely to happen to them again). On the other hand, the truth may have inherent value for victims in simply satisfying their need for truth and providing truth knowing. The inherent value of truth was isolated from instrumental value by using experimental manipulations that varied the *perceived* completeness or incompleteness of information available but did not actually provide more or less information. Results from Studies 1 and 2 using a hypothetical crime paradigm found that perceived completeness of information (vs. incompleteness) led to greater truth knowing, and truth knowing was associated with increased psychological closure, reduced anger, and increased forgiveness. Study 3 included real crime victims and found victims who focused on the completeness of their knowledge (vs. incompleteness) reported greater truth knowing, greater psychological closure, reduced anger, and truth knowing was associated with increased forgiveness. Findings suggest that a sense of *truth knowing* may help victims heal (over and above any content).

Three studies in Chapter 3 are investigations of the effect of truth knowing on victims' rumination about an experienced wrongdoing. Study 1 includes the use of a retrospective, cross-sectional design and found truth knowing was negatively related to rumination. Indirect relationships were also found between truth knowing reducing rumination that in turn increased psychological closure, increased forgiveness, and decreased affect. However, a follow-up study with an experimental design found that completeness (vs. incompleteness) of knowledge led to greater truth knowing, but not decreased rumination as measured in a subsequent attention task. At this stage, the findings were inconsistent for the relationship between truth knowing and rumination; but the relationship between truth

knowing and psychological closure was consistent. Moreover, psychological closure and rumination were consistently negatively related. Accordingly, Study 3 used a longitudinal design that covered the week immediately following the experience of wrongdoing to examine the prospective effects of truth knowing on victims' psychological closure, and the prospective effect of psychological closure on rumination. However, truth knowing was not a significant positive predictor of psychological closure over time. Conversely, psychological closure was a significant negative predictor of rumination over time. In sum, the effects of truth knowing may not translate into decreased rumination directly or via providing psychological closure.

Two studies in Chapter 4 are investigations of the effects of truth knowing on victim-offender mediation. Again, participants' perceived knowledge about the crime is manipulated by asking them to reflect on either the completeness or incompleteness of what they know. It was found in both studies that focusing on the completeness of knowledge (vs. incompleteness) led to greater truth knowing, greater apology readiness, the apology was perceived to be more complete, and acceptance of the apology was greater. Participants in the incomplete knowledge condition (vs. complete) in Study 2 also favoured referring the case back to the legal system than working further with the offender to come to a restitution agreement. Overall, findings suggest that victims' sense of truth knowing may impact the successful offer and acceptance of apology, and the likelihood of restitution planning occurring between victim and offender in victim-offender mediation.

Finally, an integration of the findings is present in Chapter 5. There is a discussion for the implications of the value of truth knowing, including ways to enhance victims' satisfaction and healing after experiencing crime/wrongdoing. This thesis concludes with considerations for future research that could extend our scientific knowledge on the promising value of truth knowing for victims of wrongdoing.

Chapter 2: Truth is its own reward: Completeness of information, the feeling of truth knowing, and victims' closure

Ancient Greeks proposed that truth is its own reward (for translated texts, see Cooper & Hutchinson, 1997). However, does this wisdom of Ancient Greek philosophy hold? Is there some psychological benefit in knowing the truth over and above any specific knowledge gained that can be instrumentalized (James, 1907)? Clarifying the value of truth seems especially important for those fervently seeking the truth, namely, victims of crime (Stretesky et al., 2010). Why do victims want the truth? One possibility is that truth is only valuable via its contents and what that knowledge provides to victims (e.g., understanding). If this is the case, the value of truth would be limited to certain truths that offer *instrumental value*. Conversely, the subjective experience of knowing the truth may have additional, non-instrumental value by simply satisfying the need for truth – potentially a value for its own sake. The present research sought to clarify how truth *per se* may be psychologically valuable to victims of crime. However, empirically testing this proposition by a method that provides more or less information would be confounded because more knowledge potentially affords greater instrumental value. Accordingly, the studies reported here utilise experimental manipulations aimed at varying the *perceived* level of information available without actually changing the information available. Any instrumental value derived from the truth would thus be ruled out as a differentiating factor between conditions.

Instrumental vs. Inherent Value of Truth

Crime, perhaps more than anything, elicits in victims a desire for the truth. This search for truth may be a motivated information search under the guise of seeking truth (Nickerson, 1998). For example, victims may seek specific information in the hope that additional information will bring resolution (e.g., Goodrum, 2007). Details of the crime (e.g., why it occurred, whether there was suffering, the possibility of reoccurrence) may allow a re-

appraisal of the incident. This means the wrongdoing may be viewed in a more positive - or at least less negative - light. Certain information may enable one to appraise that one was a 'random' victim, that the harm could have been worse, or that it is unlikely to happen again. In this way, the knowledge gained alleviates some of the psychological threat of the transgression. Similarly, victims may seek the truth because of a need to understand and resolve uncertainty (Janoff-Bulman, 1992). Piecing information together may allow victims to make sense of what happened (Davis et al., 1998; Park, 2010). As a consequence, the truth may reduce the emotional impact of the event (Wilson & Gilbert, 2008).

Truth-seeking of a motivated type would be based on the assumption that the truth will entail cohering, meaning-making information. In reality, some truths may not make sense to victims; some truths may not help victims to reappraise the incident more benignly. Nevertheless, wanting the truth may be driven by an overriding *wish* (or hope) that knowing the truth will satisfy these needs. Still, if truth's benefit was only meeting these needs, then truth's instrumental value would depend on what the truth is. The satisfaction derived from knowing the truth would be restricted to 'versions' of truth that offer comfort or understanding. There would be no value in knowing hard truths if victims cannot handle the truth. Similarly, there would be little value in accessible information for victims if the content did not permit less disturbing appraisals, or if it did not help to make sense. The value of truth would lie in its instrumentality for needs or goals that are extrinsic to truth.

Alternatively, perhaps there is inherent value in truth. Victims may be searching for the truth to satisfy an inherent need to know what happened. That is, the psychological need for truth reflects a desire for a complete account of what happened - to have all the pieces of the puzzle. The truth may therefore be valuable in itself by providing victims with *truth knowing* – a subjective sense of knowing the full account of what happened.

We grant that there is a difficulty in making a terminological distinction between 'instrumental' and 'inherent' value. One could claim that the truth is ultimately instrumental for truth knowing and/or for downstream consequences. The point of what we refer to as inherent value is that truth is satisfying simply because individuals have it or feel they do. If the mere knowing of the truth satisfies a need for truth - truth would be its own reward.

If truth is its own reward, then there may be psychological benefit to knowing the truth that is independent of the content. Even truth that was confusing, hard to reconcile, or difficult, may still benefit victims by giving them the full story. In particular, we argue here that a *sense of truth knowing* about wrongdoing (over and above any specific content) may help victims heal by eliciting feelings of *psychological closure*; that is, the experience of emotional resolution due to the sense that the event is complete, or in the past, allowing other issues to take precedence (Beike & Wirth-Beaumont, 2005).

Truth Knowing may provide Closure, Reduce Affect, and Increase Forgiveness

Previous research demonstrates that victims often express a need for closure following negative life events or traumatic events (e.g., Skitka et al., 2004). However, there is some debate over how closure can be achieved. On the one hand, some consider victims to have been misled into believing a 'myth of closure' (Boss & Carnes, 2012) because ostensive closure-related acts such as witnessing offenders being executed often fail to deliver victims the anticipated psychological closure (Eaton & Christensen, 2014). On the other hand, evidence from psychological research shows that psychological closure may be achieved by engaging in other closure-related acts such as physically sealing objects related to the experience (Li et al., 2010). The mixed findings may suggest that psychological closure is not necessarily an outcome of the closure-related act itself, but rather the appraisal afforded by the action (e.g., it is time to move on because I have put this behind me). Some acts may fail

to provide psychological closure because they did not elicit a positive reappraisal (e.g., the offender did not say sorry before they died).

Indeed, previous research has mainly examined cognitive appraisals as precursors to psychological closure and reduced affect. A set of cognitive appraisals that has received much research attention is broadly captured in *meaning-making* - victims forming an explanation for how or why the event happened (for a review, see Park, 2010). One example of this line of thinking is present in *affective adaptation* - the weakening of one's affective response (Wilson & Gilbert, 2008). Affective adaptation is theorised to result from reduced attention to the event and activation of affect by making sense of the event through the cognitive processes of assimilation (i.e., altering the appraised meaning of the event) or accommodation (i.e., revising one's beliefs to accommodate the meaning of the event). An example of how victims may find meaning is by writing about significant negative life events, which has been found to reduce affective responses and help victims gain closure over the event (Pennebaker, 1997). The explanation for these findings is that closure and the reduction of affectivity are a consequence of constructing a meaningful narrative about how or why the event happened (Baumeister & Newman, 1994).

Similarly, victims seeing how the crime had a positive outcome may lead them to forgive offenders. Forgiveness itself is generally defined as a reappraisal or cognitive/motivational shift from wanting revenge or avoiding the offender to a more positive attitude such as benevolence (Worthington, 2006). A cognitive appraisal link specific to closure and forgiveness has been explored by Zechmeister and Romero (2002) who asked participants to provide a narrative of a time when somebody hurt or angered them. It was observed that victims' narratives that indicated closure and forgiveness towards the offender explicitly acknowledged the offender's apology, reported happy endings, and feelings of

peace. Again, this suggests that closure and forgiveness are conditional on specific forms of appraisal such as positive reappraisal (see also McCullough et al., 2006).

Thus, previous research has mainly considered cognitive appraisals or reappraisals as the antecedents for psychological closure. The implication for truth is that it will provide psychological closure to victims if it helps certain cognitive appraisals or reappraisals to occur (i.e., helping victims to comprehend what happened or to see a 'silver lining'; Davis et al., 1998). In contrast, simply the appearance of having complete information about the wrongdoing has yet to be considered as a predictor for psychological closure, and the associated outcomes of reduced affectivity and forgiveness.

At a basic perceptual level, completeness of information may provide victims with the 'whole' truth - a Gestalt-like complete representation (Koffka, 1922). The mere perceptual completeness may be inherently satisfying to victims because it suggests that one has all the pieces of the puzzle, providing a sense of truth knowing. At the cognitive level, the representation of the event as whole or complete could enable victims to see the event as 'closed', which allows victims to put the experience out of one's present concerns and sutures the psychological wounds (Beike et al., 2007; Zeigarnik, 1938). In other words, the completeness of information may elicit a feeling of truth knowing that provides internal feedback to the individual (Schwarz, 2012) that the examination of the issue is complete, the issue is closed, leading to a readiness to move forward. Thus, truth knowing *per se* may promote psychological closure.

The flipside of the argument is that incomplete information may be inherently *unsatisfying* to victims. Incompleteness may fail to provide a Gestalt because pieces of the puzzle are seemingly missing, potentially preventing the victim from seeing the 'whole'; victims may experience a diminished sense of truth knowing, and an inability to cognitively

close the event. Therefore, the victimising event and the emotional wounds remain psychologically 'open' (Beike & Wirth-Beaumont, 2005).

The Present Research

The challenge is to empirically disentangle truth knowing from the effects of providing variations in specific information. As such, we decided to not include a condition where greater truth was provided. The possible psychological functions of truth would be confounded if the experimental manipulation simply provided more or less information because more information necessarily means different information. For example, would a victim experience closure after learning an assault on them was random because of the relief that they did nothing to provoke it or because of the sense of knowing what happened (i.e., truth knowing)?

Our solution in Study 1 and Study 2 was to manipulate the extent of information *seemingly* omitted rather than changing the information given. Study 3 asked victims of crime to focus on either the completeness or incompleteness of their knowledge about an experienced crime. Our manipulations provided no additional information; thus, preventing re-appraising the crime as less hurtful or gaining a greater understanding of it.

We report all measures, manipulations, and exclusions. All participants were residents of the United States recruited via Amazon's Mechanical Turk using the CloudResearch research platform (Litman et al., 2017). Information about participants' ethnic backgrounds were obtained from the CloudResearch platform in aggregate form (i.e., not connected to the individual data; therefore, ethnicity was not analysable beyond descriptive statistics). Power/**s**ensitivity analyses reported in all studies were calculated using G*Power (Faul et al., 2009) comparing two independent means (two-tailed, $\alpha = 0.05$, $\beta = 0.80$).

Study 1

We presented victims of a hypothetical crime with reports about the incident that *appeared* either complete or incomplete but was equal in content across the two experimental conditions. We predicted that the complete (vs. incomplete) appearing report would increase truth knowing, but completeness would not increase understanding of the event. Truth knowing would be associated with increased closure and – as correlates of closure – reduced anger and anxiety (Beike & Wirth-Beaumont, 2005; Li et al., 2010), and increased forgiveness (Zechmeister & Romero, 2002). Note that while the contrast between complete and incomplete-appearing reports would not seem to allow an inference of whether it is completeness or incompleteness that drives the effect; there is no logical neutral condition to serve as a reference category (i.e., there is no half-way complete/incomplete condition). Our main interest is in whether completeness versus incompleteness differentially elicit a feeling truth knowing; in turn, truth knowing is predicted to mediate indirect effects on closure, affect, and forgiveness.

However, one alternative mechanism must be considered. The apparent withholding of information could reduce perceived procedural fairness (e.g., interpersonal or informational fairness, Greenberg, 1993); it could be experienced as a secondary injustice or disrespect. We tested this alternative account and whether, independent from it, incomplete information reduces closure via a diminished sense of truth knowing.

Method

Participants. In Study 1, a sample size of $N = 195$ would provide 80% power to detect an experimental effect ($p < .05$), and mediator-outcome correlations, of $r = .20$ (equivalent to $d = .41$), corresponding to the average effect size found in social psychology (Richard et al., 2003). We requested $N = 200$ to account for exclusions due to failing attention checks but no participants failed the checks (120 female; 18 – 72 years old; $M_{age} = 38.1$). The

ethnic composition of our sample was 81% White/Caucasian, 11% Black/African American, 4% Asian, 3% Multiracial, and 1% Native American or Alaska Native. The sensitivity analysis confirmed the minimum effect size detectable was $d = .40$ in Study 1.

Design, Procedure, and Materials. Participants read a vignette imagining their home was destroyed by arson. Participants were then randomly allocated to view either the complete report ($n = 100$) or the incomplete report ($n = 100$). Both reports displayed the same information, but major parts of the report appeared redacted in the incomplete report condition; giving the impression that the visible information was only part of the report (see Figure 1). Participants then responded to the measures and were debriefed.

Dependent Measures. All items were measured on a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree). Items were averaged on all measures to create a single score.

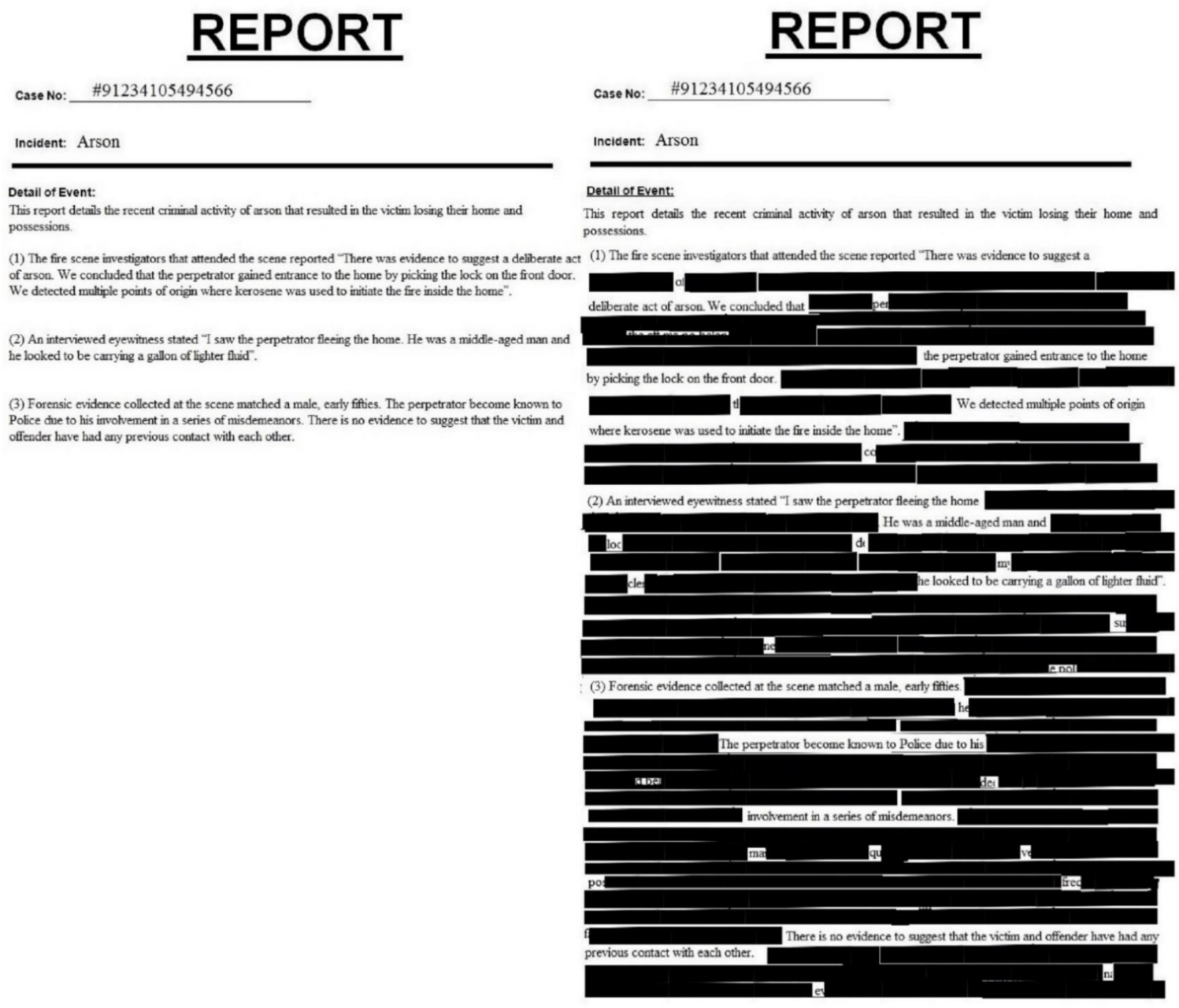
Report Completeness. To examine our manipulation, we measured participants' perceived completeness of the report with four items: "the report was complete"; "the report clearly explained the facts"; "the report was informative"; "the report made sense to me" ($\alpha = .83$).

Truth Knowing. Truth knowing was measured by four items: "I feel satisfied with my current level of knowledge about my home being burned down"; "I feel like I know the truth about what happened"; "I feel like I know the truth about who burned my home down"; "Overall, I feel like I know the truth about my home being burned down" ($\alpha = .90$).

Understanding. Four items tapped understanding: "I feel like I understand why my home was burned down"; "I have made sense of my home being burned down"; "I have arrived at an understanding about my home being burned down"; "I understand the meaning of my home being burned down" ($\alpha = .87$).

Figure 1

Participants viewed either a visually complete report (left) or a report with the appearance of omitted information (right). Both were equal in information content



REPORT

Case No: #91234105494566

Incident: Arson

Detail of Event:

This report details the recent criminal activity of arson that resulted in the victim losing their home and possessions.

(1) The fire scene investigators that attended the scene reported "There was evidence to suggest a deliberate act of arson. We concluded that the perpetrator gained entrance to the home by picking the lock on the front door. We detected multiple points of origin where kerosene was used to initiate the fire inside the home".

(2) An interviewed eyewitness stated "I saw the perpetrator fleeing the home. He was a middle-aged man and he looked to be carrying a gallon of lighter fluid".

(3) Forensic evidence collected at the scene matched a male, early fifties. The perpetrator become known to Police due to his involvement in a series of misdemeanors. There is no evidence to suggest that the victim and offender have had any previous contact with each other.

REPORT

Case No: #91234105494566

Incident: Arson

Detail of Event:

This report details the recent criminal activity of arson that resulted in the victim losing their home and possessions.

(1) The fire scene investigators that attended the scene reported "There was evidence to suggest a [redacted] deliberate act of arson. We concluded that [redacted] the perpetrator gained entrance to the home by picking the lock on the front door. [redacted] We detected multiple points of origin where kerosene was used to initiate the fire inside the home", [redacted]

(2) An interviewed eyewitness stated "I saw the perpetrator fleeing the home [redacted] He was a middle-aged man and [redacted] he looked to be carrying a gallon of lighter fluid". [redacted]

(3) Forensic evidence collected at the scene matched a male, early fifties. [redacted] The perpetrator become known to Police due to his [redacted] involvement in a series of misdemeanors. [redacted] There is no evidence to suggest that the victim and offender have had any previous contact with each other. [redacted]

Closure. Closure was measured by four items adapted from Skitka et al. (2004), and Beike and Wirth-Beaumont (2005): “I have closure over my home being burned down”; “My home being burned down is a ‘closed book’ to me”; “It is time for me to move on from my home being burned down”; “The crisis of my home being burned down feels like it is now over” (α = 89).

Forgiveness. Forgiveness was measured by three items: “I have released my negative feelings towards the person that burned my home down”; “I feel like I am holding a grudge against the person that burned my home down” (reverse-coded); “I have forgiven the offender that burned my home down” (α = .74).

Anger. Anger was measured by two items: “I am feeling angry about my home being burned down”; “I am feeling mad about my home being burned down” (α = .96).

Anxiety. Anxiety was measured by two items: “My home being burned down is making me feel anxious”; “My home being burned down is making me feel worried” (α = .84).

Procedural Fairness. Procedural fairness was measured by four items using the stem “I feel like”: “I was treated with respect by law enforcement after my home was burned down”; “there was due process in determining the truth about my home being burned down”; “I was kept in the dark about my home being burned down” (reverse-coded); “I was treated fairly by law enforcement after my home was burned down” (α = .88).

Results

Descriptive statistics, *t*-tests, and effect sizes are reported in Table 1. Independent *t*-tests showed that the complete (vs. incomplete) report was rated as more complete on the multi-item manipulation check. A separate independent *t*-test just for the most directly worded item (*the report was complete*) confirmed the complete report condition (M = 5.27, SD = 1.46) was rated as more complete than the incomplete report condition (M = 2.90, SD =

1.89), $t(198) = -9.94$, $p < .001$, $d = 1.40$. In further tests (Table 1), participants reading the complete (vs. incomplete) report indicated greater truth knowing, as predicted. In contrast, reading the complete (vs. incomplete) report did not lead to greater understanding.

Mediation Analyses. We acknowledge the limitations of using cross-sectional data for mediation and have tempered causal language (Fiedler et al., 2018). Process Model 4 was used to test for indirect effects with 95% percentile bootstraps set at 5,000 (Hayes, 2017). The complete report (vs. incomplete) was a predictor of truth knowing, $a = 0.76$, $SE = 0.21$, $t(198) = 3.69$, $p < .001$, 95% CI = [0.35, 1.16]. In turn, truth knowing was significantly positively related to closure, $b = 0.63$, $SE = 0.05$, $t(197) = 11.5$, $p < .001$, 95% CI = [0.52, 0.73]. The indirect effect of report condition (complete) through truth knowing was significant, $ab = 0.48$, $SE = 0.13$, 95% CI = [0.23, 0.74].

Truth knowing was also significantly negatively related to anger, $b = -0.10$, $SE = 0.05$, $t(197) = -1.99$, $p = .05$, 95% CI = [-0.20, -0.01], and the indirect effect of report condition (complete) through truth knowing was significant, $ab = -0.07$, $SE = 0.04$, 95% CI = [-0.15, -0.01]. Similarly, truth knowing was significantly negatively related to anxiety, $b = -0.12$, $SE = 0.05$, $t(197) = -2.24$, $p = .03$, 95% CI = [-0.22, -0.01], and the indirect effect of report condition (complete) through truth knowing was significant, $ab = -0.09$, $SE = 0.05$, 95% CI = [-0.20, -0.01]. Finally, truth knowing was significantly positively related to forgiveness, $b = 0.30$, $SE = 0.06$, $t(197) = 5.27$, $p < .001$, 95% CI = [0.19, 0.42], and the indirect effect of report condition (complete) through truth knowing was significant, $ab = 0.23$, $SE = 0.07$, 95% CI = [0.10, 0.38].

The complete (vs. incomplete) report also increased ratings of procedural fairness. We therefore considered procedural fairness as an alternative mediator. The complete report

Table 1

Bivariate Correlations, Descriptive and Inferential Statistics for All Variables in Study 1

	Condition				Correlations							
Variable	Complete *M* (*SD*)	Incomplete *M* (*SD*)	(df) *t*	*d*	1	2	3	4	5	6	7	8
1. Report Completeness	5.71(0.92)	4.42 (1.20)	(185.5[1]) = -8.55***	1.21	-	.63***	.14	.32***	.05	.15*	.05	.59***
2. Truth Knowing	4.15 (1.46)	3.39 (1.44)	(198) = -3.69***	0.52		-	.48***	.63***	.32***	-.10	-.13	.52***
3. Understanding	2.31 (1.26)	2.61 (1.41)	(198) = 1.59	0.22			-	.63***	.54***	-.45***	-.24**	.18*
4. Closure	2.96 (1.41)	2.77 (1.46)	(198) = -0.90	0.13				-	.53***	-.38***	-.18*	.31***
5. Forgiveness	2.34 (1.18)	2.51 (1.32)	(198) = 0.93	0.14					-	-.53***	-.25***	.12
6. Anger	6.41 (1.01)	6.13 (1.06)	(198) = -1.91	0.27						-	.43***	.12
7. Anxiety	5.92 (0.98)	5.74 (1.14)	(198) = -1.22	0.17							-	.10
8. Procedural Fairness	5.16 (1.21)	4.39 (1.15)	(198) = -4.62***	0.65								-

Note. *$p < .05$, **$p < .01$, ***$p < .001$. [1] unequal variance reported due to violated homogeneity of variance assumption.

(vs. incomplete) was a predictor of procedural fairness, $a = 0.77$, $SE = 0.17$, $t(198) = 4.61$, $p < .001$, 95% CI = [0.44, 1.10]. In turn, procedural fairness was significantly positively related to closure, $b = 0.37$, $SE = 0.08$, $t(197) = 4.49$, $p < .001$, 95% CI = [0.21, 0.54]. The indirect effect of report condition (complete) through procedural fairness was significant, $ab = 0.29$, $SE = 0.09$, 95% CI = [0.12, 0.49]. However, there were no significant indirect effects via procedural fairness on anger, anxiety, and forgiveness (see Supplemental Materials at: https://osf.io/rxnme/?view_only=43476cc8e7004377890da5e921bb905a).

Finally, both truth knowing and procedural fairness were entered into a parallel mediation to contrast the indirect effects of report condition (complete) on closure. Both indirect effects on closure were positive allowing direct comparison of their size (Hayes, 2017). The pairwise comparison between the indirect effects was significant, *contrast* = 0.47, $SE = 0.16$, 95% CI = [0.18, 0.80]. Truth knowing was a significant, and stronger mediating process, $ab = 0.47$, $SE = 0.13$, 95% CI = [0.22, 0.74], than procedural fairness, $ab = 0.01$, $SE = 0.06$, 95% CI = [-0.12, 0.11]; which no longer significantly mediated the effect of report condition in this analysis.

Thus, the complete report was associated with greater closure, reduced anger, reduced anxiety, and increased forgiveness, via truth knowing. Moreover, there was no significant effect on understanding. The complete report was also associated with greater closure via procedural fairness; albeit this relationship was non-significant when contrasted to truth knowing in a pairwise comparison.

Study 2

Study 2 was conducted to replicate results using a methodological variation designed to avoid an effect of truth provision on procedural fairness, by making the withholding of information less blatant. The large amount of redaction also may have affected readability or experienced fluency (Song & Schwarz, 2008). Although fluency impacting how people might

make judgments such as truth knowing is not strictly inconsistent with our view; we altered the manipulation used in Study 2.

Method

Participants and Design. Replicating Study 1, we requested data from 200 participants. Data from 5 participants were excluded for failing the attention check, leaving a sample size of N = 195 **(**114 female; 18 – 76 years old; M_{age} = 36.2**;** Complete Report, n = 97, Incomplete Report, n = 98). Again, the sample was predominantly White/Caucasian (78%); the remaining sample was 14% Black/African American, 5% Asian, and 3% Multiracial. A sensitivity analysis revealed the minimum effect detectable was d =.40.

Participants read the same crime vignette as Study 1. Participants were randomly presented with either the same complete report as in Study 1 or a modified version of the incomplete report that contained exactly the same information as the complete report, but appeared to provide minimal information by including empty space following each information item.

Dependent Measures. Truth knowing (α = .91), closure (α = .90), anger (α = .88), anxiety (α = .86), and forgiveness (α = .64) were measured using the same scales as Study 1. Our manipulation check was changed from Study 1 to reflect changes to the manipulation: "The report was long"; "The report was comprehensive"; "The report was very detailed", and "The report had limited detail" (reverse-coded). Items were averaged to create a single report completeness score (α = .71).

Results

Descriptive statistics, *t*-tests, and effect sizes are reported in Table 2. Independent *t*-tests indicated that the complete report was not rated as more complete than the incomplete report. Nevertheless, the complete (vs. incomplete) report still led to greater truth knowing and not greater understanding.

Table 2

Bivariate Correlations, Descriptive and Inferential Statistics for All Variables in Study 2

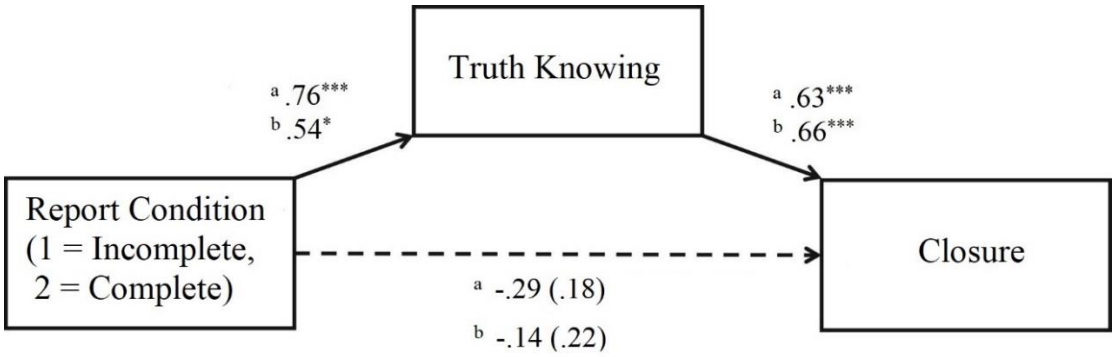
	Condition				Correlations							
Variable	Complete *M* (*SD*)	Incomplete *M* (*SD*)	(df) *t*	*d*	1	2	3	4	5	6	7	8
1. Report Completeness	3.83 (1.16)	3.57 (1.09)	(193) = -1.58	0.23	-	.60***	.42***	.41***	.32***	-.20**	.03	.46***
2. Truth Knowing	4.22 (1.53)	3.69 (1.56)	(193) = -2.42*	0.34		-	.55***	.65***	.38***	-.30***	-.10	.51***
3. Understanding	2.71 (1.62)	2.51 (1.55)	(193) = -0.90	0.13			-	.72***	.58***	-.46***	-.27***	.09
4. Closure	3.05 (1.54)	2.83 (1.60)	(193) = -0.97	0.14				-	.60***	-.41***	-.23**	.22**
5. Forgiveness	2.67 (1.31)	2.56 (1.27)	(193) = -0.57	0.09					-	-.56***	-.21**	.03
6. Anger	6.06 (1.20)	6.18 (1.11)	(193) = 0.71	0.10						-	.49***	.01
7. Anxiety	5.78 (1.18)	5.76 (1.30)	(193) = -0.10	0.02							-	.06
8. Procedural Fairness	5.20 (0.96)	4.60 (1.35)	(193) = -3.54**	0.51								-

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

Mediation analyses. Process Model 4 tested for indirect effects (Hayes, 2017). Percentile bootstraps were set at 5,000 with 95% CI. The complete report (vs. incomplete) was a significant predictor of truth knowing, $a = 0.54$, $SE = 0.22$, $t(193) = 2.42$, $p = .02$, 95% CI = [0.10, 0.97]. Truth knowing was again significantly positively related to closure, b = 0.66, SE = 0.06, $t(192) = 11.9$, $p < .001$, 95% CI = [0.55, 0.77]. The indirect effect of report condition (complete) through truth knowing was significant, $ab = 0.35$, $SE = 0.15$, 95% CI = [0.06, 0.66]. Figure 2 presents the unstandardised coefficients, direct effects, and total effects for the relationship between report condition and closure via truth knowing for Studies 1 and 2.

Figure 2

Unstandardized coefficients, and direct effect (total effect) for the relationship between report condition and closure via truth knowing



Note. [a] Study 1, [b] Study 2. *$p < .05$, ***$p < .001$.

Truth knowing was also significantly negatively related to anger, $b = -0.22$, $SE = 0.05$, $t(192) = -4.25$, $p < .001$, 95% CI = [-0.32, -0.12], and the indirect effect of report condition through truth knowing was significant, $ab = -0.12$, $SE = 0.06$, 95% CI = [-0.24, -0.02].

Contrary to Study 1, truth knowing was not significantly negatively related to anxiety, $b = -0.09$, $SE = 0.06$, $t(192) = -1.48$, $p = .14$, 95% CI = [-0.20, 0.03], and the indirect effect of

report condition (complete) through truth knowing was not significant, *ab* = -0.05, *SE* = 0.39, 95% CI = [-0.13, 0.01]. However, truth knowing was again significantly positively related to forgiveness, *b* = 0.31, *SE* = 0.06, *t*(192) = 5.64, *p* < .001, 95% CI = [0.20, 0.42], and the indirect effect of report condition (complete) through truth knowing was significant, *ab* = 0.17, *SE* = 0.08, 95% CI = [0.03, 0.34].

Again, the complete report led to greater procedural fairness than the incomplete report. We considered procedural fairness as an alternative mediator as in Study 1. The complete report (vs. incomplete) was a predictor of procedural fairness, *a* = 0.59, *SE* = 0.17, *t*(193) = 3.54, *p* < .001, 95% CI = [0.26, 0.92]. In turn, procedural fairness was significantly positively related to closure, *b* = 0.28, *SE* = 0.09, *t*(192) = 2.97, *p* = .01, 95% CI = [0.09, 0.47]. The indirect effect of report condition (complete) through procedural fairness was significant, *ab* = 0.10, *SE* = 0.04, 95% CI = [0.03, 0.20]. However, again, like Study 1, there were no significant indirect effects via procedural fairness on anger, anxiety, and forgiveness (see Supplemental Materials).

We entered both truth knowing and procedural fairness into a parallel mediation to contrast the indirect effects of report condition (complete) on closure. Like Study 1, the pairwise comparison between the indirect effects was significant, *contrast* = 0.50, *SE* = 0.19, 95% CI = [0.16, 0.89]. Truth knowing mediated a significant positive indirect effect, *ab* = 0.39, *SE* = 0.16, 95% CI = [0.08, 0.71]. In contrast, the indirect effect via procedural fairness was significant but negative, a*b* = -0.11, *SE* = 0.05, 95% CI = [-0.23, -0.03]. Suppression may have affected the estimation of this relationship due to a significant, strong, positive bivariate correlation between truth knowing and procedural fairness (Hayes, 2017).

Replicating Study 1, information completeness increased truth knowing, which was in turn associated with greater closure, reduced anger, and increased forgiveness. Understanding as an alternative mechanism received no empirical support as there was no significant effect

of information completeness on understanding. Procedural fairness as an alternative mechanism received some empirical support as a positive predictor for closure; however, this was no longer present when truth knowing was controlled for. Moreover, there were no significant indirect effects of information completeness on anger, anxiety, and forgiveness via procedural fairness.

Study 1 and Study 2 were confined to a hypothetical situation, perhaps explaining why indirect effects on closure did not translate into total effects. Relying solely on using vignettes would also limit the generalisability of the findings. Accordingly, we conducted Study 3 with victims of real crimes. Finally, the manipulations in Studies 1 and 2 did not emphasize the completeness of the truth available in the complete condition; perhaps limiting the effect on truth knowing and on the downstream consequences such as closure. Accordingly, we changed the manipulation to accentuate the level of knowledge available in the complete condition.

Study 3

Method

Participants. In Study 3, a sample size of $N = 172$ would provide 80% power to detect the hypothesised experimental effect, and mediator-outcome correlations, based on effect sizes obtained from pilot data. We requested 182 participants to accommodate for expected data exclusion.

Data from 25 participants were removed due to meeting our pre-registered exclusion criteria. Data from 157 participants were eligible for analysis (71 female; 18 – 78 years old; $M_{age} = 40.4$). The sample was 80% White/Caucasian, 11% Black/African American, 5% Asian, 2% Multiracial, and 2% Native American or Alaska Native. A sensitivity analysis revealed the minimum effect detectable was $d = .45$.

Design, Procedure, and Materials. The study advertisement specified participants had to have experienced a crime and be proficient in the English language. Potential participants were presented with brief descriptions of various crimes (e.g., white-collar crime) and screened with a yes or no question asking if they had experienced a crime. A second screening involved 10 short English grammar questions (e.g., "when do you study? At school, in the evenings, in the library"). The ineligibility screen was shown to participants if no was selected to experiencing a crime or fewer than 8 English grammar questions were answered correctly.

Eligible participants were asked to provide a brief description of the crime they experienced. Participants responded to two categorical questions regarding the type of crime experienced (42% violent crime to self, 6.4% violent death to a close other, 17.8% white-collar crime, 29.3% property crime, 4.5% other); and relationship with the offender (8.3% significant other, 8.9% family member, 5.1% close friend, 60.5% stranger, 10.8% acquaintance, 3.2% work colleague, 3.2% other).

A baseline measure of truth knowing was taken to rule out existing group differences prior to manipulation. Severity reappraisal, and understanding were included to tap into the instrumental value of truth. These measures were taken to rule out alternative mechanisms toward closure.

Next, participants were randomly allocated to respond to one of two sets of three questions, designed to manipulate salience of information completeness. In the complete information condition, they were asked to describe what was known about the experienced crime and explain why they felt like they had sufficient information about the crime (N = 84). Conversely, the questions were reworded to focus on the incompleteness of knowledge about the crime in the incomplete information condition (N = 73). The second measurement of truth knowing, and the other outcome measures followed. Participants were debriefed, and it was

highlighted that their knowledge about the crime was not more or less than before completing the study.

Dependent Measures. All items were measured on a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree) unless otherwise specified. Closure (α = .92) was measured with the same scale as in Studies 1 and 2. The measure of understanding was also the same, except that items now referred to the self-reported crime (e.g., I feel like I understand why the crime happened, α = .89). Anxiety **(**α = .90**)** and anger items **(**α = .98**)** were similarly reworded (e.g., I feel angry about the crime I experienced).

Truth Knowing. Truth knowing items were similarly revised and slightly reworded: "I feel satisfied with my current level of knowledge of the incident"; "I feel like I know the full story of the incident"; "I am satisfied that I know all I need to know about the incident"; "Overall, I feel like I know the truth about the incident" (for both pre- and post-manipulation measurements, α = .92).

Severity Reappraisal. Four items measured severity reappraisal with the stem "Since the crime occurred, I have learned information about the crime I experienced that": "has softened the blow"; "makes it seem worse than I initially thought" (reverse-coded); "suggests it was not so bad"; "put it in a more positive light" (α = .64).

Forgiveness. The Rye Forgiveness scale (Rye et al., 2001) was used to measure forgiveness towards the offender. One item was dropped ("I pray for the person who wronged me") as we recruited from a general population. Each item was rated on a 5-point scale (1 = Strongly Disagree, 5 = Strongly Agree). All 15 items were averaged (after recoding) to create a single forgiveness score (α = .90).

Time. The time since the crime occurred was measured by one item on a 9-point scale (1 = this week, 9 = more than 10 years ago).

Results

Descriptive statistics, *t*-tests, and effect sizes are reported in Table 3. Independent *t*-tests showed there were no significant existing group differences on truth knowing (at baseline, prior to manipulation), severity reappraisal, nor understanding. However, after the experimental manipulation, participants in the complete information condition reported greater truth knowing and closure, and lower anger, than the incomplete information condition.

Mediation Analyses. Process Model 4 tested for indirect effects (Hayes, 2017) with percentile bootstraps set at 5,000 and 95% CI. The complete (vs. incomplete) information condition was a positive predictor of truth knowing, $a = 1.19$, $SE = 0.27$, $t(155) = 5.57$, $p < .001$, 95% CI = [0.67, 1.72]. Truth knowing was significantly positively related to closure, $b = 0.47$, $SE = 0.07$, $t(154) = 7.14$, $p < .001$, 95% CI = [0.34, 0.61], and the indirect effect of salience of information completeness through truth knowing was significant, $ab = 0.56$, $SE = 0.16$, 95% CI = [0.28, 0.90].

Truth knowing was also significantly negatively related to anger, $b = -0.24$, $SE = 0.08$, $t(154) = -3.11$, $p = .002$, 95% CI = [-0.40, -0.09], and the indirect effect of salience of information completeness through truth knowing was significant, $ab = -0.17$, $SE = 0.07$, 95% CI = [-0.33, -0.05]. Similar to Study 2, and contrary to Study 1, truth knowing was not significantly negatively related to anxiety, $b = -0.16$, $SE = 0.09$, $t(154) = -1.78$, $p = .07$, 95% CI = [-0.34, 0.02], and the indirect effect of salience of information completeness through truth knowing was not significant, $ab = -0.19$, $SE = 0.13$, 95% CI = [-0.47, 0.05].

Table 3

Bivariate Correlations, Descriptive and Inferential Statistics for All Variables in Study 3

	Condition				Correlations								
Variable	Complete *M* (*SD*)	Incomplete *M* (*SD*)	(df) *t*	*d*	1	2	3	4	5	6	7	8	9
1. Truth Knowing (BL)	4.82 (1.72)	4.54 (1.84)	(155) = -0.98	0.16	-	.01	.60***	.72***	.37***	-.13	-.08	.15	.15
2. Severity Reappraisal	3.16 (1.24)	2.96 (1.18)	(155) = -1.04	0.17		-	.15	.22**	.37***	-.44***	-.19*	.32***	-.23**
3. Understanding	4.60 (1.66)	4.42 (1.68)	(155) = -0.66	0.11			-	.57***	.55***	-.29***	-.21**	.34***	.09
4. Truth Knowing	4.85 (1.60)	3.65 (1.74)	(155) = -4.47***	0.72				-	.53***	-.28***	-.17*	.27**	.13
5. Closure	5.33 (1.55)	4.66 (1.62)	(155) = -2.62*	0.42					-	-.38***	-.38***	.66***	.15
6. Anger	4.78 (1.81)	5.36 (1.48)	(154.5[2]) = 2.16*	0.35						-	.40***	-.55***	-.05
7. Anxiety	3.42 (1.81)	3.87 (1.93)	(155) = 1.52	0.24							-	-.61***	-.22**
8. Forgiveness	3.27 (0.87)	3.12 (0.79)	(155) = -1.11	0.18								-	.18*
9. Time	7.39 (1.67)	7.08 (1.73)	(155) = -1.15	0.18									-

Note. BL = baseline; *$p < .05$, **$p < .01$, ***$p < .001$. [2] unequal variance reported due to violated homogeneity of variance assumption.

However, truth knowing was again significantly positively related to forgiveness, b = 0.13, SE = 0.04, $t(154) = 3.24$, $p = .001$, 95% CI = [0.05, 0.20], and the indirect effect of salience of information completeness through truth knowing was significant, $ab = 0.15$, SE = 0.07, 95% CI = [0.04, 0.31].

General Discussion

Crime victims say they want the truth. But do victims want the truth or specific information that serves other instrumental needs? Our results suggest there is inherent value in truth. The perception of more complete information provides victims with a subjective sense of truth knowing that, independent of instrumental value from content, leads to greater closure, reduced anger, and is associated with increased forgiveness.

Victims often report frustrations in their search for truth; victims are frustrated with criminal justice systems not sharing information to avoid prejudicing evidence (Goodrum, 2007). Our approach of seemingly withholding information in Studies 1 and 2 indeed reduced victims' perceptions of procedural fairness. Yet, our results suggest that withholding information from victims has implications over and above perceptions of fairness; it limits truth knowing and, through this, limits closure, anger regulation, and forgiveness.

We emphasize that our studies are not a blueprint for interventions that trick victims. Law enforcement or other truth providing bodies could translate our findings into a practice of feigning greater knowledge to comfort victims. Such a practice would not only be unethical but may ultimately be harmful. Victims may lose trust in information providers and be more sceptical of the truth even when it is available which could maintain continued questioning and rumination about what really happened. Instead, the inherent value of truth suggests efforts should be made towards the provision of information to provide a complete picture rather than cunning methods of inducing a false sense of truth knowing in victims of crime.

Our research may offer support to victim-offender reconciliation efforts that promise greater victim satisfaction by delivering the full truth about crime. For example, the restorative justice movement aims to repair the damage done to victims through facilitating dialogue between victim and offender (Braithwaite, 2002). Restorative justice programs such as *victim-offender mediation* provide a platform for both parties to share their experiences of the crime as a means to construct a socially shared truth or consensus about the wrongdoing (Hansen & Umbreit, 2018). A similar rationale that the full disclosure and sharing of truth can facilitate psychological healing underlies other reconciliation efforts such as truth and reconciliation commissions (e.g., De la Rey & Owens, 1998). Our findings are encouraging for these practices because simply bringing the truth to light may satisfy victims' need to know, and through this, facilitate closure, reduce anger, and increase forgiveness.

An area of future consideration is what a satisfied need to know means for victims' willingness to engage with offenders. On the one hand, it is possible that having a sense of truth knowing may lead victims to a greater openness to engage constructively with the offender as the truth is seemingly out in the open; all the cards are on the table, so to speak. The downstream outcomes of closure, reduced anger, and increased forgiving sentiment may lead to greater success in interactions between a victim and offender in achieving restorative justice goals such as the healing of both parties and their social relationships (Armour & Umbreit, 2006). Determining whether, or when, truth knowing leads to greater or reduced willingness to engage with the offender, and the potential downstream consequences, may be a fruitful focus of future research.

Relatedly, it is notable in our research that completeness versus incompleteness of information showed the predicted indirect effects via truth knowing; however, there was no positive total effect on forgiveness. This was evident even in Study 3, where total effects on closure and anger were significant. It is possible that a sense of truth knowing may remove

any ambiguous feelings victims may have around what happened and the wrongfulness of the offender's actions. So, although the positive effects of truth knowing in providing closure and reducing anger could potentially provide fertile ground for forgiveness; truth knowing might also reduce ambiguity about the wrongdoing and limit victims' willingness to see or seek consensus with the offender (Okimoto & Wenzel, 2011).

Several potential limitations should be noted and addressed. Most measures reported in this paper were purpose-designed (e.g., truth knowing) or adapted from previous research (e.g., psychological closure) because no validated measures exist. Evidently, the lack of validated measures is a result of the lack of psychological research in this space and the novelty of truth knowing. Validation of psychological closure is overdue given some controversy over the construct (e.g., Lilienfeld et al., 2015; Weinstein, 2011). Future development of a fully validated and elaborated measure for truth knowing is also warranted given the demonstration here of the meaningful psychological outcomes for victims.

There are potential boundary conditions to truth that were not explored in this research. For example, victims of particularly heinous crimes often experience significant distress (Orth et al., 2008). Law enforcement (and other truth providing bodies) can be hesitant to share traumatic/disturbing truths to protect victims from experiencing any further harm or distress despite victims wanting the truth even when they expect it will be hurtful (Goodrum, 2007). Our research design of providing no additional information means we cannot provide an analysis for the cost of providing a hurtful truth to the benefit of truth knowing. It is possible that the truth may do more harm than good in particularly violent cases that limits or dulls the benefit of truth knowing. Another possibility is that victims of particularly violent crimes are satisfied they know the truth but have decided that their mind is made up and nothing will change their thoughts or feelings (e.g., the truth will not bring their loved one back; therefore, the offender is unforgivable). Whether the seriousness of the

crime is a boundary condition for truth knowing is an important question to be examined by future research.

We were unable to account for some potential moderating effects on the relationship between the completeness of information and truth knowing. It is possible that the perception of truth knowing arising from the information provided by law enforcement may vary as a function of victim characteristics. For example, it is possible that some victims due to race, socio-economic status, or previous experiences of crime, feel a diminished sense of truth knowing after getting information from distrusted sources such as law enforcement *even* if the information is relatively complete (Bolger & Walters, 2019; Tyler et al., 2015). Conversely, these victims may feel even more so in the dark about what happened if the information from law enforcement appears incomplete than victims that had positive attitudes or positive experiences with law enforcement. Our samples were relatively homogenous (i.e., predominantly White/Caucasian) meaning that our findings may not capture this potential variance in truth knowing experiences. Future research should explore potential moderators of truth effects, including individual, contextual, and social-normative factors, as these may need to be considered to maximise victims' satisfaction with the truth.

Studies 1 and 2 relied on vignettes that asked participants to imagine themselves as victims of a crime. Although participants appeared to perceive the event as severe, and the manipulations functioned as intended; there are potential concerns for external validity because imagined situations may not generalise to real circumstances. This limitation was noted; hence, Study 3 focused on actual victims of crime. The findings of Studies 1 and 2 converged with those of Study 3 that included actual crime victims suggesting that we can have greater confidence in the validity of the findings.

A related concern is that people often make forecasting errors when thinking about how they would feel and what they would do in a situation because it is demonstrably

different to what people actually feel and do in that situation (Wilson & Gilbert, 2005). Yet, we asked participants to reflect on what they *currently* know and feel about the incident. Our instructions did not specify participants to reflect on how much closure they would feel if they were provided with more or less information. Thus, it did not require people to make affective forecasts about how more or less information about the crime would make them feel.

However, our findings may speak to a potential forecasting error in the expected value of truth. There is a growing sentiment that the value of truth is overstated because the truth fails to deliver on expected instrumental outcomes (Daly, 2008; Mendeloff, 2004). Our findings suggest that if there is a forecasting error for truth then it lies in the expected instrumental utility of truth, and not because the truth holds no inherent value. That is, there may be some veracity to truth not being a panacea for victims as clearly not all versions of the truth will afford instrumental value such as satisfying victims' need for understanding. Instead, the inherent value of truth is in providing a fuller picture and an important step towards closure. Making salient the inherent value of truth may lead to more precise expectations for truth, greater victim satisfaction with obtaining the truth, and a greater appreciation of truth providing bodies by extension.

To conclude, the demonstration of its inherent value suggests that truth should not be compromised in dealings with victims of crime or, potentially, other interpersonal or intergroup transgressions. The truth may have inherent value in promoting feelings of knowing the full story – simply the subjective sense of truth knowing may help victims heal.

Chapter 3: Does Truth Knowing Decrease Victims' Post-Transgression Rumination?

A characteristic response to being victimised by others is difficulty putting out of mind those times of insult, betrayal, hurt, or mistreatment. Mental replay or rehashing is what is known as *rumination*, the frequent, repetitive thinking about feelings, concerns, or features of a distressing event (McCullough, et al., 2001; Watkins, 2008). The consensus in the literature on psychological well-being appears to be that rumination is a barrier to post-transgression adjustment. For example, rumination has been linked to a lack of *psychological closure*, a subjective sense of the victimising event being in the past, not present (Beike & Wirth-Beaumont, 2005; Crawley, 2010). Recalling and replaying these episodes of being wronged incites anger and keeps the wronged feeling victimised (McCullough et al., 1998). Rumination not only elicits and maintains anger, but also other emotions such as sadness and anxiety (for a review, see Kirkegaard Thomsen, 2006). Rumination also inhibits the emotional recovery process (Zetsche et al., 2009). Finally, forgiveness of the offending party is also impeded by ongoing victim rumination (McCullough et al., 2007; Ysseldyk, et al., 2007; for a review, see Fehr et al., 2010).

How can victims, the ones that have been disrespected, deceived, or harmed by somebody, cease ruminating on the hurtful experience? Psychological research on rumination from a Control Theory of rumination perspective (Martin & Tesser, 1996) would specify that rumination is triggered by a discrepancy between one's current progress towards obtaining a goal and ideal level of goal progress. Therefore, incomplete, or unresolved wants of victims may drive them to ruminate on the experience. The present research investigates a specific victim motivation or goal, namely for 'the truth'; the need to know what happened, which is commonly experienced by victims after wrongdoing (Borton, 2009; Stretesky et al., 2010). So far, research has yet to apply Control Theory and the mechanism of unresolved goals that drives rumination to examine if victims might ruminate because of a lack of knowing the

truth, and equally, how victims might cease ruminating if satisfied with their level of truth. Accordingly, the present research was an exploration of whether rumination may be attenuated when victims have a sense of *truth knowing*, the subjective sense of having complete information about the event (Quinney et al., 2022).

Rumination

Rumination has captured researchers' attention because it is notoriously difficult to shift due to its cyclical nature. Indeed, rumination has been labelled as a 'never-ending cycle' (Matthews & Wells, 2004, p. 147), and a 'vicious cycle' (e.g., Sarin & Nolen-Hoeksema, 2010, p. 72). An examination of the psychological literature thus emphasizes how victims' recovery from stressful experiences proves difficult when rumination is ongoing.

Two major theoretical frameworks could be applied to understanding the psychological mechanism underlying victims' continued rumination (for a review, see Watkins & Roberts, 2020). The most prominent perspective is the Response Styles Theory (Nolen-Hoeksema, 1991) that views rumination on a trait continuum in the context of low mood and depression. The second theoretical framework that could account for how victims' rumination about wrongdoing is initiated and maintained is the Control Theory of rumination (Martin et al., 1993; Martin & Tesser, 1996). According to this view, rumination is a behavioural response to a perceived discrepancy between one's current goal progress and one's subjective ideal level of progress (Carver & Scheier, 1990).

Victims' rumination in Response Styles Theory (Nolen-Hoeksema, 1991) would be conceptualised as a response to depressed mood or sadness caused by the wrongdoing in a thinking-style that involves an unconstructive, passive focus on negative affect (e.g., "why am I letting this person's actions get to me?"). The duration and severity of rumination would be determined by victims having higher trait-tendencies to ruminate possibly leading to the development of clinical depression (Nolen-Hoeksema, 2000). However, this theory speaks

more to individual differences in trait rumination. It may not account for why victims of wrongdoing continue to ruminate about one particular distressing experience other than an unhelpful trait disposition that maintains feeling upset.

Alternatively, victims' rumination in Control Theory of rumination would be conceptualised as a behavioural response to a perceived discrepancy between one's current goal progress and one's subjective ideal level of progress (Carver & Scheier, 1990). Essentially, rumination is a form of the Zeigarnik effect (Zeigarnik, 1938), meaning that victims would experience an increase in the frequency and accessibility of thoughts when they perceive to have unattained goals or are making unsatisfactory progress towards attaining a goal (Martin & Tesser, 1996). Victims' rumination would thus be a form of persistent goal-directed thoughts that would continue until satisfactory goal obtainment feedback is obtained or the goal is abandoned (Martin et al., 2004; Martin & Tesser, 1989). This makes Control Theory distinct from Response Styles Theory (Nolen-Hoeksema, 1991; Nolen-Hoeksema et al., 2008), because any unresolved issue may prompt rumination; one does not need to be a 'ruminator' to engage in rumination.

There is empirical evidence to support Control Theory's notion that people ruminate because of an unmet need for completion or resolution. For example, a cross-sectional study found that females who were not in a romantic relationship but committed to the goal of being coupled, reported lower satisfaction with life, and this was mediated by greater rumination on being single (Gebhardt et al., 2010). Moberley and Watkins (2010) used experience-sampling to collect participants' level of rumination, negative affect, and level of goal progress evaluations (i.e., whether the goal was successfully attained), eight times a day over a week. Findings supported the notion that appraisals of low goal success were associated with rumination, and rumination was positively related to negative affect.

Experimental research has established the causal ordering of unresolved goals leading to greater rumination. Roberts et al. (2013) asked participants to either think about an unresolved concern or a resolved concern. Following the manipulation, a sustained attention to response task (Robertson et al., 1997) was utilised that periodically probed participants' attention to query participants' thoughts immediately before the probe. Participants cued with the unresolved concern reported a greater frequency of ruminative thoughts about their concern than participants cued with a resolved concern.

In sum, victims may continue to ruminate on experienced wrongdoing as a function of an unattained goal (Martin & Tesser, 1996). The empirical evidence presented supports the notion that an unmet need for completion or resolution may be a proximal mechanism underlying rumination (Martin & Tesser, 1989; Martin et al., 1993). Moreover, continued rumination has psychological consequences, with rumination being shown to have a positive relationship with negative affect (Moberley & Watkins, 2010), and a negative relationship with positive psychological states (Gebhardt et al., 2010).

Goal Motivations Underlying Victim Rumination

Psychological literature examining victims' rumination so far has largely explained rumination as motivated by a goal for sense-making or meaning-making (for a review, see Park 2010). Victims' perceptions of themselves, others, or the world, may be disrupted by serious wrongdoing (Janoff-Bulman, 1992), which could initiate rumination as a means to understand the event or why the wrongdoing happened (Michael & Snyder, 2005; Milman et al., 2019). Rumination can be a functional response to a disrupted sense of meaning as it may help victims to find meaning or make sense of the victimising event through the cognitive processes of assimilation (i.e., reappraising the event to make it fit with how the victim sees themselves, others, or the world) or accommodation (i.e., revising how the victim sees themselves, others, or the world, to make the event fit). There is empirical evidence to

suggest rumination will indeed cease once meaning has been found or restored (e.g., Silver et al., 1983).

Yet, there are few studies, if any, that have examined non-meaning making motivations that may be driving victims' rumination. In particular, what has not been considered in the rumination literature is whether victims' rumination may be instigated and maintained by a goal to obtain 'the truth', to have a complete account of what happened. A motivation to get the truth about what happened is a potential candidate driving victims' rumination given that the truth is often sought by victims after experiencing wrongdoing (Borton, 2009; Van Camp & Wemmers, 2014). Indeed, some victims report being consumed by the need to know what happened and dedicate significant time and effort to obtaining the truth (e.g., Stretesky et al., 2010).

Theoretically, an unsatisfactory level of truth or knowledge about the event driving victims' rumination would fit within a Control Theory perspective (Martin & Tesser, 1996). The perceived lack of truth may represent a lack of an ideal level of progress or obtainment of an important goal that would function akin to the Zeigarnik effect causing persistent thoughts (Zeigarnik, 1938). Functionally, rumination may be a cognitive attempt to piece together what happened or to fill in the blanks. Thus, rumination would cease once the victim perceives to have obtained the truth, the 'whole' picture, or at least made progress towards its obtainment (Carver & Scheier, 1990).

Previous research provides a means to examine the effects of victims being more or less satisfied in their level of truth about the wrongdoing. Quinney et al. (2022) found that participants who answered a set of questions that made salient the completeness of their level of knowledge about a real-life experienced crime, reported a greater sense of *truth knowing*, a subjective sense of knowing the full account of what happened, compared to participants answering a set of questions that made salient the incompleteness of their level of knowledge

about the crime. Truth knowing was in turn related to greater psychological closure, less anger, and greater forgiveness.

Of course, there is a potential overlap between meaning-making motivations and motivations for knowing the truth. On the one hand, a victim's goal to obtain the truth may be an extrinsic kind of motivation for instrumental outcomes (e.g., meaning-making). In this case, getting the truth would be a means to an end, not an end in itself. Victims would continue to ruminate if the truth did not satisfy their outcome-based reasons for wanting it. For example, if the truth did not readily make sense, then rumination, and the associated distress, would continue (e.g., Wilson & Gilbert, 2008). This would ultimately mean that the effects of knowing the truth on victims' rumination would depend on what the truth is.

On the other hand, the goal for truth may be more 'pure' or intrinsically motivated. The goal for truth may be independent of outcome-based reasons such as understanding what happened. An intrinsic motivation for truth may be an epistemic goal, to fill in knowledge gaps, resolve discrepancies, or to simply satisfy one's curiosity (Litman et al., 2005). That is, victims may want the truth as an end in itself and be satisfied by simply obtaining the truth. An intrinsic motivation for truth necessarily implies a less content-specific motivation than an extrinsic motivation because an intrinsic motivation does not necessitate obtaining certain kinds of truth to achieve an ulterior goal. Instead, the goal for truth is simply to get the 'whole truth', the complete picture, or the full story.

Thus, the effects from the content that truth provides to a victim must be addressed to avoid confounding the effect of truth. The solution in the non-experimental studies is to measure and control for the potential confounding effects that one may derive from the content of truth (e.g., sense-making qualities of truth) from the subjective sense of truth knowing. The experimental study utilises a manipulation of knowledge salience or truth

knowing (Quinney et al., 2022) that actually provides no further information, thus avoiding a confounding effect of truth content.

The Present Research

This research takes a Control Theory perspective (Martin & Tesser, 1996) that states a discrepancy between current and ideal level goal progress may underlie why victims ruminate on the wrongdoing. A goal to obtain 'the truth' (i.e., having a complete account of what happened) is often voiced by victims following wrongdoing (e.g., Van Camp & Wemmers, 2014). Accordingly, this research investigates whether victims' rumination may be attenuated by a sense of *truth knowing*, a subjective sense of knowing the full account of what happened.

All participants responded in relation to an experienced real-life transgression. It was not a requirement that participants report a criminal offence as the experienced transgression. The focus on non-specific interpersonal transgressions was to explore the generalisability of truth knowing beyond a crime and criminal justice context. Indeed, victims of interpersonal wrongdoings report wanting the whole truth in other wrongdoing contexts (e.g., infidelity; Glass, 2007) suggesting that truth knowing may have benefits for victims generally, and not exclusively for victims of crime.

There are three pre-registered studies with different methodologies in this chapter. Study 1 was a cross-sectional, retrospective recall of an experienced wrongdoing. This was a preliminary examination of whether truth knowing is a negative predictor of rumination, in addition to whether rumination may mediate the effect of truth knowing on other outcomes (e.g., negative affect). Study 2 was an experiment that examined whether participants that reflected on the completeness of their knowledge about the wrongdoing would cause reduced rumination (vs. participants that reflected on incompleteness) during a subsequent reading task that intermittently probed participants' thoughts. Study 3 was a longitudinal study that captured victims' thoughts and feelings at three timepoints. First, within 24 hours of an

experienced transgression, and then two days later, and again, two days later. All studies reported in this chapter were preregistered and preregistrations included a study design, hypotheses, power analyses, inclusion/exclusion criteria, and pre-planned primary analyses. Also, there were further exploratory analyses conducted that are available in the Supplemental Material. Finally, both the preregistrations and Supplemental Material are accessible at: https://osf.io/2gq6r/?view_only=3bbd92bf74494406be1d5b843448375e.

Study 1

In Study 1, participants were asked to recall a time when somebody transgressed against them and respond to measures capturing how they *currently* think and feel about the wrongdoing. This was an attempt to find preliminary, cross-sectional evidence that truth knowing has a relationship to rumination. Moreover, rumination was treated as a mediator to examine the possible downstream effects of truth knowing on reducing rumination and, in turn, promoting positive psychological states (e.g., psychological closure, forgiveness), and reducing negative affect (e.g., anger), given past evidence that rumination has implications for continued psychological and emotional disturbance (Kirkegaard Thomsen, 2006).

Rumination was operationalised as the Event-Related Rumination Inventory (ERRI; Cann et al., 2011) given that Control Theory (Martin & Tesser, 1996) typically conceptualises rumination as revolving around a specific theme (i.e., the experienced wrongdoing for this study). The ERRI decomposes rumination into the two types of ruminative repetitive thinking commonly observed following a distressing event (Taku et al., 2009). The first type, intrusive rumination, involves thoughts or feelings about the incident that repeatedly come into awareness uninvited. Second, deliberative rumination involves a voluntary, controlled thought-pattern of trying to understand the experience or problem solve.

The research interest is on the effects of truth knowing, which is argued to be a motivation separate to those afforded by the content of the truth, such as mitigating appraisals

(e.g., the wrongdoing was not personal) or sense-making (e.g., I now understand why it happened). This led to the inclusion of a number of control measures given the cross-sectional design to account for the potential confounding effects of what participants have learned about the wrongdoing since it occurred that might have alleviated their experience of rumination (i.e., the effects of the content of truth).

In summary, it is predicted that the effects of truth knowing on psychological closure, negative affect, and forgiveness to be mediated by rumination (indirect effects). It is hypothesised:

1. Truth knowing will be negatively related to rumination.
2. Rumination will be negatively related to, and mediate the effect of truth knowing on, psychological closure (H2a), and forgiveness (H2b).
3. Rumination will be positively related to, and mediate the effect of truth knowing on, anger (H3a), anxiety (H3b), and sadness (H3c).

Method

Participants. A Monte Carlo power analysis simulation was used for simple mediation (Schoemann et al., 2017). Population parameters for the model were determined using the correlation matrix and standard deviations option utilising population estimates from pilot data. The power analysis revealed that approximately 270 participants were required to achieve 80% statistical power for detecting the first hypothesised indirect effect (i.e., Hypothesis 2a). A decision was made to request an additional 10 participants for a total of 280 participants to account for predicted power loss due to excluding observations. Sign-ups were screened by an English Proficiency Test with 10 short grammar questions with three options (e.g., when do you study? At school, in the evenings, in the library). Sign-ups were presented with an ineligibility screen if fewer than 8 questions were answered correctly. Data from 282 Amazon Mechanical Turk participants from the United States of America were

received. Complete data from 2 additional participants were received than requested possibly due to these participants not submitting their completion code to Amazon Mechanical Turk. However, data from 51 participants were removed prior to analyses due to meeting the pre-registered exclusion criteria of either providing an invalid text entry response describing the experienced wrongdoing or failing more than one attention check item. In total, data from 231 participants were eligible for analysis (128 female; 20 – 79 years old; M_{age} = 40.3).

Procedure and Materials. Potential participants were presented with an eligibility screening question: *In this study, we are interested in people's responses following an interpersonal transgression where someone seriously offended or mistreated them. An interpersonal transgression may be when someone treated you unfairly, demonstrated a lack of consideration for you, or your relationship, someone harmed you, or someone betrayed 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 about the incident or offense. Have you ever experienced a serious interpersonal transgression?* There was a dichotomous response option, yes or no. Responding no led to an ineligibility screen.

Following a yes response to the screening, participants were then asked to provide a two-sentence description of the transgression. Participants then responded to two categorical questions, first, the type of transgression experienced (27.7% betrayal of trust, 17.3% insult, 13% infidelity, 9.5% other, 8.2% rejection, 7.8% termination of relationship, 6.9% physical abuse, 4.8% verbal fight or argument, 4.8% betrayal of confidence). The second question asked about the relationship with the offender (27.3% significant other, 22.9% work colleague, 20.8% close friend, 18.6% family member, 3.5% acquaintance, 3.5% stranger, 3.5% other).

Participants then responded to the items capturing the main predictor variable, that is, how much they thought they knew about the transgression (truth knowing). Participants then responded to the items that tap into the potential alleviating aspects of truth content, knowing mitigating details (severity reappraisal), and knowing sense-making information (coherency). These two latter content related measures were taken to separate out and control for the effects of *what* victims know to examine the independent effect of truth knowing on reducing rumination. Additional trait measures (e.g., Need for Closure; Webster & Kruglanski, 1994; Roets & Van Hiel, 2011) were also taken to explore the possibility of moderation due to individual differences.

Participants then completed the remaining dependent measures and were debriefed. All items listed below were measured on a 7-point Likert scale (1 = Strongly Disagree, 7 = Strongly Agree), unless otherwise stated. All items under a scale heading were averaged to create a single scale after appropriate recoding. (R) = reverse-coded.

Truth Knowing. Four items tapped the main predictor variable: "I am satisfied that I know all I need to know about the incident"; "I feel like I know the full story of the incident"; "I feel like I have the complete picture of the incident"; "I feel like there is more to know about the incident" (R), ($\alpha = .84$).

Severity Reappraisal. Four items using the stem "Since the incident occurred" assessed the potential mitigating effects of information: "I have learned information about the incident that has softened the blow"; "I have learned information about the incident that makes it seem worse than I initially thought" (R); "I have learned information about the incident that suggests it was not so bad"; "I have learned information about the incident that puts it in a more positive light", ($\alpha = .63$).

Coherency. Four items related to the potential understanding or sense-making afforded by information: "I am able to comprehend the information I have about the

incident"; "What I know about the incident fits together"; "What I know about the incident is incomprehensible" (R); "The details that I know about the incident are clear in my mind", (α = .65).

Psychological Closure. Psychological closure was measured by four items: "I have closure over the incident"; "The incident is a 'closed book' to me"; "I have moved on from the incident"; "The incident feels like it is now complete" (α = .94; Quinney et al., 2022; Skitka et al., 2004).

Anger. Two items measured anger: "I feel Angry when thinking about the incident", and "I feel Mad when thinking about the incident" (α = .95).

Anxiety. Two items measured anxiety: "I feel anxious when thinking about the incident", and "I feel worried when thinking about the incident" (α = .84).

Sadness. Two items measured sadness: "I feel depressed when thinking about the incident", and "I feel sad when thinking about the incident" (α = .86).

Rumination. Rumination about the reported incident was captured by the Event-Related Rumination Inventory (ERRI; Cann et al., 2011). The ERRI contains 20-items designed to measure rumination during the weeks after a specific event. However, the description was reworded to focus on more recent thinking. The description read, *"Evaluating how you have tended to think about the incident nowadays, indicate for the following items how often, if at all, you had the experiences described"*. The ERRI consists of two subscales: intrusive rumination (e.g., "I thought about the event when I did not mean to"; α = .94), and deliberate rumination (e.g., "I thought about the event and tried to understand what happened"; α = .86). Each item was rated on a 4-point scale (1 = Not at all, 4 = Often).

Forgiveness. Forgiveness was measured by the Rye Forgiveness scale (RFS; Rye et al., 2001). The RFS contains two subscales; the Presence of Positive subscale consists of 5 items (e.g., "I have compassion for the person who wronged me"). One item was dropped

from this subscale (i.e., “I pray for the person who wronged me”) to make the scale more relevant to a general population. The second subscale is the Absence of Negative subscale that consists of 10 items (e.g., “I have been able to let go of my anger toward the person who wronged me”). The two RFS subscales were combined into a total forgiveness score after appropriate recoding ($\alpha = .89$). Each item was rated on a 5-point scale (1 = Strongly Disagree, 5 = Strongly Agree).

Trait Rumination-Reflection. The Rumination-Reflection Questionnaire (RRQ; Trapnell & Campbell, 1999) was used to measure trait tendencies to engage in rehashing or replaying forms of rumination, and reflective forms of rumination. The RRQ consists of two 12-item subscales, Rumination (RRQ Rumination, e.g., “I tend to “ruminate” or dwell over things that happen to me for a really long time afterward”; $\alpha = .94$), and Reflection (RRQ Reflection, e.g., “I love to meditate on the nature and meaning of things”; $\alpha = .90$). Each item was rated on a 5-point scale (1 = Strongly Disagree, 5 = Strongly Agree) and averaged to create the appropriate subscale after recoding.

Need for Closure. The revised Need for Closure Scale (NFC; Roets & Van Hiel, 2011) was included to capture an individual’s need for a firm or definite answer (Kruglanski & Fishman, 2009; Webster & Kruglanski, 1994). Accordingly, participants with a greater need for closure may demonstrate heightened effects from a sense of truth knowing. The revised NFC contains 15 items (e.g., “I feel uncomfortable when I don’t understand the reason why an event occurred in my life”) that assess trait levels for need of definitive knowledge. Each item was rated on 6-point Likert scale from 1 (completely disagree) to 6 (completely agree) and averaged into a single score ($\alpha = .90$).

Time. How long it has been since the crime occurred was measured on a 9-point scale from 1 (this week) to 9 (more than 10 years ago). The scale was time-variant meaning that the

temporal distance increased between points (e.g., 3 = between 1-3 months ago; 5 = between 6-12 months ago).

Results

Descriptive statistics and zero-order correlations are reported in Table 1 (above the diagonal). Truth knowing was significantly negatively related to intrusive and deliberative rumination as predicted. Yet, there were observed differences in relationships between the two types of rumination. The negative relationship was stronger between truth knowing and intrusive rumination than deliberative rumination. Intrusive rumination was significantly negatively related to psychological closure. Conversely, deliberative rumination was not significantly related to psychological closure. Intrusive rumination was more strongly negatively related to forgiveness than deliberative rumination. Intrusive rumination also had greater positive relationships to anger, anxiety, and sadness, than deliberative rumination.

There are partial correlations after controlling for severity reappraisal, and coherency, in Table 1 (under the diagonal). Again, the interest is in examining the relationship between truth knowing and the outcome variables independent of information content effects of mitigating information (severity reappraisal) or understanding (coherency). Controlling for severity reappraisal and coherency did not greatly affect many of the observed relationships except two relationships were no longer statistically significant. First, the negative relationship between truth knowing and deliberative rumination was no longer statistically significant. Second, truth knowing, and time were also no longer significantly related.

Table 1

Bivariate Zero-Order Correlations and Partial Correlations (After Controlling for Severity Reappraisal and Coherency)

Variable	*M* (*SD*)	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Truth Knowing	5.09 (1.43)	-	-.29***	-.13*	.34***	-.08	-.27***	-.21**	.20**	-.26***	.00	-.19**	.13*	-.01	.45***
2. Intrusive Rumination	2.51 (0.77)	-.23**	-	.56***	-.47***	.44***	.59***	.60***	-.49***	.47***	.07	.26***	-.28***	-.07	-.20**
3. Deliberative Rumination	2.78 (0.67)	-.10†	.56***	-	-.12	.29***	.36***	.30***	-.19**	.18**	.38***	.17**	-.13*	.03	-.09
4. Psychological Closure	4.82 (1.74)	.31***	-.45***	-.12	-	-.48***	-.46***	-.48***	.59***	-.42***	.08	-.07	.29***	.31***	.16*
5. Anger	4.94 (1.74)	-.08	.44***	.32***	-.48***	-	-.45***	.46***	-.62***	.38***	.02	.25***	-.17**	-.37***	-.01
6. Sadness	3.96 (1.83)	-.20**	.57***	.35***	-.46***	-.48***	-	.72***	-.47***	.44***	.07	.21*	-.24**	-.02	-.22**
7. Anxiety	3.44 (1.81)	-.13*	.59***	.29***	-.48***	.53***	.71***	-	-.49***	.44***	.07	.26***	-.39***	.08	-.22**
8. Forgiveness	4.42 (0.84)	.17*	-.48***	-.20**	.59***	-.58***	-.47***	-.52***	-	-.45***	.11	-.14*	.16*	.27***	.10
9. RRQ Rumination	3.73 (0.97)	-.25***	.46***	.18**	-.42***	.36***	.43***	.48***	-.42 ***	-	.12	.29***	-.09	-.14*	-.08
10. RRQ Reflection	4.24 (0.76)	-.09	.12	.40***	.08	.06	.12	.11	.08	.15*	-	.02	.00	.07	.18**
11. NFC	4.72 (1.63)	-.21**	.26***	.17**	-.07	.28***	22**	26***	-.15*	.29***	.02	-	-.03	.02	-.01
12. Time	6.62 (2.14)	.11†	-.27***	-.12	.29***	-.22**	-.23**	-.37***	.19**	-.10	-.01	-.03	-	-.11	-.09
13. Severity Reappraisal	3.04 (1.27)	-	-	-	-	-	-	-	-	-	-	-	-	-	-.08
14. Coherency	5.41 (1.03)	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note. *$p < .05$, **$p < .01$, ***$p < .001$, † $p > .05$ but zero-order correlation was significant. Partial correlations are below the diagonal.

Mediation Analyses. Process Model 4 was used to test for simple mediation using bootstrapped percentile confidence intervals to test for the indirect effect (Hayes, 2017). Estimates of the 95% confidence intervals were based on 5000 bootstraps. The measures of severity reappraisal, and coherency, were entered as covariates for the following analyses to determine whether truth knowing has an independent effect from information content related constructs. There are of course limitations to using cross-sectional data for mediation and causal language was tempered accordingly (Fiedler et al., 2018).

Intrusive Rumination. The first analyses conducted were to examine the indirect relationships of truth knowing to outcome variables mediated by intrusive rumination while including the covariates of severity reappraisal and coherency. First, truth knowing was a significant negative predictor of intrusive rumination, b = -0.13, SE = 0.04, $t(227)$ = -3.47, $p < .001$, 95% CI = [-0.21, -0.06]. **S**everity reappraisal was not a significant predictor, b = -0.05 SE = 0.04, $t(227)$ = -1.27, p = .21, 95% CI = [-0.12, 0.03], nor was coherency, b = -0.07, SE = 0.05, $t(227)$ = -1.35, p = .18, 95% CI = [-0.18, 0.03]. In turn, intrusive rumination was significantly negatively related to psychological closure, b = -0.86, SE = 0.13, $t(226)$ = -6.72, $p < .001$, 95% CI = [-1.11, -0.61]. The predicted indirect effect of truth knowing on psychological closure through intrusive rumination was significant, ab = 0.11, SE = 0.04, 95% CI = [0.04, 0.20]. Although not explicitly predicted, the direct effect of truth knowing on psychological closure was also significant, c' = 0.27, SE = 0.75, 95% CI = [0.13, 0.42]. Intrusive rumination was also significantly negatively related to forgiveness, b = -0.50, SE = 0.06, $t(226)$ = -7.77, $p < .001$, 95% CI = [-0.63, -0.37]. The predicted indirect effect of truth knowing on forgiveness through intrusive rumination was significant, ab = 0.07, SE = 0.02, 95% CI = [0.03, 0.11].

Intrusive rumination was significantly positively related to anger, b = 0.97, SE = 0.13, $t(226)$ = 7.31, $p < .001$, 95% CI = [0.71, 1.23]. The predicted indirect effect of truth knowing

on anger through intrusive rumination was significant, *ab* = -0.13, *SE* = 0.04, 95% CI = [-0.22, -0.05]. Intrusive rumination was also significantly positively related to anxiety, *b* = 1.39, *SE* = 0.13, *t*(226) = 10.8, *p* < .001, 95% CI = [1.13, 1.64]. The predicted indirect effect of truth knowing on anxiety through intrusive rumination was significant, *ab* = -0.18, *SE* = 0.06, 95% CI = [-0.30, -0.07]. Finally, intrusive rumination was significantly positively related to sadness, *b* = 1.32, *SE* = 0.13, *t*(226) = 9.86, *p* < .001, 95% CI = [1.05, 1.58]. The predicted indirect effect of truth knowing on sadness through intrusive rumination was significant, *ab* = -0.17, *SE* = 0.06, 95% CI = [-0.29, -0.07].

Deliberative Rumination. Similarly, analyses were conducted to examine the indirect relationships of truth knowing to outcome variables mediated by deliberative rumination while considering severity reappraisal and coherency as covariates. Truth knowing was not a significant predictor of deliberative rumination, *b* = -0.05, *SE* = 0.03, *t*(227) = -1.55, *p* = .12, 95% CI = [-0.12, 0.01], nor was severity reappraisal, *b* = 0.02 *SE* = 0.03, *t*(227) = 0.46, *p* = .64, 95% CI = [-0.05, 0.08], nor coherency, *b* = -0.03, *SE* = 0.05, *t*(227) = -0.52, *p* = .60, 95% CI = [-0.12, 0.07]. In turn, deliberative rumination was also not significantly negatively related to psychological closure, *b* = -0.23, *SE* = 0.15, *t*(226) = -1.47, *p* =.14, 95% CI = [-0.53, 0.08]. The indirect effect of truth knowing on psychological closure through deliberative rumination was not significant, *ab* = 0.01, *SE* = 0.14, 95% CI = [-.01, 0.03]. Conversely, deliberative rumination was significantly negatively related to forgiveness, *b* = -0.23, *SE* = 0.08, *t*(226) = -2.86, *p* =.01, 95% CI = [-0.38, -0.07]. However, the indirect effect of truth knowing on forgiveness through deliberative rumination was not significant, *ab* = 0.01, *SE* = 0.01, 95% CI = [-0.01, 0.03].

While deliberative rumination was significantly positively related to anger, *b* = 0.77, *SE* = 0.16, *t*(226) = 4.98, *p* < .001, 95% CI = [0.47, 1.08], the indirect effect of truth knowing on anger through deliberative rumination was not significant, *ab* = -0.04, *SE* = 0.03, 95% CI

= [-0.11, 0.01]. Similarly, deliberative rumination was also significantly positively related to anxiety, b = 0.73, SE = 0.17 $t(226) = 4.34$, $p < .001$, 95% CI = [0.40, 1.07], but the indirect effect of truth knowing on anxiety through deliberative rumination was not significant, ab = -0.04, SE = 0.03, 95% CI = [-0.10, 0.01]. Finally, deliberative rumination was significantly positively related to sadness, b = 0.91, SE = 0.17, $t(226) = 5.45$, $p < .001$, 95% CI = [0.58, 1.23], but the indirect effect of truth knowing on sadness through deliberative rumination was not significant, ab = -0.05, SE = 0.03, 95% CI = [-0.12, 0.01].

Supplementary Moderation Analyses. Process Model 1 was used to test for moderation, again using 5,000 bootstraps to estimate percentile confidence intervals at 95% (Hayes, 2017). All measures entered were centred. Conditional effects were calculated for low and high levels of the moderator at the 16th percentile and 84th percentile, respectively.

The rumination and reflection subscales of the Rumination Reflection Questionnaire (RRQ, Trapnell & Campbell, 1999) were considered as possible moderators for the effects of truth knowing on rumination. There was no evidence that trait rumination moderated the effect of truth knowing on intrusive rumination, B = -0.01, SE =.03, p = .88, 95% CI [-0.07, 0.06], nor the effect of truth knowing on deliberative rumination, B = 0.01, SE =.03, p = .95, 95% CI [-0.06, 0.07]. Similarly, there was also no evidence that trait reflection moderated the effect of truth knowing on intrusive rumination, B = 0.08, SE =.05, p = .08, 95% CI [-0.01, 0.17], and no evidence for a moderating effect of truth knowing on deliberative rumination, B = -0.01, SE =.04, p = .72, 95% CI [-0.09, 0.06].

Time since the transgression occurred was considered as a possible moderator of the effect of truth knowing on rumination. An interaction effect between truth knowing and time was not evident for deliberative rumination, B = -0.02, SE =.02, p = .28, 95% CI [-0.05, 0.01]. However, there was a close to significant interaction effect between truth knowing, and

time, on intrusive rumination (see Table 2). The interaction was further analysed even despite the interaction not being significant given these were exploratory analyses.

Table 2

Moderated Regression of Time on Truth Knowing Predicting Intrusive Rumination

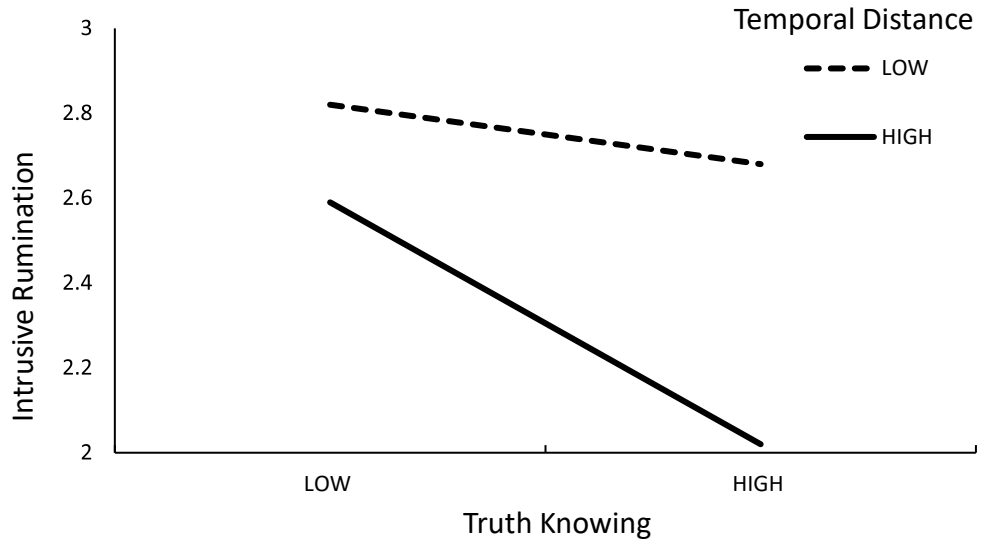
Variable	*B*	SE *B*	*p*	$CI_{95\%}$
Constant	2.72	.58	< .001	[1.58, 3.87]
Truth Knowing	0.07	.11	= .51	[-0.15, 0.30]
Time	0.07	.08	= .39	[-0.09, 0.24]
Truth Knowing x Time	-0.03	.02	= .05	[-0.06, 0.01]

Note. $R = .39$, $R^2 = .15$

Truth knowing was not significantly related to intrusive rumination for more recent incidents, $B = -0.05$, $SE = .05$, $p = .34$, 95% CI [-0.16, 0.06]. Conversely, truth knowing was significantly negatively related to intrusive rumination for incidents that happened a longer time ago, $B = -0.21$, $SE = .05$, $p < .001$, 95% CI [-0.31, -0.11].

Figure 1

The relationship between truth knowing and intrusive rumination as a function of time



Note. Truth knowing was negatively related to intrusive rumination for temporally distant, but not for temporally close, incidents.

A further test was conducted to explore whether a need for closure (NFC) would moderate the relationship between truth knowing and intrusive rumination. The results are displayed in Table 3. The main effects on intrusive rumination of truth knowing, and NFC, were significant. The interaction effect was approaching significance. At low levels of NFC, truth knowing was not significantly related to intrusive rumination, B = -0.08, SE = .04, p = .08, 95% CI [-0.17, 0.01], whereas at high levels of NFC, truth knowing was negatively related to intrusive rumination, B = -0.18, SE = .04, p < .001, 95% CI [-0.26, -0.10].

Table 3

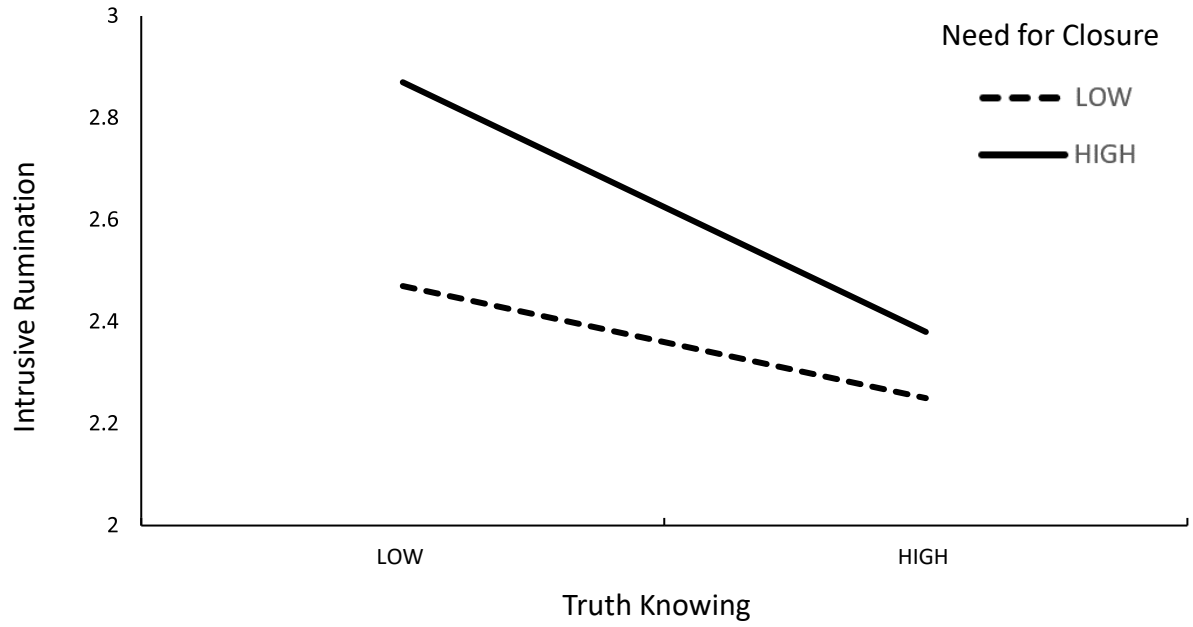
Moderated Regression for Truth Knowing Predicting Intrusive Rumination

Variable	*B*	SE *B*	*p*	$CI_{95\%}$
Constant	2.49	.05	< .001	[2.40, 2.59]
Truth Knowing	-0.13	.03	< .001	[-0.19, -0.06]
NFC	0.09	.03	= .002	[0.04, 0.15]
Truth Knowing x NFC	-0.04	.02	= .07	[-0.07, 0.01]

Note. R = .37,

Figure 2

The relationship between truth knowing and intrusive rumination conditional on Need for Closure (NFC)



Note. Truth knowing was significantly negatively related to intrusive rumination for individuals with high NFC, but not for those with low NFC.

Whether NFC would moderate the relationship between truth knowing and deliberative rumination was also tested. The results are displayed in Table 4. The main effect of truth knowing on deliberative rumination was not significant. However, the main effect of NFC was. The interaction effect was also significant.

Table 4

Moderated Regression for Truth Knowing Predicting Deliberative Rumination

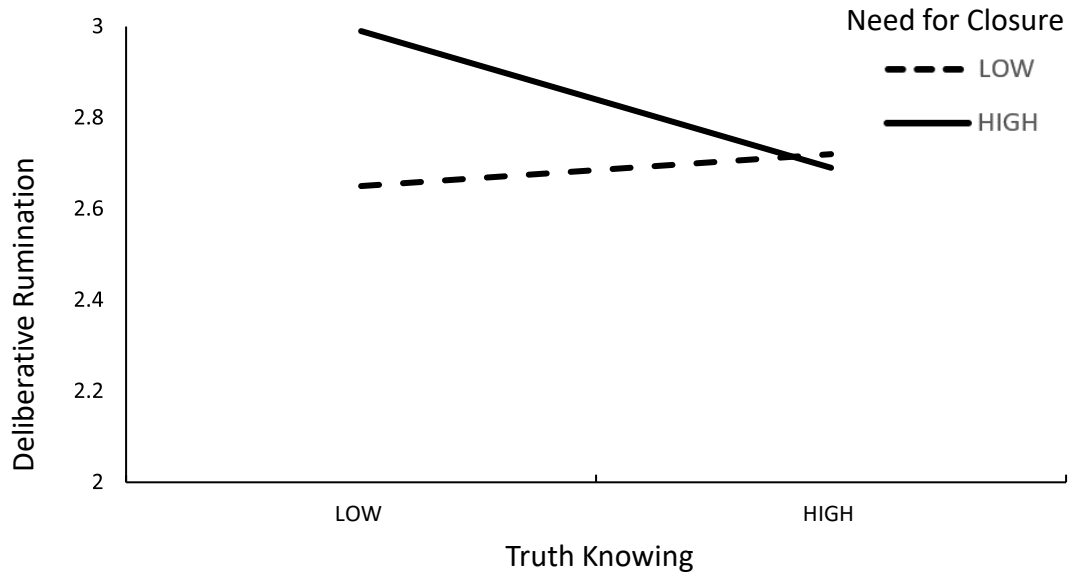
Variable	*B*	SE *B*	*p*	$CI_{95\%}$
Constant	2.76	.04	< .001	[2.68, 2.85]
Truth Knowing	-0.04	.03	=.19	[-0.10, 0.02]
NFC	0.06	.03	= .04	[0.01, 0.10]
Truth Knowing x NFC	-0.05	.02	= .01	[-0.08, -0.01]

Note. R = .26,

Like intrusive rumination, at low levels of NFC, truth knowing was not significantly related to deliberative rumination, B = 0.02, SE = .04, p = .56, 95% CI [-0.06, 0.10], whereas at high levels of NFC, truth knowing was negatively related to deliberative rumination, B = -0.10, SE = .04, p = .004, 95% CI [-0.18, -0.03].

Figure 3

The relationship between truth knowing and deliberative rumination depending on Need for Closure (NFC)



Note. Truth knowing was significantly negatively related to deliberate rumination for individuals with high NFC, but not for those with low NFC.

Discussion

This study provided preliminary evidence that a sense of truth knowing, the subjective sense of having complete information, is associated with reduced rumination in victims of an experienced wrongdoing. This finding is consistent with the predictions and theorising about the possible function of truth knowing derived from a Control Theory account for rumination (Martin & Tesser, 1996). In addition, there was evidence for the predicted indirect relationships between truth knowing and positive psychological states (i.e., psychological closure and forgiveness) via the reduction of rumination. Finally, there was evidence for the predicted indirect effects of truth knowing on decreasing negative affect (i.e., anger, sadness, and anxiety) via decreased rumination.

Time since the wrongdoing had occurred also appeared to moderate the relationship between truth knowing and intrusive rumination. Specifically, the findings suggested that victims' experience of intrusive thoughts about wrongdoing may diminish over time with a greater sense of truth knowing. This may be a positive finding for the effects of truth knowing as intrusive rumination soon after an upsetting event may be psychologically necessary for coping with the event and achieving positive outcomes (e.g., post-traumatic growth; Stockton et al., 2011; Taku et al., 2009). Conversely, victims tend to continue to experience intrusive rumination if they have a low sense of knowing the truth despite the passing of time. The rumination literature would suggest that continued intrusive rumination over time may reflect an inability to process or cope with the event (Greenberg, 1995).

The results of the moderation analyses for individual differences suggest that the impact of truth knowing on rumination was not moderated by trait tendencies to ruminate. In contrast, individuals who have a high need for closure in particular show more intrusive and deliberative rumination when they have a low sense of truth knowing. This finding may be consistent with the appraisals of goal importance and success suggested to influence

rumination (Martin & Tesser, 1996). A high need for closure could represent a heightened importance placed on the goal of having definite or complete knowledge of the event. Alternatively, victims with a high need for closure may set the bar particularly high so as to require a greater sense of truth knowing to be certain of having the full picture, and the perceived lack of truth knowing may signal the unsuccessful pursuit or progress of this goal. In combination, this would mean that there is a large discrepancy between what the victim knows and wishes to know that would be a cause for rumination (Martin et al., 2004). Although firm conclusions cannot be drawn based on cross-sectional data, the results suggest that lacking a sense of truth knowing is especially detrimental for victims with a high need for closure.

Study 2

Study 2 was conducted to build on the promising results from Study 1 by using an experimental design to address the limitations of cross-sectional data. Participants were recruited on the basis that they had experienced repetitive thoughts about a wrongdoing over the preceding week. Using a manipulation from Quinney et al. (2022), participants were randomly allocated to either respond to a set of comparably worded questions designed to enhance the perceived completeness of their knowledge (e.g., "*describe anything about the incident that you do know"*) or designed to make salient the incompleteness of their knowledge (e.g., "*describe anything about the incident that you do not know"*). It was predicted that making salient the completeness of knowledge about the transgression would make participants engage in decreased levels of rumination about the experienced wrongdoing compared to making salient the incompleteness of knowledge.

Method

Participants. According to G∗Power (Faul et al., 2009), 200 participants were required for an 80% chance of detecting an effect size of $d = 0.40$ when comparing two

independent means (two-tailed, $\alpha = 0.05$). The estimate of effect size was based on previously collected pilot data. It was predicted that up to 20% of the requested participants' data could be lost by meeting any of the pre-registered exclusion criteria. Therefore, data from 40 additional participants were requested for a total of 240 participants. Complete data from 240 Amazon Mechanical Turk participants from the United States of America were received. Data from 29 participants were removed prior to analyses due to meeting the pre-registered exclusion criteria leaving 211 valid cases (118 females; 18 – 74 years old; $M_{age} = 36.1$). A sensitivity analysis using G*Power (Faul et al., 2009) revealed that the minimum effect size detectable was $d = .39$, when comparing two independent means (two-tailed, $\alpha = 0.05$. $\beta = 0.80$).

Procedure and Materials. The study was advertised as research looking at why people experience repetitive thinking on Amazon Mechanical Turk. It was decided to not specify the research focus on wrongdoing because the aim was to collect data from participants that had genuinely experienced active rumination about wrongdoing in the last week. Accordingly, a screening question asked if individuals signing-up to the study had experienced repeated thoughts about reducing substance use, relocating, renewing contact with high school friends, or being wronged by somebody (the research focus). Participants were excluded from the study if they selected all four options as a way of preventing satisficing into the study, or if they did not select repeated thoughts about being wronged. Participants were also screened by the same English Proficiency Test as in the previous study.

Similar to the previous study, participants provided a brief description of the transgression following the screening. Participants then selected the type of wrongdoing experienced (32.1% betrayal of trust, 16.3% insult, 9.6% verbal fight or argument, 8.6% other 8.1% infidelity, 7.7% termination of relationship, 6.2% betrayal of confidence, 6.2%

rejection, 5.3% physical abuse). Participants then indicated their relationship with the offender (34% close friend, 23.4% significant other, 18.2% family member, 12.9% work colleague, 5.7% acquaintance, 2.9% stranger, 2.9% other), and time since the transgression occurred.

Participants then responded to the items capturing a baseline measure of how much they thought they knew about the transgression (truth knowing). Participants then responded to the items that tap into the potentially confounding truth content aspects of mitigating details (severity reappraisal) and sense-making information (coherency). An assessment was included for the frequency of intrusive rumination about the transgression experienced by participants in the last week (intrusive rumination), and the same measure of time since the wrongdoing occurred as used in Study 1. These measures were taken pre-manipulation to rule out or control for group differences if observed.

Participants were then randomly allocated to one of two conditions that corresponded to the levels of the manipulation, the salience of knowledge completeness (Quinney et al., 2022). Both conditions presented three open-ended questions designed to make salient the completeness or incompleteness of a participant's level of knowledge about the transgression. The complete knowledge condition asked participants to describe what they know about the transgression, and to describe why they feel like they know enough about the incident (N = 104). Conversely, the incomplete knowledge condition asked participants to detail what was *not* known about the transgression and why they feel like they do not know enough about the incident (N = 107). The second measurement of truth knowing was taken following the manipulation.

Reading Task and Thought Probing. The probe-caught method (e.g., Weinstein et al., 2017) was used to assess participants thoughts during a 10-minute reading task on the structure of cells (Takarangi et al., 2017). A total of 10 thought probes were used during the

reading task. Participants were instructed that their thoughts will be randomly probed during a reading task, however, thought probes were not random, but appeared approximately every minute, ranging from 45-75s apart.

Three response options were presented (Robison et al., 2019) within the thought probe that were counterbalanced in presentation between participants. These options corresponded to an on-task thought, transgression-related thought (the index of rumination), and off-task/blank. The following descriptions were provided to participants:

"*My mind was on the task or something related to the task (e.g., atoms or cells). Select this option if your mind was completely on the reading task. You were reading and thinking about the words presented and nothing else".*

"My mind was on something related to the wrongdoing I wrote about in the previous task.

Select this option if your mind was on something related to the wrongdoing. This may be a thought, memory/reminder, image, or feeling related to the wrongdoing".

"My mind was elsewhere (e.g., blank, other worries, external noise, hunger, boredom etc.)

Select this option if your mind was blank/zoned out, focused on another concern unrelated to the task or wrongdoing, distracted by other noises, bodily states such as hunger, thirst or how frustrating or boring the reading task is".

Participants then completed the remaining dependent measures and were debriefed. The debrief screen informed participants how their level of knowledge was affected and that they actually did not know more or less about the transgression than prior to completing the study.

Measures from Study 1 were utilised: Truth Knowing (baseline, α = .85; second measurement, α = .88); Severity Reappraisal (α = .54); Coherency (α = .74); Intrusive Rumination (α = .91); Psychological closure (α = .93); Anger (α = .93); Anxiety (α = .80); Sadness (α = .87); Forgiveness (α = .86); RRQ Rumination (α = .88); Need for Closure (α = .86).

Rumination During the Reading Task. The primary outcome variable in this study was captured by participants' self-reported thoughts about the wrongdoing across the 10 thought probes during the reading task. A simple way to analyse the data would be to calculate the sum of scores (total number of ruminative thoughts) across probes. The assumption however is that all thought probes would be similarly indicative of rumination behaviour irrespective of measurement time-point. This would ignore previous findings that there tend to be greater ruminative thoughts at certain time points and very little ruminative thoughts at other time points (e.g., Roberts et al., 2013). Therefore, an overall total would be unnecessarily diluting any possible trends in the data.

Similar designs using the probe-caught method "blocked" thought probes together (e.g., Roberts et al., 2013). Yet, there are no clear theoretical grounds to predict when rumination may appear across the ten-minute reading task because there has been no consistent pattern of ruminative thoughts identified using this design. Therefore, any a priori predictions or blocking of probes would be arbitrary. For example, making an a priori decision to block the first two thought probes together and to disregard this block, based on an assumption that rumination will not be expressed within two minutes of the reading task, is an arbitrary decision.

The solution here was to take an empirical approach and be guided by the data. Specifically, Principal Components Analysis (PCA) was used to determine the loadings of each thought probe on the first component extracted, which was assumed to represent

rumination. The factor score of the first unrotated component weighted each thought probe rating by their factor loading to arrive at a weighted overall score. It was predicted:

1. Participants in the complete level of knowledge salience condition (versus incomplete) will report greater feelings of truth knowing.
2. Participants in the complete level of knowledge salience condition (versus incomplete) will report less rumination about the wrongdoing.
3. Truth knowing will be negatively related to rumination
4. Rumination will be negatively related to, and mediate the effect of truth knowing on, psychological closure (H4a), and forgiveness (H4b), (indirect effects).
5. Rumination will be positively related to, and mediate the effect of truth knowing on, anger (H5a), anxiety(H5b), and sadness (H5c), (indirect effects).

Results

Independent *t*-tests revealed no significant differences between the complete knowledge salience condition versus the incomplete knowledge salience condition on (a) truth knowing at baseline (prior to manipulation) (M = 5.01, SD = 1.50 vs. M = 4.82, SD = 1.45, respectively), $t(209) = -1.36$, $p = .18$, $d = 0.13$; (b) severity reappraisal (M = 2.94, SD = 1.11 vs. M = 2.96, SD = 1.10), $t(209) = 0.13$, $p = .89$, $d = 0.02$; (c) coherency (M = 5.44, SD = 1.08 vs. M = 5.34, SD = 1.05), $t(209) = -0.72$, $p = .47$, $d = 0.09$; (d) intrusive rumination (M = 2.87, SD = 0.62 vs. M = 2.78, SD = 0.63), $t(209) = -1.01$, $p = .31$, $d = 0.14$; (e) time since the wrongdoing occurred (M = 4.91, SD = 2.68 vs. M = 4.92, SD = 2.64), $t(209) = 0.01$, $p = .99$, $d = 0.01$. The mean number of ruminative thoughts experienced by participants during the reading task was low (M = 1.52, SD = 1.95). Means, standard deviations, zero-order correlations, *t*-tests, and effect sizes for the remaining outcome variables are reported in Table 5.

Hypothesis 1 was supported as participants in the complete knowledge salience condition reported greater truth knowing than the incomplete knowledge salience condition. Hypothesis 2 was tested by first using Principal Components Analysis (PCA) to determine the loadings of each thought probe on the first component extracted. It was predicted that focusing on the completeness of information would cause fewer ruminative thoughts about the experienced wrongdoing during the reading task. However, an independent *t*-test revealed no significant differences between complete and incomplete knowledge salience conditions on the rumination factor score. Moreover, contrary to predictions, truth knowing was not significantly related to rumination.

Mediation analyses. Process Model 4 was used with 5,000 percentile bootstrapped confidence intervals (95% CI) to test for the indirect effect (Hayes, 2017). The unrotated factor score of rumination was entered as the mediating variable and truth knowing as the predictor variable. The use of truth knowing as the predictor variable instead of the manipulated variable could be considered unconventional (e.g., Spencer et al., 2005). Yet, a theoretical case was made that truth knowing is the psychological mechanism by which rumination may be reduced and treating truth knowing as the predictor affords consistency in the mediation analyses across studies. This decision, analyses, and hypotheses were pre-registered, but mediation analyses with the manipulated variable as the predictor variable were also conducted. However, knowledge salience (complete) was not a significant predictor of rumination. There were also no significant indirect effects of knowledge salience (complete) on any outcome variable via reduced rumination. These analyses are not reported here for brevity but are available in the Supplemental Material.

Truth knowing was not a significant predictor of rumination, $b = 0.02$, $SE = 0.05$, $t(209) = 0.53$, $p = .60$, 95% CI = [-0.07, 0.11]. Rumination was significantly negatively related to psychological closure, $b = -0.47$, $SE = 0.11$, $t(208) = -4.40$, $p < .001$, 95% CI =

[-0.69, -0.26]. The indirect effect of truth knowing on psychological closure through rumination was not significant, *ab* = -0.01, *SE* = 0.02, 95% CI = [-.06, 0.03]. The direct effect of truth knowing on psychological closure was significant, *c'* = 0.18, *SE* = 0.07, 95% CI = [0.04, 0.32]. Rumination was also significantly negatively related to forgiveness, *b* = -0.24, *SE* = 0.05, *t*(208) = -5.07, *p* < .001, 95% CI = [-0.34, -0.15]. The indirect effect of truth knowing on forgiveness through rumination was not significant, *ab* = 0.01, *SE* = 0.02, 95% CI = [-0.06, 0.03].

Rumination was significantly positively related to anger, *b* = 0.32, *SE* = 0.09, *t*(208) = 3.52, *p* < .001, 95% CI = [0.14, 0.51]. The indirect effect of truth knowing on anger through rumination was not significant, *ab* = 0.01, *SE* = 0.02, 95% CI = [-0.02, 0.04]. Rumination was significantly positively related to anxiety, *b* = 0.50, *SE* = 0.11, *t*(208) = 4.54, *p* < .001, 95% CI = [0.28, 0.72]. The indirect effect of truth knowing on anxiety through rumination was not significant, *ab* = 0.01, *SE* = 0.03, 95% CI = [-0.04, 0.06]. Finally, rumination was significantly positively related to sadness, *b* = 0.30, *SE* = 0.12, *t*(208) = 2.62, *p* = .01, 95% CI = [0.08, 0.53]. The indirect effect of truth knowing on sadness through rumination was not significant, *ab* = 0.01, *SE* = 0.02, 95% CI = [-0.02, 0.04].

Table 5

Bivariate Correlations, Descriptive and Inferential Statistics for the Main Variables in Study 2

	Condition				Correlations								
Variable	Complete *M* (*SD*)	Incomplete *M* (*SD*)	*t*(209)	*d*	1	2	3	4	5	6	7	8	9
1. Truth Knowing	5.25 (1.40)	4.24 (1.45)	5.13***	0.71	-	.04	.15*	.08	-.08	-.16*	.06	-.06	-.01
2. Rumination	-0.04 (1.01)	0.04 (0.99)	-0.52	0.08		-	-.28***	.24**	.30***	.17*	-.33***	.14*	.05
3. Psychological Closure	4.19 (1.73)	4.02 (1.55)	-0.76	0.10			-	-.37***	-.30***	-.30***	-.46***	-.20**	.04
4. Anger	5.33 (1.38)	5.22 (1.36)	-0.59	0.08				-	.28***	.33***	-.52*	.23**	.19**
5. Anxiety	4.12 (1.73)	3.73 (1.60)	-1.69	0.23					-	.56***	-.47***	.23**	.15*
6. Sadness	4.57 (1.77)	4.31 (1.68)	-1.07	0.15						-	-.50***	.22**	.05
7. Forgiveness	3.11 (0.78)	3.23 (0.69)	1.20	0.16							-	-.25***	-.19**
8. RRQ Rumination	3.69 (0.64)	3.70 (0.66)	0.12	0.02								-	.07
9. Need for Closure	4.94 (1.40)	4.81 (1.36)	-0.64	0.09									-

Note. Truth Knowing is the post manipulation measurement. Rumination refers to the unrotated factor score. *$p < .05$, **$p < .01$, ***$p < .001$.

Supplementary Mediation Analyses. It was decided to examine whether an indirect effect of truth knowing on rumination via psychological closure may be observable given the direct effect of truth knowing on psychological closure, and the negative relationship between psychological closure and rumination. Using Process Model 4 (Hayes, 2017), it was found that truth knowing was a significant predictor of psychological closure, $b = 0.16$, $SE = 0.07$, $t(209) = 2.22$, $p = .03$, 95% CI = [0.02, 0.31]. Psychological closure was significantly negatively related to rumination, $b = -0.18$, $SE = 0.04$, $t(208) = -4.40$, $p < .001$, 95% CI = [-0.26, -0.10]. The indirect effect of truth knowing on rumination through psychological closure was significant, $ab = -0.03$, $SE = 0.02$, 95% CI = [-0.06, -0.01].

The possibility of serial mediation was explored using Process Model 6 (Hayes, 2017). That is, truth knowing may increase psychological closure, that decreases rumination, and, in turn, decreases anger, anxiety, sadness, and increases forgiveness. The indirect effect of truth knowing on anger via psychological closure and rumination was significant, $IE = -0.01$, $SE = 0.01$, 95% CI = [-0.01, -0.01]. The indirect effect of truth knowing on anxiety via psychological closure and rumination was significant, $IE = -0.01$, $SE = 0.01$, 95% CI = [-0.03, -0.01]. The indirect effect of truth knowing on sadness via closure and rumination was not significant, $IE = -0.01$, $SE = 0.01$, 95% CI = [-0.02, 0.01]. The indirect effect of truth knowing on forgiveness via psychological closure and rumination was significant, $IE = 0.01$, $SE = 0.01$, 95% CI = [0.01, 0.01].

Like Study 1, Process Model 1 was used to test for moderation using bootstrapped percentile confidence intervals (95%) based on 5000 bootstraps (Hayes, 2017). All measures were centred. Trait level of rumination (RRQ Rumination) was again considered a possible moderator for the effect of truth knowing on rumination (unrotated factor score). However, an interaction effect between truth knowing and RRQ rumination was not significant for rumination, $B = -0.04$, $SE = .07$, $p = .63$, 95% CI [-0.18, 0.11]. Similarly, a possible

moderating effect of the trait need for closure (NFC) was considered. However, the interaction effect between truth knowing and NFC on rumination was not significant, $B = 0.02$, $SE = .03$, $p = .59$, 95% CI [-0.04, 0.08]. Finally, time since the wrongdoing occurred was also considered as a potential moderator. Yet, the interaction effect between truth knowing and time on rumination was not significant. $B = -0.02$, $SE = .02$, $p = .31$, 95% CI [-0.05, 0.02].

Discussion

Study 2 sought to test a prediction derived from the Control Theory of rumination (Martin & Tesser, 1996) that victims of wrongdoing who perceived to have complete knowledge about the wrongdoing would show less subsequent rumination on the wrongdoing during a probe-caught reading task. The present findings indicated no causal evidence that enhancing the perceived completeness of knowledge about the wrongdoing led to decreased rumination, but perceived completeness of knowledge did increase a subjective sense of truth knowing. The theoretical case forwarded was that completeness of knowledge would decrease rumination by providing an enhanced sense of truth knowing so truth knowing was considered as the predictor variable in subsequent mediation analyses. However, in contrast to Study 1, it was found that a subjective sense of truth knowing was not significantly negatively related to rumination, and in turn, there were no indirect effects of truth knowing on psychological closure, negative affect, and forgiveness, via rumination. However, truth knowing was significantly positively related to psychological closure. In addition, there was evidence of truth knowing being indirectly, via increased psychological closure, related to reduced rumination. Finally, a series of serial mediation analyses suggested that this pathway via truth knowing predicting increased psychological closure to decreased rumination may be extended to reduced anger, anxiety, and increased forgiveness.

Control Theory (Martin & Tesser, 1996) posits that a gap between one's current and desired level of goal-progress triggers rumination. The present findings may indicate that the manipulation of completeness or incompleteness of knowledge may not have functioned akin to resolving or cueing a discrepancy between actual and desired level of truth knowing that may serve as a trigger for rumination (e.g., Roberts et al., 2013). It is possible that the focus on the completeness or incompleteness of knowledge only resulted in enhancing or reducing participants perceived *current* knowledge as evidenced by the observed group differences in reported truth knowing. Crucially, however, this manipulation may not have differentially elicited a discrepancy between participants' current and *desired* level of truth knowing. That is, completeness of knowledge may not have adequately satisfied the desired level of truth knowing that provides a sense of completion and cessation of rumination. Alternatively, incompleteness may not have produced a greater discrepancy between what one knows and wishes to know that would elicit ruminating on the wrongdoing.

It is possible that the probe-caught reading task used in the present study was not conducive to measuring rumination as evidenced with participants reporting fewer than 2 ruminative thoughts about the wrongdoing on average during the reading task. Efforts were undertaken to ensure the timing and frequency of probes was in line with recommendations from previous research (Robison et al., 2019). However, there is limited research on ideal task features that allow participants 'space' to ruminate or be unconstrained in their thinking.

The results of the mediation analyses from the present study in addition to Study 1 suggested a possible alternative pathway from truth knowing to rumination via increased psychological closure. That is, truth knowing may have direct implications for feelings of psychological closure (and it is psychological closure that may mediate effects on rumination). There is indeed early theoretical work within the Gestalt psychology framework on visual perception (see Wagemans et al., 2012) that may explain how truth knowing may

function as a pre-cursor to psychological closure. According to Gestalt psychology, the experience or perception of closure is thought to be afforded by an automatic perceptual process of extracting a unified 'whole' (i.e., a Gestalt) from stimuli (i.e., the Law of Closure; Wertheimer, 1938). This cognitive ability to perceive closure is demonstrated in the Gestalt Completion Test (Ekstrom et al., 1976) that presents fragmented, incomplete visual stimuli that require the available pieces to be mentally constructed into a coherent whole (i.e., a Gestalt) to remove the impression of incompleteness formed by the blanks and suggest the complete picture. Thus, individuals have the tendency to mentally complete information to form a Gestalt for perceptual closure, which may be analogous to how psychological closure is afforded by a perceived completeness of one's knowledge about the event (i.e., truth knowing).

Theoretically this also entails that psychological closure function as a pre-cursor to rumination rather than being a downstream consequence of rumination. Psychological closure being a psychological mechanism for instigating and ceasing rumination would be theoretically consistent with a Control Theory framework (Martin & Tesser, 1996). Like Control Theory, psychological closure was originally formulated within a Zeigarnik framework for examining complete or 'closed' tasks/memories (Zeigarnik, 1935). That is, psychological closure is afforded when tasks are perceived to be completed, or conversely, psychological closure is absent with a perception of tasks being incomplete (e.g., Savitsky et al., 1997). Other research has also considered psychological closure as a consequence of psychologically 'open' memories and cause of rumination (e.g., Beike & Wirth-Beaumont, 2005). Accordingly, it was decided to conduct a third study looking at the potential effects of truth knowing increasing psychological closure, and in turn, the downstream effects of psychological closure on decreasing rumination.

Study 3

Further explorations of the results from Study 2 led to the consideration in Study 3 that truth knowing may reduce rumination indirectly via providing a sense of psychological closure. In other words, it will be explored whether it is the gain in the *level* of truth knowing that predicts psychological closure, and whether psychological closure gain reduces rumination.

Study 3 sought to capture the initial period following wrongdoing (within 24 hours and subsequent days) whereas Studies 1 and 2 examined transgressions that were not temporally constrained. It may be that most rumination occurs in the immediate aftermath of the transgression and over the following few days, especially for relatively minor transgressions where the psychological wounds may heal quickly. The interest is of course in the psychological processes that help these wounds close. Accordingly, a longitudinal design with three timepoint measures was used. Participants were recruited for Timepoint 1 on the condition they had experienced an interpersonal transgression within the previous 24 hours. Participants were requested to complete a second survey 48 hours later, and a third survey 48 hours later. It was therefore predicted that initial levels of truth knowing will be associated with increased psychological closure over time, and initial levels of psychological closure are associated with decreased rumination over time.

Aside from effects of interindividual variation in truth knowing and psychological closure, an additional aim was to investigate effects of *intrapersonal* variations, such as whether participants who gain a greater sense of truth knowing than usual at a timepoint will show a greater sense of psychological closure at the following measurement; and whether participants who gain a greater sense of psychological closure than usual will show a decrease in rumination at the following measurement.

Method

Participants. A total of 193 participants were required for an 80% chance of detecting an effect size of $r = 0.20$ according to G∗Power (Faul et al., 2009) (two-tailed, $\alpha = 0.05$). It was predicted that up to 50% of the requested participants' data could be lost by attrition or meeting any of the pre-registered exclusion criteria so data from 400 participants were requested at Timepoint 1. Complete data from 386 Amazon Mechanical Turk participants from the United States of America were received at Timepoint 1. Fewer participants' data were received than requested, but data collection was open for only 24 hours to ensure all participants had experienced a transgression within the same 24 hour window. Data from 38 participants at Timepoint 1 were removed prior to analyses due to meeting the pre-registered exclusion criteria of invalid responses (e.g., not describing a transgression) leaving 348 valid cases. Complete data from 288 participants were received at Timepoint 2. Data from 4 participants were removed due to participants stating they could not remember the transgression reported in Timepoint 1 leaving a total N =284 to be contacted for Timepoint 3. Data from 249 participants were received for Timepoint 3 and data from 5 participants were removed due to incomplete responses. Data from 244 were available for the subsequent analyses (138 female; 19 – 73 years old; M_{age} = 36.0). A sensitivity analysis using G*Power (Faul et al., 2009) revealed that the minimum effect size detectable at Timepoint 3 with 244 participants was $r = .18$, (two-tailed, $\alpha = 0.05$. $\beta = 0.80$).

Procedure and Materials. The study was advertised as a three-part study on Amazon Mechanical Turk. Again, the research focus on wrongdoing was left unspecified, as in Study 2. A screening question asked if participants signing-up had experienced any of the following in the last 24 hours, an interpersonal transgression (the research focus), an unsatisfactory customer experience, an unwanted test result, or an uninvited person visiting them at home. Participants were again screened from the study if all four options were selected as a way of

preventing satisficing into the study, or if experiencing an interpersonal transgression was not selected. Participants were also screened with the same English Proficiency Test as used in Study 1.

Participants were emailed 48 hours after the preceding survey opened to advise them that the next survey was available (e.g., Timepoint 2 opened 48 hours after Timepoint 1 was made available). The email informed participants that the next survey was only open for 24 hours. Only participants that completed the previous Timepoint survey were emailed to complete the next Timepoint survey. At every timepoint, participants completed the same measures from Studies 1 and 2 to measure Truth Knowing (T1, α = .89; T2, α = .89; T3, α = .88) Psychological closure (T1, α = .94; T2, α = .95; T3, α = .96), Intrusive Rumination (T1, α = .95; T2, α = .96; T3, α = .97), Deliberative Rumination (T1, α = .88; T2, α = .93; T3, α = .94), Anger (T1, α = .95; T2, α = .94; T3, α = .96), Anxiety (T1, α = .87; T2, α = .84; T3, α = .89), Sadness (T1, α = .87; T2, α = .87; T3, α = .90), Forgiveness (T1, α = .86; T2, α = .90; T3, α = .90), and Severity Reappraisal (T1, α = .51; T2, α = .62; T3, α = .58). The trait measures of RRQ Rumination (α = .94), and Need for Closure (α = .86), were captured once, at Timepoint 1.

Two new measures were added to Study 3 to capture the perceived severity of the wrongdoing, and the perceived level of meaning or understanding the event. These were measured at every timepoint on a 7-point Likert scale (1 = Strongly Disagree, 7 = Strongly Agree).

Severity. How severe the transgression was perceived to be was measured by three items: ‘‘The other’s behavior pains me a lot’’; “I find the other person's behavior totally unacceptable”; “I find the other person's behavior very wrong” (T1, α = .76; T2, α = .78; T3, α = .76; McCullough et al., 2003; Wenzel & Coughlin, 2020).

Meaning. "I understand why the incident happened", "I have made sense of the incident", "I have arrived at an understanding about the incident", "I understand the meaning of the incident" (T1, α = .95; T2, α = .95; T3, α = .95; Quinney et al., 2022).

Results

Participants indicated the type of wrongdoing experienced (43.7% insult, 16.1% verbal fight or argument, 15.5% betrayal of trust, 9.5% other, 8.3% rejection, 2.6% betrayal of confidence, 1.7% termination of relationship, 1.4% physical abuse, 1.1% infidelity). Almost half of participants indicated insult as the experienced interpersonal transgression representing a difference to Studies 1 and 2 that had participants report insult as lower in frequency (Study 1: 17.3%, Study 2: 16.3%). This may reflect the time of recruitment (within 24 hours of experiencing wrongdoing) and that perceived or actual slights or insults are relatively common occurrences. Participants also indicated their relationship with the offender (23% family member, 19.3% stranger, 16.7% significant other, 16.1% close friend, 12.4% work colleague, 6.6% acquaintance, 6% other). Notably, the frequency of experienced wrongdoing involving a stranger was about 5-6 times higher than in previous studies (Study 1: 3.5%, Study 2: 2.9%).

The means and standard deviations for the secondary variables are reported in Table 6. These were labelled secondary variables as they are not considered in the primary analyses that used structural equation modelling. The average rating of the severity of the transgression was relatively high, indicating that the perceived impact of the wrongdoing was not trivial.

Across time points, most correlations between the main variables (presented in the columns) and secondary variables were in the expected direction and consistent with Studies 1 and 2. Truth knowing was generally negatively related to sadness, and anxiety. Psychological closure was positively related to forgiveness, and negatively related to anger,

sadness, anxiety. Intrusive rumination, and deliberative rumination, were generally negatively related to forgiveness, and also positively related to anger, sadness, and anxiety.

The means, standard deviations, and zero-order correlations between the main variables are reported in Table 7. Of note is that the average intrusive rumination, and deliberative rumination, was around the midpoint of the scale at Time 1. This suggests that on average there was a relatively modest amount of rumination over the experienced wrongdoing. Most correlations were in the expected direction. Truth knowing was positively related to psychological closure over time. Psychological closure was also negatively related to intrusive rumination, and deliberative rumination.

The partial correlations after controlling for severity reappraisal, and meaning, are reported below the diagonal in Table 7. This was to statistically uncouple the potential alleviating effects of learning mitigating information or making sense of the wrongdoing from truth knowing. Moreover, truth knowing, and meaning were significantly positively related (see Table 6), which provided an empirical justification for controlling for the effects of meaning. Severity reappraisal and meaning were included as covariates only within the same corresponding timepoint measurement (e.g., the partial correlation between truth knowing at Timepoint 2 and psychological closure Timepoint 2 while controlling for severity reappraisal, and meaning, at Timepoint 2) in addition to previous measurements (e.g., the partial correlation between truth knowing at Timepoint 2 and psychological closure at Timepoint 2 while controlling for severity reappraisal, and meaning, at Timepoint 1).

Table 6

Means, (Standard Deviations) of Secondary Variables and Intercorrelations with Main Variables

		Truth Knowing			Psychological Closure			Intrusive Rumination			Del. Rumination		
Variable	*M* (*SD*)	T1	T2	T3	T1	T2	T3	T1	T2	T3	T1	T2	T3
NFC	4.20 (0.71)	.07	.20**	.09	-.01	.02	-.01	.26***	.15*	.13*	.21**	.15*	.12
RRQ	3.47 (0.88)	-.03	.03	-.02	-.17**	-.20**	-.25***	.41***	.32***	.27***	.34***	.28***	.19**
Severity T1	5.95 (0.92)	.10	.04	.01	-.20**	-.24***	-.19**	.39***	.35***	.30***	.30***	.26***	.22***
Anger T1	5.42 (1.42)	-.02	-.06	-.12	-.38***	-.37***	-.36***	.43***	.39***	.35***	.30***	.29***	.20**
Sadness T1	4.20 (1.87)	-.14*	-.12	-.12	-.29***	-.32***	-.30***	.61***	.48***	.37***	.52***	.47***	.41***
Anxiety T1	3.98 (1.93)	-.17**	-.09	-.10	-.26***	-.30***	-.25***	.56***	.41***	.34***	.48***	.39***	.34***
Forgiveness T1	3.51 (0.74)	.08	.08	.16*	.41***	.52***	.49***	-.47***	-.58***	-.55***	-.31***	-.41***	-.41***
Reappraisal T1	3.43 (1.13)	-.04	-.04	-.05	.28***	.34***	.30***	-.07	-.13*	-.10	-.13*	.04	.01
Meaning T1	4.38 (1.71)	.25***	.29***	.29***	.45***	.46***	.44***	-.08	-.14*	-.11	.09	.01	.02
Severity T2	5.64 (1.05)	.14*	.03	-.03	-.28***	-.40***	-.34***	.41***	.49***	.43***	.33***	.41***	.30***
Anger T2	4.58 (1.70)	.04	-.06	-.12	-.31***	-.48***	-.47***	.32***	.48***	.46***	.20**	.37***	.34***
Sadness T2	3.78 (1.88)	-.12	-.16*	-.18**	-.34***	-.45***	-.38***	.49***	.55***	.47***	.40***	.51***	.46***
Anxiety T2	3.54 (1.83)	-.16*	-.20**	-.23***	-.31***	-.48***	-.41***	.50***	.58***	.53***	.40***	.48***	.48***
Forgiveness T2	3.69 (0.78)	.04	.01	.20**	.32***	.55***	.55***	-.37***	-.63***	-.66***	-.23***	-.41***	-.47***
Reappraisal T2	3.32 (1.17)	-.07	-.05	.01	.20**	.30***	.31***	.01	-.11	-.01	.16*	.09	.09
Meaning T2	4.61 (1.60)	.25***	.29***	.40***	.44***	.56***	.56***	-.18**	-.27***	-.29***	.01	-.01	-.15*
Severity T3	5.46 (1.14)	.16*	.07	.01	-.25***	-.39***	-.41***	.39***	.49***	.51***	.25***	.41***	.36***
Anger T3	4.05 (1.91)	.03	-.03	-.16*	-.29***	-.45***	-.58***	.32***	.45***	.54***	.23***	.37***	.44***
Sadness T3	3.41 (1.89)	-.20**	-.19**	-.26***	-.35***	-.43***	-.45***	.47***	.52***	.51***	.42***	.49***	.51***
Anxiety T3	3.07 (1.79)	-.15*	-.11	-.20**	-.29***	-.39***	-.43***	.45***	.52***	.54***	.39***	.49***	.50***
Forgiveness T3	3.82 (0.78)	.01	.06	.19**	.25***	.50***	.60***	-.30***	-.57***	-.67***	-.20**	-.41***	-.49***
Reappraisal T3	3.06 (0.48)	-.09	-.03	.06	.09	.21**	.25***	.02	-.12	-.14*	.06	-.07	-.10
Meaning T3	4.80 (1.67)	.24***	.26***	.44***	.43***	.57***	.65***	-.21**	-.33***	-.33***	-.03	-.16*	-.19**

Note. *p < .05, **p < .01, ***p < .001, NFC = Need for Closure (trait measure), RRQ = Trait rumination measure.

The future timepoint measures of severity reappraisal and meaning were excluded as covariates on former timepoints if *both* measurements were observed in an earlier timepoint. For example, it would not make logical sense to calculate the relationship between truth knowing and psychological closure at Timepoint 1 while controlling for severity reappraisal at Timepoint 3. The magnitude of some relationships were diminished and some relationships to truth knowing became statistically non-significant.

Over time, truth knowing appeared stagnant. A repeated measures ANOVA revealed that there was no linear increase (or decrease) of truth knowing across time, $F(1, 243) = 2.13$, $p = .15$, *partial* $\eta^2 = .01$. However, psychological closure increased linearly over time, $F(1, 243) = 93.7$, $p < .001$, *partial* $\eta^2 = .23$. Conversely, intrusive rumination strongly decreased linearly over time, $F(1, 243) = 251.2$, $p < .001$, *partial* $\eta^2 = .51$, as did deliberative rumination, $F(1, 243) = 169.6$, $p < .001$, *partial* $\eta^2 = .41$.

Table 7

Means, (Standard Deviations), Zero-Order Correlations, and Partial Correlations

Variable	*M* (*SD*)	1	2	3	4	5	6	7	8	9	10	11	12
1. Truth Knowing T1	5.12 (1.51)	-	.33***	-.09	-.13*	.66***	.24***	-.09	-.14*	.64***	.21**	-.05	-.10
2. Psychological Closure T1	4.04 (1.81)	.28***	-	-.43***	-.26***	.36***	.69***	-.37***	-.28***	.33***	.57***	-.25***	-.20**
3. Intrusive Rumination T1	2.52 (0.85)	-.08	-.44***	-	.73***	-.09	-.43***	.70***	.59***	-.12	-.35***	.57***	.50***
4. Deliberative Rumination T1	2.41 (0.73)	-.14*	-.36***	.75***	-	-.07	-.29***	.58***	.68***	-.15*	-.25***	.51***	.56***
5. Truth Knowing T2	5.00 (1.50)	.61***	.28***	-.05	-.06	-	.38***	-.11	-.12*	.77***	.24***	-.07	-.11
6. Psychological Closure T2	4.75 (1.74)	.16*	.58***	-.42***	-.41***	.30***	-	-.53***	-.38***	.39***	.83***	-.45***	-.34***
7. Intrusive Rumination T2	1.96 (0.81)	-.04	-.31***	.69***	.62***	-.05	-.49***	-	.74***	-.19**	-.49***	.82***	.70***
8. Deliberative Rumination T2	2.06 (0.81)	-.11†	-.31***	.58***	.67***	-.10†	-.44***	.76***	-	-.17*	-.37***	.72***	.78***
9. Truth Knowing T3	5.24 (1.43)	.58***	.18*	.00	-.11†	.74***	.19*	-.02†	-.07†	-	.38***	-.21**	-.20**
10. Psychological Closure T3	5.05 (1.67)	.07†	.41***	-.28***	-.32***	.09†	.71***	-.35***	-.37***	.14*	-	-.53***	-.39***
11. Intrusive Rumination T3	1.75 (0.80)	-.06	-.16*	.52***	.51***	-.05	-.31***	.78***	.71***	-.04†	-.42***	-	.77***
12. Deliberative Rumination T3	1.82 (0.77)	-.03	-.19**	.49***	.53**	-.04	-.30***	.66***	.76***	-.09	-.35***	.75***	-

Note. $*p < .05$, $**p < .01$, $***p < .001$, † $p > .05$ but zero-order correlation was significant. The partial correlations presented below the diagonal controlled for severity reappraisal and meaning.

Cross-lagged Panel Model Analyses. The main focus of Study 3 was to investigate changes in variables across the three timepoints. Conventional cross-lagged panel analyses were used to test for the repeated cross-lagged relationship between predictor variables at one timepoint and outcome measures at the next timepoint, while controlling for the cross-time stabilities with these variables (Cole & Maxwell, 2003). That is, it was tested whether levels in Time 1 and Time 2 predictors are related to change in outcome measures from Times 1 to 2 and Times 2 to 3, respectively. It was predicted that (1) initial level of truth knowing will be related to an increase in psychological closure over time, and (2) initial level of psychological closure will be related to a decrease in rumination over time.

The random assignment parcel technique was used for the items (Little et al., 2002) in preparing the data for structural equation modelling given the complexity of the model, and as parcelling indicators tends to enhance the reliability of latent variables compared to individual items (Little et al., 2002). This has the added benefit of requiring fewer indicators for each latent construct and increasing the economy of degrees of freedom by reducing the required sample size for the computation (Matsunaga, 2008). Truth knowing, and psychological closure were parcelled into two parcels (two-items). Intrusive rumination, and deliberative rumination were parcelled into three parcels (two three-item, and one four-item).

Model Fit. Two structural equation modelling analyses were conducted to consider the cross-lagged relationship between truth knowing, and psychological closure, on intrusive rumination, and a second identical analysis on deliberative rumination. Both analyses were conducted using AMOS 25. Model fit was assessed by the comparative fit index (CFI; Bentler, 1990), with values equal to or greater than .95 indicating good fit (Hu & Bentler, 1999). The root mean square error of approximation (RMSEA) was also included with values equal to or less than .06 indicating good fit, and values less than .08 indicating acceptable model fit (MacCallum & Austin, 2000).

The fit of four models was compared for both intrusive, and deliberative rumination (see Table 8). The default models freely estimated factor loadings for the latent variables from Time 1 to Time 3 (Model 1). The CFI indicated good fit while the RMSEA indicated acceptable fit for both of the default measurement models (see Table 8). Models 2-4 were identical except the stability coefficients were constrained (Model 2), the cross-lagged coefficients were constrained (Model 3), and both stabilities and cross-lagged coefficients were constrained (Model 4) to be equal across the three measurements. All models considered were comparable in fit. It was therefore decided that Model 4 would be retained for analysis of the cross-lagged effects given that it allowed for the most parsimonious interpretation.

Table 8

Fit Statistics of Tested Models

Model	$\chi 2$	*df*	CFI	RMSEA [90%CI]
Intrusive Rumination				
1. Default Model	332.7^{***}	168	.97	.064 [.053, .073]
2. Equal Stability Coefficients	347.1^{***}	171	.97	.065 [.055, .075]
3. Equal Cross-Lagged Coefficients	340.7^{***}	172	.97	.064 [.054, .073]
4. Equal Stability + Cross-Lagged Coefficients	352.2^{***}	175	.97	.065 [.055, .074]
Deliberative Rumination				
1. Default Model	423.2^{***}	168	.95	.079 [.070, .088]
2. Equal Stability Coefficients	427.6^{***}	171	.95	.079 [.069, .088]
3. Equal Cross-Lagged Coefficients	428.8^{***}	172	.95	.078 [.069, .088]
4. Equal Stability + Cross-Lagged Coefficients	431.8^{***}	175	.95	.078 [.069, .087]

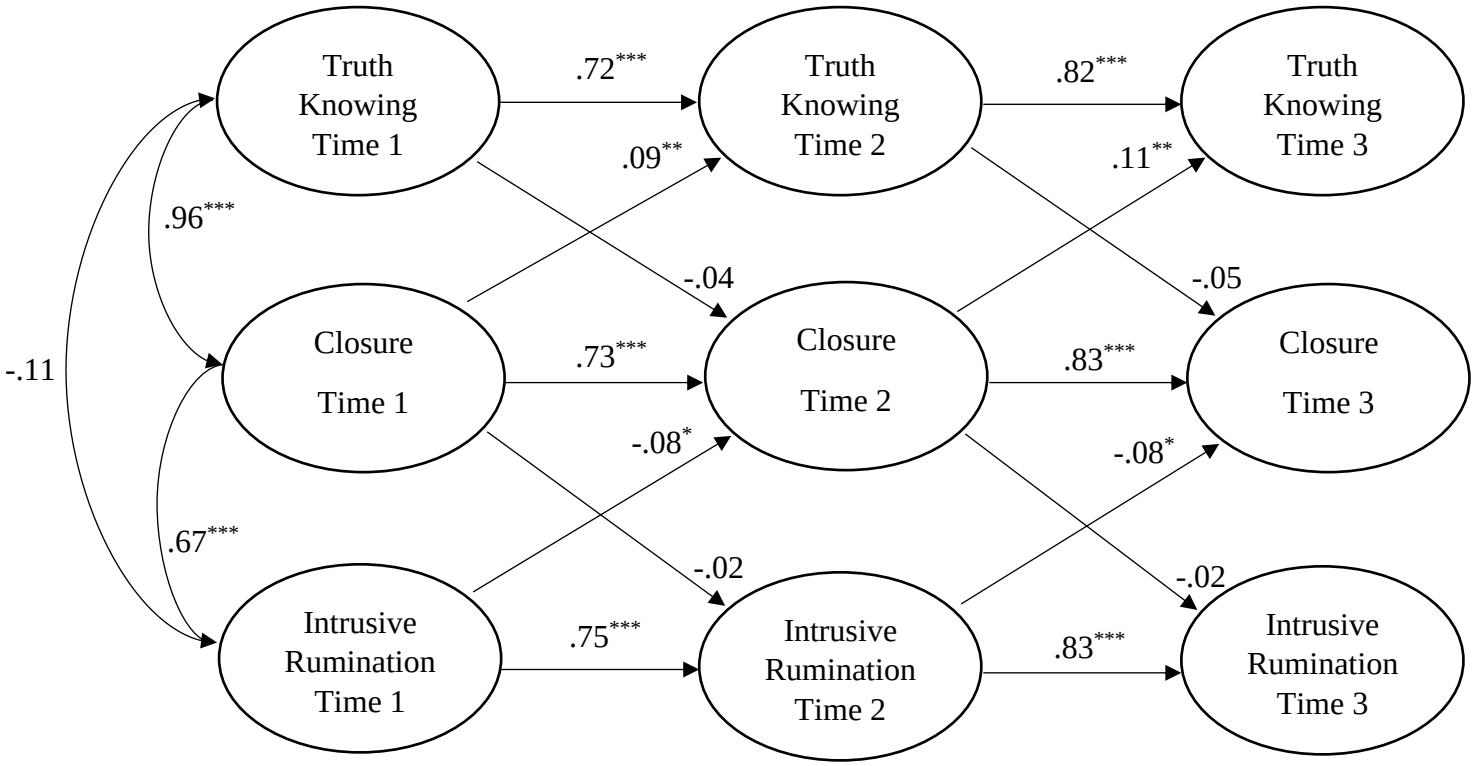
Note. $^{***}p < .001$

Cross-Lagged Effects. The cross-lagged effects were examined to determine if there was a prospective effect of truth knowing on increased psychological closure, and, in turn, a

prospective effect of psychological closure on decreased intrusive rumination (see Figure 4) and deliberative rumination (see Figure 5). The observed lagged effects did not support predictions. There was no significant prospective effect of truth knowing on psychological closure at the subsequent timepoint. Additionally, there was no significant lagged effect of psychological closure on intrusive rumination at the subsequent timepoint.

Figure 4

Standardized coefficients for truth knowing, psychological closure, and intrusive rumination

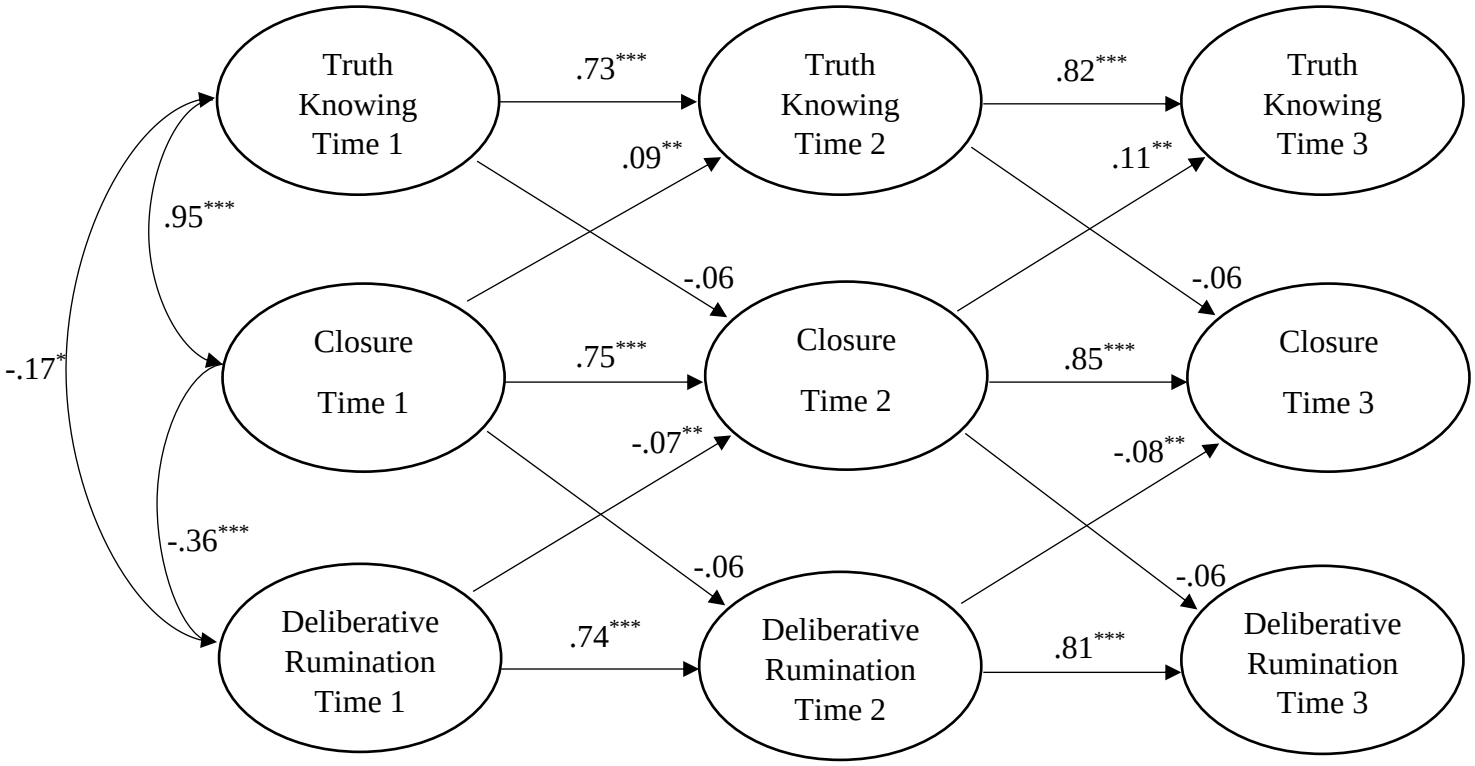


Note. The model depicts latent constructs and excludes within-wave correlations of residual variances. Closure = psychological closure. *** $p < .001$, ** $p < .01$, * $p < .05$.

A similar pattern of results was observed for deliberative rumination (see Figure 5). The observed lagged effects did not support predictions. Again, there was no significant prospective effect of truth knowing on psychological closure, and no significant prospective effect of psychological closure on deliberative rumination.

Figure 5

Standardized coefficients for truth knowing, psychological closure, and deliberative rumination



Note. Like figure 4, the model depicts only latent constructs and excluded the within-wave correlations of residual variances. Closure = psychological closure. *** $p < .001$, ** $p < .01$, * $p < .05$.

There were observed prospective effects of psychological closure on truth knowing across time. Levels of psychological closure were prospectively associated with increases in truth knowing over time. Similarly, there were prospective effects of both intrusive and deliberative rumination on psychological closure over time. Levels of rumination were prospectively associated with decreases in psychological closure across the timepoints.

The cross-lagged effect of truth knowing on both intrusive and deliberative rumination was also considered. These were exploratory analyses as the argument and hypotheses were that the cross-lagged effect of truth knowing would be in providing

psychological closure, and psychological closure would reduce rumination over time. The results are reported in the Supplemental Material for brevity, however, there were no significant prospective effects of truth knowing on intrusive rumination, nor deliberative rumination, at subsequent timepoints.

Random Intercept Cross-Lagged Panel Analysis. The previous analyses were concerned with whether a person's greater or lesser levels of truth knowing compared to other individuals meant they would subsequently have greater psychological closure than other individuals (and the equivalent for psychological closure and rumination); the analyses focused on interpersonal variation. In addition, it was considered whether within-person changes in predictors are related to within-person changes in outcome variables. Accordingly, two random intercept cross-lagged panel analyses (Hamaker et al., 2015; Orth et al., 2020) were conducted using AMOS 25, considering intrusive and deliberative rumination, respectively. The interest was whether participants who have a greater (lower) sense of truth knowing than usual at a timepoint, will also show a greater (lower) sense of psychological closure than usual at the following measurement; and whether participants who have a greater (lower) sense of psychological closure than usual will show a greater (lesser) intrusive and deliberative rumination than usual at the following measurement point.

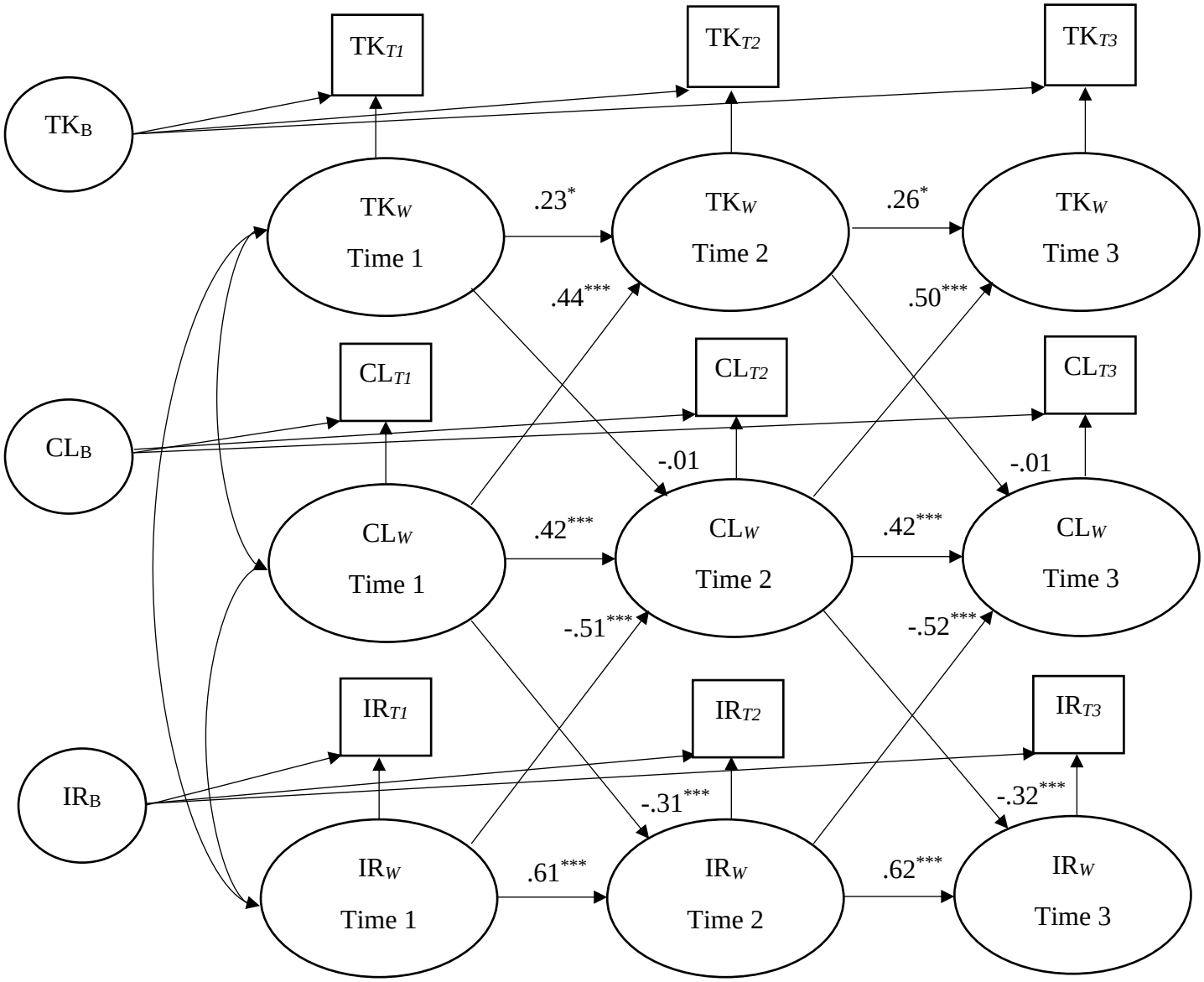
Similar to the standard CLPM, unconstrained models were compared to constrained models. All models had acceptable fit, so again, the most constrained models with both the autoregressive, and cross-lagged coefficients to be time invariant, were favoured. The fit of the constrained model with intrusive rumination was good, $\chi 2$ (12) = 14.5, p = .27, CFI = .99, RMSEA = .03, 90% CI [.01, .08]. The constrained model that included deliberative rumination was also a good fit, $\chi 2$ (14) = 16.3, p = .29, CFI = .99, RMSEA = .03, 90% CI [.01, .07].

The cross-lagged effects representing the within-person changes of truth knowing on psychological closure, and, in addition, the within-person changes of psychological closure on intrusive rumination are presented in Figure 6. Contrary to hypotheses, higher within-person changes of truth knowing did not predict psychological closure across time. Although not predicted, higher within-person changes of psychological closure were related to increased truth knowing over time. Consistent with predictions, higher within-person changes of psychological closure were also associated with decreased intrusive rumination over time. Another finding that was not predicted was that higher within-person changes of intrusive rumination were associated with decreased psychological closure over time.

The results of the model considering deliberative rumination are presented in Figure 7. Contrary to the hypothesis, higher within-person changes of truth knowing was associated with *decreased* psychological closure over time. Again, higher within-person changes of psychological closure were related to increased truth knowing over time, and this was not predicted. However, as predicted, higher within-person changes of psychological closure were associated with decreased deliberative rumination over time. Similar to the prospective effect of intrusive rumination on psychological closure and also not predicted, higher within-person changes of deliberative rumination were associated with decreased psychological closure over time.

Figure 6

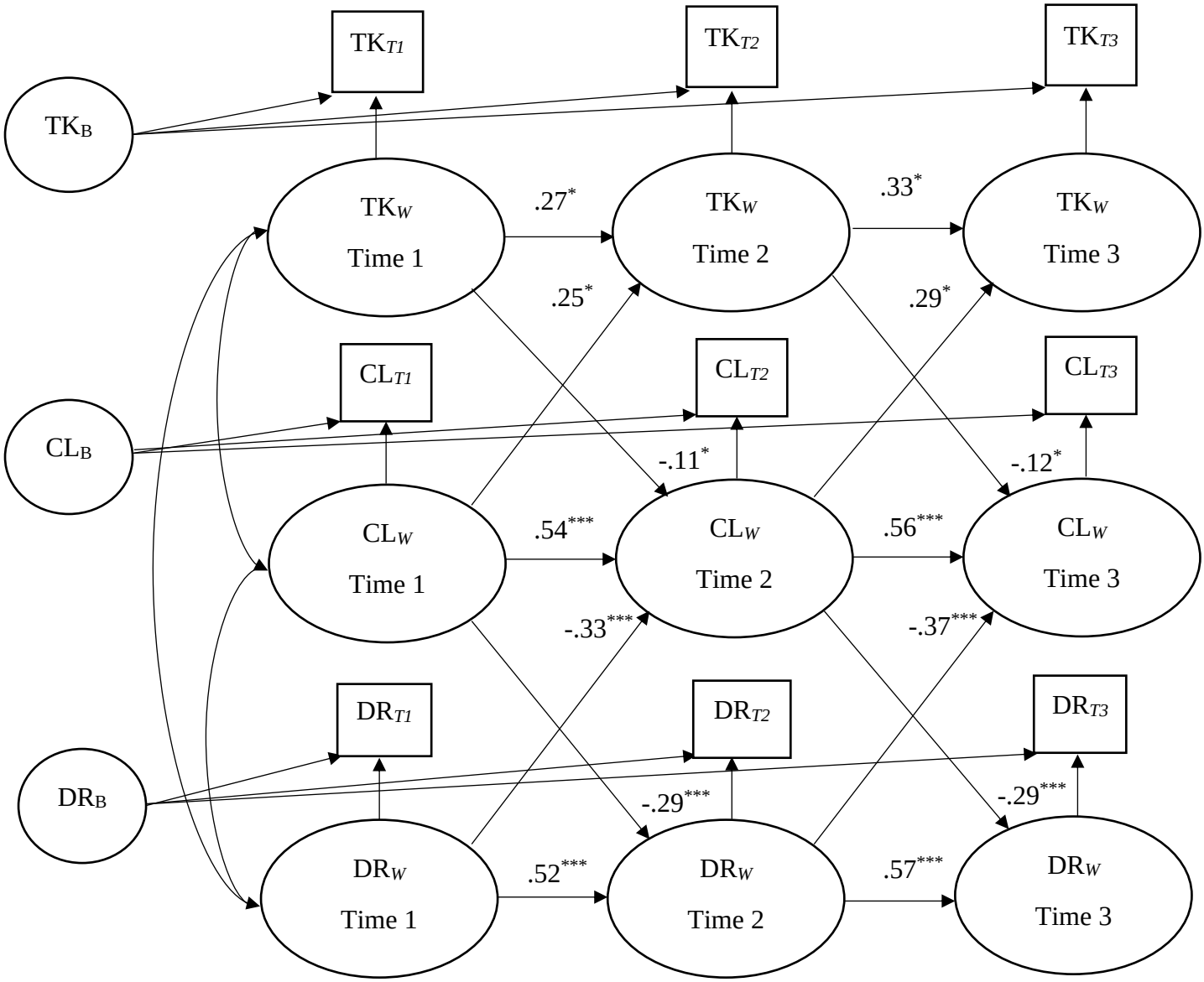
Standardized coefficients for truth knowing, closure, and intrusive rumination



Note. The model excluded the within-wave correlations of residual variances. B = between components (intercept), W = Within-Components, *T* = timepoint, TK = Truth Knowing, CL = Psychological closure, IR = Intrusive Rumination. *** $p < .001$, ** $p < .01$, * $p < .05$.

Figure 7

Standardized coefficients for truth knowing, closure, and deliberative rumination



Note. The model excluded the within-wave correlations of residual variances. B = between components (intercept), W = Within-Components, *T* = timepoint, TK = Truth Knowing, CL = Psychological Closure, DR = Deliberative Rumination. *** $p < .001$, ** $p < .01$, * $p < .05$.

Supplementary analyses were also conducted to explore whether within-person changes in truth knowing would be associated with decreased intrusive and deliberative rumination. These results are available in the Supplemental material, but higher within-person changes in truth knowing did not significantly predict decreased intrusive rumination across time. Finally, higher-within person changes in truth knowing did not predict decreased deliberative rumination across time.

Discussion

Study 3 sought to examine the prospective effect of truth knowing on psychological closure, and, in turn, the prospective effect of psychological closure on changes in rumination, over time. Results suggested that higher levels of truth knowing (relative to other participants) did not result in a rank-order increase in psychological closure at the following timepoint measurement. Higher psychological closure (again, relative to other participants) also did not correspond to a rank-order decrease in rumination at the next measurement. Moreover, participants who experienced a greater (or lower) sense of truth knowing than usual at a timepoint did not experience a within-person change of a greater sense of psychological closure at the following measurement. In sum, the findings in this study provide no empirical support for the theorised pathway from truth knowing to decreased rumination via gaining psychological closure. However, participants who gained a within-person change of a greater sense of psychological closure did experience a within-person change of decreased intrusive and deliberate rumination over time.

These findings cast doubt on the applicability of the Control Theory of rumination (Martin & Tesser, 1996) to understand the effects of truth knowing on rumination. The lack of predicted effects of truth knowing on psychological closure may suggest that gaining a greater sense of truth knowing over time does not afford any *additional* psychological closure. This finding may reflect the ‘myth of closure’ that speaks to how victims may be

misguided in their seeking of closure, believing that certain things bring closure which however fail to do so (Boss & Carnes, 2012; Eaton & Christensen, 2014).

It is possible that the effects of truth knowing on psychological closure may be influenced by the nature and severity of the wrongdoing. This study captured wrongdoings that had occurred within 24 hours meaning the range of possible wrongdoings was necessarily limited. Consequently, the experienced wrongdoings observed here may have been relatively minor. This may be reflected in nearly half of participants reporting insult as the experienced wrongdoing. Still, insults can be damaging, and the wrongdoings reported here were psychologically or emotionally hurtful as evidenced by the perceived severity of the wrongdoing being rated as relatively high on average. However, the wounds may have been somewhat surface level or superficial as the initial and subsequent levels of rumination observed in this study were relatively low on average (around the midpoint of the scale). It is possible that victims' *psychological immune systems* may have been readily equipped to deal with the threat of the wrongdoing (Gilbert et al., 1998). In other words, the wrongdoing did not cut too deep, the wound did not fester, and therefore did not require other psychological factors such as gaining a greater sense of truth knowing about the event to close the wounds.

Of course, there is always a question of what is the appropriate moment in time to capture when using longitudinal designs (Selig & Preacher, 2009). The justification in this study for examining the immediate week following the transgression was to capture a possible dynamic period where victims of wrongdoing are perhaps most affected by the event and possibly dedicate most cognitive resources to processing what happened (Taku et al., 2009). Theoretically, this may be the period of time where the effects of truth knowing and psychological closure on rumination are best observed. However, the results of this study suggest that psychological closure is not especially affected by initial and changing levels of truth knowing over the one-week period following wrongdoing.

It is possible that the effects of truth knowing on psychological closure are instead best observed with greater temporal distance. The impact of truth knowing (or lack of) might be more greatly felt with a greater temporal distance from when the event occurred. Future research interested in a longitudinal examination of this question may consider greater lengths of time than two days between measurement intervals (e.g., weeks or months). This may require the experienced wrongdoings to be reasonably significant or affecting as a relatively minor transgression may not invoke much afterthought weeks or months later.

The pattern of effects is more promising when considering the relationship between psychological closure and rumination. First, there was a positive finding that from a within-person change perspective, participants who had higher psychological closure than usual, subsequently experienced a decrease in intrusive rumination. The same pattern was observed for deliberative rumination. This finding is the first to demonstrate evidence that within-person increases in psychological closure over time may help diminish continued rumination on wrongdoing.

On the other hand, participants who had higher intrusive or deliberative rumination (relative to others) experienced a subsequent decrease in psychological closure relative to participants lower in intrusive rumination or deliberative rumination. Moreover, from a within-person change perspective, participants who had higher intrusive or deliberative rumination than usual also experienced a subsequent decrease in psychological closure. This suggests that the effects of rumination carry forward to increase a sense that the matter is unfinished business.

In sum, the findings of the prospective effects of psychological closure and rumination may suggest that psychological closure and rumination are two-sides of the same coin. Gaining an increased sense of psychological closure appears to close the book on the issue as evidenced by subsequent decreased thinking about the event. Conversely, continued

thinking of the event may be akin to reopening the book on the issue causing the matter to be perceived as psychologically 'open'.

General Discussion

The proposition tested was whether victims with a sense of *truth knowing*, the subjective sense of having complete information about the event - would ruminate less on the experienced wrongdoing. This idea was grounded in a Control Theory of rumination framework (Martin & Tesser, 1996) that states rumination is a function of an unmet need for completion on a subjectively important goal. Study 1 showed preliminary support with truth knowing having a negative relationship with rumination. Yet, Study 2 failed to find causal evidence that manipulating the perceived completeness of knowledge about the crime affected subsequent rumination. However, these studies showed a possible alternative pathway with consistent relationships between truth knowing increasing psychological closure, and psychological closure decreasing rumination. Accordingly, Study 3 used a prospective longitudinal design to explore a possible prospective effect of truth knowing on increasing psychological closure, and, in turn, a prospective effect of psychological closure on decreased rumination. However, there was no evidence that truth knowing prospectively increased psychological closure. Conversely, there was evidence that psychological closure prospectively decreased rumination albeit only when considering within-person changes (i.e., when a victim gained greater psychological closure than usual, they experienced a subsequent decrease in rumination).

The general finding that truth knowing did not decrease rumination is inconsistent with the key prediction derived from Control Theory that people ruminate when recognising an incomplete goal or a discrepancy between their current and desired level of goal-attainment (Carver & Scheier, 1990). These findings are at odds with past research that found cueing unresolved goals caused rumination (Roberts et al., 2013), and lack of goal progress

being related to rumination (Moberley & Watkins, 2010). However, thinking about the goal of truth more broadly for victims, it may be that rumination is not seen as a way of obtaining the truth, getting the full picture, or filling in the blanks. Instead, victims might make an attribution that the truth is out there, in one's environment, and outside of one's own thinking or pondering. Perhaps then the goal for truth motivates other kinds of truth-seeking behaviours such as wanting to directly ask the offender questions about what happened (e.g., in victim-offender mediation, Borton, 2009). This would mean that although gaining the whole truth or reducing the discrepancy between actual and desired level of truth knowing may still be recognised by victims as a goal, crucially, it does not influence victims to engage in rumination as a way to remedy it.

It could also be that the assumption that knowing the whole truth is a goal for victims is incorrect, despite the positive preliminary findings for truth knowing in Study 1. Victims may say they want the truth (e.g., Borton, 2009), but may ultimately be seeking relief from the emotional distress caused by the wrongdoing. Thus, while a lack of psychological closure may motivate truth-seeking, getting psychological closure may make victims less motivated to get additional pieces of truth. Indeed, the finding that there was a prospective effect of psychological closure on truth knowing with increases in psychological closure being associated with increases in truth knowing over time may support the interpretation that psychological closure satisfies the need for truth, but importantly; the present findings do not support a bidirectional relationship as truth knowing was not demonstrated to provide psychological closure. Therefore, seeking the truth for closure may itself be a misguided endeavour or a 'myth of closure' (Boss & Carnes, 2012; Eaton & Christensen, 2014).

Another consideration is that the context may matter for the effects of truth knowing. Perhaps the effect of truth knowing is more impactful on reducing rumination in victims of crime. That is, it is possible that victims of general interpersonal wrongdoings, want, or

require, the whole truth less so than victims that experience a criminal offence (e.g., gaining a sense of truth knowing after being insulted is less impactful than gaining a sense of truth knowing after being assaulted).

Conversely, the present research demonstrated a consistent negative relationship between psychological closure and rumination. The present findings are consistent with previous research that have found a link between the frequency of intrusive thoughts and psychological closure (Beike & Wirth-Beaumont, 2005; Savitsky et al., 1997). However, this may be the first empirical study to find evidence of a negative relationship between psychological closure and deliberative rumination. This suggests that the effects of psychological closure on reducing thinking about an event may be more global rather than simply a reduction of intrusive thoughts.

These findings suggest that a Control Theory perspective (Martin & Tesser, 1996) may be useful for understanding the effects of psychological closure on rumination. Previous research has demonstrated that people are motivated to obtain psychological closure by returning to complete unfinished actions or tasks because they wish to stop thinking about the task (Beike et al., 2007). While the present findings cannot provide strong evidence for causal ordering because of the absence of experimental data; these findings suggest that the obtainment of psychological closure does help the cessation of thinking. Conversely, however, they also indicated that no longer thinking or ruminating about the event leads to a greater sense of psychological closure. Thus, there might be a more complex process of reciprocal influence. The findings suggest a positive feedback loop where having a sense of psychological closure might lead to thinking less on the matter and decreased thinking might also suggest having psychological closure on the matter. Or, framed more problematically, an *absence* of psychological closure and continued rumination mutually influence and reinforce

each other, toward potentially becoming self-amplifying like the relationship between negative affect and rumination (e.g., Selby et al., 2014).

Limitations

One limitation is that only one theoretical framework of rumination was considered, but there are other theories of rumination (see Watkins & Roberts, 2020). For example, it is possible that truth knowing is more beneficial in reducing affect-based rumination such as 'brooding' (Treynor et al., 2003). The present findings suggest this is possible as truth knowing was negatively related to sadness across all studies. Future research could use the Rumination About an Interpersonal Offense Scale (Wade et al., 2008) that captures event-specific forms of depressive rumination (e.g., "*I try to figure out the reasons why this person hurt me*") to capture the potential effect of having a sense of truth knowing on depressive rumination about a *specific* victimising event.

The operationalisation and measurement of rumination in the present paper was relatively abstract and content-free (e.g., *thoughts about the event came to mind and I could not stop thinking about them*; Cann et al., 2011). This level of analysis has the trade-off cost of neglecting the potential wealth of information embedded in the content of those thoughts. As it stands, it is unclear to what extent the impact (if any) truth knowing has on the content of ruminative thoughts.

Conclusion

The present research suggests that victims having a sense of *truth knowing*, the subjective feeling of having complete information about the event, does not predict less rumination on the experienced wrongdoing. This was inconsistent with predictions derived from the Control Theory of rumination (Martin & Tesser, 1996) and the assumption that knowing the truth is inherently motivating for victims (Quinney et al., 2022). However, consistent with Control Theory, psychological closure was a negative predictor of

rumination. This suggests that gaining psychological closure over the event may help victims to stop ruminating about experienced wrongdoing.

Chapter 4: Truth and Victim-Offender Mediation.

An unfortunate reality of life is that every day somebody's treasured belongings are taken, physical assault is experienced, and people are deceived to great financial or personal expense. It can be difficult for victims to recover after experiencing criminal offending as there can be psychological (or symbolic) losses that leave the victimised feeling wronged or violated, in addition to the tangible financial costs (Woodyatt et al., 2022). The criminal justice system has typically taken a justice-as-punishment approach to restore justice after crime with a secondary consideration that giving an offender their just deserts may also help victims to move on (Lerner, 1980; Okimoto et al., 2009). Yet, helping victims of crime to heal has evolved from age-old punitive procedures to new (or rediscovered) ways based in restorative justice such as *victim-offender mediation* that involves engaging victim and offender in a two-way dialogue to negotiate a mutually agreed-upon resolution (Braithwaite, 2002). Bringing victim and offender together to discuss experienced crime seems a perilous task, and yet, victim-offender mediation can be successful (for a review, see Hansen & Umbreit, 2018). One of the major reasons why mediation can be successful is because mediation can lead to victims receiving an apology from the offender and successfully negotiating a plan for restitution (Umbreit & Armour, 2011).

However, it is not always the case that victim-offender mediation leads to apologies being accepted and restitution plans being negotiated. Indeed, victims have refused to accept apologies because victims have not felt ready for an apology or did not perceive the apology to be 'complete'. Also, sometimes mediation can result in a breakdown in talks and victims have requested that the legal system decide suitable terms for compensation rather than work with the offender to come to a mutually agreed upon plan for restitution (Choi & Severson, 2009). Restorative justice practices favouring mediation are taking hold of criminal justice systems; however, we still do not fully understand *why* some instances of mediation have

been effective or ineffective for the offer and acceptance of apology and composing of restitution agreements (Choi et al., 2010). One feature of *intergroup* restorative justice processes such as *truth and reconciliation commissions* has been the recognition that obtaining the full truth about wrongdoing may be a necessary condition for preparing victims for effective conflict resolution (De la Rey & Owens, 1998; Hamber, 2009). However, it has not been considered whether victims feeling like they have the full truth about crime can facilitate the effectiveness of restorative justice mediations at the *interpersonal* level. This omission may seem even more remarkable because one of the strongest motivations driving victims to participate in mediation is the expectation (or hope) that they will get answers, the full story, or 'the truth' about what happened (Borton, 2009; Hamber et al., 2000; Paul, 2015; Van Camp & Wemmers, 2013). Accordingly, the present studies examine whether victims perceiving to have complete knowledge about the crime (vs. incomplete) affords the appearance of having the full truth or *truth knowing* - the subjective sense of having a complete account of what happened (Quinney et al., 2022) - which helps to ready victims for the offer and acceptance of an apology, and to perceive the apology as more complete, and which increases the prospect of victim and offender negotiating a mutually agreed-upon resolution.

Restorative Justice and Victim-Offender Mediation

Restorative justice is based on a philosophy that the resolution of wrongdoing should be handled by the stakeholders in the offence to determine how to best correct for the harm caused by the offender and lay out a way forward (Zehr, 2015). Victim-offender mediation is seen by many restorative justice advocates as an opportunity for victims to receive an apology, and for victim and offender to negotiate a mutually agreed-upon plan for restitution (Sherman et al., 2005). The emphasis on bringing the two parties together to discuss the crime and negotiate a solution together presents a contrast to the conventional justice

practices that determine and deliver punishment to the offender unilaterally (Okimoto et al., 2009). The focus of this paper is on the outcomes for victims, but we acknowledge that restorative justice also focuses on the outcomes of the offender and that these needs can be interdependent (e.g., both victim and offender want to restore the relationship).

The most used and evidence-based restorative justice mechanism to establish a dialogue between victim-offender is termed Victim-Offender Mediation (Umbreit & Armour, 2011), also known as Victim-Offender Conferences (Paul & Schenck, 2018), and Victim-Offender Reconciliation (Hansen & Umbreit 2018). What is universal across these variations of victim-offender mediation is that there is a third-party present who is trained to facilitate mediation in a neutral way (Choi & Gilbert, 2010). Mediation is court-mandated, but still voluntary, and typically occurs after the offender has been convicted of the crime. However, mediation generally occurs before the offender's sentence has been delivered, and the severity of sentencing can depend on the outcome of mediation, such as whether the victim and offender complete a restitution agreement. Also, commonly mediation is reserved for relatively mild offences such as property crime or minor assaults, but mediation has been used in serious violent crime cases (Umbreit et al., 2003).

Apologies in Victim-Offender Mediation

The offer and acceptance of an apology is considered one of the most valuable features of victim-offender mediation (Dhami, 2012; Strang et al., 2006). Victims will often receive an apology from an offender in mediation (Dhami, 2016a; Hansen & Umbreit, 2018), but the offer of an apology in victim-offender mediation does not always translate into apology acceptance (Choi & Gilbert, 2010), and victims may even outright reject apologies (Choi & Severson, 2009). One might expect a wealth of empirical research that examines key mechanisms or psychological processes explaining how victims come to their conclusions about an offender's apology in the victim-offender mediation context, but there is a paucity

of such evidence (Choi et al., 2010). Only recently has research started to elucidate possible mechanisms in victim-offender mediation. For example, Bonensteffen et al. (2020) used eye-tracking to examine how victims direct their visual attention to evaluate an offender's perceived sincerity when apologising. Despite recent advances for understanding one mechanism of how victims receive apologies, our knowledge about other potential mechanisms remains incomplete.

One consideration from the broader apology literature for what might make apologies acceptable to victims in victim-offender mediation is that there must be a 'ripeness' for conflict resolution (Coleman, 1997), or victims must feel a readiness for an apology. For example, in a study by Frantz and Bennigson (2005), participants were asked to imagine a hypothetical wrongdoing and mediation with an offender that resulted in either receiving a delayed apology, an early apology, or no apology. The delayed apology was received ostensibly after the participant was afforded an opportunity to voice their concerns to the offender and their perspective to be understood, while the early apology was received at the start of mediation. It was found that the delayed apology led to significantly greater outcome satisfaction than both an early apology and no apology. This finding suggests that a victim may be more ready for an offender's apology in victim-offender mediation if other concerns or needs have been met.

Other apology research has examined whether apology acceptance is an outcome of receiving a 'complete' apology. An apology is considered complete if it includes a number of interlinked components such as expressing remorse for inflicting harm and a commitment to not repeat the behaviour in the future (Choi & Severson, 2009; Dhami, 2016a; Scher & Darley, 1997; Schumann, 2014). This has led some researchers to investigate which of these apology components might be the most effective. For example, Lewicki et al. (2016) had participants evaluate the efficacy of different apology components and found that

acknowledgement of responsibility was perceived as the most important. Other research into the effectiveness of apology components has considered whether apology components must align with victims' beliefs and preferences for how wrongdoings should be dealt with (Fehr & Gelfand, 2010). For example, some victims may believe an offer of compensation is required in an apology for it to be complete and acceptable.

Translating the findings from the apology literature to understand what shapes apologies in the victim-offender mediation context suggests that victims may be more ready to receive an apology *after* other key motivations or needs have been met. The research into what makes apologies complete may suggest that the offer and acceptance of an apology may require certain components (e.g., acknowledging responsibility) or components that align with victims' expectations. But what motivations or needs are driving victims and what do victims expect to get out of victim-offender mediation? The current research is an investigation of whether apologies in victim-offender mediation may be more effective if victims perceive to know the full truth about an experienced crime.

The Value of Truth Knowing for Apologies in Victim-Offender Mediation

Victims considering participating in mediation appear to be particularly motivated by the need for answers or obtaining the full truth about what happened (Hamber et al., 2000; Paul, 2015; Van Camp & Wemmers, 2013). For example, Borton (2009) examined archival interviews that had been conducted with victims interested in meeting with the offender. Victims reported that their main motivation for wanting to speak to the offender was to ask questions/obtain answers (e.g., what happened to a loved one's body). Similarly, Choi et al. (2010) conducted interviews with victims that had participated in mediation. These victims reported being motivated to speak with the offender to get further information about the crime from the offender. The pervasiveness of this need for the full truth has led some to

recommend that mediation be promoted as a way of obtaining answers about what happened as a means to enhance victim participation in mediation (Paul, 2015).

Obtaining the full truth is a key motivation for victims engaging in mediation and so may be a need that must be satisfied for the successful offer and acceptance of an apology in mediation. Victims may wish to know (or feel like they know) the full extent of what the offender is apologising for before they feel ready to receive an apology, to perceive the apology as complete, and consider accepting it. That is, victims may hold a strong preference or belief that the full truth must be brought to light in mediation, and this preference may affect their receiving of an apology (Fehr & Gelfand, 2010). Conversely, victims who perceive the full truth has *not* been laid on the table may not feel ready to receive and accept an apology, or see the apology as incomplete, because there is – or could be - more to the story and the victim is left wanting the missing pieces.

The value of truth for helping victims and offenders to reconcile after wrongdoing has been fiercely defended elsewhere in the restorative justice literature. In particular, the restorative value of truth has achieved much publicity through the proliferation of *truth and reconciliation commissions* such as the one established in post-apartheid South Africa (Allan & Allan, 2000). Truth and reconciliation commissions are built on the premise that making the full truth available or constructing as complete a picture of the wrongdoing as possible is necessary to resolve conflict and achieve healing (Hayner, 2000). There is some empirical evidence to suggest truth and reconciliation commissions may be successful in achieving these aims. For example, Gibson (2004) conducted face-to-face interviews with an ethnically representative sample of South Africans to examine possible racial diversity in attitudes towards reconciliation. The general finding was that a link existed between acceptance of the truth to conciliatory attitudes towards other ethnicities.

However, despite this focus at the collective level, there is little research, if any, on what effect the perceived availability of the full truth has on conflict resolution at the *interpersonal* level such as victim-offender mediation. This lack of research has fed some scepticism about the purported benefits of truth for helping victims and offenders to reconcile (Mendeloff, 2009). This scepticism appears to have been fed by the fact that there has been little research at the interpersonal level examining the effect of truth for conflict resolution mechanisms such as victim-offender mediation (Mendeloff, 2004).

The absence of empirical research examining the effect of perceived truth on victim-offender mediation may have been constrained by a lack of methods, measures, and operationalisations for truth. However, recent research may provide a potential means to investigate the effect of perceived truth. Quinney et al. (2022) posited that the truth could help victims of crime to heal by providing a sense of *truth knowing*, a subjective sense of knowing the full account of what happened. In a study by Quinney et al. (2022), a manipulation made salient to victims of crime either the completeness or incompleteness of their knowledge about the crime by asking them either focus on what they knew about the crime (complete knowledge) or did not know (incomplete knowledge). Crime victims who focused on the completeness of their knowledge (vs. incomplete) reported a greater sense of truth knowing, greater psychological closure over the event, and less anger. An indirect effect of complete knowledge salience on forgiveness via truth knowing was also observed. This research provides a means to examine the effect of perceived truth on the offer and acceptance of an apology in victim-offender mediation, and the observed positive effects of truth knowing predicts similar positive outcomes for how victims receive the apology.

In sum, evaluations of victim-offender mediation have identified some evidence that victims can be satisfied with an apology issued by the offender, facilitating victim and offender to come to a mutually agreed-upon plan for restitution (Umbreit & Armour, 2011).

However, not all instances of mediation contain offers of apologies that are accepted or end in a consensus on reparations (Choi & Severson, 2009). As it stands, there is not a complete understanding of what contributes to the success of victim-offender mediation despite its widespread usage (Choi et al., 2010). Victims' expressed need for the truth and the purported benefits of truth for repair at the intergroup level suggests that the appearance of knowing the full truth may also have value for interpersonal conflict resolution such as victim-offender mediation. Thus, the present research considers whether making salient the completeness of knowledge a victim has about crime (vs. incomplete) may be a condition under which victims are afforded the perception of having the 'whole' truth (i.e., truth knowing; Quinney et al., 2022), and are consequently more ready for an apology, inclined to perceive the apology as more complete, more accepting of the apology, and more likely to negotiate restitution with an offender.

The Present Research

This paper includes two studies that tested the effects of a knowledge salience manipulation to produce perceived complete knowledge about the crime vs. perceived incomplete knowledge about the crime. Both studies asked participants to imagine being the victim of a cybercrime and taking part in a restorative justice-based mediation with the offender. We hypothesised that if victims focused on the completeness of knowledge (vs. incompleteness), then victims would have a greater sense of truth knowing, show greater readiness for an apology, they would perceive the apology as more complete, they would report greater acceptance of the apology and greater motivation to negotiate restitution with an offender. Study 2 was designed to replicate Study 1, but also included a second manipulation to test whether the effects of complete knowledge depend on the source of the knowledge and truth (i.e., the offender compared to law enforcement). The theoretical case put forward in this paper is that the benefits received from the truth are attributable to the

perceived completeness and feeling of truth knowing; hence, we predicted that truth source would *not* act as a moderator.

We report all measures, manipulations, and exclusions in these studies. Participants were recruited via Amazon's Mechanical Turk using the CloudResearch research platform (Litman et al., 2017). All participants were residents of the USA. The power and sensitivity analyses reported were calculated using G*Power (Faul et al., 2009). Both studies reported in this manuscript were preregistered (Study 1: https://osf.io/wxps8; Study 2: https://osf.io/yqepf) and both preregistrations included a study design, hypotheses, power analyses, inclusion/exclusion criteria, and pre-planned primary analyses.

Study 1

Participants were presented with a vignette asking them to imagine being the victim of cyber theft involving a local youth hacking their Amazon account and making expensive purchases. We decided to focus on a cybercrime that all participants could relate to as all participants were recruited via Amazon's Mechanical Turk. The relatively minor severity of the crime was chosen because victim-offender mediation is typically used for lower severity crime that is usually property crime (Umbreit et al., 2004). The scenario further detailed that the offender had been caught by law enforcement and requested to engage in victim-offender mediation with the victim (i.e., the participant) as part of their sentencing. Mediation between victim and offender was constructed in the scenario by presenting participants with imagined mediation including the offender providing their perspective of the crime (e.g., detailing how they hacked the participant's account to make the fraudulent purchases) and apologising. The scenario ended after the offender's apology. This was then followed by a manipulation of knowledge salience (complete vs incomplete) and outcome measures of apology readiness, apology completeness, apology acceptance, and openness to further mediation. We predicted that participants in the complete knowledge salience condition (vs. incomplete) would report

greater truth knowing, greater apology readiness, rate the apology as more complete, greater apology acceptance, and greater openness to repair dialogue.

Method

Participants. We required 352 participants to have an 80% chance of detecting an effect of $d = 0.30$ when comparing two independent means (two-tailed, $\alpha = 0.05$. $\beta = 0.80$). Our effect size estimate was based on pilot data. We requested data from 20 additional participants for a total of 372 participants to account for the potential loss of data due to our pre-registered exclusion criteria. Complete data from 380 participants were received (185 female; 19 – 89 years old; $M_{age} = 41.2$). The higher number of participants than requested may have resulted from some participants not submitting their completion code to CloudResearch and thus not registering the collection of their data. Ethnicities for our sample included: 78% White/Caucasian; 9% Black/African American; 9% Asian; 2% Multiracial; 1% Native American or Alaska Native.

Design and Procedure. Participants were asked to imagine themselves as victims of a cybercrime that involved being charged with unauthorised purchases. The scenario informed participants that the Police had arrested a local youth (the offender) responsible for the charges who later pleaded guilty to the crime and was sentenced to probation. The offender was also requested to be part of a restorative justice program that included involvement in a meeting with the participant as part of their sentence. Participants were then asked to briefly describe the crime and rate the severity of the wrongdoing to ensure the crime was perceived as severe given the use of vignette. A description of what victim-offender mediation involves based on Paul and Schenck-Hamlin (2018) was then provided to participants that mentioned the participant had accepted the offer to meet with the offender. The scenario then described the meeting with the offender: the offender described how they committed the crime and apologised.

We then randomly allocated participants to one of two sets of questions designed to make salient either the completeness or incompleteness of participants' knowledge about the crime. Participants in the complete knowledge salience condition (N = 186) were asked to respond to a set of three open-response questions asking what they knew about the crime (e.g., describe anything that you know about the crime). Conversely, participants in the incomplete knowledge salience condition (N = 194) responded to three similar phrased open-ended questions, but instead asking what the participant did not know about the crime (e.g., do you have any gaps in your knowledge about the crime? List two below; Complete this sentence: I generally feel like I do not know enough about the crime because).

We note that there is no neutral control condition. One option could be to include a no knowledge salience condition, but it may be difficult to make this condition a clear neutral reference point. That is, participants in a no knowledge salience condition would likely reflect on their level of knowledge even despite not responding to knowledge salience questions and decide whether their knowledge is complete or incomplete. Thus, we did not include a no knowledge salience condition.

Measures. Participants then rated the following measures immediately after the manipulation (except perceived severity as this was measured before the manipulation). Every scale item was measured on a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree) and items were averaged to create a single score. Participants were debriefed about the research aims after completing the final measure.

Perceived Severity of the Transgression. Perceived severity was measured by 3 items from Wenzel and Coughlin (2020): "The other person's behavior pains me a lot"; "I find the other person's behavior totally unacceptable"; "I find the other person's behavior very wrong" (α = .79).

Truth Knowing. Truth knowing was measured by 4 items from Quinney et al. (2022): "I am satisfied that I know all I need to know about the incident"; "I feel like I know the full story of the incident"; "I feel like I have the complete picture of the incident"; "I feel like there is more to know about the incident" (reverse-coded; $\alpha = .91$).

Apology Readiness. Apology readiness was measured by 3 items: "The timing of the apology felt right"; "The offer of apology is timely"; "The apology is coming too soon" (reverse-coded; $\alpha = .80$).

Complete Apology. How complete the apology was perceived to be by participants was assessed by 3 items: "The apology was complete"; "The apology was sufficient"; "The apology was inadequate" (reverse-coded; $\alpha = .92$).

Apology Acceptance. Apology acceptance was measured by 3 items: "I accept the apology"; "I appreciate the apology"; "I reject the apology" (reverse-coded; $\alpha = .93$).

Openness to Repair Dialogue. Participants rated their willingness for repair mediation with 4 items: "I am willing to talk further with the youth about how they can make things right"; "I am open to discussions with the youth about how to put this behind us"; "I am prepared to engage in mediation with the youth about how to repair the situation"; "I wish to have no further mediation with the youth" (reverse-coded; $\alpha = .95$).

Results

We used a hybrid frequentist/Bayesian approach for our main between-groups analyses. We conducted traditional null hypothesis significance testing, but also estimated Bayes Factors using JASP version 0.14.1 with default priors (JASP Team, 2020; van Doorn et al., 2019). The addition of Bayes Factors has several advantages such as allowing for a comparison between alternative and null hypotheses (Wagenmakers et al., 2018). Moreover, a Bayes Factor (BF) is a likelihood ratio meaning the evidence is easily interpretable. For example, a $BF_{10} = 10$ would indicate that the data are 10 times more likely to occur under the

alternative hypothesis versus the null hypothesis. Conversely, Bayes Factors less than 1 equal support for the null hypothesis whereas a Bayes Factor of 1 indicates equal support for the null and alternative hypothesis. We report the Bayes Factor that quantifies evidence for the null hypothesis (BF_{01}) rather than the mathematical equivalent BF_{10} in cases where BF_{10} is less than 1 because it is easier to interpret (e.g., $BF_{10} = 0.1$ inverted is $BF_{01} = 10$ that indicates the data are 10 times more likely to occur under the null hypothesis). We use the descriptive labels from Lee and Wagenmakers (2014) to describe the strength of the evidence suggested by the Bayes Factors (e.g., $BF_{01} = 10$ would suggest *strong* evidence in favour of the null hypothesis).

A one sample *t*-test confirmed that the perceived severity of the transgression was rated significantly above the scale midpoint (4), $M = 6.17$, $SD = 0.84$, $t(379) = 50.1$, $p < .001$. The analyses presented in Table 1 were conducted using traditional independent *t*-tests, and Bayesian independent *t*-tests considering directional hypotheses (i.e., the complete knowledge salience condition would be greater than the incomplete knowledge salience condition). As predicted, participants in the complete knowledge salience condition (vs. incomplete) reported greater truth knowing (large effect size), greater apology readiness (small effect size), greater apology acceptance (small effect size), and the apology was rated as more complete (small effect size). However, contrary to our prediction, participants in the complete knowledge salience did not report greater openness to repair dialogue than participants in the incomplete knowledge salience condition.

Table 1

Descriptive and Inferential Statistics for Main Variables in Study 1

Variable	Condition				
	Complete *M* (*SD*)	Incomplete *M* (*SD*)	*t*(378)	*d*	Bayes Factor (Strength)
1. Truth Knowing	5.03 (1.30)	3.24 (1.24)	-13.7***	1.41	$BF_{10} = 5.48x10^{31}$ (Extreme)
2. Apology Readiness	5.07 (1.18)	4.77 (1.20)	-2.47**	0.25	$BF_{10} = 4.17$ (Moderate)
3. Apology Completeness	4.44 (1.62)	4.04 (1.52)	-2.49**	0.25	$BF_{10} = 4.36$ (Moderate)
4. Apology Acceptance	5.36 (1.47)	5.04 (1.42)	-2.15*	0.22	$BF_{10} = 2.03$ (Anecdotal)
5. Openness to Repair	4.99 (1.71)	4.90 (1.60)	0.55	0.05	$BF_{01} = 5.41$ (Moderate)

Note. *$p < .05$, **$p < .01$, ***$p < .001$, BF_{10} = evidence for alternative hypothesis, BF_{01} = evidence for null hypothesis.

Mediation Analyses. Bivariate correlations between the main variables are reported in Table 2. Process Model 4 was used to test for indirect effects with 95% percentile bootstraps set at 5,000 (Hayes, 2017). We have refrained from using causal language for the mediation analyses as there are limitations to using cross-sectional data for mediation (Fiedler et al., 2018). The complete salience of knowledge (vs. incomplete) was a predictor of truth knowing, $a = 1.79$, $SE = 0.13$, $t(378) = 13.7$, $p < .001$, 95% CI [1.53, 2.04].

Table 2

Bivariate Correlations for Main Variables in Study 1

	Correlations				
Variable	1	2	3	4	5
1. Truth Knowing	-	.25***	.31***	.15**	.03
2. Apology Readiness		-	.63***	.63***	.34***
3. Apology Completeness			-	.75***	.37***
4. Apology Acceptance				-	.59***
5. Openness to Repair Dialogue					-

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

Truth knowing was in turn significantly positively related to apology readiness, b = 0.20, SE = 0.05, $t(377) = 4.22$, $p < .001$, 95% CI [0.11, 0.29]. The indirect effect of complete salience of knowledge on apology readiness through truth knowing was significant, ab = 0.35, SE = 0.10, 95% CI [0.17, 0.55].

Truth knowing was significantly positively related to apology completeness, b = 0.35, SE = 0.06, $t(377) = 5.82$, $p < .001$, 95% CI [0.23, 0.47]. The indirect effect of complete salience of knowledge on apology completeness through truth knowing was significant, ab = 0.63, SE = 0.13, 95% CI = [0.38, 0.89].

Truth knowing was significantly positively related to apology acceptance, b = 0.12, SE = 0.06, $t(377) = 2.08$, $p = .04$, 95% CI = [0.01, 0.24]. However, the indirect effect of complete salience of knowledge on apology acceptance through truth knowing was not significant, ab = 0.15, SE = 0.08, 95% CI = [-0.01, 0.32].

Finally, truth knowing was not significantly positively related to openness to repair dialogue, b = 0.03, SE = 0.07, $t(377) = 0.37$, $p = .71$, 95% CI = [-0.11, 0.16]. The indirect

effect of complete salience of knowledge on openness to repair dialogue through truth knowing was not significant, $ab = 0.04$, $SE = 0.13$, 95% CI = [-0.20, 0.31].

Discussion

This study provided a novel finding that the offer and acceptance of an apology in victim-offender mediation may depend on the completeness of a victim's knowledge and the perception of having the full truth. As predicted, participants who focused on the completeness of their knowledge about the crime (vs. incomplete) reported greater truth knowing, greater apology readiness, the apology was rated as more complete, and greater apology acceptance.

In contrast, there was moderate evidence for the null hypothesis when considering the completeness of knowledge effect on openness to repair mediation with the offender despite the increased sense of truth knowing and general positive findings for the apology. There is some evidence that apologies can lead to greater conciliatory efforts (Fehr et al., 2010); however, the apology literature also suggests that victims being satisfied with an apology does not always translate into downstream consequences such as forgiveness (Hornsey & Wohl, 2013). Our findings may reflect this lack of a link between apology and the theorised downstream openness to repair dialogue, but it is also possible that participants viewed repair mediation as the most viable means to obtain restitution from the offender. Thus, participants in both groups equally rated their motivation to talk with the offender about how to repair the wrong because they simply wished to ensure they would be reimbursed for the fraudulent costs.

A question that remained from Study 1 was whether it was key for the observed results that it was the offender who ostensibly provided the victims with the full truth or failed to provide the full truth. We theorised that it is the appearance of complete knowledge/truth itself that matters, but this could also depend on whether the offender is seen

to have provided the full truth or not. Accordingly, we conducted a follow-up study to test the possible influence of the offender providing the truth.

Study 2

Study 2 was conducted to replicate the results of Study 1 and address an additional consideration. It is possible that it is not only the completeness of knowledge and perception of truth knowing that matters, but also the perception of where the truth is received from. We tested this proposition in Study 2 by manipulating the source of truth: participants were presented with further information about the crime either by law enforcement or by the offender themself.

We replaced a measure and added two measures in Study 2. Specifically, we replaced the openness to repair dialogue measure used in Study 1 with a measure to tap into participants' motivation to establish consensus with the offender to incorporate a measure more explicitly framed to capture participants' motivation to revalidate violated values with the offender. We also included a measure to assess whether our manipulations affect perceptions of how open and forthcoming the offender was in mediation. Finally, we included a dichotomous response question to examine participants' preferences for concrete restitution obtainment options. We asked participants if they would like to either participate in further mediation with the offender to decide a plan for restitution, or refer the case back to the district attorney's office for restitution to be decided in the adjudicatory process.

Method

Participants. We required 651 participants to have an 80% chance of detecting an effect size $f = 0.11$ (equivalent to $d = 0.22$) for an ANOVA considering main effects and interactions ($\alpha = 0.05$, $\beta = 0.80$, 4 groups). Our effect size estimate ($d = 0.22$) was based on the results from Study 1. We requested 680 participants to account for potential exclusions due to our pre-registered exclusion criteria. Complete data from 680 Amazon Mechanical

Turk participants from the United States of America were received. Data from three participants were removed due to incomplete responses or incorrectly describing the hypothetical crime. Data from 127 participants were removed due to incorrect identification of where they received further information about the crime from. We had pre-registered this strict exclusion criterion before data collection to rule out that participants responded to our measures without taking note of where the further information was received from. It was critical to rule out this alternative explanation given our predicted null hypotheses that there would be no moderating effect of truth source. A sensitivity analysis confirmed the minimum effect size detectable was $f = .12$ ($\alpha = 0.05$, $\beta = 0.80$, 4 groups) with 550 cases for analysis.

Design and Procedure. Participants were presented with the same hypothetical crime and followed the same procedure as Study 1. However, the scenario included an additional component that informed participants that they would be receiving further information about the crime. Participants were then randomly allocated to view either a Police statement or imagine the offender was providing further information about the crime in the meeting. The description of the crime was equal in content but had different referents: the Police statement asserted “this was the youth’s first offense”; the offender statement indicated “this was my first offense”. The same apology from Study 1 was issued by the offender following the description of the crime. Participants then completed the same knowledge salience manipulation used in Study 1, responded to the measures, and were debriefed.

Measures. We reused measures from Study 1 including: the perceived severity of the transgression ($\alpha = .78$); truth knowing ($\alpha = .92$); apology readiness ($\alpha = .76$); apology completeness ($\alpha = .91$); apology acceptance ($\alpha = .91$). However, we included three additional measures described below.

***Motivation to Establish Consensus*.** “I would like to talk with the youth so we can be on the same page on this issue”; “I would like to talk with the youth so we can see eye to eye

on this issue"; "I would like to talk with the youth so we can agree on the values that were violated"; "I would like to talk to the youth to come to a shared understanding of the wrongdoing" (α = .96).

Perceived Offender Openness. How open the offender was perceived to be in mediation was assessed by 3 items: "The youth was forthcoming in the process"; "The youth was an 'open book' in the process"; "The youth was unreserved in the process" (α = .81).

Restitution Preference. Participants were asked to make a single choice between how they would like to pursue being reimbursed for the costs incurred to them by the offender. The imagined mediator explained to the participant that there are two options available and both options have pros and cons. The first option was to work directly with the youth to come to an agreement about the frequency of repayments and repayment amounts. The second option was to refer the case back to the District Attorney meaning that there will be no further contact with the youth, and the court will decide appropriate measures for repayment. Additionally, the offender may face further legal consequences because the case will be decided in court (a possible outcome for unsuccessful mediation; Choi & Severson, 2009). Participants were asked which option they would prefer, and they could select either working with the youth directly or referring the case back to the legal system.

Results

Again, a one sample *t*-test confirmed that the perceived severity of the transgression was rated significantly above the scale midpoint (4), $M = 6.27$, $SD = 0.72$, $t(549) = 73.4$, $p < .001$. We conducted 2 (knowledge salience: complete, incomplete) x 2 (truth source: Police, offender) frequentist and Bayesian ANOVAs to test the between-subjects effects of knowledge salience and truth source on truth knowing, apology readiness, apology completeness, apology acceptance, consensus motivation, and perceived openness of the offender. There is a particular difficulty in considering support for null hypotheses when

using traditional ANOVAs because being unable to reject the null statistically does not mean there is evidence for the null (Gigerenzer et al., 2004). However, using Bayesian ANOVAs and the addition of Bayes Factors allowed us to quantify evidence in favour of the null hypothesis (Wagenmakers et al., 2018).

Main Effects Testing. Descriptive statistics, inferential statistics, and Bayes Factors for the knowledge salience main effect models are presented in Table 3. As predicted, there were significant main effects of knowledge salience on truth knowing (large effect size), apology readiness (small effect size), apology completeness (small effect size), and apology acceptance (small effect size). Participants in the complete knowledge salience condition (vs. incomplete) reported greater truth knowing, apology readiness, apology completeness, and apology acceptance. However, contrary to predictions, there was no significant main effect for knowledge salience on consensus motivation. No predictions were made for the effect of knowledge salience on perceived openness, but a significant, small effect was observed; participants in the complete knowledge salience (vs. incomplete) perceived the offender as more open.

Table 3

Descriptive and Inferential Statistics for Knowledge Salience Main Effect Models

	Knowledge Salience				
Variable	Complete *M* (*SD*) (*N* = 288)	Incomplete *M* (*SD*) (*N* = 262)	*F*(1, 546)	*partial* η^2	Bayes Factor (Strength)
1. Truth Knowing	4.95 (1.26)	3.22 (1.48)	216.7***	0.28	$BF_{10} = 2.57x10^{38}$ (Extreme)
2. Apology Readiness	4.93 (1.18)	4.66 (1.24)	7.37**	0.01	$BF_{10} = 2.65$ (Anecdotal)
3. Apology Completeness	4.44 (1.60)	3.85 (1.53)	13.0***	0.02	$BF_{10} = 52.7$ (Strong)
4. Apology Acceptance	5.11 (1.43)	4.83 (1.53)	6.00*	0.01	$BF_{10} = 1.29$ (Anecdotal)
5. Consensus Motivation	4.98 (1.66)	5.02 (1.69)	0.02	< .001	$BF_{01} = 10.2$ (Strong)
6. Perceived Openness	4.58 (1.04)	4.13 (1.13)	23.3***	0.04	$BF_{10} = 7460$ (Extreme)

Note. *p < .05, **p < .01, ***p < .001, BF_{10} = evidence for alternative hypothesis, BF_{01} = evidence for null hypothesis.

Descriptive statistics, inferential statistics, and Bayes Factors for the truth source main effect models are described in Table 4. There were *no* significant main effects of truth source on truth knowing, apology readiness, apology completeness apology acceptance, or consensus motivation. The Bayes Factors (i.e., BF_{01}) provided moderate to strong evidence for the null hypotheses. Again, no predictions were made for the effect of truth source on perceived openness, but there was a significant, small effect; participants that received the truth from the offender (vs. Police) perceived the offender as more open.

Table 4

Descriptive and Inferential Statistics for Truth Source Main Effect Models

Variable	Truth Source				
	Police *M* (*SD*) (*N* = 283)	Offender *M* (*SD*) (*N* = 267)	*F*(1, 546)	*partial* η^2	Bayes Factor (Strength)
1. Truth Knowing	4.09 (1.61)	4.17 (1.62)	0.01	< .001	BF_{01} = 9.13 (Moderate)
2. Apology Readiness	4.84 (1.19)	4.75 (1.24)	1.12	.002	BF_{01} = 7.41 (Moderate)
3. Apology Completeness	4.08 (1.56)	4.12 (1.61)	0.01	< .001	BF_{01} = 10.1 (Strong)
4. Apology Acceptance	5.03 (1.45)	4.92 (1.52)	1.26	.002	BF_{01} = 7.22 (Moderate)
5. Consensus Motivation	5.09 (1.59)	4.90 (1.75)	1.83	.003	BF_{01} = 4.73 (Moderate)
6. Perceived Openness	4.26 (1.07)	4.47 (1.15)	3.98*	.007	BF_{10} = 1.24 (Anecdotal)

Note. *p < .05, **p < .01, ***p < .001, BF_{10} = evidence for alternative hypothesis, BF_{01} = evidence for null hypothesis.

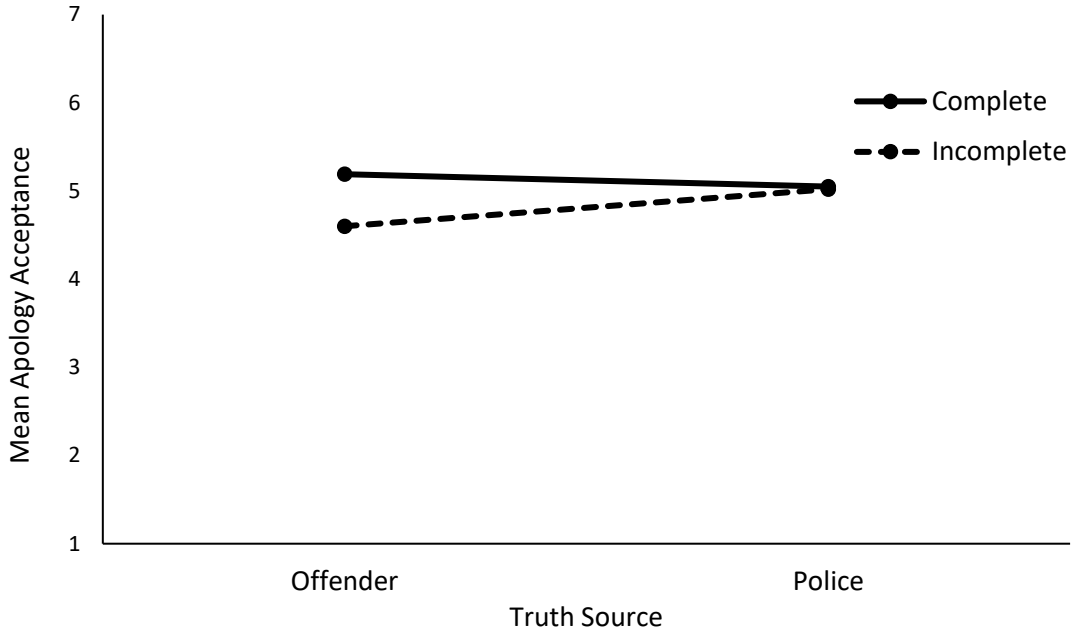
Knowledge Salience x Truth Source Interaction Testing. We predicted that the effects of knowledge salience on the outcome measures would not be moderated by truth source. We report here the frequentist null-hypothesis testing, but the Bayes Factors that quantify evidence for the null hypothesis (i.e., BF_{01}) are more informative for our predicted null hypotheses. The interaction effects reported here were isolated from the main effects of knowledge salience and truth source by adding these main effects to the null model. This was performed so we could consider whether models that included only the two main effects predicted the data better vis à vis main effect models that also included the interaction term (Wagenmakers et al., 2018). That is, this method allowed us to quantify evidence *against* interaction models and in support of our predicted null hypotheses.

As predicted, there was no significant interaction effect on truth knowing $F(1, 546) = 1.23$, $p = .27$, *partial* $\eta^2 = .002$, and moderate evidence for the null, main effects model over the model including the interaction term ($BF_{01} = 4.39$). There was also no significant interaction effect on apology readiness, $F(1, 546) = 1.79$, $p = .18$, *partial* $\eta^2 = .003$, and moderate evidence for the null, main effects model over the model including the interaction term ($BF_{01} = 3.23$). There was no significant interaction present for apology completeness, $F(1, 546) = 0.04$, $p = .85$, *partial* $\eta^2 < .001$, and moderate evidence for the null, main effects model over the model including the interaction term ($BF_{01} = 7.93$). No significant interaction effect was present for consensus motivation, $F(1, 546) = 2.77$, $p = .10$, *partial* $\eta^2 = .005$, and anecdotal evidence for the null model over the model including the interaction term ($BF_{01} = 1.73$).

However, contrary to predictions, there was a small, but significant interaction for apology acceptance, $F(1, 546) = 5.03$, $p = .03$, *partial* $\eta^2 = .009$. See Figure 1. Participants in the incomplete knowledge salience condition with the offender as the truth source reported lower apology acceptance ($M = 4.60$, $SD = 1.60$) than participants with the Police as the truth source ($M = 5.02$, $SD = 1.45$), $F(1, 546) = 5.39$, $p = .02$. Whereas in the complete knowledge salience condition, apology acceptance did not differ for the offender as truth source ($M = 5.19$, $SD = 1.41$) and the police as truth source ($M = 5.05$, $SD = 1.45$), $F(1, 546) = 0.66$, $p = .42$. The Bayesian ANOVA revealed anecdotal evidence for the model including the interaction term over the null, main effects model ($BF_{10} = 1.64$).

Figure 1

Mean apology acceptance by knowledge salience condition and truth source



Note. Apology Acceptance was lower for incomplete knowledge with the offender as the truth source, but apology acceptance did not differ for complete knowledge.

There was also a small, significant interaction effect on perceived openness of the offender, $F(1, 546) = 4.06$, $p = .04$, *partial* $\eta 2 = .007$. Participants in the complete knowledge salience with the offender as the truth source reported greater mean perceived openness ($M = 4.76$, $SD = 0.99$) than with the Police as the truth source ($M = 4.39$, $SD = 1.08$), $F(1, 546) = 8.48$, $p = .004$. Whereas in the incomplete knowledge salience condition, perceived openness did not differ for the offender as truth source ($M = 4.13$, $SD = 1.23$) and the police as truth source ($M = 4.13$ $SD = 1.04$), $F(1, 546) = 0.01$, $p = .99$. However, a Bayesian ANOVA revealed anecdotal evidence for the null, main effects model over the model that included the interaction term ($BF_{01} = 1.11$). We thus considered the data to better predict the null hypothesis to be consistent with our interpretation of Bayesian statistics.

Mediation Analyses. Bivariate correlations between all measured variables are reported in Table 5. Process Model 4 was again used to test for indirect effects with 95% percentile bootstraps set at 5,000 (Hayes, 2017). The complete salience of knowledge (vs. incomplete) was a predictor of truth knowing, $a = 1.73$, $SE = 0.12$, $t(548) = 14.8$, $p < .001$, 95% CI [1.50, 1.96].

Table 5

Bivariate Correlations for All Variables in Study 2

	Correlations						
Variable	1	2	3	4	5	6	7
1. Truth Knowing	-	.25***	.32***	.18**	-.10*	.32***	.06
2. Apology Readiness		-	.65***	.66***	.17***	.44***	.20***
3. Apology Completeness			-	.77***	.11**	.53***	.25***
4. Apology Acceptance				-	.26***	.46***	.32***
5. Consensus Motivation					-	.16***	.28***
6. Perceived Openness						-	.25***
7. Restitution Preference							-

Note. $*p < .05$, $**p < .01$, $***p < .001$. Restitution preference was coded 1 = referring case to legal system, 2 = working with the offender.

Truth knowing was in turn significantly positively related to apology readiness, $b = 0.20$, $SE = 0.10$, $t(547) = 5.46$, $p < .001$, 95% CI [0.13, 0.27]. The indirect effect of complete salience of knowledge on apology readiness through truth knowing was significant, $ab = 0.35$, $SE = 0.7$, 95% CI [0.22, 0.49].

Truth knowing was significantly positively related to apology completeness, $b = 0.33$, $SE = 0.05$, $t(547) = 7.03$, $p < .001$, 95% CI [0.24, 0.42]. The indirect effect of complete

salience of knowledge on apology completeness through truth knowing was significant, *ab* = 0.57, *SE* = 0.09, 95% CI = [0.39, 0.76].

Truth knowing was significantly positively related to apology acceptance, *b* = 0.17, *SE* = 0.05, *t*(547) = 3.69, *p* < .001, 95% CI = [0.08, 0.26]. The indirect effect of complete salience of knowledge on apology acceptance through truth knowing was significant, *ab* = 0.29, *SE* = 0.09, 95% CI = [0.11, 0.47].

Contrary to predictions, truth knowing was significantly *negatively* related to consensus motivation, *b* = -0.14, *SE* = 0.05, *t*(547) = -2.66, *p* = .01, 95% CI = [-0.24,-0.04]. The indirect effect of complete salience of knowledge on consensus motivation through truth knowing was significant, *ab* = -0.24, *SE* = 0.10, 95% CI = [-0.44, -0.04].

Finally, an exploratory analysis was conducted for an indirect effect of complete knowledge salience on the perceived openness of the offender via providing increased truth knowing given the positive correlation between truth knowing and perceived openness. Truth knowing was significantly positively related to perceived openness, *b* = 0.20, *SE* = 0.03, *t*(547) = 6.02, *p* < .001, 95% CI = [0.13, 0.26]. The indirect effect of complete salience of knowledge on perceived openness through truth knowing was significant, *ab* = -0.34, *SE* = 0.07, 95% CI = [0.22, 0.48].

Restitution Preference Analysis. A binomial logistic regression was conducted to examine whether knowledge salience and truth source were predictors for participants' restitution preference. Both knowledge salience and truth source were included as predictors as well as an interaction term computed using these predictors. There were two possible options for pursuing restitution: (1) referring the case back to the legal system and having no further mediation with the offender; (2) working with the offender to come to an agreement on a repayment plan. Results indicated that only knowledge salience was a significant predictor for a greater likelihood of selecting to refer the case back to the legal system (B =

.57, *Wald*(1) = 5.23, *p* = .02). The odds ratio of 0.56 indicated that participants in the incomplete knowledge salience condition were about 36% more likely to select reporting the case back to the legal system than participants in the complete knowledge salience condition. We examined this finding further with a chi-square test of independence, $\chi 2$ (1, *N* = 550) = 4.83, *p* = .03, *phi* = .09. Referring the case back to the legal system was preferred more than working with the youth towards a restitution plan to a greater extent for participants in the incomplete knowledge condition than complete knowledge.

Table 6

Number (and percentage) of restitution preference for working with the offender versus referring the case back to the legal system by knowledge salience

	Restitution Preference	
Knowledge Salience	Work with Offender	Legal System
Complete	149 (51.7%)	139 (48.3%)
Incomplete	111 (42.4%)	151 (57.6%)

Discussion

The purpose of Study 2 was to replicate the findings of Study 1 and investigate whether truth source would moderate the effects of the knowledge salience manipulation on apology readiness, apology completeness, apology acceptance, and motivation for consensus. First, the results of Study 2 replicated the findings of Study 1 by finding that participants who focused on the completeness of their knowledge about the crime (vs. incomplete) reported a greater sense of truth knowing, greater apology readiness, greater apology completeness, and greater apology acceptance. Second, there was anecdotal-to-strong evidence for our null hypotheses for interactions between knowledge salience and truth source with apology acceptance being an exception. Third, both salience of complete knowledge and the offender

being the truth source increased the perceived openness of the offender. Additionally, it was found that the manipulation of knowledge salience affected participants' preferred method for pursuing restitution. Participants who focused on the incompleteness of their knowledge (vs. complete) favoured reporting the case back to the legal system and having no further contact with the offender than working with the offender directly.

There was evidence that truth source moderated the effect of knowledge salience as apology acceptance was lower for participants who focused on the incompleteness of their knowledge when further information about the crime was received from the offender. It could be that incompleteness of knowledge and a lack of truth knowing is made particularly salient and unacceptable when the offender is the source of the truth. In turn, this may have made the offender's apology seem less acceptable. This finding may seem to undermine our theorising that it is the perception of truth that matters and not the truth coming from the offender. However, the evidence for moderation was limited to apology acceptance and a modest effect size. Nevertheless, this finding may suggest that the acceptance of an apology in victim-offender mediation may be improved by the full truth being provided by the offender or avoiding circumstances where an incomplete truth is provided by the offender.

There was also an intuitive finding that participants perceived the offender as more open when they received further information from the offender compared to participants with the Police as the truth source. However, participants in the complete knowledge salience condition (vs. incomplete) also perceived the offender as more open. This might suggest the offender was perceived as being forthcoming with the truth by virtue of participants ostensibly having complete knowledge and a greater sense of truth knowing (e.g., a '*Halo Effect*'; Nisbett & Wilson, 1977). Alternatively, it could be that participants in the incomplete knowledge condition perceived the offender as withholding information or not being fully open about what happened. We had no neutral control condition so we cannot determine

whether it is the incompleteness or completeness of knowledge that is driving this effect. However, this finding suggests that the perception of truth knowing also affects how open the offender is perceived by the victim.

The data also provided strong evidence for the null model over the knowledge salience model when considering participants' motivation to establish consensus with the offender. Moreover, truth knowing was also *negatively* related to motivation to establish consensus with the offender. On the one hand, this finding may be relatively benign and simply reflect victims being less motivated with a sense of truth knowing because they have no further need for truth/information. On the other hand, it could be that there is a darker side to truth with truth knowing feeding an avoidance of the offender. That is, victims who feel they know the whole truth may perceive seeing eye to eye with the offender as unnecessary because their mind is made up and they do not see the need to consider the offender's perspective on the incident (e.g., Okimoto & Wenzel, 2014). At the cognitive level, this could be explained by a sense of truth knowing satisfying a need for cognitive closure that victims are motivated to hold on to and thus avoid anything that could introduce ambiguity or new considerations (Kruglanski & Webster, 1996).

A finding with concrete implications for victim-offender mediation was that the manipulation of knowledge salience affected the preferred method for pursuing restitution, as participants in the incomplete knowledge salience condition (vs. complete) were more likely to refer the case back to the legal system than working with the offender towards a restitution agreement. On the one hand, this could be due to victims being more punitive towards the offender in the incompleteness condition or being less satisfied with mediation as a whole and so participants wanted to foreclose any future meeting. On the other hand, it could be that generally, victims prefer the legal system to deal with establishing terms for restitution, but completeness of knowledge and a sense of truth knowing makes victims more willing to work

with the offender. Again, we had no neutral control condition, so we cannot determine whether it is incompleteness, completeness, or both, driving the observed effect.

General Discussion

These studies demonstrate that victims having the full truth (or a fuller truth) about crime can affect the offer and acceptance of apology, and motivation to work with the offender towards a restitution agreement in victim-offender mediation. Participants focusing on the completeness of knowledge (vs. incomplete) caused them to have a greater sense of truth knowing, feel greater readiness for an apology, perceive the apology as more complete, and be more accepting of the apology.

Victims of crime receiving an apology from an offender is considered one of the most important positive outcomes of victim-offender mediation (Dhami, 2012). The expectation is that an offender offering an apology will be favourably received by the victim, but victims are not always satisfied with the apology they receive (Choi & Gilbert, 2010; Choi & Severson, 2009). We sought to understand why this is the case by looking to what victims strongly want from mediation – the truth (Borton, 2009; Hamber et al., 2000; Paul, 2015; Van Camp & Wemmers, 2013). Our findings for the positive effect of victims perceiving to have complete knowledge of the crime and a sense of truth knowing on receiving an offender's apology are consistent with the justification underlying truth and reconciliation commissions that the full truth being available to victims can help achieve restoration (De la Rey & Owens, 1998). Previous criticisms of the effect of truth have been levelled at the mere extrapolation that the benefits of truth would also help resolve interpersonal conflict in the absence of actually examining the effect of truth for more local conflict resolution mechanisms such as victim-offender mediation (see Mendeloff, 2009). Our findings are the first to our knowledge to demonstrate that victims perceiving to have the full truth about

wrongdoing may have value for resolving interpersonal conflict. In doing so, these findings help shed further light on the mechanisms that contribute to effective apologies in mediation.

These findings may offer practical ways to achieve higher victim satisfaction with apologies and improve the success rate for mediation. Our findings may be used as a demonstration or evidence-base to inform victim-offender facilitators or mediators about the importance of the perception of the full truth. In practice, these findings may translate into an explicit emphasis on providing victims with as complete a picture of the crime as possible. For example, our findings of how victims felt a greater readiness for an apology may suggest checking with victims that they have no further questions about the crime *before* moving to the offender's apology. Having said that, we did not investigate whether getting the truth *after* the issue of apology could cause victims to positively reappraise the apology, but there is evidence to suggest that an apology is more effective if timed to come after other needs have been met (Frantz & Bennigson, 2005). Prompting the offender to elaborate in mediation may also be necessary if the victim (or mediator) perceives an incompleteness to the account/truth offered by the offender. The measure of truth knowing (Quinney et al., 2022) may be a useful tool in this regard to assess and monitor victims' satisfaction with the availability of truth (e.g., pre-post mediation and during a break in mediation).

The present findings may also have important implications for offenders in victim-offender mediation. Some offenders can come into mediation with the intention to genuinely apologise for their actions (Braithwaite, 1989) and during the lead up to mediation can spend time writing out what they would like to say during the apology and thinking about the delivery of the apology itself (Choi & Severson, 2009). Even so, some victims may be dissatisfied and not accept the apology despite offenders' efforts to provide a genuine apology (Choi & Gilbert, 2010). The victim rejecting the apology in such cases can leave offenders bewildered, angry, and make them see the victim in a less positive light (Dhami,

2016b). Our findings suggest that it is not only the verbal aspects of the apology *per se* that is important for the offer and acceptance of an apology. The provision of the full truth may also need to be considered as an essential component; so, offenders may need to spend time also thinking and writing out the full story of what happened in preparation for truth-telling in mediation. This is especially so when the offender is the sole proprietor of the truth. Here, the responsibility and onus may be - or morally ought to be - on the offender to deliver the full truth to the victim and help the victim come to a sense of truth knowing. This is especially true if offenders wish for their apology to be favourably received that they sincerely meant and spent time crafting.

The knowledge salience manipulation also affected restitution preference with participants in the incomplete (vs. complete) knowledge salience condition favouring referring the case back to the legal system to decide restitution than work towards an agreement with the offender directly. Our finding here may be consistent with the view of Walker (2010) that getting the truth and making it available to victims is a requirement for decision-making around what reparations are required and suitable. Victims without a sense of truth knowing may be less certain about what is an appropriate remedy and consequently be more inclined to leave the issue to the criminal justice system to decide. Alternatively, victims with a sense of truth knowing may be clearer on how the crime should be redressed so are more willing to pursue a restitution agreement themselves. Of course, any interpretation is speculative without evidence of how the knowledge salience manipulation affected participants' reasoning or motivations behind their choice for pursuing restitution. One solution in further exploration may be to measure and then manipulate possible motivations driving victims' restitution preferences that are affected by knowledge salience.

Limitations and Future Directions

The two studies produced here have several limitations. First, asking people to imagine both experiencing a crime and mediation with an imaginary offender can constrain confidence in the generalisability of the findings. However, we maintain that the effects observed here may similarly affect real crime victims in victim-offender mediation given that the crime imagined in these studies was perceived as severe with participants having rated it significantly above the scale mid-point.

Building on the previous limitation, we note that we examined the effects of our manipulation and a sense of truth knowing on a relatively basic and static victim-offender mediation. The use of a dyadic methodology to capture the more dynamic and complex interactions between victim and offender is a suitable next step to build on the studies here. The next logical step would be to examine how knowledge salience and truth knowing affects dynamics *within* victim-offender mediation. It is possible to take an experimental approach to answer this question by assigning participants to a victim or offender role and using the knowledge salience manipulation presented in this paper to alter the perceived amount of truth available to participants assigned to the victim role. Using a simulated mediation approach (e.g., Kiefer et al., 2020) could provide a way to analyse how a sense of truth knowing affects victim-offender interactions in mediation. As it stands, we have little understanding about why victims act the way they do in mediation (Jacobsson et al., 2012), but it is possible that if victims have a low sense of truth knowing then mediation may resemble *co-rumination*, the excessive rehashing of the problem between individuals (Aldrich et al., 2019; Rose, 2002).

Researchers interested in a more complex, but more complete understanding of the dynamics in victim-offender mediation may consider *triadic* research. Victim-offender mediation has a third-party present (i.e., the mediator) who can have their own views/goals

for justice repair (Okimoto & Wenzel, 2014). The role of the mediator in the present research was minimal, but mediators are actively involved in shaping the dynamics of victim-offender mediation and come with varied skills and experiences (Choi & Gilbert, 2010). For example, victims have reported they felt mediation was rushed by the mediator and their capacity to express themselves was limited (Choi et al., 2013; Jacobsson et al., 2012). Some mediators have even made unilateral decisions to accept an offender's apology without input from the victim, or conversely, expressed disappointment and anger in mediation towards the offender's apology (see Choi & Severson, 2009). There are guidelines for mediators to conduct sensitive victim-offender mediation (Umbreit & Armour, 2011), but a general lack of empirical investigation about how the mediator can affect the victim-offender dynamics in mediation.

We also presented a relatively benign truth to participants in our studies and did not vary the nature of the truth provided, meaning that we cannot generalise the findings observed here to all kinds of truth. This research appealed to victims' expectations or hopes of receiving the truth and built our theoretical case based on this need for truth to make our predictions. However, victims also have expectations for the *type* of truth they will receive. Clearly, some truths will be more or less satisfying than others because of the meaning or understanding of the crime it affords. For example, some victims may be more accepting of an apology offered by the offender because they learn a full, comforting truth (e.g., the offender only did the crime because they needed money to help others). Conversely, some victims may be satisfied they know the full truth, but no apology would be acceptable in the light of the truth (i.e., the offender did the crime for the 'wrong' reason). There may still be other benefits for victims who receive the complete truth - but an undesirable truth - such as truth knowing and psychological closure (Quinney et al., 2022). However, it is possible that the benefits of complete knowledge and truth knowing in producing more effective apologies

observed here may not be reproduced when the truth is unsatisfactory or hurtful. Future research could vary the nature or severity of the truth to explore whether 'negative' truths might limit victims' acceptance of apologies made by an offender in mediation.

Conclusion

The offer and acceptance of an apology is considered one of the most important outcomes of victim-offender mediation (Dhami, 2012). The present research found that victims perceiving to have complete knowledge of an experienced crime (vs. incomplete) had a greater sense of truth knowing, felt more ready for an apology, the apology was perceived as more complete, more accepting of an apology, and more likely to work towards a restitution agreement with an offender. These findings demonstrate the importance of bringing the full truth to light in victim-offender mediation for achieving effective justice restoration after wrongdoing and improving the likelihood of victim and offender coming to a consensus on what steps to take to repair the wrong caused by crime.

Chapter 5: General Discussion

There is a debate in the academic literature on the value of truth for justice restoration and victims' healing. Sceptics of the proposed value of truth have concerns about the lack of empirical evidence and a theoretical gap between how truth could help achieve justice and help victims to heal (e.g., Mendeloff, 2004; Weinstein, 2011). However, previous theorising and examinations of 'the truth' have generally confounded the effects of knowing the truth in itself with the effects of knowing specific content or versions of the truth (e.g., explanations of how the crime was committed that would be valuable by affording sense-making details). Accordingly, this thesis investigates whether there is value in truth *per se* by affording victims a perception - or feeling – of knowing the full truth about an experienced crime or wrongdoing. This perception of knowing the 'whole' truth is termed *truth knowing*, the subjective sense of knowing the full account of what happened (Quinney et al., 2022).

Towards this aim, the approach in this thesis included the use of experimental methods to alter the perceived completeness of information or knowledge. That is, there is no changing of information nor provision of any additional information as a means to isolate victims' sense of truth knowing from the effect of knowing specific truth content. This method differentially elicits feelings of truth knowing that leads to important downstream consequences for justice restoration and victims' healing. Specifically, victims with the perception of complete knowledge about an experienced crime (vs. incomplete) reported greater truth knowing, greater psychological closure and less anger, and truth knowing was associated with increased forgiveness of the offender (Chapter 2). However, the predicted effect of truth knowing on decreasing victims' rumination about wrongdoing was not supported (Chapter 3). Also, victims who focused on the completeness of their knowledge about a hypothetical crime (vs. incomplete) reported greater truth knowing, greater apology readiness, they perceived the apology as more complete, and they reported greater apology

acceptance when receiving an apology from an offender in imagined victim-offender mediation. Finally, participants who focused on the incompleteness of their knowledge (vs. completeness) were more likely to refer the case back to the legal system to decide terms for repayment than work towards a restitution agreement *with* the offender in imagined victim-offender mediation (Chapter 4).

The key finding of this thesis is that truth has value in completeness by affording truth knowing. This finding has implications for how we understand the value of truth for victims of wrongdoing and what can be done to help achieve effective justice restoration and victim healing. Specifically, efforts to provide the fullest truth as possible may be beneficial for restorative justice practices aimed at achieving interpersonal - and possibly intergroup – repair between victims and offenders. Yet, there are also limitations to the present research, and recommendations to consider for future research interested in examining the restorative value of truth knowing.

A New Perspective in Psychology on the Inherent Value of Truth

The truth has usually been perceived as valuable as a means to an ulterior end. For example, the truth is seen as useful by some truth advocates because it may provide a justification for the crime or an explanation for why it was committed (see Backer, 2004). Yet, this view faces a significant problem. Namely, not all truths make sense; not all truths allow victims to see the wrongdoing in a more positive light. This may explain why there is a lack of empirical evidence to support the truth providing such outcomes, leading to scepticism about the value of truth for victims (Daly, 2008; Mendeloff, 2009). There is a long list of unrealistic instrumental outcomes expected from the provision of truth (for a review, see Mendeloff, 2004); therefore, it is hardly surprising that victims are left disappointed after getting the truth because they do not experience many of the promised positive outcomes (Backer, 2010; Byrne, 2004).

The findings of this thesis speak to a new perspective in psychology on the value of truth – there is value in truth as an end in itself. The theoretical proposition is that truth has psychological value for victims by affording a subjective sense of truth knowing. Indeed, different levels of truth knowing can be elicited by altering the perception of information/knowledge accessible without actually changing or adding any information. In doing so, the value of truth knowing can be separated from the value afforded by specific truth content (e.g., learning a comforting fact about the crime or gaining a greater understanding by learning the offender's motives).

The feeling of truth knowing also mediated the effects of complete knowledge on downstream consequences. For example, completeness of knowledge (vs. incomplete) produced greater psychological closure, less anger, and increased forgiveness via increased truth knowing (Chapter 2). These findings demonstrate the benefit of truth knowing but considering these as downstream consequences of truth knowing could be criticised for making the value of truth knowing as instrumental or a means to an end. Yet, the point is that these outcomes such as psychological closure are not independent of the mere feeling of knowing the truth or the satisfaction derived from perceiving to know the 'whole' truth. To be clear, there is nothing in between, no extra step required (e.g., content effects such as gaining understanding) from knowing the truth to deriving value; the feeling of truth knowing itself satisfies victims.

The findings in this thesis suggest we do not discard the importance of truth for victims because there is value in the subjective *knowing* of the truth. It is possible that the reason why the truth literature has not produced much empirical evidence for the positive power of truth is a lack of considering the healing afforded by this subjective, psychological component of truth. For example, truth and closure have often been discussed side by side with truth being seen as the precursor for closure (e.g., Hadjigeorgiou, 2021). However, the

psychological connection between the experience of truth and closure had not been identified until the specification of truth knowing, and the work presented in this thesis.

The Provision of Truth Must Elicit Truth Knowing to Achieve Greater Victim Healing

The demonstration of the value of truth knowing suggests the delivery of the truth must provide a sense of truth knowing to better satisfy victims. There is no disputing that some victims in the past have been dissatisfied with the truth they have obtained from truth commissions and offenders (Gibson, 2005). For example, victims have requested further truth even after a truth commission has been conducted, leading some to suggest that truth commissions *per se* do not provide closure to victims (Mendez & Mariezcurrena, 2003). These victims demanding further truth may not have been provided with a sense of truth knowing and thus did not experience psychological closure over the wrongdoing as the findings reported in Chapter 2 would suggest (Quinney et al., 2022). Translating the findings of this thesis into a principle of complete truth provision is not a novel consideration (e.g., Walker, 2010), but instead a renewed call for providing victims with the most complete picture of wrongdoing as possible.

Given the value to victims of knowing the truth, practitioners or truth advocates may be wondering how to help victims when the truth is truly not available. This is likely a common problem facing any efforts at uncovering the full truth. For example, truth and reconciliation commissions have documented problems with accessing evidence about crime (Brahm, 2007; Stanley, 2001). Legal systems that use an adversarial system are perhaps one of the least likely methods to bring out the truth because offenders have a clear incentive to avoid punishment or receive a lighter sentence by withholding the full truth about what happened (Weigend, 2003). A consequentialist interpretation of the findings in this thesis may suggest it could be justifiable to feign completeness or availability of the truth, to provide victims with a sense of truth knowing. Yet, a principle of inducing victims into a

false sense of truth knowing would likely cause ethical issues and inflict further harm on victims. There is no easy fix to the problem of a hidden or unavailable truth. Truth and reconciliation commissions have offered amnesty to offenders in return for the uncovering of the truth (Mamdani, 2002). Yet, this method of getting the full truth has costs with victims being affronted by the clear detailing of a wrong with no punishment (Vora & Vora, 2004).

There are other possible alternative solutions suggested by the findings of this thesis that would involve more transparency about the completeness of the truth. A replicated finding in this thesis was the knowledge salience manipulation that involved getting victims to focus on what is known vs. what is *not* known about a crime/wrongdoing differentially elicited a sense of truth knowing. Again, this is in absence of actually providing more or less information about a crime or wrongdoing. This finding may suggest practical advice to practitioners, truth advocates, or counselling services to victims. As it stands, there appears little guidance on how to help satisfy victims of crime and help them achieve closure such as in times when information has dried up or the case has gone 'cold' (e.g., Stretesky et al., 2010). Clearly, the perception of truth knowing is malleable to an extent as it can be shaped by what level of completeness is attended to. This finding may be used to inform a directive counselling method that promotes victims to focus on and explore what they currently know about the crime to help produce a satisfying sense of truth knowing and achieve closure over the event. There is precedent for directive counselling approaches to be more goal-directed and intentional in directing towards achieving a beneficial outcome (e.g., *motivational interviewing*; Miller & Rollnick, 2012). Alternatively, practitioners simply asking open-ended questions that promotes a focus on what is known about the crime (and perhaps information 'gap filling' by evoking elaboration) may also enhance truth knowing. Of course, the proposed utility of this counselling approach of enhancing truth knowing is a premise that

remains to be tested. The findings of this thesis suggest that examining this proposition is warranted.

The Value of Truth Knowing for Restorative Justice Processes

Truth knowing may also have value for effective restorative justice processes such as victim-offender mediation. There are mixed findings for victim-offender mediation including the issuing of apologies and victim and offender coming to an agreement about restitution (Hansen & Umbreit, 2018; Weatherburn & Macadam, 2013). For example, Choi and Severson (2009) conducted face-to-face interviews with crime victims engaged in victim-offender mediation and noted that victims were mostly unaccepting of the offender's apology. Some researchers have started to work towards resolving these discrepant findings for apologies in victim-offender mediation (e.g., Bonensteffen et al., 2020). However, one consideration left unexplored until the present thesis is applying the logic of restorative justice processes at the intergroup level that has considered uncovering the full truth as an important outcome for victims - such as *truth and reconciliation commissions* (Hamber, 2009) - to restorative justice processes at the interpersonal level. It seems logical that if knowing the complete truth is important for victims at the collective level, then the subjective feeling of truth knowing may be important for victims at the *interpersonal* level. Moreover, the victim-offender mediation literature demonstrates that victims are particularly motivated to participate in dialogue to receive – and expect to obtain – answers to their questions or 'the truth' about the crime (Borton, 2009; Hamber et al., 2000; Paul, 2015; Van Camp & Wemmers, 2013).

The knowledge salience manipulation was used in Chapter 4 to alter participants' perceived completeness of knowledge about a hypothetical crime in an effort towards understanding the role of truth knowing in victim-offender mediation. Again, this method of making salient the perceived completeness of knowledge about the crime (vs. incomplete) led

to a greater sense of truth knowing. The offer of an apology by the offender was also affected with participants in the complete knowledge condition (vs. incomplete) reporting greater readiness for an apology, greater perceived completeness of the apology, and greater apology acceptance. Participants in the incomplete knowledge condition (vs. complete) also favoured referring the case back to the legal system to decide on terms for restitution than work with the offender directly.

These findings may inform guidelines for the delivery of apologies in victim-offender mediation. For example, previous failures of offenders delivering effective apologies have seemingly not been intentional, but a consequence of a lack of understanding how to deliver an apology sensitive to meeting the needs of the victim (e.g., Choi & Severson, 2009). The present research highlights that victims can feel different levels of readiness for an apology depending on the perceived knowledge they have at their disposal. This may suggest that some groundwork needs to be done for an apology to be optimally received (Frantz & Bennigson, 2005). Therefore, the positioning of the apology within the timeline of the dialogue may impact the success or effectiveness of the apology. Meeting victims' needs, such as the need for truth, before an apology may increase its effectiveness, akin to a 'ripening' of the conditions for an apology (Coleman, 1997). Making the apology most likely to succeed or be most effective is meaningful given there may only be one chance or opportunity for the delivery of the apology given that victim-offender mediation is often a single meeting (Hansen & Umbreit, 2018).

There could be different ways victims appraise the perception of complete knowledge and truth knowing within victim-offender mediation. On the one hand, having the complete picture of the wrongdoing may be seen as interlinked with the expressive communication of apology by the offender. For example, victims may believe that gaining a perception of truth knowing through the process implies that the offender has acknowledged responsibility.

Psychological research has examined the aspects of apologies that might be the most effective such as the verbal components (Kirchhoff & Čehajić-Clancy, 2014; Lewicki et al., 2016), and physical displays of remorse (Hornsey et al., 2020), but there is still much room for theoretical development. Truth knowing could thus represent either part of the apology or part of the reparations provided by the offender. The findings of this thesis could reflect those of Kirchhoff and Čehajić-Clancy (2014) where participants rated the apology as more complete when it contained an additional component (offer of reparation vs. no offer of reparation). Alternatively, it could be that a sense of truth knowing is a distinct currency in effective justice repair. The findings of Study 2 in Chapter 4 highlighted that the observed effects on apology and restitution preference were mostly driven by the perception of complete knowledge (vs. incomplete) and not from where they got the truth from (i.e., offender vs. law enforcement). This may suggest that the expressive functions of the offer of apology or the delivery of truth by the offender are not the only drivers for justice repair; instead, the perception of truth knowing is itself a driver.

Moreover, the effects of truth on victims' decision-making are a further indication of truth knowing being a driver of justice repair. For example, a finding in Study 2 in Chapter 4 was that victims' preference for restitution was affected by knowledge salience with participants in the incomplete knowledge salience condition (vs. complete) favouring referring the case back to the legal system to decide restitution more so than working further with the offender towards an agreement about restitution. This finding may reflect the view expressed by Walker (2010, p. 528): "*It is obvious that establishing the facts of a violation is required in order to address or redress it, that is, to make the case that remedies and reparations are required and to decide which are appropriate*". Victims that feel in the dark about what happened may perceive they lack sufficient knowledge to decide what is an

appropriate remedy or course of action. On the other hand, victims with a sense of truth knowing may feel sufficiently informed or empowered to take matters into their own hands.

Limitations and Future Directions

This thesis is an exploration of whether there is value in knowing the truth *per se* for justice restoration and victims' healing by affording *truth knowing*, the subjective sense of knowing the full account of what happened (Quinney et al., 2022). Controlled designs are needed to answer this research question given the emphasis on the subjective feeling of knowing as independent from the value in knowing different amounts of truth or different types of truth. Indeed, the studies within this thesis use measurement to control for informational effect confounds, or vignette-based experiments to control the level and type of truth available. There are benefits to this approach to examine the research question. Namely, the quantitative approach to understanding the value of truth is distinct from previous qualitative explorations of the value of knowing the whole truth about crime (e.g., Stretesky et al., 2010). An experimental approach is also key to determining cause-and-effect for psychological processes. However, there are also limitations to the strict level of information control taken in this thesis.

Disturbing Truths: Can Victims Handle the Truth?

Notably, there is no altering of the kind of truth provided to victims because of the focus on the subjective *knowing* of the truth. Relatedly, the type of truths in the vignette-based experiments are generally benign. Clearly, not all truths are equal because some truths can be 'positive' (e.g., a loved one's death was quick and painless), while others can be 'disturbing' (e.g., a loved one suffered before they died). The question of whether more 'disturbing' kinds of truth affect the value of truth knowing remains open. It could be that the provision of truth to victims could do more harm than good if the content of the truth is particularly upsetting. Varying information or the truth is outside the scope of this thesis, but

future experimental research could examine this question by varying how disturbing the truth received is to examine whether the benefits of truth knowing are still realised. However, it should be noted that a case for victims still getting value from truth knowing in these more disturbing cases can be made because victims still want the truth even when they expect it to be upsetting (Goodrum, 2007; Stretesky et al., 2010). Presumably, victims who want a full disturbing truth have already imagined what really happened. Learning - or confirming – the uncomfortable truth about what happened therefore may not be too surprising and hurtful. The flipside of this is whether the value of truth knowing is limited in cases where the content of the truth is hurtful and *unexpectedly* so (e.g., a victim anticipated a certain kind of truth or had no preconceptions, and the truth was worse than expected). Evidence from the *uncertainty intensification hypothesis* (Bar-Anan et al., 2009) may suggest that these kinds of unexpected, disturbing truths could be experienced as particularly painful and possibly a secondary kind of trauma.

The majority of studies in this thesis adopt a static, cross-sectional design to explore the value of truth knowing for justice restoration and victims' healing following wrongdoing. However, research in this field has started to recognize these processes are not static, but rather a dyadic interaction between victim and offender (Woodyatt et al., 2022). Future research into truth knowing could also benefit from adopting a more interactionist perspective such as the use of dyadic methodologies and considering the offender's perspective in the dyad (e.g., Guzmán-González et al., 2020; Wenzel et al., 2021). In particular, the positive findings of the effects of truth knowing in this thesis may help understand emerging literature examining the dynamic elements of moral repair between victim and offender. For example, there may be a role for truth knowing in how victims and offenders come to a *shared reality* or understanding of the wrongdoing (Echterhoff & Higgins, 2021). The shared reality literature posits that the construction of a shared reality can transform subjective feelings of

truth to feelings of objective truth (Hardin & Higgins, 1996; Higgins et al., 2021). Victims having their subjective feeling of truth knowing confirmed or validated in an interaction with an offender such as victim-offender mediation (Hansen & Umbreit, 2018) or within a personal/romantic relationship dyad could be conducive to promoting or re-establishing interpersonal closeness. Investigating the role of the offender in both fostering the subjective sense of truth knowing and a potentially transformative process from subjective feelings of truth to objective feelings of truth may also be part of understanding how effective relational repair may be achieved.

There could also be a darker side to truth knowing that could emerge in victim-offender interactions. Notably, the research in this thesis shows a lack of positive total effects of complete knowledge on forgiveness (Chapter 2) and truth knowing is negatively related to motivation to establish consensus with the offender (Chapter 4). These findings mirror observations in the literature that the positive reception of certain conciliatory actions such as apologies does not necessarily translate into forgiveness (Hornsey & Wohl, 2013), but it is not yet clear why this would be the case for truth knowing. There could be counter-acting processes in that getting the truth satisfies victims' need for truth, but also confirms the wrongfulness of the action. It is possible that truth knowing could elicit stronger moral judgments despite the generally positive findings of this thesis. For example, truth knowing could make salient the *injustice gap* (Exline et al., 2003) and produce greater feelings of moral outrage in cases where justice is not seen to be achieved, even if, and exactly because, the truth about the extent of wrongdoing is known. Evidence from truth and reconciliation commissions may support this proposition as victims often felt particularly outraged that offenders were not charged after the truth about wrongdoing was brought to light (Vora & Vora, 2004). Truth knowing could even push victims' moral attitudes further and diminish any qualified assessment (e.g., the victim ignores potentially mitigating contextual factors)

and thus feed a *moral conviction* (Skitka, 2010) that could potentially lead to the endorsement of more radical pursuits of justice such as vigilantism in cases where the truth about the wrong is established beyond doubt, but justice remains seen to be achieved (Skitka & Houston, 2001). An offender confessing to a crime could also be a situation where truth knowing could lead to stronger moral judgments. For example, an offender may confess to a crime that the victim had no previous knowledge about. Thus, even though the victim has the full truth, the victim also has new knowledge about further wrongdoing and greater evidence of the poor moral character of the offender (Uhlmann et al., 2015).

A further consideration is to explore more fully the consequences of the perception of unfairness that accompanies a lack of truth knowing due to the truth being withheld from victims. Procedural fairness was considered as an outcome in Chapter 2 with the appearance of a heavily redacted report as part of the manipulation (i.e., the incomplete report). Importantly, there was a downstream consequence with an indirect effect of report completeness (vs. incompleteness) on psychological closure, via procedural fairness, but no significant indirect effects on anger, anxiety, and forgiveness. Yet, there are likely other consequences that arise from the perception of unfairness that accompanies the withholding of truth. For example, the withholding of truth could be, or as perceived by the victim, a form of taking further power away from the victim. Thus, a victim may experience a secondary threat to their sense of power/perceived control, in addition to the feeling of powerlessness/lack of control produced by the initial wrongdoing (Baumeister et al., 1990). Additionally, the provision of the whole truth to victims could backfire and instead produce a sense of betrayal or outrage if the truth includes the fact that others (e.g., law enforcement, offenders) had known the truth for some time and not disclosed it earlier.

Victims' Thinking Types and Truth Thresholds

A further boundary condition for the effect of truth knowing that could be explored is victims' thinking type. Recall that the studies in Chapter 3 show a lack of consistent, significant effects of truth knowing on rumination. While truth knowing may well have little to no effect on the quantity of victims' thinking (i.e., truth knowing may not reduce the frequency of thoughts), future research may consider whether truth knowing could affect or engage different *types* of post-transgression thinking. Indeed, Quinney et al. (2022; Chapter 2) provide a theoretical basis to explain how victims with a sense of truth knowing could think about the transgression from a different perspective or point of view. Specifically, victims with the perception of having the 'whole' truth may have or sense a Gestalt-like complete representation of the victimizing event that is akin to the pieces of the puzzle coming together. What could be a consequence of forming this 'whole' representation of the event is a process of *abstraction* from the event allowing the victim to see the 'big-picture' (Burgoon et al., 2013). In other words, a perception of having the 'whole' truth could provide victims with psychological distance (i.e., stepping back from the incident) changing how the victim construes the event (Liberman et al., 2007; Trope & Liberman, 2010). This may provide a different lens through which victims interpret the event, perhaps with less focus on the concrete, emotional-eliciting details of the wrongdoing (e.g., the actions the offender took; Fujita et al., 2006), towards thinking about the event in abstract terms (e.g., the context of the transgression or relationship with the offender; Wenzel & Coughlin, 2020).

Another future research consideration is whether manipulations or interventions can affect the level of truth required or victims' *threshold* for truth knowing (e.g., by examining truth knowing within a metacognitive framework; Dunlosky & Metcalfe, 2008). If the threshold itself could be targeted, then this would be a distinct way to elicit different levels of truth knowing by instead altering the perceived amount of truth required, or desired, rather

than the perceived amount available. Targeting the threshold for truth knowing could be a useful substitute to the knowledge salience manipulation as it may aid in examining real-life examples where there is a known lack of availability of the truth because the manipulation of focusing on the completeness of what is known may backfire (i.e., a victim trying to answer why they have sufficient knowledge about the wrongdoing may, in fact, confirm that they know very little about the crime). It is possible that some victims, due to thinking style or the gravity/magnitude of the experienced wrongdoing, may have an all-or-nothing view or an unrealistically high information threshold for truth knowing (e.g., need for cognitive closure; Webster & Kruglanski, 1994). This high threshold for truth could moderate the relationship between the availability of truth and truth knowing and become an unobtainable bar for truth knowing given the described problems with the availability of truth. Knowledge on how victims' truth knowing threshold could be fine-tuned may help victims to have realistic or achievable expectations for the level of truth they may receive. This is not to downplay or minimize the importance of victims' need for truth or suggest that victims should be satisfied with the level of truth they have. Nevertheless, there may be circumstances where creative solutions are needed to deal with the real constraint on obtaining the complete truth; where the truth may be forever lost but victims are not to forever suffer from its deprivation.

Generalisability

A question that remains is whether the findings of this thesis for the effects of perceived complete knowledge and truth knowing would generalise to wrongdoings at the intergroup level. There are some key differences between the interpersonal and intergroup levels that may make arriving at a sense of truth knowing at the intergroup level potentially more complex to examine. Often intergroup conflict involves more than one victim and offender and can involve multiple perspectives or accounts of what is the truth (e.g., narrative, forensic, historical, social, or dialogic truth; Daly, 2008). A collective sense of truth

knowing may therefore be an outcome of social influence processes and depends also on whether the truth aligns with the motives, goals, and values of one's salient identity, and whether the source of the truth is construed as sharing or not sharing one's identity (Turner, 1991). For example, what the truth suggests may be completely unacceptable for one's goals or identity and thus is rejected (e.g., Lewandowsky & Oberauer, 2016).

There is also a question of the generalisability of the findings of this thesis to non-western populations (Henrich et al., 2010). One issue could be that how the construct of truth knowing was operationalised in this thesis may not reflect the same construct in a different population (Stroebe & Strack, 2014). Indeed, the notion of truth as healing has been the motto for truth and reconciliation commissions in post-conflict societies such as Timor-Leste. However, the effectiveness of delivering the truth in Timor-Leste was criticised for not incorporating local understandings (Robins, 2012). Similarly, local understandings of first-nations people have been suggested to be critical for effective delivering of truth about wrongdoing in Australia (Appleby & Davis, 2018). That there is a one-size fits all operationalisation and mode of providing victims with a sense of truth knowing would be unjustified and is not suggested by the methods/findings of this thesis. Instead, the delivery of truth must be victim-centred and integrative of socio-normative contextual factors to be effective at delivering victims a sense of truth knowing.

Conclusion

Is there value in truth for justice restoration and victims' healing? Yes, the truth has value in itself by providing victims with truth knowing - the subjective sense of knowing the full truth about an experienced crime or wrongdoing (Quinney et al., 2022). Victims with the perception of complete knowledge and truth knowing experience greater psychological closure, less anger, and truth knowing is associated with increased forgiveness. Moreover, the perception of complete knowledge and truth knowing can shape apologies to be more

effectively received by victims and increases the prospect of victims willing to work with an offender towards a restitution agreement in victim-offender mediation. In closing, the subjective sense of truth knowing has value for justice restoration and helps victims to heal.

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