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Experiential self-focus as a facilitator of processing interpersonal hurt and as a buffer in the relationship between anger rumination and psychological outcomes

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ABSTRACT

The present study compared the effects of writing about an interpersonal hurt in an experiential self-focus mode of processing on unforgiveness, benevolence, intrusive thoughts and negative affects to a control group. It also examined the moderating role of experiential and control writing conditions on the association between anger rumination and unforgiveness, benevolence, intrusive thoughts and negative affect. Latent growth curve analyses were conducted. The results indicated that unforgiveness decreased significantly over time in the experiential condition. Intrusive thoughts increased over time in both the experiential and the control conditions. After writing the average level and rates of change of unforgiveness, intrusive thoughts and benevolence over time did not differ between the two writing conditions. However, after writing the average level and linear rate of change of negative affect differed between the two groups. A piecewise analysis showed that negative affect decreased at a faster rate during writing in the experiential group than the control group. However, negative affect increased at a slower rate after the writing intervention and in the follow-up sessions in the experiential condition compared to the control group.

Moreover, the results showed that the writing conditions moderated the association between anger rumination and benevolence over time. In simple slope analysis, results showed that benevolence increased during writing but decreased during the follow-up sessions among individuals with low anger rumination in the experiential condition. Benevolence significantly increased over time among those with low anger rumination in the control condition. For those with high anger rumination in the control condition, benevolence significantly decreased over time. For those with high anger rumination in the experiential condition, benevolence decreased during writing but increased during the follow-up sessions.

CHAPTER ONE: INTRODUCTION

Interpersonal hurt or transgressions are events wherein people perceive others have hurt them through wrongful acts and caused them to experience psychological pain and hurt. If a person perceives the transgression as offensive or hurtful, he or she will likely be unforgiving toward the transgressor (Berry, Worthington, O'Connor, Parrott III, & Wade, 2005). Forgiveness is conceptualized as reductions in avoidance and revenge as well as increases in positive feelings such as benevolence or goodwill toward the offender (e.g., McCullough, Fincham, & Tsang, 2003; Worthington & Wade, 1999). McCullough and colleagues have shown empirically that when a transgression is hurtful, individuals are motivated to seek revenge against the transgressor, to avoid the transgressor, and to experience decreased benevolence or goodwill toward the transgressor (e.g., McCullough, Worthington, & Rachal, 1997; McCullough & Hoyt, 2002, McCullough et al., 1998). People may also experience intrusive thoughts related to the interpersonal hurt. Intrusive thoughts may occur when the interpersonal hurt has not been worked through or completely processed by the receiver of the hurt (Horowitz, 1975, 1986). Studies have demonstrated that interpersonal hurts are associated with intrusive thoughts (Caprara, 1986). Also, a disruption in interpersonal relationships due to an interpersonal hurt is likely to cause an individual to experience distress and negative affect. Given the psychologically negative impact of interpersonal hurts, the aim of the current study is to examine the effect of two writing interventions on individuals' unforgiveness (avoidance and revenge), benevolence (positive dimension of forgiveness), intrusive thoughts, and negative affect.

Modes of Processing Emotion-Related Material

Individuals may respond to interpersonal hurt in several ways. For example,

individuals may internalize the blame, take responsibility for the hurt, or they may engage in behaviors that serve to restore the relationship (Wade & Worthington, 2005). Rumination is a frequently examined response to interpersonal hurt in the literature (e.g., McCullough et al., 1997, 1998; Berry et al., 2005). Generally, rumination refers to repetitive and intrusive cognition that focuses on negative thoughts (Berry et al., 2005) and has been defined as "self-focused attention," or directing attention inward on the self, and particularly on one's negative mood (Lyubomirsky & Nolen-Hoeksema, 1995). Rumination often occurs as response to personal concerns and unresolved goals (Martin & Tesser, 1996; Segerstrom, Stanton, Alden, & Shortridge, 2003). It is deemed as a coping strategy that involves repetitive and passive focus on the negative features of a stressful event (Skinner, Edge, Altman, & Sherwood, 2003). Rumination has been found to intensify negative mood, increase negative thoughts, as well as impair problem solving (e.g., Lyubomirsky, Tucker, Caldwell, & Berg, 1999; Watkins & Baracaia, 2002). It is understood to play a role in increasing and maintaining interpersonal distress following an interpersonal hurt (Greenberg, 1995; Holman & Silver, 1996).

Most of the research on rumination concludes that it is detrimental to mental health (e.g., Nolen-Hoeksema, 1991; Pyszczynski & Greenberg, 1987). Recently, research studies indicate that there are distinct modes of mental processing or types of rumination (McFarland & Buehler, 1998; Trapnell & Campbell, 1999; Treynor, Gonzalez, & Nolen-Hoeksema, 2003) and each processing mode is associated with unique outcomes. In particular, the theory of Interacting Cognitive Subsystems (ICS; Teasdale & Barnard, 1993) predicted the existence of different modes of mind or information processing. ICS is a theoretical framework that models information processing of the mind with different cognitive subsystems. ICS

proposes that there are qualitatively different types of mental codes in the mind that capture different aspect of experience. The model argues that mental codes that represent meanings are pertinent to processing emotions. ICS proposes that there are two different levels of meanings, implication level and the propositional level. The former utilizes schematic mental models (i.e., competence, worth) to represent higher order implicit meanings and the latter level encodes specific and explicit meanings.

It is expected that the processing of schematic mental models (i.e., at the implication meaning level) would generate emotions. In particular, Teasdale (1999) proposed that effective emotional processing involves the changes in affect-related schematic mental models in the implication level (i.e., worthless to worthwhile). More importantly, he argued that modifications in schematic mental models are facilitated by processing information at the implication level. When emotional material is processed at the implicational meaning level, it is called the mindful-experiencing mode of processing (i.e., one mode of processing), which involves awareness of moment-by-moment feelings, and non-evaluative exploration of inner feelings and experience (Teasdale, 1999). In this mode, subjective experience and awareness of one's feelings are important components of emotional processing. When emotional information is processed at the propositional level, it is referred to as the conceptual mode of processing (i.e., second mode of processing), which is characterized by goal-oriented, analytical thinking or preoccupation with thoughts related to past or future instead of the current experience. This mode focuses on understanding the cause of emotion and figuring out how to deal with it. Teasdale (1999) stated that the mindful/experiencing mode of processing (i.e., processing at the implication level) facilitates emotional processing while the conceptualizing mode impedes it and perpetuates negative emotions.

Watkins (2004) adopted Teasdale's ICS model and conceptualized the mindful-experiencing and the conceptualizing modes of processing as distinct modes of ruminative self-focus (rumination involves focusing attention on the self). He termed mindful-experiencing as experiential self-focus and conceptualizing as conceptual-evaluative self-focus and in his study (Watkins, 2004). Watkins' study was developed to test Teasdale's (1999) prediction, using the expressive writing paradigm, that experiential self-focus is adaptive for emotional processing whereas conceptual-evaluative self-focus is maladaptive. Participants in the study wrote about their experience of a failure event induced by the experiment following either the experiential or the conceptual-evaluative writing instructions. The study's results revealed that the experiential self-focus facilitated reduction in the frequency of intrusive thoughts about the failure event compared to the conceptual-evaluative condition. However, the study showed that the two conditions did not differ in their effects on negative mood following the failure event. Other empirical studies have demonstrated that experiential self-focus is adaptive for cognitive processes such as overgeneral autobiographical memory recall (Watkins & Teasdale, 2001, 2004), problem solving (Watkins & Baracaia, 2002; Watkins & Moulds, 2005) and global negative self judgments (Rimes & Watkins, 2005).

In the current study, only the experiential self-focus condition would be examined since the conceptual-evaluative condition, as discussed above, has been demonstrated to be relatively unhelpful for processing emotional information. The present study included a control condition as a reference or a comparison group for the experiential self-focus condition. Prior studies in the literature (e.g., Watkins, 2004, Watkins & Moulds, 2005) have not yet compared the experiential self-focus condition to a control condition, a comparison

which would provide fruitful information on the relative strength and direction of the effect of the experiential self-focus writing condition (Watkins, 2004).

The current study compares the effects of two writing conditions; experiential self-focus writing and control writing conditions, following the writing paradigm in Watkins' study (1994), on individuals' unforgiveness (avoidance and revenge), benevolence (positive motivation of forgiveness), intrusive thoughts, and negative affect following a naturally occurring interpersonal hurt. This is the first study to compare these two writing conditions with respect to their effects on the processing of interpersonal hurt. This comparison would provide us information regarding the relative strength and direction of experiential self-focus writing, which may be used for future clinical intervention. More importantly, as prior studies all focused on the comparison between experiential and conceptual writing conditions and outcomes (e.g., Watkins, 2004, Watkins & Baracaia, 2002), the current study's strength was that it compared the effect of processing negative feelings and thoughts in an experiential self-focus mode over time to the effect of a control writing condition in which participants were not asked to work through the emotion-related material. In addition to asking the participants to write for three consecutive days as in previous studies (e.g., Watkins, 2004; Moberly & Watkins, 2006), the current study added a two-week and a four-weeks follow-up sessions after the last writing session to examine the stability of the effects of these manipulations on outcomes associated with interpersonal hurt. This would indicate the duration of the potential effects of the writing conditions.

Since experiential self-focus processing provides people an opportunity for self-reflection, self-awareness, and self-regulation (Teasdale, Segal, & Williams, 1995), it was expected to help emotional and cognitive processing of an interpersonal hurt. The first

set of hypotheses was that the average level and the rate of change of unforgiveness would decrease over time among participants in the experiential self-focus writing condition but there would be no change in unforgiveness for those in the control condition. Similarly, the second hypothesis was that the average level and the rate of change of benevolence would increase over time in the experiential self-focus condition but there would be no change in benevolence for those in the control condition. The study hypothesized that the frequency and the rate of change of intrusive thoughts would decrease over time for participants in the experiential self-focus condition. It is noted that this prediction is different from the results found in a study which adopted Pennebaker's (1989) writing paradigm. Specifically, Lepore (1997) found that participants' intrusive thoughts did not decrease after expressive writing. Because experiential mode of processing differs from expressive writing in some respects (e.g., experiential processing focused more on awareness of the present moment and emotions than the expressive writing paradigm), the hypothesis regarding intrusive thoughts in the current study was different from the results found in that particular study. Also in the current study, it was predicted that there would be no change in the frequency and the rate of change of intrusive thoughts over time among those in the control condition, who were not asked to think about the interpersonal hurt during writing. In their study, Moberly and Watkins (2006) found that participants in both the experiential self-focus and conceptual-evaluative self-focus experienced reduction in negative affect following a failure task. The current study predicted that the rate of change of negative affect among the participants in both groups would decrease over time, in general. However, the level of negative affect would remain low for the experiential self-focus group whereas it would increase for the control group, in which participants did not process their hurt as those in the

experiential condition did during writing, at the follow-up session.

The literature from the expressive writing paradigm (see Sloan & Marx, 2004, for a review, see also Smyth, 1998) indicates short term distress would be increased by the writing task itself wherein participants are asked to confront the emotional material. In the present study, since individuals in the experiential writing were asked to think about their interpersonal hurt when writing the essays, it was expected that they would experience some increases in unforgiveness, intrusive thoughts, negative affect and decreases in benevolence during the writing sessions. However, unforgiveness, intrusive thoughts and negative affect were expected to decrease and benevolence was expected to increase at the follow-up assessments. For individuals in the control condition, because they were asked to write impersonal topics that were unrelated to the interpersonal hurt during the writing intervention, they were not expected to experience distress during the writing.

Modes of Processing as a Buffer

One of the major negative emotions following an interpersonal hurt or offense is anger (Enright, Gassin, & Wu, 1992; Fizgibbons, 1986; Berry et al., 2005). When individuals ruminate on anger following an interpersonal hurt or offence, it is called anger rumination, which is defined as "unintentional and recurrent cognitive processes that emerge during and continue after an episode of anger experience" (p.690, Sukhodolsky, Golub, & Cromwell, 2001). As the name suggests, anger rumination refers to thinking about the emotion of anger, focusing one's attention on angry moods, recalling past anger episodes, and thinking over the causes and consequences of anger episodes. It can interfere with individual's emotional and cognitive processing of a negative event. An experimental study demonstrated that ruminating on anger can heighten the intensity of the anger experience (Rusting &

Nolen-Hoeksema, 1998). In addition, ruminative thinking about offences is associated with the desire for vengeance (McCullough et al., 2001).

Anger rumination decreases the likelihood that one will forgive a transgressor in an interpersonal hurt. In their analysis of the relationship between anger rumination and forgiveness, Barber, Maltby, and Macaskill (2005) found that individuals who have a tendency to dwell on anger memories have difficulties forgiving. Other studies also reported that people who ruminate in a vengeful manner following an interpersonal hurt tend to be less inclined to forgive (e.g., Berry, Worthington, Parrott, O'Connor, & Wade, 2001; McCullough, Bellah, Kilpatrick, & Johnson, 2001). Moreover, two studies have shown that ruminating about an interpersonal transgression is associated with greater motivations to seek revenge and/or to avoid the transgressor (McCullough, Bellah, Kilpatrick, & Johnson, 2001; McCullough et al., 1998). These evidences point to the positive association between anger rumination and unforgiveness. Although research has not investigated the relationship between anger rumination and benevolence, it is expected that this association is negative.

Research also showed that rumination can lead to increased thoughts about a negative event. Miller, Pedersen, Earleywine, and Pollock (2003) stated that ruminating on an offense or interpersonal conflict can activate a semantic network consisting of thoughts related to aggressive thoughts, emotions, and behavioral tendencies that occurred during the conflict (Berkowitz, 1989). This suggests that anger rumination is likely to be positively associated with intrusive thoughts related to the interpersonal hurt. In addition, because anger rumination is related to re-experiencing the moment of anger and mentally rehearsing one's anger episodes (Sukhodolsky et al., 2001), it was expected that anger rumination would be positively associated with negative affect. One empirical study showed that anger rumination

was positively related to the tendency to experience negative emotional states (Sukhodolsky et al., 2001).

The above suggests that anger rumination is likely to interfere the emotional and cognitive processing of an anger-provoking event such as an interpersonal transgression. In particular, it appears that individuals with the tendency to ruminate on anger episodes and anger experiences (i.e., high anger rumination) are likely to be unforgiving, less benevolent, have intrusive thoughts and experience negative affect following an interpersonal hurt. Since experiential self-focus facilitates emotional processing or emotional regulation (Teasdale, 1999) of negative events, this mode of processing is likely to buffer the negative impact of anger rumination on unforgiveness, benevolence, intrusive thoughts, and negative affect over time. Conversely, the control condition in which participants wrote about a neutral event instead of writing and processing the interpersonal hurt, was not expected to be a buffer for these psychological outcomes over time.

Empirical studies support the moderating role of processing modes in the relationship between trait rumination and emotional vulnerability. Watkins (2004) demonstrated that experiential self-focus buffered the negative impact of trait rumination on negative mood following a failure task. Similarly, Moberly and Watkins (2006) found that experiential self-focus buffered the negative relationship between trait rumination and positive affect following a failure induction. Interestingly, they did not find that experiential self-focus interacted with trait rumination to predict negative affect, which was found in Watkins' (2004) study. The inconsistent findings from the literature thus indicate a need to continue studying the moderation effect of experiential self-focus on outcome measures. The current study extended this line of research to test the moderating role of experiential self-focus in the

relationship between anger rumination and important psychological outcomes (i.e., unforgiveness, benevolence, intrusive thoughts and negative affect) over time following a real-life interpersonal hurt experience.

Therefore, there are two subsets of hypotheses in the second set of hypotheses. First of all, it was expected that experiential self-focus writing would buffer the negative impact of anger rumination on unforgiveness, benevolence, intrusive thoughts and negative affect over time, after controlling for these variables prior to the writing intervention. Conversely, the second subset of hypothesis was that writing about neutral topics (i.e., control condition) would not significantly impact the associations between anger rumination and unforgiveness, benevolence, intrusive thoughts and negative affect over time.

In examining these hypotheses, several covariates that could potentially relate to the outcome measures in the study were controlled for in the analyses in order to control for their potential confounding effects. The first covariate was the pre-test score of the dependent variables (i.e., unforgiveness, benevolence, intrusive thoughts and negative affect). Pre-test score would be likely to correlate strongly with the dependent measures over time and was thus controlled for. The second covariate was seriousness of the offense. It was reasoned that the more serious the offense was, the more difficult it would be for individuals to forgive the transgressor of the interpersonal hurt. The third covariate variable was the perceived emotional closeness with the offender. Studies have shown that the level of closeness with the offender prior to the offense was negatively correlated with one's level of unforgiveness (McCullough et al., 1997, 1998). The fourth covariate was the degree in which individuals perceived that their offenders apologized for the interpersonal hurt. There is empirical evidence to suggest that the degree of perceived apology is negatively associated with

unforgiveness and intrusive thoughts (McCullough et al., 1998). The fifth covariate was participant's depressive symptoms, which were positively related to forgiveness (Thompson et al., 2005). It was thought that different levels of depressive symptoms could influence one's outlook of the hurtful event and have an impact on unforgiveness and benevolence. The sixth covariate was trait forgiveness, which refers to individual's proneness to forgive interpersonal hurt (Berry & Worthington, 2001). It has been shown to be negatively associated with the emotion of anger (Berry et al., 2005).

CHAPTER TWO: LITERATURE REVIEW

The present literature review will first discuss the negative mental health consequences of receiving an interpersonal hurt. Specifically, the impact of interpersonal hurt on unforgiveness, benevolence, intrusive thoughts and negative affect will be examined. Next, the background, concept and theory of the Interactive Cognitive Systems will be explored. Then, rumination as it relates to interpersonal hurt and negative mental health outcome will be examined as well. This is followed by a review an adaptive mode of processing emotional information called experiential self-focus processing. Then, the effectiveness of incorporating this processing mode into a writing paradigm will be evaluated in the context of interpersonal hurt. This section is followed by a review of the literature pertinent to anger rumination as it relates unforgiveness, benevolence, intrusive thoughts and negative affect. In addition, the empirical link between experiential mode of processing and anger rumination will be explored. Finally, the chapter will conclude with a discussion of how the experiential mode of processing, anger rumination and negative outcomes of interpersonal hurt are linked in the present study. A description of measurement and justification for the chosen measures used in the study will also be provided.

Interpersonal Hurt

Interpersonal hurt or transgressions are interpersonal stressors in which people perceive that another person has harmed them in a way that they consider both painful and morally wrong (McCullough, Root, & Cohen, 2006). When interpersonal transgressions occur, the victim can perceive the transgression as hurtful, offensive, or some mixture of both. The emotions that accompany interpersonal hurt or offence can include negative emotions such fear and anger (Worthington & Wade, 1999). One can also feel unforgiving toward the

transgressor (e.g., Berry et. al., 2005; Worthington & Wade, 1999). Interpersonal hurt can thus have negative interpersonal, psychological and health effects. For example, having negative feelings toward the offender impedes the reconciliation and the restoration of that relationship. Helping people modify their responses to interpersonal transgression or hurt may be helpful to their psychological and physical health as well as to their relationships.

Following a transgression, people will experience some motivations to seek revenge or to avoid the person (i.e., unforgiveness) who has hurt them (McCullough et al., 1998; McCullough, Worthington, & Rachal, 1997). Motivations such as revenge and avoidance have detrimental effects on individuals' psychological, interpersonal and physical health. For example, it has been demonstrated that unforgiveness (i.e., feelings of revenge and avoidance) toward one's transgressor are negatively associated with restoration of relationships (McCullough et al., 1998). In addition, people who are unforgiving following a transgression are vulnerable to major depression (Brown, 2003). These motivations to avoid and to desire revenge against the offender are referrd to as unforgiveness (e.g., Berry et al., 2005) in the current study.

Benevolence, on the other hand, is considered a positive emotional motivational state in response to interpersonal transgression (McCullough, Fincham & Tsang, 2003). It has been found to predict closeness/commitment following an interpersonal hurt (Tsang et al., 2006). The construct of benevolence can be distinguished from revenge and avoidance. For example, McCullough et al. (2003) showed that the former and the latter demonstrated different patterns of change over time. In other words, benevolence and unforgiveness (avoidance and revenge) may be two distinctive positive and negative interpersonal motivational states (McCullough et al., 2003). Thus, fostering a person's benevolence may have additional

benefits to a person's mental health and relationship in addition to reducing unforgiveness.

Intrusive thoughts have been described as a general response tendency to stressful evens (Horowitz, 1986). Horowitz (1986) explained that thoughts about the distressful event would continue to be present in consciousness until cognitive processing of the event is complete. Intrusive thoughts are considered an indicator of poor emotional processing (Rachman, 1980). In an experimental study, Watkins (2004) examined different ways of processing negative mood induced by having participants go through a failure experience. Intrusion was one of the dependent variables used in his study as an indicator of poor recovery from negative mood or failure. The results indicated that when participants engaged in ineffective cognitive processing, they experienced more intrusions compared to participants engaged in effective processing. Given that interpersonal hurt can be a stressor to one's life and that the current study also investigates a specific mode of information processing, intrusive thoughts will be used as an indicator of effective cognitive processing in the current study.

Interpersonal hurt is also associated with negative emotions. Research has shown that interpersonal hurt such as a relationship breakup can produce emotional distress and grief responses (Kaczmarek, Backlund, & Biemer, 1990). One study demonstrated that interpersonal hurt is related to negative mood including depressed mood and anger (Lepore & Greenberg, 2002). Before overcoming the interpersonal hurt, individuals' feelings toward the transgressors are likely to be negative. Studies in the interpersonal hurt have mainly examined the negative emotions of anger, fearfulness and hostility and these have been shown to correlate positively with unforgiveness. Findings from previous studies thus suggest that that interpersonal hurt is related to negative affect.

Rumination

Rumination in general refers to recurrent thinking (Martin & Tesser, 1996) and has been defined as self-focused attention toward one's thoughts and feelings (Lyubomirsky & Nolen-Hoeksema, 1995). There are different types of rumination including anxious rumination (Sergerstrom, Tsao, Alden, & Craske, 2000), depressive rumination and anger rumination (Sukhodolsky, Golub, & Cromwell, 2001). Research has consistently shown that rumination has detrimental effects on mental health. For example, rumination is associated with depression (Nolen-Hoeksema, 1987, 1991), anxiety, (Segerstrom et al., 2000) and post-traumatic stress disorder (PTSD; Horowitz & Solomon, 1975; Horowitz, Wilner, Kaltreider, & Alvarez, 1980).

When one ruminates in response to interpersonal hurt, it produces harm in the relationship and perpetuates distress. A study conducted by Caprara (1986) examined the consequence of rumination in response to an interpersonal insult. She found that ruminators, defined as those who tend to harbour feelings of vengeance, displayed higher levels of aggression after receiving an insult than low ruminators did. Similarly, Collins and Bell (1997) found that when high ruminators were insulted by receiving negative feedback on performance of a memory task, they showed greater retaliation than low ruminators, who tended to forget previous insults easily and did not act aggressively to the insult.

Rumination also makes reconciliation of interpersonal hurt difficult and has a direct negative effect on forgiveness. Using the Transgression-Related Motivations Inventory (TRIM) to evaluate forgiveness, McCullough et al. (1998) found that rumination about intrusive thoughts, affects and images regarding an interpersonal offense predicted the scores on the Revenge subscale. In a longitudinal study, McCullough et al. (2001) found that at

baseline rumination correlated negatively with revenge and avoidance subscales of the TRIM. After a period of eight-weeks, however, it was observed that people who ruminated but attempted to suppress this rumination became more forgiving over time. This implies that discontinuation of rumination facilitated forgiveness.

Rumination and Distinct Modes of Processing

Researchers have proposed that there are a number of possible modes of self-focus or modes of processing information in addition to rumination (e.g., McFarland & Buehler, 1998; Trapnell & Campbell, 1999; Watkins & Teasdale, 2001). Teasdale and Barnard (1993) proposed the Interacting Cognitive Subsystems (ICS) which delineated the framework for the different modes of information processing. ICS proposes that there are different mental codes are involved in information processing and each code is related to different aspect of experience. Explicit aspect and specific meanings of an experience are represented by propositional code. In contrast, higher order implicit meaning or affective schematic mental models of experience are represented by implication code. ICS suggests that only information processed in the implication code or level can produce emotion. Specifically, ICS describes that changing the affective schematic mental models at the implication code level is critical for producing changes in one's emotion.

ICS proposes that these codes in turn affect the manner in which individuals process affect related material. In particular, within this framework, processing information at the propositional level or mode would be characterised by conceptualizing/doing, which is related to goal-oriented thinking and impersonal detached thoughts. On the other hand, processing information at the implication mode is characterized by mindful experiencing, which involves non-evaluative, direct experiential awareness of experience in the moment.

Conceptualizing/doing and mindful experiencing thus represent two modes of processing information in the ICS framework. According to Teasdale, mindful experiencing is considered an effective mode of emotional processing. Specifically, he stated that mindful experiencing mode facilitates the modification of individuals' affect related schematic models which in turn modify one's dysfunctional emotion (Teasdale, 1999).

In addition to Teasdale, (1999) several other researchers (e.g., Trapnell & Campbell, 1999; Treynor, Gonzalez, & Nolen-Hokesema, 2003) have identified different modes of self-focus attention and made distinctions between thinking at a conceptual level (i.e., conceptualizing/doing) versus processing experiences in concrete and direct mode (i.e., mindful experiencing). In particular, drawing from Teasdale's account, Watkins and Teasdale (2004) regarded "mindful experiencing" as a form of non-ruminative self-focus attention and considered it as adaptive. Conversely, they construed conceptualizing/doing as having the same function as ruminative self-focus and described it as maladaptive. Watkins and Teasdale (2004) referred to these two distinctive modes as analytical (conceptualizing) self-focus and experiential (mindful) self-focus. In the present study, the term experiential self-focus mode of processing was used to refer to mindful experiencing.

Wakins and Teasdale's (2004) account of the distinction between analytical (conceptualizing) self-focus and experiential (mindful) self-focus regarding their outcomes on mental health has been supported by empirical evidence. In particular, experiential self-focus mode of processing has been shown to have adaptive consequences. Wakins and Teasdale conducted a study to examine the differential effects of conceptualizing mode and the experiential self-focus mode of processing on overgeneral autobiographical memory, which is a cognitive symptom of depression. Previously, it was found that overgeneral

autobiographical memory would increase when people were induced to ruminate (Watkins, Teasdale, & Williams, 2000). In Watkins and Teasdale's study (2001), they asked depressed patients to recall autobiographical memories while engaging in either experiential or analytical self-focus modes of processing. The results showed that experiential self-focus decreased the recall of overgerenal memory while participants in the analytical self-focus condition showed a near significant increase in the recall of overgeneral memory. The results supported the researchers' predictions that analytical thinking, which is a form of ruminative self-focus, would be associated with the maintenance of overgeneral memory whereas experiential self-focus mode would lead to a decrease in overgeneral memory in depressed patients. The findings validated the distinction between the two modes of processing. More importantly, the findings supported the proposition that analytical self-focus is a form of maladaptive processing whereas experiential self-focus has adaptive consequences on mental health outcome.

Another study also demonstrated the differential effects of analytical self-focus and experiential self-focus in the domain of social problem solving. Social problem solving is another cognitive activity that is impaired by depression. It has been suggested that rumination is the mechanism through which depression leads to impaired social problem solving (SPS) (Lyubomirsky & Nolen-Hoeksema, 1995). Wakins and Moulds (2005) conducted an experimental study to test the hypothesis that different modes or processing or forms self-focused attention would have differential effects on SPS. In their study, they referred to analytical ruminative thinking as abstract thinking while experiential self-focus was referred to as concrete self-focus. These researchers stated that it is the style of thinking during self-focus that determines the consequences of rumination. Specifically, they

hypothesized that abstract conceptual thinking in ruminative self-focus would impair SPS whereas concrete thinking during self-focus would not. In their study, Wakins and Moulds induced either concrete thinking or abstract thinking in depressed participants while they solved interpersonal problems. The results of the study supported the authors' predictions that concrete self focus (i.e., experiential self-focus) produced better problem solving in depressed patients relative to abstract self focus (i.e., analytical self-focus).

Thus far, the above studies illustrated that different modes of self-focused thinking have differential effects on cognitive processing. It has been suggested that the consequences of rumination may depend on the particular mode or style of processing (e.g., McFarland & Buehler, 1998; Teasdale, 1999). This study attempted to examine the beneficial effects of processing an interpersonal hurt in an experiential self-focus mode of processing. Specifically, we hypothesized that experiential self-focus processing would decrease unforgiveness, increase benevolence, reduce intrusive thoughts as well as negative affect relative to a control group.

Anger Rumination

Anger rumination is defined as thinking about anger experiences or the emotion of anger. Also, it is referred to as unintentional and recurrent cognitive processes that emerge during and continue after an event of angry experience (Sukhodolsky et al., 2001). Anger rumination is a cognitive process and is different from anger in that anger is viewed as an emotion while anger rumination is defined as thinking about this emotion (Sukhodolsky et al., 2001). The emotion of anger is associated with social maladjustment (Deffenbacher, 1992) and aggressive behaviour (Bushman, 2002). It is thus likely that recurring thoughts of anger would be associated with decreased well-being.

Anger rumination is likely to relate to increased unforgiveness. The association between forgiveness and anger rumination was examined by Barber, Maltby, and Macaskill (2005). In their study, anger rumination was measured using the Anger Rumination scale. These researchers hypothesized that there will be negative correlation between anger rumination and both forgiveness of self and forgiveness of others. The results supported their general hypothesis that forgiveness was negatively associated with anger rumination. In addition, the study showed that fantasies of revenge factor from the ARS accounted for the unique variance in the scores for the forgiveness of others whereas anger memories explained the unique variance in forgiveness of self (Barber et al., 2005). Thus, the subscales of the anger rumination scale share a significant correlation with forgiveness of self and forgiveness of others. Collins and Bell (1997) provided indirect evidence for the association between rumination and forgiveness. In their study, they placed participants into two groups based on the Dissipation-Rumination Scale (Caprara, 1986) such that low-dissipators-high-ruminators were individuals who tended to deliberate over thoughts of retaliation whereas high-dissipators-low ruminators were those who tended to forget provocations easily. Participants in the study first received negative judgments on their performance and were then asked to play a game which indicated levels of aggression. The study showed that low-dissipators-high-ruminators tended to remember previous insults and showed greater aggression than the high-dissipators-low ruminators did. Given that unforgiveness is associated with increased retaliation tendencies or aggression, this study provides indirect evidence supporting the positive association between rumination and unforgiveness.

Ruminating about angry thoughts will increase intrusive thoughts. According to associative network theory, specific types of feelings are linked with particular thoughts and

memories of the same feeling. More specifically, this theory also indicates that there is an associative connection between negative affect and anger-related feelings and thoughts in that that the presence of negative mood would activate a network of negative or anger-related memories (Berkowitz, 1990). In other words, angry mood would likely activate anger-related thoughts. It has been delineated that whereas negative mood activates negative thoughts, the role of rumination is that it draws the person's attention to the activated thoughts and mood and allows these thoughts to affect the person's evaluation (Lyubomirsky & Nolen-Hoeksema, 1995). These thoughts in turn exacerbate angry mood which is going to activate thoughts related to anger, creating the cycle between mood and thoughts. This suggests that ruminating about angry events can lead to the generation of angry thoughts which in turn activate more unpleasant anger-related thoughts. Empirical evidence also supports the association between rumination and intrusions. In Watkins' (2004) study, participants first underwent a negative mood induction, after which they engaged in either ruminative self-focused writing or experiential self-focused writing. Intrusion was one of the dependent measures in the study. Watkins found that trait dispositions toward rumination predicted intrusive thoughts, even with the level of depression controlled. In other words, rumination self-focus manipulation led to more intrusive thoughts in participants who have a greater propensity toward rumination. Based on this finding, the present study also hypothesizes that the analytical rumination self-focus manipulation would predict greater intrusion in people who score high on anger rumination than those who score low.

Self-focused Attention as a Buffer

Anger rumination thus seems to have different impact on unforgiveness, benevolence, intrusive thoughts and negative affect. Because of the possibility of improved

self-regulation under the condition of experiential self-focused attention (Watkins, 2004), this mode of self-focused attention is likely to buffer the negative impact of anger rumination on these psychological variables. When Watkins (2004) examined the effect of experiential and analytical writing condition on negative mood and intrusive thoughts, he found that the writing conditions interacted with trait rumination. In particular, it was reported that as peoples' tendency toward rumination increased, the levels of negative mood increased when people were in the analytical writing condition but decreased when people were in the experiential writing condition. In the present study, we hypothesize that writing condition would buffer the effect of anger rumination on the outcome measures. Specifically, it is hypothesized that experiential writing condition in the present study is likely to buffer the negative impact of anger rumination on unforgiveness, benevolence, intrusive thoughts about the transgression, and negative affect relative to the control group.

CHAPTER THREE: METHODS

Participants

Data were collected from 182 students enrolled in psychology classes in a large Midwest university. There were 117 (64%) females, 64 (35%) males and one person who did not indicate sex (0.5%). Their ages ranged from 18 to 42 years old (M = 19.48, SD = 2.49). Half of the participants were 89 (49%) freshmen, followed by 46 (25%) sophomores, 25 (14%) juniors, 18 (0.1%) seniors and 6 individuals indicated "other" as their responses. Regarding participants' ethnicity, 87% were Caucasian, 4% were Multi-racial Americans, 3% were Asian Americans, 2% were African Americans, 1% were Hispanic Americans, 1% were Native American, 1% were international students, and 0.5% reported "other" for their ethnicity. In terms of marital status, 132 (73%) were single, 37 (20%) were in a committed relationship, 2 (1%) indicated they are divorced/separated and five individuals indicated "other" for their marital status.

Participants reported transgressions by relationship partner (43%), close friends (18%) immediate family (17%), roommates (5%), acquaintances (4%), relatives (2%), strangers (1%), others (7%), and five participants did not respond to this question. Participants described a very wide range of transgressions, including termination of a romantic relationship (20%), rejection by a friend or termination of a friendship (14%), betrayal of a confidence or painful insults (12%), neglect or insult by a parent (12%), serious arguments or fights with a romantic partner (11%), infidelity in a romantic relationship (11%), rejection or insult by a sibling (4%), fight or disagreement with roommates (4%), physical assault or abuse (3%), loss of a loved one (2%), insult by an employer (.5%), and 12 people indicated "other" for their responses**.** Moreover, participants responded to a single item, "How hurtful

is the interpersonal hurt to you right now?" on a 6-point Likert-type scale. The mean score on this item was 3.44 (*SD* = 1.44). This suggests that participants perceived the event as higher than average hurtful.

Power Analysis

The first set of hypotheses involved an analysis of changes over time on the measures of unforgiveness, benevolence, intrusive thoughts and negative affect as a function of two writing conditions. Each of these measures would be assessed across five time points (i.e., 1st session, 2nd session, 3rd session, first follow-up session and second follow-up session). A growth curve modeling analysis was conducted for each of these four different outcome measures. These analyses tested for differences between the writing conditions over the three time points and two follow-up sessions after the writing sessions; the baseline measures taken prior to initiating the writing manipulation were employed as covariates in order to enhance the power of the analysis. The purpose of these analyses was to examine the impact of writing manipulations on the pattern of change over time for these outcome measures; conceptually, we tested for writing conditions by time interactions. Alternatively, these analyses could be seen as testing for writing conditions differences in the level and slope after writing, where the level represents the mean difference in the post interventions and the slope represents the degree of change per day on these measures for the participants. The control group that receives neutral writing instruction would be used as the reference group in these analyses. Therefore, any effects of the experiential self-focus writing condition on these slopes would be relative to the values for the control group. It is difficult to evaluate the power of the proposed growth curve analyses in the absence of knowing the degree of correlation among the measures that are repeated over time and the association between the

covariate (i.e., the baseline measure) and the rates of changes on the outcome variables. The following analyses are based on these five assumptions: (1) the covariate is unrelated to the slopes for the dependent variables (the least powerful situation), and (2) the experiential group does not differ from the control group on the outcome (slope) measure, (3) a test-retest correlation between the assessments that would be approximately 2 days apart of .30 (for negative affect) and .50 (for unforgiveness, benevolence and intrusive thoughts), (4) the test-retest correlations reflected compound symmetry [(for example, the correlation between the Time 1 and Time 2 assessments would be .30, whereas the correlation between the Time 1 and Time 3 assessments would be .09 (.3*.3), and the correlation between the Time 1 and Time 4 assessments would be .027 (.3*.3*.3)], and (5) the rate of change over time on these dependent variables would be found, with the slope for the control group being .00.

For the first analysis, it was further assumed that the experiential self-focused condition would lead to an increase in the slope to .30, whereas the control condition had no effect on the slope. This should be the least powerful situation in terms of the test of significance for the group where there was expected to be an increase in the slope to .30 relative to the control group. With $p = .05$ and a sample size of 165 cases (sample size calculation is shown below), the non-centrality parameter (i.e., the chi-square for a model that fixed the path at zero) with 1 df was 125.46. As a consequence the power is 1.00 to detect an effect of the experiential self-focus writing condition on the slope of .30 then the power of the analyses was 1.00 at $p < .05$ for a sample of 165.

When the experiential self-focused condition had an effect on the slope of .30 and the power was even greater; the non-centrality parameter for a model that fixed one of these two paths at zero was 74.21 with 1 df. Once again, the power was 1.00.

When the experiential self-focused condition had an effect on the linear slope of .50, and the power was even greater; the non-centrality parameter for a model that fixed one of these two paths at zero was 74.21 with 1 df. Once again, the power was 1.00.

For the second set of hypotheses, to estimate the number of participants needed to obtain a small to medium effect size, a power analysis was completed using the power and precision program (Borenstein, Rothstein, & Cohen, 2001). Power is a function of effect size, sample size, and alpha level. Effect size can be expressed by correlation, R^2, or standardized regression coefficient. Using the power and precision program, the power was calculated using the R^2 for regression analyses. To determine sample size requirements, each predictor variable (i.e., was assigned an effect size of either R^2 = .01, .09, or .25 (i.e., r = .10, .30, or .50 for small, medium, or large effect size; respectively, which is recommended by Cohen and Cohen 1983) in relation to the criterion variable (i.e., anger rumination). These combinations indicated that a sample size of 780, 87, and 30, respectively, was needed for a power of .80 or higher at p <.05. Based upon these calculations, we selected a sample size of approximate 165 per group to yield a small to medium effect for a power of .80 or higher at p < .05 and a change in R square of .05. The current study's sample of 182 thus reached the power of 0.80.

Instruments

Demographic information

The demographic information includes gender, education level, ethnicity, relationship status, age, the gender of the offender, participant's relationship to the offender (i.e., "your relationship to this individual who hurt you"), how long ago the interpersonal hurt was, whether or not the interpersonal hurt had been resolved, how hurtful the interpersonal hurt

was.

Anger Rumination

Anger Rumination Scale (ARS; Sukhodolsky, Golub, & Cromwell, 2001) is a 19-item scale that measures individual's tendency to think repetitively about current anger-provoking events and past memories of anger-episodes. The measure has 4-point Likert-type scale ranging from 1 (*almost never*) to 4 (*almost always*) and participants respond to the items based on how well the items reflect their beliefs about themselves. Higher scores reflect higher levels of anger rumination. The scale consists of four subscales which are angry afterthoughts, thoughts of revenge, anger memories and understanding causes. A total score would be used in the present study. The scale has adequate Cronbach's alpha of .93 in a sample of undergraduate students and has a test-retest reliability of .77 over a one-month period (Sukhodolsky et al., 2001). As evidence of its convergent validity, the scores of this scale correlated positively with the scores on the scales of State-Trait Anger Expression Inventory (STAXI; Spielberger, 1988) and the Negative Affectivity Scale (Stokes & Levin, 1990) but correlated negatively with the scores of the measures of life satisfaction and social desirability (Sukhodolsky et al., 2001). Regarding its discriminant validity, the ARS was shown to have different structure than the state anger inventory (Sukhodolsky et al., 2001).

Unforgiveness

Unforgiveness is assessed by two subscales, avoidance and revenge, in the Transgression-Related Interpersonal Motivations Inventory (TRIM; McCullough et al., 1998). TRIM is a self-report scale that measures individuals' motivations to avoid and seek revenge against their transgressors. Avoidance and revenge represent negative emotional-motivational states in reaction to a specific transgression (McCullough et al., 2003). The avoidance

subscale consists of 7 items that measure one's motivation to avoid contact with a specific transgressor. The revenge subscale has 5 items and reflects one's motivation to seek revenge against a transgressor. The scores from the two subscales were summed to reflect participant's level of unforgiveness. In the TRIM, participants are asked to rate the extent to which they agree with each of the items based on a 5-point Likert scale (1 = *strongly disagree*, 5 = *strongly agree*). Cronbach alpha is .86 for Avoidance subscale and is .90 for the Revenge subscale in a sample of university students (McCullough et al., 1998). The 3-week and 9 week test-retest reliabilities are .86 and .64 for Avoidance scale and .79 and .65 for the Revenge scale, respectively. Evidence of construct validity is demonstrated by a positive correlation between the scores of these two subscales and the scores of dyadic satisfaction-commitment (McCullough et al., 1998). The discriminant validity is supported through moderate correlations with offense-specific rumination, empathy, and relational closeness as well as low correlation with social desirability (McCullough et al., 1998).

Benevolence

Benevolence scale was recently added into the TRIM and it represented the positive emotional-motivational states in response to interpersonal transgression (McCullough & Hoyt, 2002; McCullough et al., 2003). It evaluates individuals' goodwill and their desire for restoring positive relations with the transgressor (McCullough et al., 2003). It is consisted of five-item that are rated on the same Likert-scale as the TRIM (see above). The scale has Cronbach's alphas ranging from .91 to .93 (McCullough et al., 2003). Convergent validity of the scale is supported by positive correlation with agreeableness and negative correlation with neuroticism from the Big Five Inventory (McCullough & Hoyt, 2002).

Intrusive Thoughts

The Intrusion subscale from the Impact of Event Scale (IES; Horowitz, Wilner, & Alvarez, 1979) was used in the present study to measure participants' frequency of intrusive thoughts. The Intrusion subscale (7 items) measures the extent to which participants experience recurrent thoughts and images, troubled dreams, and repetitive behaviour. The scale can be used to measure intrusive thoughts regarding any event by replacing the *it* in the scale's items with the event that the researcher is interested in. In the present study, "interpersonal hurt" is substituted for *it* (sample item is "I thought about this interpersonal hurt when I didn't mean to") (Horowitz et al., 1979). Items are rated on a 4-point Likert Scale from 1 (*not at all*), 2 (*rarely*), 3 (*sometimes*), to 4 (*often*). Higher scores indicate higher frequency of intrusive thoughts. The intrusion subscale has a reliability of .88 in a sample of college students (McCullough et al., 1998). It has a test-retest reliability of .89 in a sample of adults who sought psychotherapy at a university's outpatient service (Horowitz et al., 1979). As evidence of its construct validity, the scale has a positive correlation with the scores on the revenge subscale of the TRIM in a sample of college students (McCullough et al., 1998).

Negative Affect

The negative affect scale within the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988) was used to measure negative affect. The negative affect scale assesses subjective distress and the experiences of aversive moods including anger, contempt, disgust, fear and nervousness (Watson et al., 1988). In a sample of undergraduate students, negative affect scale has a Cronbach's alpha of .85 when the time frame adopted was "right now" and it has an 8-week test-retest reliability of .45 (Watson et al., 1988). Convergent validity of the negative affect scale is demonstrated through its positive

correlation with perceived stress (Watson et al., 1988) and with anxiety and depression (Crawford & Henry, 2004).

Transgression-related Information as Covariates

From the review of the literature, the following transgression-related variables were used as covariates in previous studies. Therefore, these variables were also used as covariates in the present study. For the first covariate variable, participants rated how serious the interpersonal hurt was by answering "how serious was the interpersonal hurt?" on a 7-point Likert scale (1= *not serious at all*, 7 = *very serious*). It is likely that the greater the perceived seriousness of the hurt is, the less likely the participant would forgive the transgressor of the hurt (Paleari, Regalia, & Fincham, 2005). The second covariate variable was the level of emotional closeness with the transgressor. For this question, participants rated their level of emotional closeness on a 7-point scale to the other person involved in the recalled interpersonal hurt (Kross, Ayduk, & Mischel, 2005). The third covariate variable measures the extent to which participants perceived the transgressor apologized for the interpersonal hurt. This was measured with three items (i.e., he/she asked for forgiveness, he/she seemed genuinely sorry for what he/she did, and he/she felt guilty about what he/she did) with a 5-point Likert scale from 1 (*not at all*) to 5 (*extremely*).

Depressive symptom as a covariate

Depressive symptoms were measured by the short version of the Center for Epidemiological Studies-Depression Scale (CES-D-short version; Kohout, Berkman, Evans, & Cornoni-Huntley, 1993). It mainly assesses the frequency of depressive symptoms experienced by the participants during the past week. It has 11 items which are rated on a 4-point Likert scale ranging from (0) *rarely or none of the time (less than 1 day)* to (3) *most*

or all of the time (5-7 days). Scores can range from 0 to 33 with higher scores indicating greater depressive symptoms. Wei, Russell, Mallinckrodt, and Vogel (2007) reported a Cronbach's alpha of .85 in a college sample. Wei et al. (2007) also provided evidence for the scale's construct validity by demonstrating positive associations with attachment avoidance and anxiety among college students.

Trait Forgiveness as covariate

Trait Forgiveness Scale (TFS; Berry, Worthington, O'Connor, Parrott III, & Wade, 2005) is designed to measure the disposition to forgive interpersonal transgressions over time and across situations. It is consisted of 10-items and participants rate these items on a 5-point Likert-type scale to indicate the extent to which they agree with the statement (1 = *strongly disagree*, 5 = *strongly agree*). Higher scores on the scale reflect higher trait forgiveness. Cronbach's alpha coefficient of the scale is .80 in a sample of undergraduate students (Berry et al., 2005). An 8 week test-retest reliability of the scale is .78 (Berry et al., 2005). The concurrent construct validity of the TFS is established by its positive correlation with the scores on the Transgression Narrative Test of Forgiveness (TNTF; Berry, Worthington, Parrott III, O'Connor, & Wade, 2001) in a sample of undergraduate students (Berry et al., 2005).

Instructions for Essay 1, 2, and 3

All participants were randomly allocated to one of two writing conditions; the experiential self-focus and the control condition (see Appendix A for the description of each condition). In the experiential condition, participants were instructed to write about their direct experience of their interpersonal hurt and their feelings (e.g., write about how you feel –describe your feelings moment-by-moment during the interpersonal hurt and right

now"). Participants in the control condition were asked to write about neutral and objective events. In particular, they described events, as objective as possible, that happened to them since they woke up in the morning. Both conditions were given the instruction to write continuously for 15 minutes. They also recorded the time they started writing and the time they stopped writing to ensure that the duration of writing was the same for all participants.

Procedure

During mass testing, introductory psychology students were asked whether they experienced any interpersonal conflict or interpersonal hurt within the past 4 months (see Appendix B for the survey packet for mass-testing). They also indicated whether the hurt was resolved or unresolved. They were also asked how serious they perceived their interpersonal hurt to be on a 7-point Likert-type scale (0 = *not at all* to 7 = *extremely*). Participants also filled out the Anger Rumination Scale, the CES-D scale and Trait Forgiveness Scale during mass testing, so the potential participants would be less suspicious of the study when they participated in the actual study later on. If participants stated that they had experienced an interpersonal hurt within the past four months, stated that the conflict has not been resolved, and perceived the interpersonal hurt as moderately hurtful, they were then contacted to participate in the study via phone by research assistants. In particular, potential participants were asked whether they would be willing to participate in a study titled "Personal Experience and Writing" for which they received a total of five extra course credits upon completion. They were told that the purpose of the study was to examine interpersonal processes and personal experiences and they were asked to fill out questionnaires across five time points. Participants were scheduled to go to a classroom in small groups of 20 people. Since participants were writing about personal hurt, to ensure confidentiality, they were

asked to sit apart from each other. This would provide personal space and privacy for the participants when they wrote.

There are several steps for completing the procedure:

1st session: On the first day of the study, participants were told that the study investigated personal experience and writing. They were also told that the study consisted of data collection across 3 consecutive days and two follow-up sessions, which were two weeks and four weeks from the first session, respectively. They were given a total of 5 course credits when they completed all five sessions. If they decided to discontinue midway through the experiment, they would still receive partial credits and would not be penalized. After giving informed consent, first session questionnaire packets which included two different essay conditions (experiential condition and control condition) were randomly distributed to the participants. The first part of the survey asked participants in both conditions to spend 5 min recalling and describing briefly the unresolved interpersonal hurt which they reported during mass testing. Following this recall, participants were asked to complete (in order) conflict-related IES, TRIM measures (including avoidance, revenge and benevolence measures) and negative affect measure. Next, all participants wrote Essay 1 which differed in instructions for the two conditions (see above for Instructions for Essay 1, 2, and 3). Participants filled out the negative affect measure again after they completed Essay 1. Unlike negative affect which was completed right after they completed the Essay, IES and TRIM (i.e., avoidance, revenge and benevolence measures), are psychological processes that require time to occur and to be experienced. Therefore, participants did not fill out the IES and the TRIM immediately after the essay even though these were state measures as the negative affect measure. Following Essay 1, participants in both conditions were rewarded a research

credit. They were then told that the 2nd session survey packet with instructions was sent to them via email the next day.

2nd session: On Day 2, participants received the 2nd session survey packet through email. The packet included (in order) IES, TRIM (i.e., avoidance, revenge and benevolence measures), writing instructions for Essay 2, and negative affect. These measures and the essay question were attached as an attachment in word file in the email. The email would also remind participants to come to the study in person the next day for their 3rd session. Participants were instructed to complete the packet in the order on the day they received the email and at a place where they could concentrate on the task. Participants would spend 15 min (they were asked to record the time they started writing and the time when they stopped writing) writing Essay 2 which had the same instruction as Essay 1 for the two conditions. They were asked to type their responses for the questionnaires and the essay directly on the word document they received. They were asked to send the completed packet before the next day as an attachment to the lab's email account. When the researcher received the email from the participants, participants were given a course credit electronically.

3 rd session: On Day 3, participants completed the 3rd session in a classroom. The 3rd session packet consisted of (in order) IES, TRIM, writing instruction for Essay 3 (essay instruction would be identical to the previous essays for the two conditions) and negative affect. They would spend 15 min (they were asked to record the time they started writing and the time they stopped writing) writing Essay 3. They were rewarded one research credit when they completed the session.

First follow-up session: The first follow-up session was two weeks after the third writing session. Follow-session survey packets were emailed to the participants as an

attachment. In the follow-up survey packet, participants were asked to fill out IES, TRIM, and negative affect. They would be rewarded one credit electronically when researcher received their surveys via email.

Second follow-up session: The second follow up session was four weeks after the third writing session. The follow-up session survey packets were emailed to the participants as an attachment. In the survey packet, participants were asked to fill out IES, TRIM, and negative affect. They were rewarded one credit electronically when researcher received their surveys via email. Researcher then emailed the debrief form to the participants.

CHAPTER FOUR: RESULTS

Preliminary Analyses and Descriptive Statistics

Pretest Equivalence

In order to examine the pretest equivalence of the experiential and the control groups, a series of t tests were conducted. The results (*t*s = -.48 - .31, all *p*s > .05) indicated that there were no differences between these two groups with respect to the predictor (i.e., anger rumination), the five covariates (i.e., trait forgiveness, seriousness of the transgression, CES-D, perceived apology of the transgressor, and emotional closeness with the transgressors), and the four dependent measures (i.e., unforgiveness, benevolence, intrusion and negative affect). Because no differences were found between the experiential and the control groups for all the pre-test variables, it appears that the random assignment task did ensure the equality of assigning participants to the experiential and control groups.

Attrition Analyses

Before conducting the attrition analyses, a dichotomous variable was created for those who dropped out from the study at any time point (i.e., incomplete group) and those who stayed for the whole study (i.e., complete group). It is noted that 25% of participants did not complete all five sessions but 75% of participants completed all sessions. Two parts of attrition analyses were conducted. The first attrition analyses were conducted to examine whether there were any differences on the pre-test variables (i.e., predictor and covariates) for participants who dropped from the study compared with those who stayed in the whole study. A series of t-test was conducted for the predictor and the covariate variables. The analyses (*t*s = -.48 - .31, *p*s >.05) revealed no significant difference for the predictor and the covariate variables. The second attrition analyses were to examine whether attrition over time

produced systematic differences in the dependent measures. Four growth curve analyses were conducted for each of the four dependent variables with a dummy code predictor of complete/incomplete as a predictor of the intercept at pre-test session and slope. The results from the growth curve analyses indicated that there were no differences between those who dropped out and those who stayed in the study for any of the dependent variables over time. These results suggest that the missing data are not related to the scores on the characteristics of the participants and all the dependent measures over time. Therefore, the missing data could be considered missing at random.

Means, standard deviations, and zero-order correlations for the covariate variables, the predictors, and the four dependent measures over time are shown in Table 1 and Table 2. From Table 2, it can be seen that for the question that asked participants to indicate how serious was the interpersonal hurt on a 7-point Likert-type scale, the mean score was 5.09 (SD = 1.48). This indicates that most participants perceived the interpersonal hurt as quite serious. Also, most participants indicated that they are emotionally close to the person who hurt them. The current sample did not have many depressive symptoms. Lastly, participants scored average on the Anger Rumination Scale and the Trait Forgiveness Scale. Information from Table 2 thus indicates that participants in the current study had experienced moderately serious interpersonal hurt and that they were close to the transgressors.

Latent Growth Curve Measurement Model

Before the main analyses were conducted, it is important to note that the Full Information Maximum Likelihood (FIML) method of estimation in LISREL (Version 8.54) (Jöreskog & Sörbom, 2006) was chosen to handle the missing data (Schafer & Graham, 2002; Wothke, 2000). Muthén, Kaplan, and Hollis (1987) and Wothke (2000) indicated that this

method is efficient and produces parameter estimates that are less biased than the previous methods of managing missing data such as the pairwise or listwise deletion of missing cases. Also, the missing data in this study could be considered missing at random, which meets the assumption of the FIML method.

Latent growth curve modeling (LGCM) was used for the main analyses. In LGCM, structural equation modeling techniques are applied to growth curve analyses (Meredith & Tisak, 1990; McArdle & Epstein, 1988). LGCM tests the initial level and the rates of change as latent variables which are based on participants' scores at each time point. The LGCM model (see Figure 1) in the current study consists of two latent variables, one for the intercept (i.e., initial level) and one for the slope (i.e., the rate or trajectory of change). Because the intercept is a constant for any individual across time, the factor loadings for the intercept are fixed at "1" for all time points. The latent variable of slope represents the slopes of participants' growth curves. In the current study, because the assessment intervals for the dependent variables are not equally spaced, the factor loadings for the slope factor vary according to the length of time between the assessments (slope factor loadings for different time points are described below). To examine the effects of writing conditions and the interaction between Anger-Rumination × Condition on the latent growth variables or factors for each of the four outcome measures, the condition and the interaction term were both specified as predictors of the intercept and slope latent growth factors. Covariates (i.e., anger rumination, pre-test outcome score, seriousness of the transgression, emotional closeness with the transgressor, perceived apology, trait forgiveness, and depressive symptoms) (see Figure 1 for hypothetical model) were also specified as predictors in the model in order to control for their effects on the intercept and the slope latent variables. The measurement

model for each outcome measures thus includes condition, an interaction between anger rumination and condition, and covariates as predictors of the latent growth factors. To evaluate model fit, both the χ^2 value and the root-mean-square error approximation (RMSEA; values of .06 or less indicate that the model adequately fits the data) were used to determine the goodness of fit for the model (Hu & Bentler, 1999).

Unforgiveness (Avoidance and Revenge)

First, a latent growth curve measurement model of unforgiveness (i.e., avoidance and revenge) was examined to determine the appropriate growth parameters. The loadings of the repeated measures on the intercept were fixed at 1.0, and the linear [-15, -14, 0, 14] and quadratic [225, 196, 0, 196] slope latent growth factors were specified over the four unequally spaced assessment time points (the unit of measurement is 1-day). Fixing factor loadings for the linear and quadratic slopes to zero at the 1st follow-up session specifies the initial level as the average score of unforgiveness at 1st follow-up session. The latent growth factors (i.e., intercept, linear and quadratic slope factors) were allowed to correlate in the model. The model with the best fit indices was the three-factor model which consists of an intercept factor, a linear slope factor, and a quadratic slope factor, χ^2 (10, N = 182) = 17.56, p > .06, RMSEA = .06 (90% CI: .00, .11). However, even though this was the best fit model, the variances of the intercept, linear slope and quadratic slope were not significant. In contrast, the two-factor model (consisting of an intercept factor and a linear slope factor) had significant variances for the intercept and the linear slope even though this model did not fit the data as well as the three-factor model. The fit of the two-factor model was χ^2 (23, N = 182) = 43.77, p < .01, RMSEA = .07 (90% CI: .04, .10). In the two-factor model, the average intercept (b = 25.56, p < .001) was significant. The average linear slope (b = -0.03, p > .05)

was not significant. The variances of the intercept (b = 101.87, p < .001) and the linear slope (b = 0.04, p <.01) were significant, indicating individual variations on these growth factors. Because the variances were significant in the two-factor model, this model was used to test the SEM latent growth curve model for unforgiveness.

The initial level for the growth curve analysis was set at the 1st follow-up session (i.e., the factor loading for the slope was set to 0 for the 1st follow-up assessment point), which allowed for the examination of the effect of writing after the completion of the three writings required in the study. Participant's level of unforgiveness immediately after writing (i.e., at the end of the third writing session) was not assessed in the current study because the nature of the unforgivness measure requires passage of time after the writing during which participants could reflect on the offender and their relationship with the offender. It is reasoned that the effect of writing on unforgiveness needs to have a period of time to have an effect. Similarly, for benevolence and intrusive thought measures, it is thought that participants need time to reflect on their feelings of kindness toward the offender and whether or not they frequently experience intrusive thoughts toward the offender.

Benevolence

Next, a latent growth curve measurement model was examined for benevolence or the positive motivation of forgiveness. The above steps were followed and the best-fitting model was the three-factor model which includes an intercept factor, a linear slope factor, and a quadratic slope factor, χ^2 (10, N = 182) = 11.48, p > .32, RMSEA = .03 (90% CI: .00, .09). The average intercept (b = 20.46, p < .001) was significant. The average linear slope (b = 0.002, p > .05) and the average quadratic slope (b = 0.0003, p > .05) were not significant. The variances of the intercept (b = 30.11, p < .001), the linear slope (b = -0.08, p < .05), and

the quadratic slope (b = -0.0005, p < .05) were significant, indicating individual variations on these growth factors. This model was used to test the latent growth curve structural model for benevolence.

Intrusive Thoughts

Similarly, a latent growth curve measurement model was examined for intrusive thoughts. The above steps were followed and the best-fitting model was the three-factor model (including an intercept factor, a linear slope factor, and a quadratic slope factor), χ^2 (10, N = 182) = 12.31, p > .27, RMSEA = .04 (90% CI: .00, .09). Although this model was the best fitting model, the variances of the intercept, linear slope and quadratic slope were not significant. In contrast, the two-factor model (consisting of an intercept factor and a linear slope factor) had significant variances for the intercept and the linear slope even though this model did not fit the data as well as the three-factor model. The fit of the two-factor model was χ^2 (23, N = 182) = 61.92, p < .01, RMSEA = .10 (90% CI: .07, .13). In the two-factor model, the average intercept (b = 9.80, p < .001) was significant. The average linear slope (b = 0.13, p < .05) was significant. The variances of the intercept (b = 32.12, p < .01) and the linear slope (b = 0.05, p <.01) were significant, indicating individual variations on these growth factors. Because the variances were significant in the two-factor model, this model was used to test the SEM latent growth curve model for intrusive thoughts.

Negative Affect

Additionally, a latent growth curve measurement model was conducted for negative affect. The loadings of the five time measures on the intercept were fixed at 1.0, and the linear [-2, -1, 0, 14, 28], quadratic [4, 1, 0, 196, 784] and cubic [-8, -1, 0, 2744, 21952] slope factors were specified over the five unequally spaced time points measured in days. Fixing

factor loadings for the linear, quadratic, and cubic slopes to zero at the post-intervention session specifies the initial level as the average score on the negative affect measure at the post-intervention session. The model with the best fit indices was the four-factor model that includes an intercept factor, a linear slope factor, a quadratic slope factor and a cubic slope factor, χ^2 (10, N = 182) = 11.58, p > .31, RMSEA = .03 (90% CI: .00, .09). The average intercept (b = 14.55, p < .001) was significant. The average linear slope (b = -1.06, p < .001), the average quadratic slope (b = 0.14, p < .001) and the average cubic slope (b = -0.004, p < .001) were all significant. The variance of the intercept (b = 12.93, p < .001), the linear slope (b = 0.19, p < .001), the quadratic slope (b = -0.01, p < .001), and the cubic slope (b = 0.00, p < .001) were all significant, indicating individual variations on growth factors. This model was used in testing the structural model for negative affect.

It is noted that in contrast to unforgiveness, benevolence and intrusive thoughts, the initial level for the growth curve analysis for negative affect was set at the third writing session (i.e., the factor loading for the slope was set to 0 for the 3rd writing assessment point). Negative affect, unlike the other measures, does not require participants to reflect on the offender or their relationship with the offender. Instead, it is intended to measure the immediate effect of writing on mood. In other words, participants do not require a period of time between the completion of the writing sessions and the next assessment point to know how they feel; they can report how they feel immediately after the writing. In contrast, they might not know whether they would want to forgive the offender or act kindly toward the offender immediately after writing.

Latent Growth Curve Structural Models

Unforgiveness (Avoidance and Revenge)

The latent growth curve modeling was used to address the first hypothesis with respect to unforgiveness. The latent growth curve model for each outcome measures includes conditions, pretest measure of the outcome measure, an interaction between anger rumination and condition, and covariates as predictors of the growth factors. Because the two-factor measurement model was a good fit to the data, we used this measurement model to test the structural model for unforgiveness. The results indicated good fit to the data; χ^2 (23, N = 182) = 43.77, $p < .01$, RMSEA = .07 (90% CI: .04, .10). For the first hypothesis, condition was not a significant predictor of the intercept (Δb = -0.94, $p > .05$), indicating that the experiential and the control condition did not differ significantly on the average level of unforgiveness at the first follow-up session (see Figure 2). Condition was also not a significant predictor of the linear (Δb = -0.04, $p > .05$) slope, indicating that the participants in the two conditions did not differ on the rates of linear change for unforgivneess. Even though there was no significant difference between the two conditions in terms of the linear slope, the average linear slope for the experiential group indicated a significant decrease (b = -0.05, $p < .05$) but the average linear slope for the control group was not significant (b = -0.001, $p > .05$) (see Figure 3).

For the second hypothesis, the interaction term of Anger-Rumination × Condition predicting the level (b = 0.04, $p > .05$) as well as the linear (b = -0.01, $p > .05$) slope were not significant. This indicates that the effect of anger rumination on unforgiveness at the first follow-up did not vary between two groups. In addition, it also suggests that the effect of anger rumination on the slopes of the participants' growth curves for unforgivness was not related to the conditions they were assigned to.

Benevolence

The above steps were conducted for benevolence or the positive motivation of forgiveness to examine the structural latent growth curve model. The three-factor model was the best measurement model and therefore was used to test the structure model. The results revealed good fit to the data; χ^2 (10, N = 182) = 11.47, p > .32, RMSEA = .03 (90% CI: .00, .09). Regarding the first hypothesis, condition was not a significant predictor of the intercept (Δb = -0.03, p > .05), indicating that the experiential and the control conditions did not differ significantly on the average level of benevolence at the first follow-up session (see Figure 4). Condition was also not a significant predictor of the linear (Δb = 0.02, p > .05) and the quadratic (Δb = 0.002, p > .05) slopes, indicating that the participants in the two conditions did not differ on the rate of change for benevolence over time. Specifically, both average linear slopes for the experiential group (b = 0.01, p > .05) and control group (b = -0.01, p > .05) were not significant. Similarly, no significant average quadratic slopes were found for either the experiential group (b = 0.001, p > .05) or the control group (b = -0.001, p > .05) (see Figure 5)

For the second hypothesis, the interaction term of Anger-Rumination × Condition predicting the quadratic slope was significant (b = 0.01, p < .05). In order to know the nature of this interaction (i.e., anger rumination × writing conditions) over time, analyses were conducted to examine the significance of the simple slopes. Based on Cohen et al.'s (2003) recommendation, one standard deviation below and above the mean for the variables were computed to facilitate the plotting of the nature of interaction over time. The statistical significance for each of the simple slopes was also tested (see Aiken & West, 1991; Cohen et al., 2003; Frazer, Tix, & Barron, 2004).

As seen in Figure 9, the results revealed that the average linear slope (b = 0.03, p

< .05) and the average quadratic slope (b = -0.01, p < .01) were significant among individuals with low anger rumination in the experiential condition (i.e., a solid line on the top). This indicates a significant linear increase in the scores of benevolence from sessions 1, 2 to follow-up 1 but a slightly decrease in the scores of benevolence from follow-up 1 to follow-up 2. For the control group (i.e., the dash line on the top), average linear slope (b = 0.03, p < .05) significantly increased among individuals with low anger rumination. It implies that benevolence significantly increased for those with low anger rumination in the control group. Finally, it is important to note that even though the pattern of slopes for the control and experiential groups are slightly different, the differences in their linear (Δb =0.001, p > .05) or quadratic slopes (Δb = -0.004, p > .05) for these two conditions did not reach a significant level.

Moreover, among those with high anger rumination in the control condition (i.e., a dash line at the bottom in Figure 9), the results from a simple effect analysis indicated that the average linear slope was significant and negative (b = -0.04, p < .05) but the average quadratic slope was not significant (b = -0.002, p > .05). It implies that these individuals' scores of benevolence were decreasing in a linear fashion over time in the control group. Conversely, in the experiential condition (i.e., a solid line at the bottom in Figure 9), the average linear slope was not significant (b = -0.01, p > .05) but the average quadratic slope was significant and positive (b = 0.01, p < .01). This suggests that the score of benevolence decreased from sessions 1, 2 to follow-up 1 but increased from follow-up 1 to follow-up 2 among those with high anger rumination in the experiential condition. Also, the differences in the quadratic slopes (Δb = 0.01, p < .05) for these two conditions were significantly different.

Intrusive Thoughts

The same steps above were followed for testing the structural model of intrusive thoughts. Based on the measurement model results, the two-factor model was used to examine the structural model. The results revealed good fit to the data; χ^2 (23, N = 182) = 61.92, $p < .01$, RMSEA = .10 (90% CI: .07, .13). To address the first hypothesis, condition was not a significant predictor of the intercept (Δb = 0.30, $p > .05$), indicating that the experiential and the control conditions did not differ significantly on the average frequency of intrusive thoughts at the first follow-up session (see Figure 6). Condition was also not a significant predictor of the linear slope (Δb = -0.03, $p > .05$), indicating that the participants in the two conditions did not differ on the rate of linear change of intrusive thoughts. Even though there was no significant difference between two conditions in terms of the linear slope, the average linear slopes were significant for the experiential group (b = 0.12, $p < .001$) and for the control group (b = 0.15 $p < .001$) (see Figure 7). As for the second hypothesis, the interaction term of Anger-Rumination × Condition in predicting the intercept (b = 1.04, $p > .05$) and the linear slope (b = -0.02, $p > .05$) was not significant.

Negative affect

The four factor model of negative affect was tested for the structural model. The model indicated good fit to the data; χ^2 (10, N = 182) = 11.58, $p > .30$, RMSEA = .03 (90% CI: .00, .09). With respect to the first hypothesis, condition was a significant predictor of the intercept (b = 3.59, $p < .05$), indicating that the experiential and control conditions differ in their level of negative affect at the post-intervention session. In addition, condition also significantly predicted the linear slope factor (b = -0.89, $p < .01$), suggesting that the linear slopes in these two condition were significantly different from each other (see Figure 8). To further explore the nature of difference in the linear slope between these two conditions, a

piecewise analysis (see Figure 10) was conducted (Duncan, Duncan, & Strycker, 2006). A piecewise growth model is one approach to subdivide a series of assessments into meaningful segments (Bryk & Raudenbush, 1992). In piecewise analysis, the first piece (slope 1) was defined as the period from session 1 through session 2 to session 3 (i.e., three writing sessions) and the second piece (slope 2) was a period from session 3 through the first follow-up to the second follow-up. This allows simultaneous examination of the rate of change of negative affect during writing and the rate of change of negative affect following the writing manipulation. Slope from session 1 to session 3 was defined as slope 1 and the slope from session 3 to the second follow-up was defined as slope 2. The piecewise analyses indicated that the average level of negative affect was significantly different for the experiential and the control conditions (16.38 vs. 13.08, respectively) at post-writing session (i.e., at the end of the 3rd session). Next, from session 1 to session 3, the average levels of negative affect significantly decreased among those in the experiential group (b = -1.78, p < .001) and in the control condition (b = -0.61, p < .01). Also, the decrease in negative affect for those in the experiential group was significantly greater than the average decrease in the control group (Δb = -1.18, p < .01). In addition, from session 3 to the second follow-up, average levels of negative affect significantly increased among those in the experiential group (b = 0.06, p < .001) and in the control condition (b = 0.21, p < .001). However, the increase in negative affect for those in the experiential group was significantly less (Δb = -0.15, p < .001) than the control group over this same post-intervention period.

Table 1. Inter-correlations between covariate variables, pre-test variables, first, second, third and follow-up dependent measures.

	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
Covariate																										
AG	.05	.37	.05	.37	-.54	.08	-.02	.23	.05	.09	-.06	.01	.00	.1	-.07	.11	.08	-.03	.18	-.08	.13	.03	.23	-.2	.21	.07
serious		.13	-.09	.13	-.1	.12	-.09	.37	.21	.04	.04	.47	.16	.16	-.11	.44	.12	.19	.26	-.09	.29	.1	.24	-.13	.33	.00
close	.39		.39	.05	-.15	-.37	.4	.3	-.01	-.3	.29	.09	.03	-.31	.3	.15	-.02	-.01	-.27	.35	.13	-.02	-.31	.32	.17	.18
Apol.	.	-.11		-.11	.1	-.4	.48	.17	-.01	-.37	.42	.08	.08	-.38	.42	.21	-.05	.13	-.2	.22	.2	.18	-.26	.32	.05	.12
CES-D	-.03	.05	-.11		-.17	.13	-.08	.32	.35	.08	.02	.32	.29	.03	.01	.37	.35	.29	.03	.07	.3	.23	.13	-.07	.33	.11
TF	.00	-.23	.03	-.23		-.28	.31	-.15	-.11	-.21	.19	.08	-.17	-.26	.19	.19	-.07	-.05	-.27	.16	.01	.11	-.24	.24	.02	.07
Pre-Writing																										
UF	-.42	.15	-.42	.15	-.36		-.86	.14	.11	.89	-.76	.17	.04	.93	-.82	.04	.00	.03	.81	-.72	.07	-.15	.76	-.71	.01	-.12
Bene.	.35	-.15	.35	-.15	.49	-.84		.03	.02	-.76	.88	-.04	.08	-.85	.91	.05	.04	.01	-.74	.77	-.04	.13	-.65	.71	.02	.14
IT	.11	.26	.11	.26	-.14	.06	-.16		.41	.11	.12	.57	.24	.03	.09	.61	.21	.35	.12	.1	.54	.24	.12	.06	.52	-.07
NA	-.05	.41	-.05	.41	-.2	-.02	-.01	.5		.16	.11	.51	.67	.1	.11	.36	.49	.46	.18	.09	.38	.41	.18	.02	.36	.1
Session 1																										
UF (T1)	-.4	.14	-.4	.14	-.35	.96	-.82	.08	.00		-.73	.2	.16	.89	-.77	.08	.16	.09	.74	-.64	.11	-.11	.72	-.64	.08	-.13
Bene. (T1)	.39	-.13	.39	-.13	.43	-.82	.9	-.08	-.03	-.81		.01	.05	-.79	.92	.07	-.01	.08	-.64	.81	.02	.21	-.61	.76	-.03	.09
IT (T1)	-.13	.19	-.13	.19	-.04	.01	-.1	.54	.5	.05	-.1		.43	.2	-.03	.81	.29	.43	.3	-.09	.62	.34	.24	-.06	.45	.01
NA (T1)	-.11	.17	-.11	.17	-.15	.05	-.05	.46	.71	.07	-.13	.52		.06	.08	.29	.6	.69	.16	-.03	.3	.39	.13	-.07	.27	.14
Session 2																										
UF (T2)	-.47	.12	-.47	.12	-.31	.88	-.76	-.02	-.05	.94	-.79	.01	-.03		-.87	.11	.02	.11	.79	-.68	.1	-.14	.74	-.68	.09	-.17
Bene. (T2)	.41	-.09	.41	-.09	.41	-.72	.85	-.04	.02	-.73	.91	-.13	.00	-.82		-.03	-.03	-.05	-.72	.8	-.07	.09	-.66	.78	-.1	.11
IT (T2)	-.05	.27	-.05	.27	-.05	.13	-.14	.56	.51	.19	-.17	.71	.48	.14	-.17		.19	.47	.24	-.11	.73	.45	.19	-.03	.58	.1
NA (T2)	-.21	.13	-.21	.13	-.05	.11	-.09	.34	.51	.12	-.15	.59	.71	.04	-.06	.5		.57	.04	.05	.27	.52	.14	-.04	.3	.32
Session 3																										
NA (T3)	-.11	.14	-.11	.14	.13	-.03	.15	.28	.48	-.01	.03	.45	.65	.00	.1	.51	.75		.16	-.08	.43	.56	.08	-.08	.34	.12
Follow-Up 1																										
UF (T4)	-.22	.14	-.22	.14	-.44	.84	-.79	.04	.04	.8	-.73	.00	.02	.75	-.63	.16	.08	-.07		-.8	.33	.07	.87	-.77	.23	-.11
Bene. (T3)	.28	-.13	.28	-.13	.49	-.64	.73	-.05	-.05	-.58	.75	-.08	-.03	-.64	.79	-.25	-.02	.04	-.72		-.17	.04	-.71	.85	-.09	.09
IT (T3)	.13	.11	.13	.11	-.13	.15	-.2	.51	.31	.22	-.16	.52	.24	.06	-.06	.61	.35	.26	.31	-.26		.57	.24	-.09	.72	.07
NA (T4)	.03	.06	.03	.06	.04	.07	-.07	.11	.19	.11	-.08	.2	.27	-.02	.1	.17	.38	.44	.13	-.03	.39		.06	.04	.38	.5
Follow-Up 2																										
UF (T4)	-.34	.18	-.34	.18	-.33	.81	-.72	-.02	-.11	.84	-.71	.06	-.13	.86	-.72	.05	.07	-.09	.75	-.57	.16	.08		-.83	.27	.02
Bene. (T4)	.32	-.14	.32	-.14	.49	-.67	.78	-.05	.09	-.66	.83	-.11	.12	-.72	.88	-.06	.03	.25	-.6	.73	-.14	.08	-.78		-.17	.05
IT (T4)	-.04	.27	-.04	.27	-.18	.11	-.15	.47	.32	.19	-.22	.52	.23	.13	-.15	.59	.28	.27	.14	-.14	.61	.25	.21	-.28		.1
NA (T5)	.12	.15	.12	.15	.22	-.02	.03	.2	.21	.03	.04	.2	.18	-.1	.2	.14	.32	.35	-.04	.19	.22	.57	.01	.14	.27	

Note: AG = Anger Rumination; Serious = Perceived seriousness of the interpersonal hurt; Closeness = Perceived emotional closeness with the transgressor; Apology = Perceived apology from the transgressor; CES-D = the short version of the Center for Epidemiological Studies-Depression Scale; TFS = Trait forgiveness Scale; UF = unforgiveness measure; Bene. = Benevolence measure; IT = Intrusive thoughts; NA = Negative affect.

Table 2. Means and Standard Deviations of All Variables.

	Experiential		Control	
	Mean	S.D.	Mean	S.D.
Covariate				
AG	2.18	0.51	2.08	0.56
serious	5.13	1.52	5.06	1.45
close	5.59	1.6	5.05	1.86
Apol.	2.46	1.4	2.45	1.32
CES-D	1.03	0.6	1.04	0.61
TF	3.28	0.69	3.36	0.71
Pre-Writing				
UF	2.32	0.96	2.24	0.93
Bene.	3.34	1.02	3.38	1.03
IT	2.61	1.18	2.66	1.33
NA	1.95	0.69	1.99	0.77
Session 1				
UF (T1)	2.2	0.94	2.13	0.92
Bene. (T1)	3.43	1.07	3.44	1.05
IT (T1)	1.37	1.15	1.17	1.3
NA (T1)	2	0.72	1.45	0.55
Session 2				
UF (T2)	2.11	0.92	2.1	0.94
Bene. (T2)	3.41	1.14	3.51	1.08
IT (T2)	1.08	1.05	1.13	1.38
NA (T2)	1.76	0.61	1.36	0.5
Session 3				
NA (T3)	1.63	0.55	1.31	0.54
Follow-Up 1 .				
UF (T3)	2.16	0.92	2.17	0.95
Bene. (T3)	3.36	1.13	3.41	1.19
IT (T3)	1.08	1.19	1.08	1.3
NA (T4)	1.78	0.44	1.84	0.57
Follow-Up 2				
UF (T4)	2.07	0.93	2.11	0.94
Bene. (T4)	3.45	1.12	3.47	1.24
IT (T4)	0.86	0.99	0.87	1.12
NA (T5)	1.81	0.43	1.85	0.44

Note: AG = Anger Rumination; Serious = Perceived seriousness of the interpersonal hurt; Closeness = Perceived emotional closeness with the transgressor; Apology = Perceived apology from the transgressor; CES-D = the short version of the Center for Epidemiological Studies-Depression Scale; TFS = Trait forgiveness Scale; UF = unforgiveness measure; Bene. = Benevolence measure; IT = Intrusive thoughts; NA = Negative affect.

Table 3. Structural Paths for Latent Growth Curve Model of Unforgiveness.

Parameter	Unstandardized factor loading	SE	Z
Intercept			
Condition → Intercept	-.94	.70	-1.35
AR × Cond.→ Intercept	04	.71	.06
ARS → Intercept	1.11	.54	2.04
Pre-UF → Intercept	9.12	.42	21.58
Serious → Intercept	37	.35	1.06
Closeness → Intercept	-.53	.39	-1.35
Apology → Intercept	12	.39	.30
CES-D → Intercept	-.11	.39	-.29
TFS → Intercept	45	.43	1.04
Linear Slope			
Condition → Linear Slope	-.04	.04	-1.08
AR×Cond→ Linear Slope	-.01	.04	-.28
ARS → Linear Slope	07	.03	2.46
Pre-UF → Linear Slope	-.07	.02	-3.06
Serious → Linear Slope	04	.02	2.34
Closeness → Linear Slope	-.04	.02	-2.01
Apology → Linear Slope	04	.02	1.95
CES-D → Linear Slope	-.00	.02	-.16
TFS → Linear Slope	02	.02	1.06

Note: Condition = experiential self-focus and control writing conditions (dummy coded as 1 and 0, respectively); AR × Con. = Anger Rumination × Condition; ARS = Anger Rumination Scale; Pre-UF = Pre-test Unforgiveness measure; Serious = Perceived seriousness of the interpersonal hurt; Closeness = Perceived emotional closeness with the transgressor; Apology = Perceived apology from the transgressor; CES-D = the short version of the Center for Epidemiological Studies-Depression Scale; TFS = Trait forgiveness Scale; Quad. Slope = Quadratic Slope.

Table 4. Structural Paths for Latent Growth Curve Model of Benevolence.

Parameter	Unstandardized factor loading	SE	Z
Intercept			
Condition → Intercept	-.03	.70	-.05
AR × Cond.→ Intercept	.01	.02	.70
ARS → Intercept	-.90	.55	-1.63
Pre-Bene. → Intercept	4.88	.45	10.94
Serious → Intercept	-.13	.36	-.38
Closeness → Intercept	.77	.39	1.96
Apology → Intercept	-.44	.40	-1.11
CES-D → Intercept	.54	.39	1.38
TFS → Intercept	-.54	.45	-1.20
Linear Slope			
Condition → Linear Slope	.01	.02	.70
AR×Cond→ Linear Slope	.02	.02	.64
ARS → Linear Slope	-.03	.02	-1.73
Pre- Bene. → Linear Slope	-.03	.01	-2.19
Serious → Linear Slope	-.01	.01	-1.05
Closeness → Linear Slope	.03	.01	2.13
Apology → Linear Slope	.02	.01	-1.54
CES-D → Linear Slope	-.00	.01	-.00
TFS → Linear Slope	.01	.01	.74
Quadratic Slope			
Condition → Quad. Slope	.00	.00	.73
AR×Cond. → Quad. Slope	.01	.00	2.01
ARS → Quad. Slope	.00	.00	.72
Pre- Bene. → Quad. Slope	.00	.00	.97
Serious → Quad. Slope	-.00	.00	-1.20
Closeness → Quad. Slope	-.00	.00	-.91
Apology → Quad. Slope	.00	.00	1.49
CES-D → Quad. Slope	-.00	.00	-.72
TFS → Quad. Slope	.00	.00	.51

Note: Condition = experiential self-focus and control writing conditions (dummy coded as 1 and 0, respectively); AR × Con. = Anger Rumination × Condition; ARS = Anger Rumination Scale; Pre-Bene. = Pre-test Benevolence measure; Serious = Perceived seriousness of the interpersonal hurt; Closeness = Perceived emotional closeness with the transgressor; Apology = Perceived apology from the transgressor; CES-D = the short version of the Center for

Epidemiological Studies-Depression Scale; TFS = Trait forgiveness Scale; Quad. Slope = Quadratic Slope.

Table 5. Structural Paths for Latent Growth Curve Model of Intrusive Thoughts.

Parameter	Unstandardized factor loading	SE	Z
Intercept			
Condition → Intercept	.30	.67	.44
AR × Cond.→ Intercept	1.04	.68	1.51
ARS → Intercept	-.41	.52	-.79
Pre-IT. → Intercept	3.05	.40	7.72
Serious → Intercept	1.06	.35	3.00
Closeness → Intercept	-.15	.38	-.39
Apology → Intercept	-.09	.36	-.26
CES-D → Intercept	1.01	.38	2.63
TFS → Intercept	.67	.39	1.70
Linear Slope			
Condition → Linear Slope	-.03	.03	-.82
AR×Cond→ Linear Slope	-.02	.04	-.46
ARS → Linear Slope	.03	.03	.96
Pre- IT. → Linear Slope	-.09	.02	-4.29
Serious → Linear Slope	-.02	.02	-1.26
Closeness → Linear Slope	.01	.02	.59
Apology → Linear Slope	-.01	.02	-.33
CES-D → Linear Slope	-.02	.02	-1.22
TFS → Linear Slope	-.03	.02	-1.67

Note: Condition = experiential self-focus and control writing conditions (dummy coded as 1 and 0, respectively); AR × Con. = Anger Rumination × Condition; ARS = Anger Rumination Scale; Pre-IT. = Pre-test Intrusive Thoughts measure; Serious = Perceived seriousness of the interpersonal hurt; Closeness = Perceived emotional closeness with the transgressor; Apology = Perceived apology from the transgressor; CES-D = the short version of the Center for Epidemiological Studies-Depression Scale; TFS = Trait forgiveness Scale; Quad. Slope = Quadratic Slope.

Table 6. Structural Paths for Latent Growth Curve Model of Negative Affect.

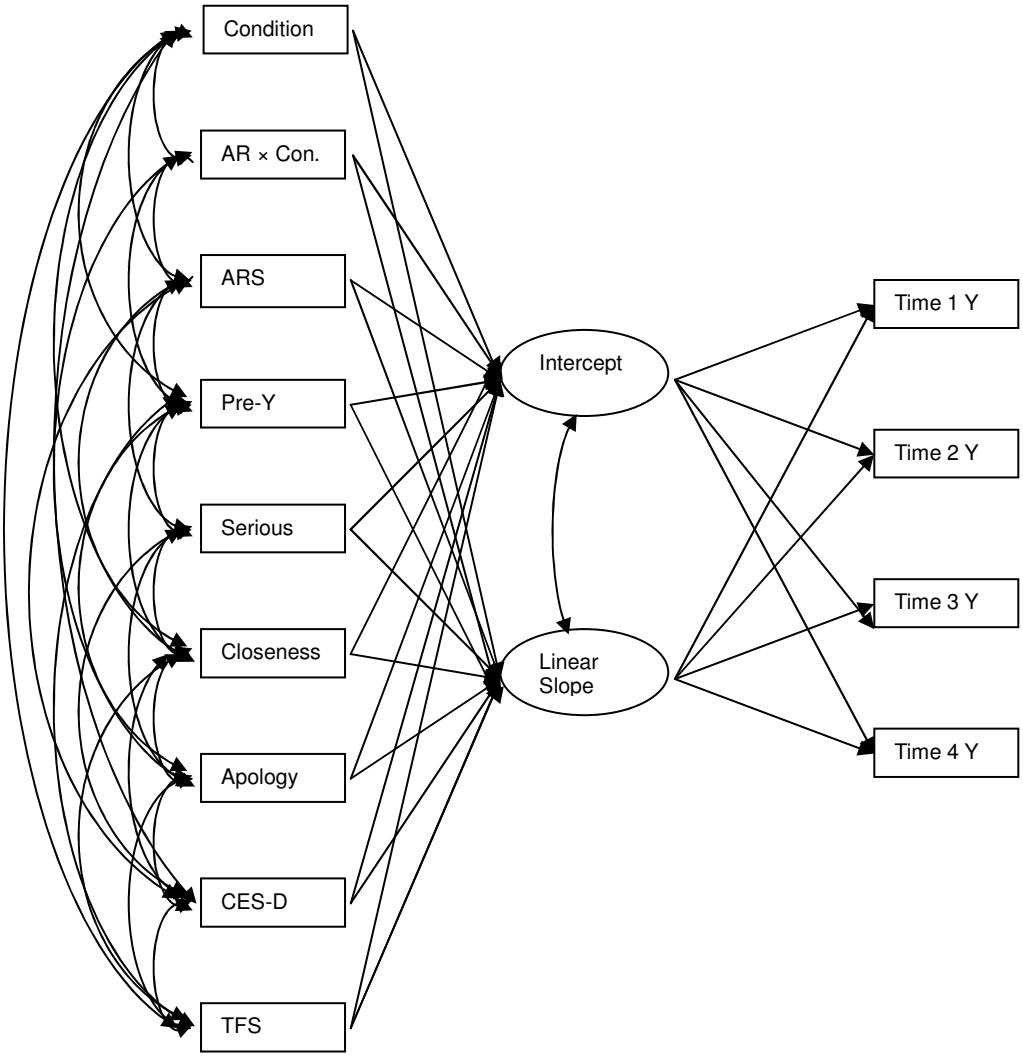
Parameter	Unstandardized factor loading	SE	Z
Intercept			
Condition → Intercept	3.59	.71	5.04
AR × Cond.→ Intercept	.30	.73	.42
ARS → Intercept	.12	.56	.22
Pre- NA → Intercept	2.15	.39	5.52
Serious → Intercept	.33	.36	.92
Closeness → Intercept	-.30	.39	-.78
Apology → Intercept	-.13	.38	-.35
CES-D → Intercept	.34	.42	.80
TFS → Intercept	.71	.42	1.69
Linear Slope			
Condition → Linear Slope	-.09	.29	-3.08
AR×Cond→ Linear Slope	-.10	.30	-.32
ARS → Linear Slope	.13	.23	.55
Pre- NA → Linear Slope	-.84	.16	-5.32
Serious → Linear Slope	.04	.14	.24
Closeness → Linear Slope	-.17	.16	-1.11
Apology → Linear Slope	.06	.15	.38
CES-D → Linear Slope	.28	.17	1.60
TFS → Linear Slope	.43	.17	2.51
Quadratic Slope			
Condition → Quad. Slope	.06	.03	1.85
AR×Cond. → Quad. Slope	.00	.03	.09
ARS → Quad. Slope	-.01	.03	-.52
Pre- NA → Quad. Slope	.08	.02	4.74
Serious → Quad. Slope	-.00	.02	-.13
Closeness → Quad. Slope	.02	.02	1.18
Apology → Quad. Slope	-.00	.02	-.01
CES-D → Quad. Slope	-.03	.02	-1.56
TFS → Quad. Slope	-.05	.02	-2.40
Cubic Slope			
Condition → Cubic Slope	-.00	.00	-1.53
AR × Cond.→ Cubic Slope	.00	.00	-.01
ARS → Cubic Slope	.00	.00	.52
Pre- NA → Cubic Slope	-.00	.00	-4.65
Serious → Cubic Slope	.00	.00	.04
Closeness → Cubic Slope	-.00	.00	-1.08
Apology → Cubic Slope	-.00	.00	-.12
CES-D → Cubic Slope	.00	.00	1.52
TFS → Cubic Slope	.00	.00	2.39

Note: Condition = experiential self-focus and control writing conditions (dummy coded as 1

and 0, respectively); AR × Con. = Anger Rumination × Condition; ARS = Anger Rumination Scale; Pre-NA = Pre-test Negative Affect measure; Serious = Perceived seriousness of the interpersonal hurt; Closeness = Perceived emotional closeness with the transgressor; Apology = Perceived apology from the transgressor; CES-D = the short version of the Center for Epidemiological Studies-Depression Scale; TFS = Trait forgiveness Scale; Quad. Slope = Quadratic Slope.

Figure 1

Hypothetical Model for Growth Factors and Predictors.

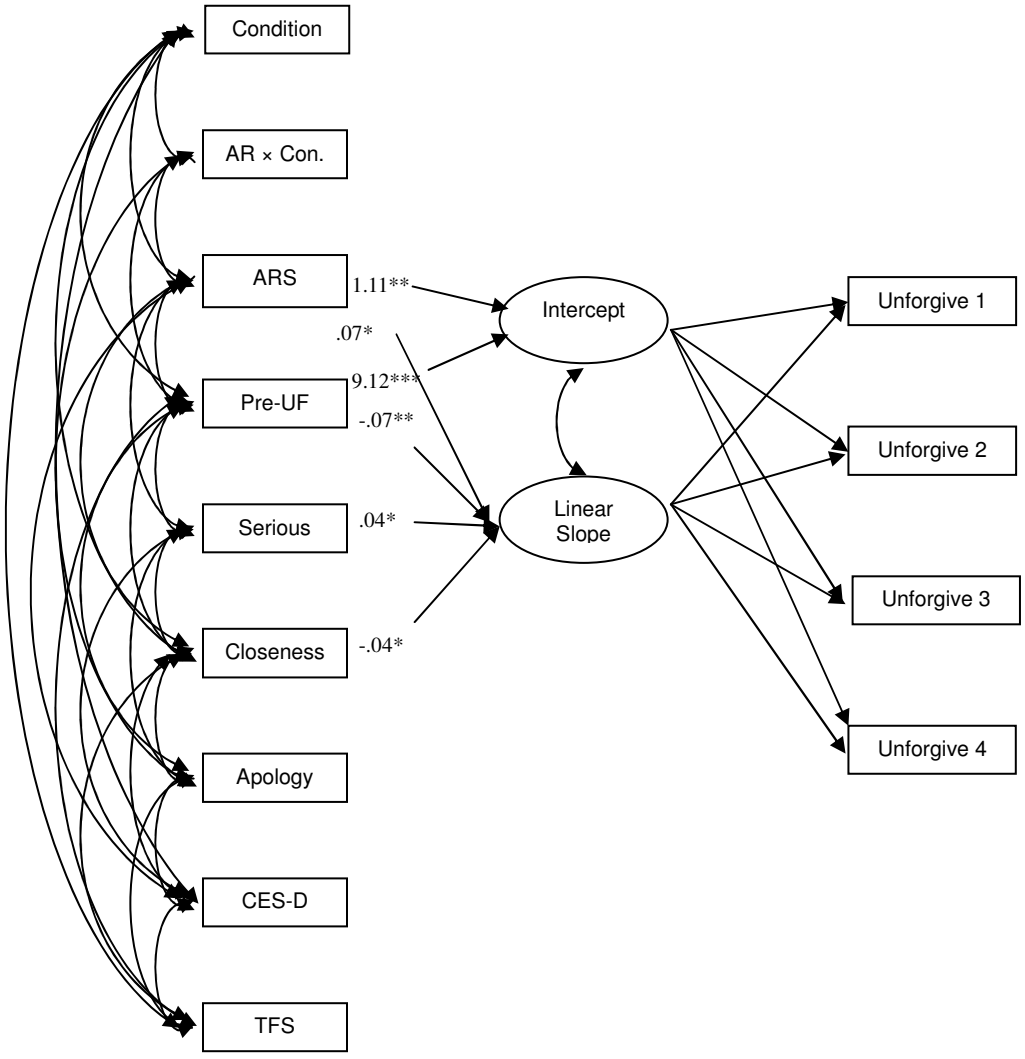


Note: Condition = experiential self-focus and control writing conditions (dummy coded as 1 and 0, respectively); AR × Con. = Anger Rumination × Condition; ARS = Anger Rumination Scale; Pre-Y = Pre-test outcome measure (i.e., pre-unforgiveness, pre-benevolence, pre-intrusive thoughts and pre-negative affect); Serious = Perceived seriousness of the

interpersonal hurt; Closeness = Perceived emotional closeness with the transgressor; Apology = Perceived apology from the transgressor; CES-D = the short version of the Center for Epidemiological Studies-Depression Scale; TFS = Trait forgiveness Scale; Time 1 -4 Y = outcome measure at the first and second writing sessions, and the first and second follow-ups.

Figure 2

Latent Growth Model for Growth Factors and Predictors for Unforgiveness.



Note: Only significant paths are drawn in the figure. Condition = experiential self-focus and control writing conditions (dummy coded as 1 and 0, respectively); AR × Con. = Anger Rumination × Condition; ARS = Anger Rumination Scale; Pre-UF = Pre-writing Unforgiveness measure; Serious = Perceived seriousness of the interpersonal hurt; Closeness

= Perceived emotional closeness with the transgressor; Apology = Perceived apology from the transgressor; CES-D = the short version of the Center for Epidemiological Studies-Depression Scale; TFS = Trait Forgiveness Scale; Unforgive 1-4 = Unforgiveness measured at the first and second writing sessions, and the first and second follow-ups.

Figure 3

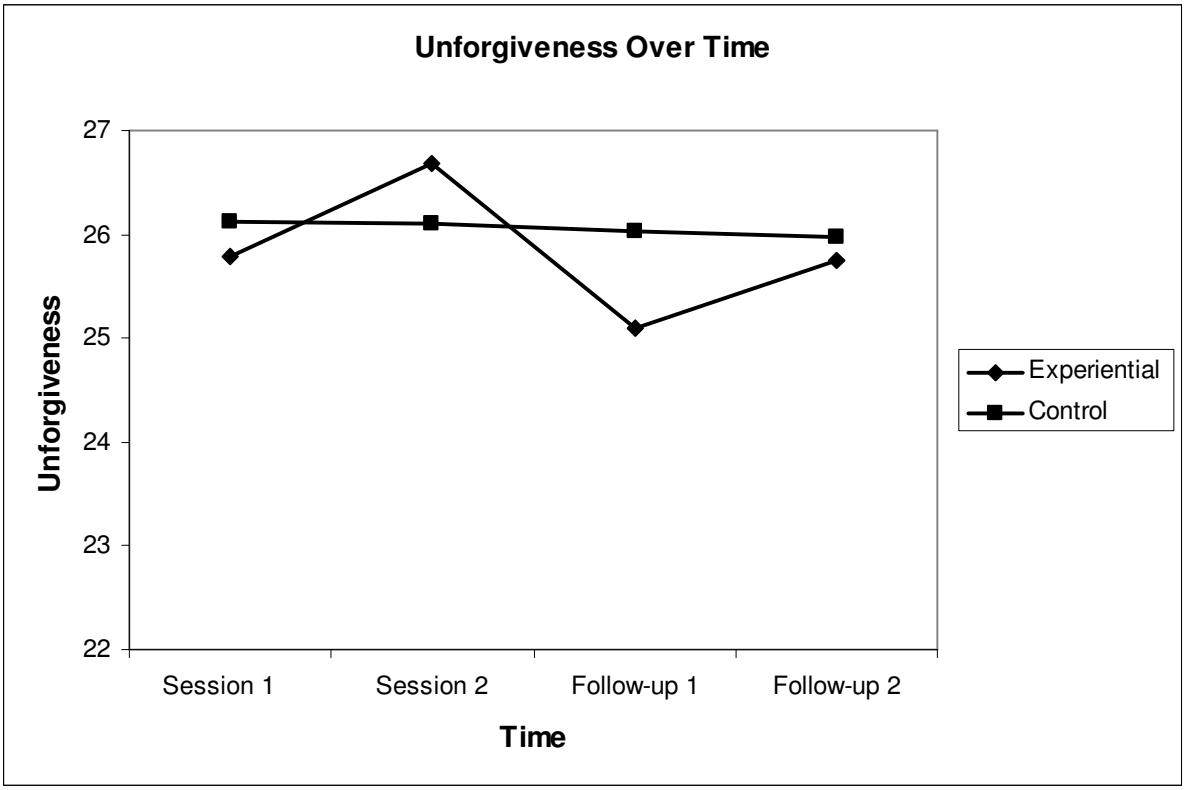
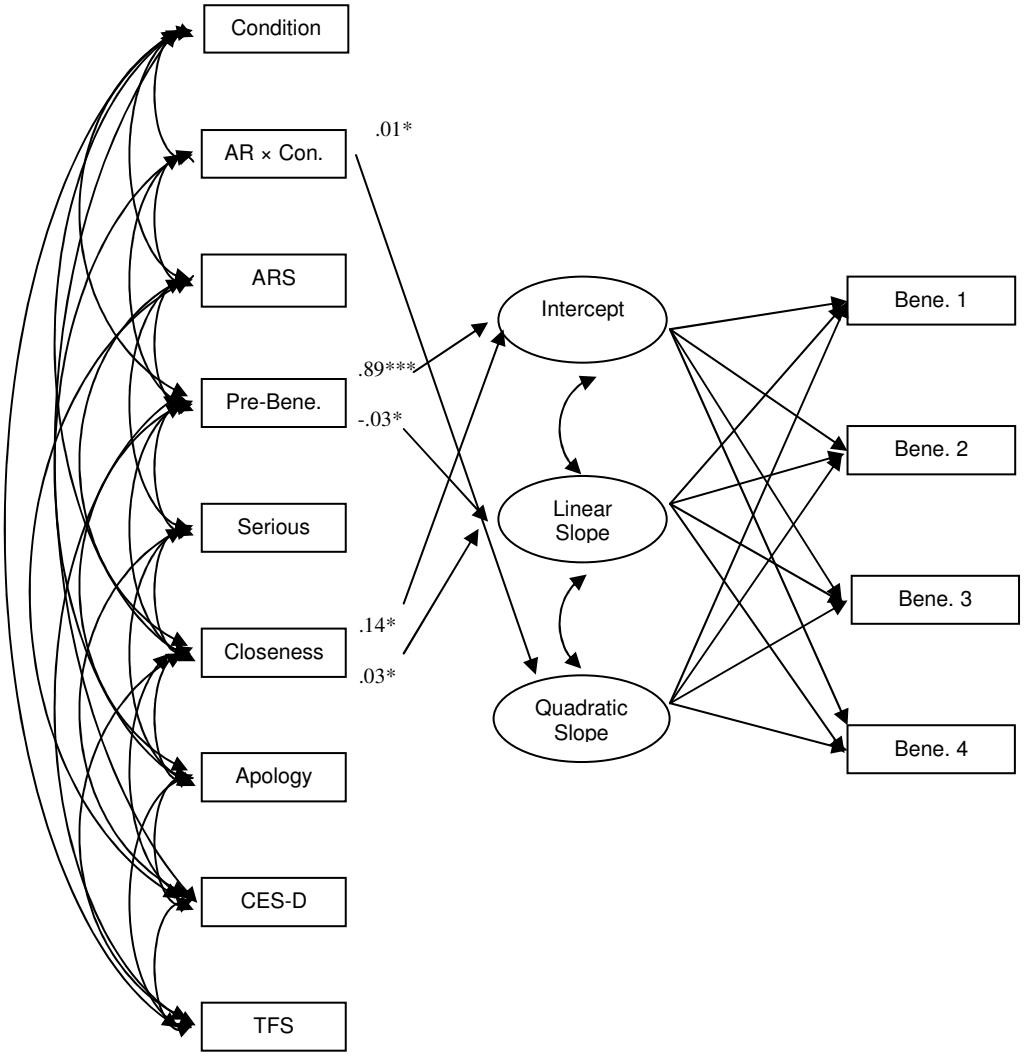


Figure 4

Latent Growth Model for Growth Factors and Predictors for Benevolence.



Note: Only significant paths are drawn in the figure. Condition = experiential self-focus and control writing conditions (dummy coded as 1 and 0, respectively); AR × Con. = Anger Rumination × Condition; ARS = Anger Rumination Scale; Pre-Bene. = Pre-writing Benevolence measure; Serious = Perceived seriousness of the interpersonal hurt; Closeness = Perceived emotional closeness with the transgressor; Apology = Perceived apology from the

transgressor; CES-D = the short version of the Center for Epidemiological Studies-Depression Scale; TFS = Trait Forgiveness Scale; Bene. 1-4 = Benevolence measured at the first and second writing sessions, and the first and second follow-ups.

Figure 5

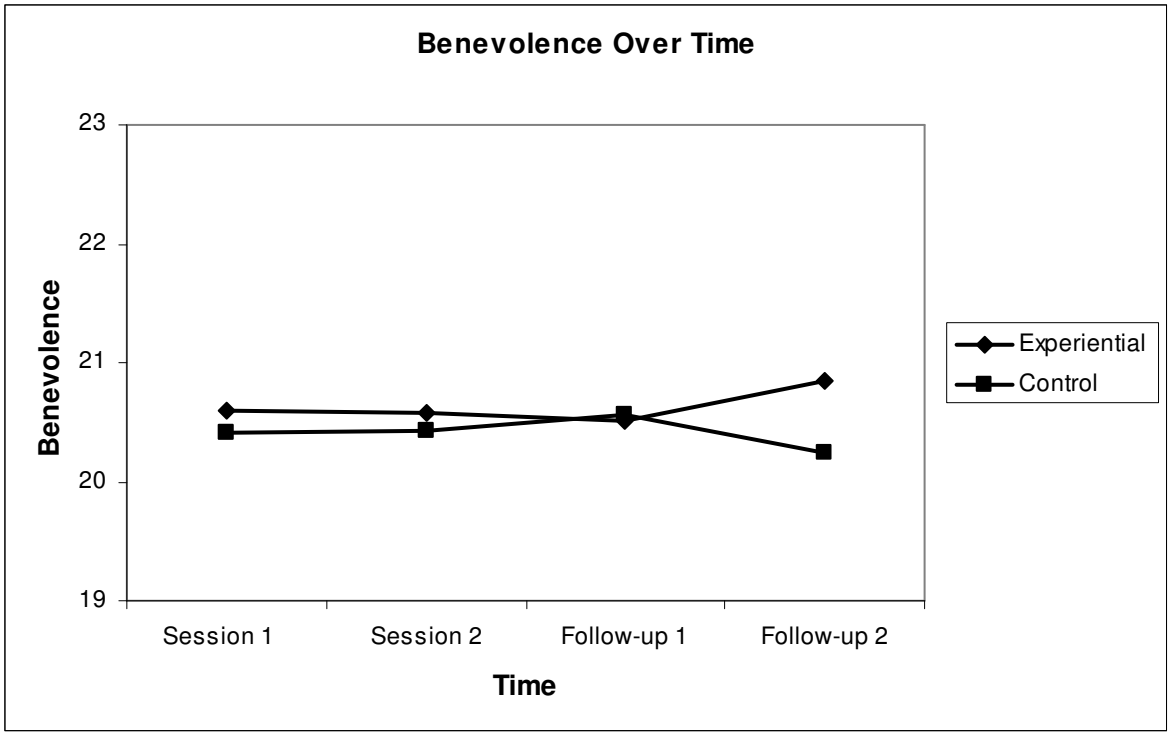
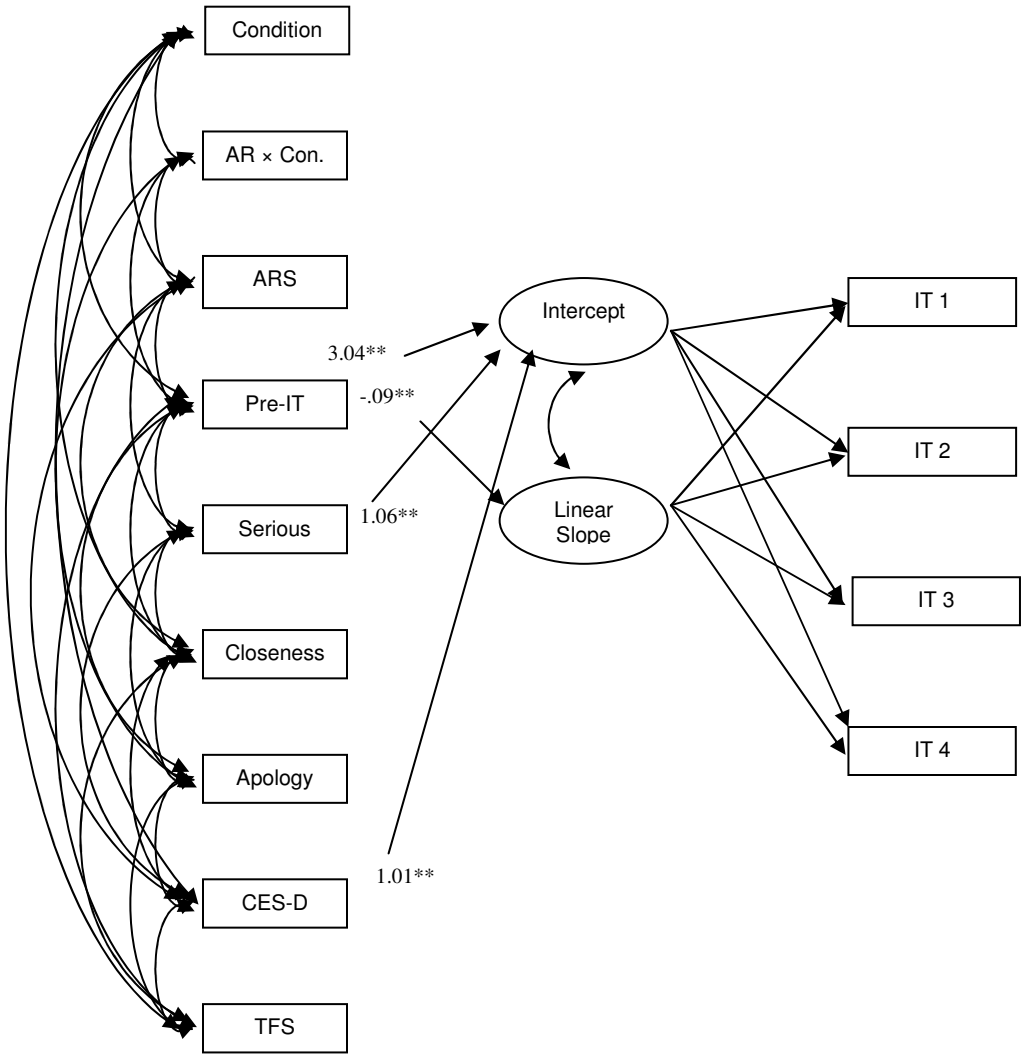


Figure 6

Latent Growth Model for Growth Factors and Predictors for Intrusive Thoughts.



Note: Only significant paths are drawn in the figure. Condition = experiential self-focus and control writing conditions (dummy coded as 1 and 0, respectively); AR × Con. = Anger Rumination × Condition; ARS = Anger Rumination Scale; Pre-IT. = Pre-writing Intrusive Thought Measure; Serious = Perceived seriousness of the interpersonal hurt; Closeness = Perceived emotional closeness with the transgressor; Apology = Perceived apology from the transgressor; CES-D = the short version of the Center for Epidemiological

Studies-Depression Scale; TFS = Trait Forgiveness Scale; IT 1-4 = Intrusive thought measured at the first and second writing sessions, and the first and second follow-ups.

Figure 7

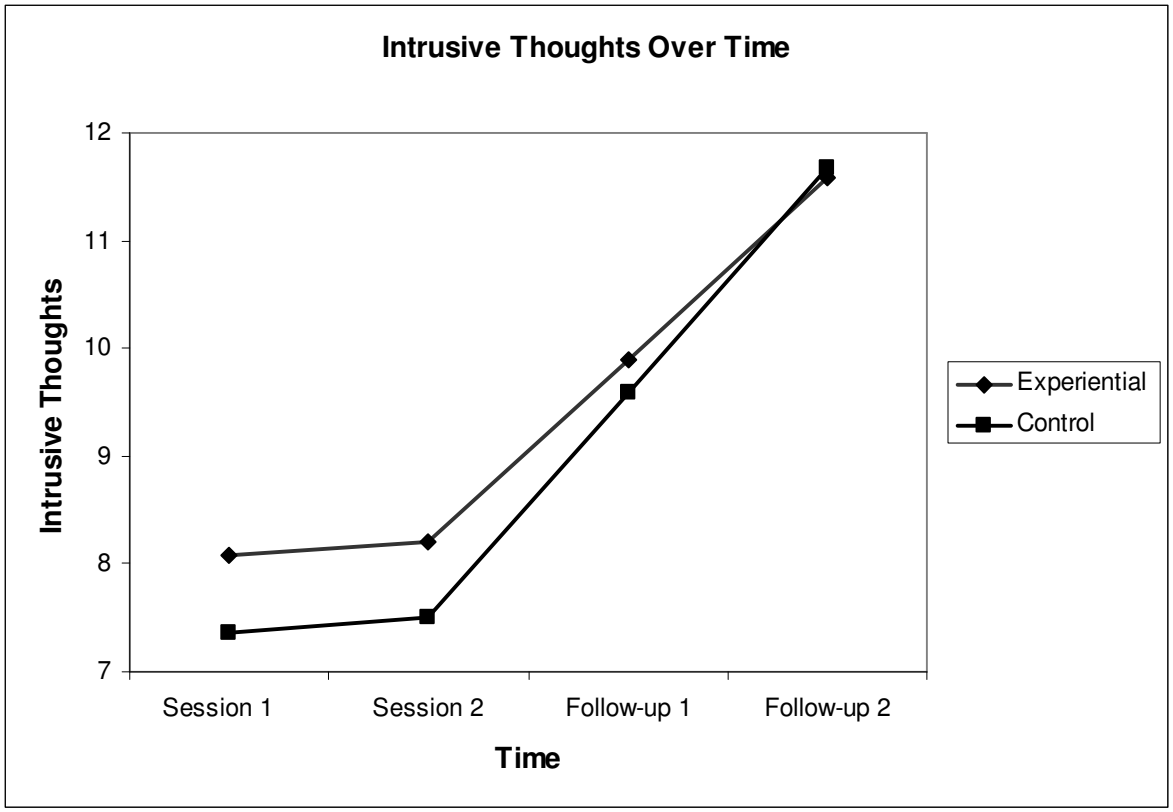
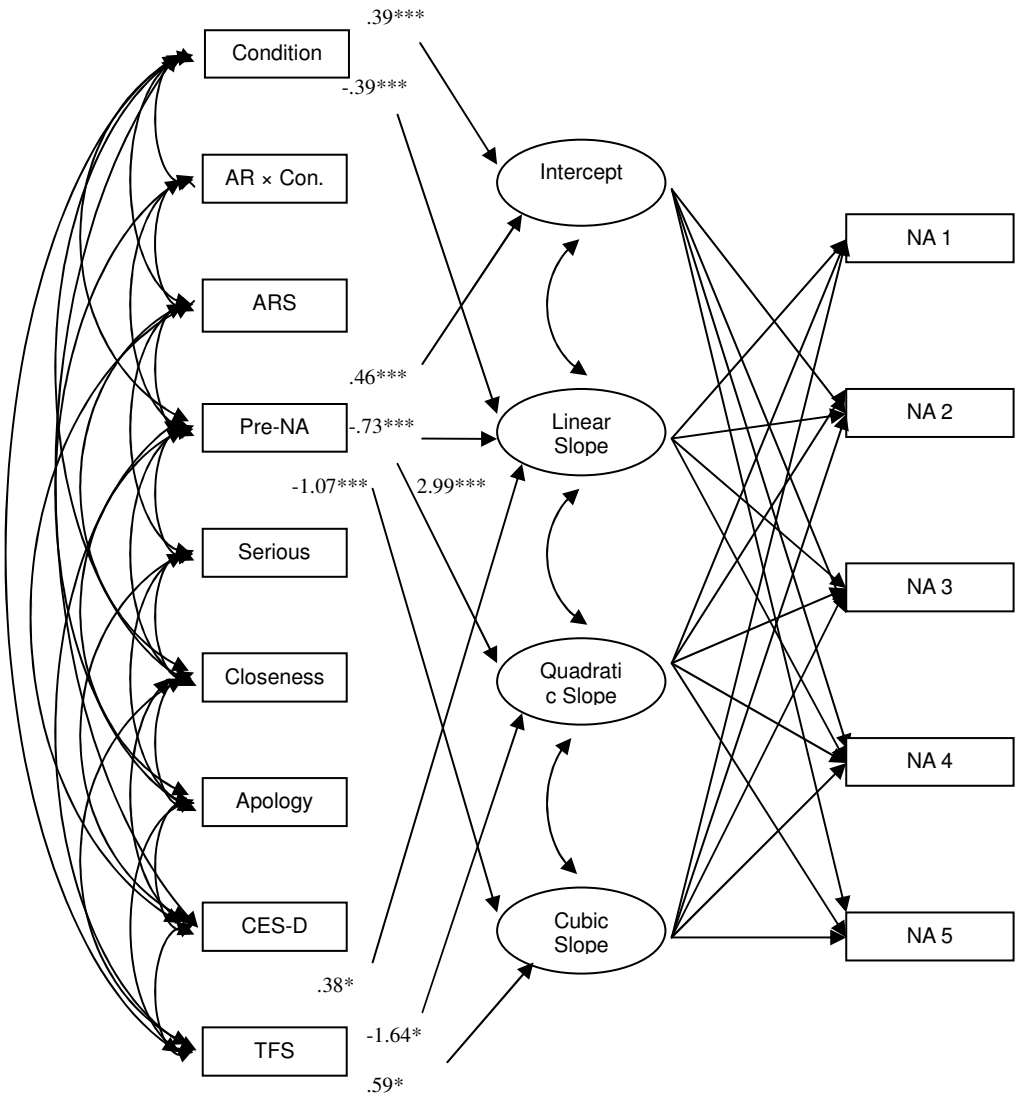


Figure 8

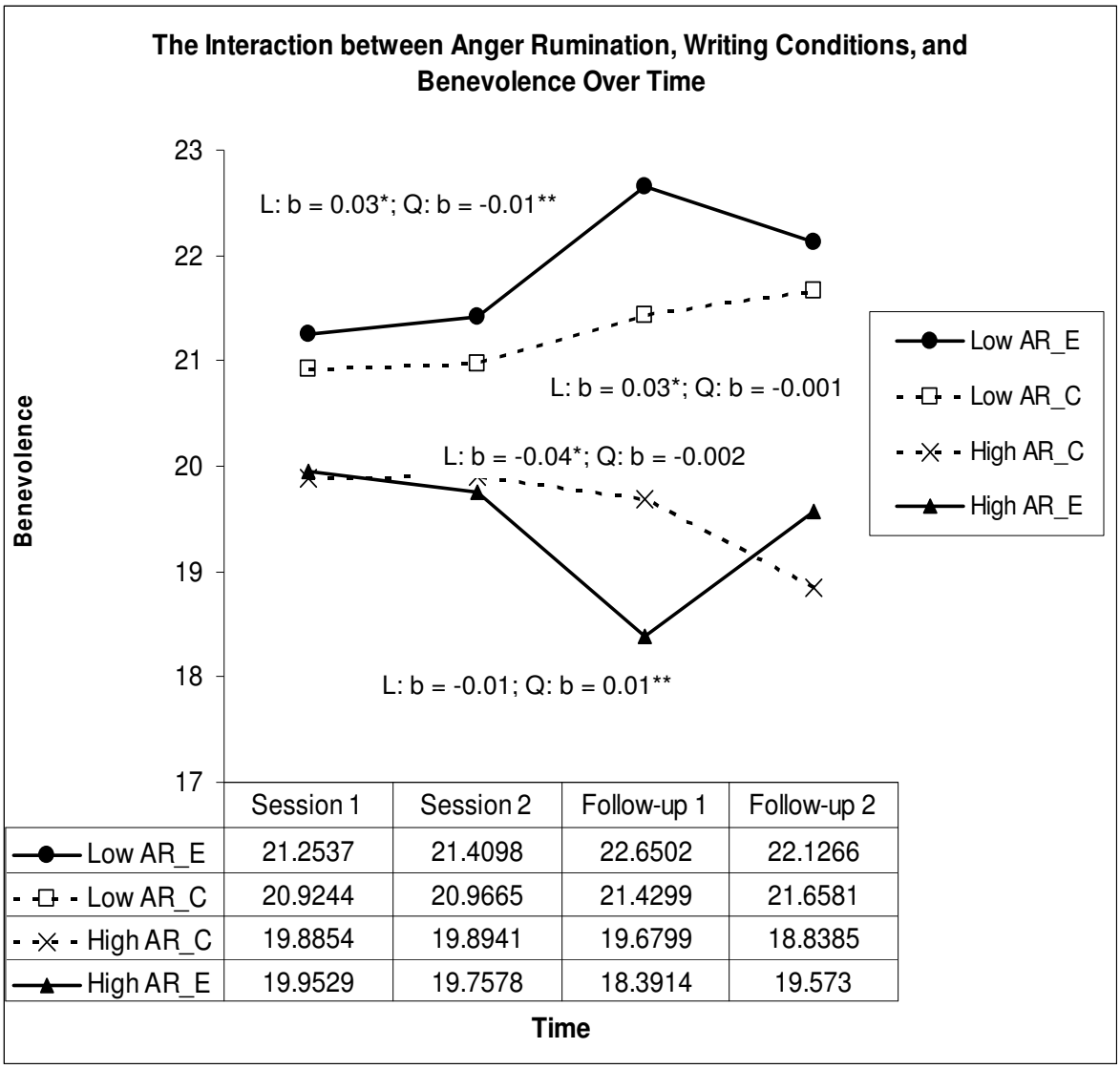
Latent Growth Model for Growth Factors and Predictors for Negative Affect.



Note: Only significant paths are drawn in the figure. Condition = experiential self-focus and control writing conditions (dummy coded as 1 and 0, respectively); AR × Con. = Anger Rumination × Condition; ARS = Anger Rumination Scale; Pre-NA. = Pre-writing Negative Affect Measure; Serious = Perceived seriousness of the interpersonal hurt; Closeness =

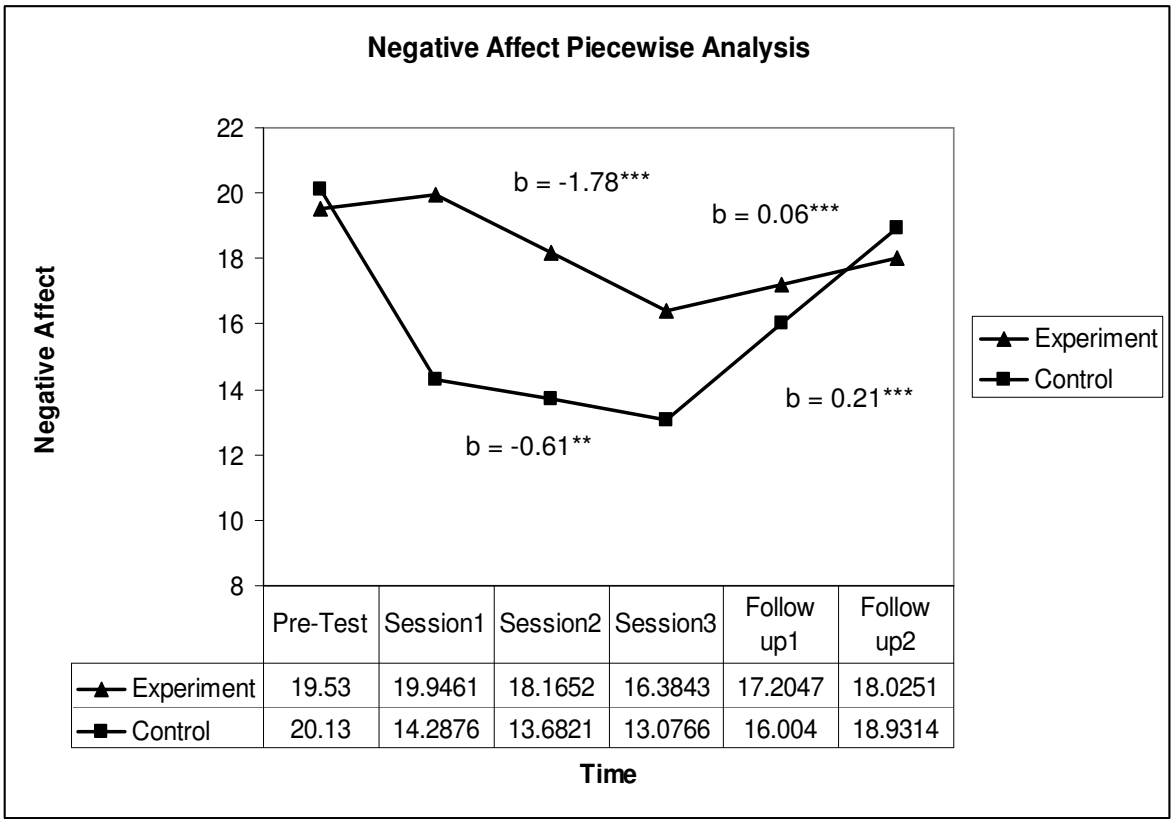
Perceived emotional closeness with the transgressor; Apology = Perceived apology from the transgressor; CES-D = the short version of the Center for Epidemiological Studies-Depression Scale; TFS = Trait Forgiveness Scale; NA 1-5 = Negative affect measured at the first, second and third writing sessions, and the first and second follow-ups.

Figure 9



	Session 1	Session 2	Follow-up 1	Follow-up 2
Low AR_E	21.2537	21.4098	22.6502	22.1266
Low AR_C	20.9244	20.9665	21.4299	21.6581
High AR_C	19.8854	19.8941	19.6799	18.8385
High AR_E	19.9529	19.7578	18.3914	19.573

Figure 10



	Pre-Test	Session1	Session2	Session3	Follow up1	Follow up2
Experiment	19.53	19.9461	18.1652	16.3843	17.2047	18.0251
Control	20.13	14.2876	13.6821	13.0766	16.004	18.9314

CHAPTER FIVE: DISCUSSION

The first purpose of the present study was to examine the effects of two different writing conditions on unforgiveness, benevolence, intrusive thoughts and negative affect among individuals who recently experienced real-life interpersonal hurt. The current result supports the first set of hypotheses for unforgiveness. Specifically, the average linear slope of unforgiveness for the experiential group decreased significantly over time. In contrast, the average linear slope of unforgiveness did not change over time for those in the control condition. This indicates that experiential self-focus processing helped individuals reduce their unforgiveness over time. This is consistent with Teasdale's (1999) proposition that experiential mode of processing facilitates processing of emotion-related events. Perhaps, individuals in the experiential self-focus condition had the opportunity for self-reflection and emotion-regulation (Teasdale et al., 1995) which in turn reduced their motivations to seek revenge and to avoid the transgressor. On the other hand, individuals in the control condition did not process their feelings surrounding the interpersonal hurt which might have resulted in no changes in their level of unforgiveness. The average level of unforgiveness among those in the experiential condition was not significantly different from those in the control condition after the writing intervention at the first follow-up assessment. In addition, the rate of change of unforgiveness over time in the experiential group was not significantly different from that of the control group. Perhaps, the study's sample was not large enough to detect differences between the two groups. Future research can examine this possibility.

The current finding indicates that individuals' average level of benevolence did not increase over time in the experiential condition, which did not support the hypothesis regarding benevolence. However, the result that those in the control group did not show

changes in benevolence was consistent with the hypothesis. The study's finding also indicated that the individuals' average level of benevolence after writing and rate of change over time were not significantly different between those in the experiential and those in the control conditions. In McCullough et al.'s (2003) study, it was found that people did not experience increases in benevolence over time. The current study extends this finding by suggesting that engaging in either a neutral task or experiential self-focus mode of processing of an interpersonal hurt has no effect on people's benevolence toward the transgressor. Perhaps, increasing one's goodwill or restoring positive relations with the transgressor requires more than processing the direct experience and the feelings at the time of the interpersonal hurt. McCullough et al. (2003) also indicated that cultivating benevolent feelings toward the transgressors is effortful and time-intensive. This suggests that perhaps the development of benevolence toward the transgressor requires a longer period of time than is measured in the current study.

The hypothesis regarding individuals' frequency of intrusive thoughts was not supported. The results showed that there were significant linear increases in the average rate of change of intrusive thoughts over time for both the control and the experiential self-focus groups. This indicates that in general, the frequency of intrusive thoughts increased linearly over time. The current finding revealed that the frequency of intrusive thought was not significant different between the two groups after the writing intervention at the first follow up. The result also indicated that the rates of change of intrusive thoughts over time were not significantly different between the two groups. In contrast, in Watkins' (2004) investigation of the two modes of processing and expressive writing, he found that individuals in the experiential writing condition had less intrusive thoughts measured 12 hours after the failure

experience than individuals in the conceptual-evaluative writing condition. However, participants' level of intrusive thoughts before writing was not controlled for in his study and thus it is not known whether the significant finding was due to the individual differences in intrusive thoughts among participants in the two groups. In addition, Watkins' study lacked a control group and thus, our finding expands on his study by showing that the effects of experiential writing and writing about a neutral topic on intrusive thoughts are not significantly different. The current result raises the possibility that, as Waktins himself stated, the conceptual-evaluative writing condition in his study, which has already been shown to be maladaptive to the experiential group, may also be maladaptive relative to the control group or to a normal process of recovery at Time 4 (12 hours after the failure experience). This possibility can only be confirmed in future research that includes all three writing conditions (i.e., conceptual-evaluative, experiential and control groups).

Although the results regarding intrusive thoughts are not consistent with the prediction from experiential mode of processing, the current study's finding is consistent with Lepore's (1997) study which demonstrated that writing about one's deepest thoughts and feelings about taking a stressful examination did not decrease the number of intrusive thoughts reported compared to the control group which wrote about daily neutral activities. Lepore and colleagues (e.g., Lepore, 1997; Lepore et al., 1996) indicated that their findings suggested that expressive writing promotes emotional adaptation to stressors by attenuating the negative emotional effects of intrusive thoughts associated with these stressors rather than by reducing the number of intrusive thoughts. Perhaps, the recall of the interpersonal hurt by all participants at the beginning of this study might have kept them thinking about the event and have intrusive thoughts it throughout the course of the study. It might be that filling out

some of the measures in the study which asked them to keep the event in mind while they answer made it impossible for people not to have thoughts about their previous hurt, thereby resulting in increases in intrusive thoughts over time in both conditions.

The first set of hypotheses was partially supported by the finding that across the two writing manipulations, average level of negative affect decreased significantly among those in the experiential condition. The reduction of negative affect in the experiential writing is consistent with the results from a meta-analysis of the expressive writing paradigm (see Sloan & Marx, 2004) which indicated that participants' self-reports of unpleasantness to each writing session decreased over time from the first to the last session. More importantly, the current study's finding supports the Interactive Cognitive Subsystems framework (ICS: Teasdale & Barnard, 1993) that processing information in an experiential mode is adaptive in promoting effective changes in emotional states (i.e., reduced negative affect) (Teasdale, 1999). According to ICS, effective emotional processing results from changes in affect-related schematic models. Perhaps, through writing about their subjective feelings and experiences during the interpersonal hurt participants in the experiential condition may have become aware of new feelings and thoughts in the present moment and develop new affect-related schematic models (e.g., I can still feel good about who I am even though my boyfriend broke up with me). These new schematic models may have in turn modified participants' previous affective schematic model (i.e., I see myself as a worthless person because boyfriend left me) and resulted in reduced negative affect during writing.

The results indicated that the average level of negative affect was significantly increased (i.e., slope = 0.06) from post intervention to four weeks for those in the experiential writing condition. However, the average increase in negative affect for those in the

experiential group was significantly less (i.e., difference in slope [Δb] is -0.15) than those in the control condition over the same post-writing period. This suggests that the experiential self-focus writing only slightly increase participants' negative affect after the writings were completed. Specifically, even though negative affect began to increase after the writing, experiential writing slowed down the rate of increases in negative affect during the follow-up sessions. It may be that participants in the experiential condition experienced increased self-reflection and improved self-regulation (Teasdale, Segal, & Williams, 1995), both of which helped to lessen the average increase in negative affect over time after writing intervention, relative to the control group after writing. Alternatively, it may be that working through a hurtful event through the experiential mode of processing helped participants gain new insight about the event which in turn rendered the memories of the event less negative over time (Lepore, 1997). Similarly, experiential processing may help one assimilate the hurtful event or to restructure their cognitions about the event (Pennebaker, 1989; Smyth, True, & Souto, 2001), which may facilitate individuals' adjustment to the event. These in turn slowed down the average linear increase in negative affect during the follow-up period.

It is noteworthy that the present finding is inconsistent with previous expressive writing studies which did not find main effects of different writing conditions on negative mood (i.e., Watkins, 2004; Lepore & Greenberg, 2008). Perhaps, in Watkins' (2004) study, there were no follow-up measures of negative affect and the participants wrote about an experimentally induced failure event rather than an interpersonal transgression from their real lives, which may produce more negative affect than the induced failure event. In Lepore and Greenberg's (2008) study, negative mood assessed involved specific moods including depression and anger which were different from the general negative affect measured in the

current study. The significant differences in the linear rate of change of negative affect between the experiential and control conditions in the present study were detected using the growth curve analysis. The current analysis thus differed from other writing studies in the literature (e.g., Watkins, 2004; Lepore & Greenberg, 2008; Lepore, 1997; Hunt, 1998) that assessed change based on the difference scores in negative mood scores at the end of each of the writing sessions rather than modeling individual changes over time as in growth curve analysis (Stull, 2008). Growth curve analysis in our study might have captured changes in negative affect over time that could have missed by the traditional methods of analysis. From the literature review, the current study appears to be the first study to examine changes in negative affect over time within the expressive writing paradigm. Thus the present study expands and contributes to the literature by suggesting that experiential writing reduces negative affect associated with an interpersonal hurt over time.

The study found that, as predicted, the average levels of negative affect were significantly higher among those in the experiential group (16.38) than among those in the control group (13.08). This finding is consistent with most written emotional expression studies that reported short-term distress increased by the writing task (see Smyth, 1998). This result is not surprising given that the participants in the experiential writing condition were asked to confront a distress-provoking event in their lives during writing whereas participates in the control condition were not. However, it was discussed previously that the participants in the experiential condition experienced a significant faster rate than that in the control group in decreasing their negative affect over the three writings but a slower rate of increase in negative affect in the follow-up sessions.

Writing about a neutral topic also significantly reduced the average levels of negative

affect across the three writings among those in the control condition. Because participants in the control condition were not thinking about an upsetting event, their negative effect decreased over time during the writing manipulation. The control condition may have served as a distraction, which has been shown to temporarily lift people's mood (e.g., Lyubomirsky & Nolen-Hoeksema, 1993; Nolen-Hoeksema & Morrow, 1991), from the distressful event. However, the average levels of negative affect increased significantly across the four weeks following the intervention for those in the control group (slope = 0.21). This suggests that the reduced negative affect engendered by the writing was not maintained over time in the control condition. In addition, participants' average increase in the negative affect for those in the control condition was significantly faster (difference in slope is -1.15) than those in the experiential condition over the same post-writing period. This suggests that without processing the subjective experience of the interpersonal hurt, when the control participant return to thinking about it, their negative affect increased at a faster rate than those in the experiential group.

The study's finding provides partial support for the second set of the hypotheses regarding the beneficial effect of experiential writing on benevolence. The result found that individuals with high anger rumination in the experiential writing condition experienced a quadratic pattern of change in slope over time. Specifically, over the course of the study, individuals' average slope of benevolence first decreased and then increased again at the end of the study (see Figure 6). This suggests that following experiential processing, there would be a decrease in benevolence at first but it would increase again over time. Perhaps, initially, experiential mode of thinking has little impact on individuals with habitual ruminating thinking about anger events. However, over time, new insight and schematic models gained

during experiential writing may begin to influence the content of individual's anger rumination and enable individuals to form benign and positive appraisals toward the transgressor (Lepore, 1997) and foster benevolence. Perhaps, individuals may start to think about the interpersonal hurt in an experiential mode after the writing manipulation. This mode of thinking (i.e., paying attention to the present moment and feelings) may have occupied resources in cognitive information processing that would normally be used by ruminative thought processes (Segal, Williams, & Teasdale, 2002). This may have helped disengage individuals from their self-perpetuating ruminative cycles and foster benevolence (Segal et al., 2002, p. 42). However, it should be noted that, for those with high anger rumination, the average level of benevolence in the experiential condition was not significantly higher than the control condition, suggesting that experiential writing did not have a strong effect on benevolence relative to the control condition.

Emotionally focused therapy delineates that the core of the therapeutic process involves assessing clients' primary emotions and exploring their emotionally based needs/goals underlying these emotions (Greenberg & Paivio, p.121). An example of an emotionally based need underlying the emotion of anger, one of the primary emotions associated with interpersonal hurt (McCullough et al., 2003), is intimacy or connection with others. This suggests that following an interpersonal hurt, individuals may feel angry because their need for interpersonal closeness or connection is no longer being met as a result of the loss of the relationship with the transgressor. However, once the hurtful emotion is accessed, this interpersonal closeness need is likely to be recognized. Individuals will be likely to develop new feelings and behaviors to help them meet this need. Following this reasoning, perhaps in the current study, through exploring and being aware of their feelings, individuals

in the experiential self-focus writing condition realized that they need interpersonal connection and would thus like to re-establish the relationship with the transgressor. This in turn may increase their feelings of benevolence after the writing. In contrast to the experiential condition, participants with high anger rumination in the control group experience a significant linear decrease in their level of benevolence. Perhaps, writing about a topic that is irrelevant to the previous hurtful event may have prevented the participants from resolving their feelings and thoughts associated with the event and reduced the likelihood that they will develop benevolent feelings toward the transgressor.

For individuals with low anger rumination in the experiential condition, they experienced a significant average increase in benevolence over time. This indicates that experiential writing enhanced the increases in benevolence among individuals with low anger rumination. In addition, the results showed that these individuals also experienced a significant quadratic pattern of change in benevolence over time. In particular, there was an average increase in benevolence followed by an average decrease in benevolence over time. There might be a ceiling effect for this group in that the participants' level of benevolence reached the highest point after writing and could only return to the initial level during the follow up sessions. Alternatively, thinking and writing about the interpersonal hurt increased one's goodwill toward the offender after the writing but it could not be maintained over the follow-up period. In contrast, individuals who have low anger rumination in the control condition demonstrated a significant average increase in benevolence over time. This suggests that people with low anger rumination are likely to experience increase their goodwill for the offender by not thinking about the interpersonal hurt. Alternatively, this may suggest that individuals' benevolence would increase over time when their anger rumination

is low.

It is noted that the writing conditions did not moderate the relationship between anger rumination and unforgiveness or the negative motivation of forgiveness (i.e., avoidance and revenge) but was a moderator for anger rumination and benevolence or the positive motivation of forgiveness. This finding underscores the distinctiveness of the positive and the negative interpersonal motivations or forgiveness. More broadly, it is consistent with the theorizing of the independence of positive and negative emotional states (Fredrickson, 1998, 2001). The present finding adds to previous research which also demonstrated differential effects for different transgression-related interpersonal motivations (Fincham, 2000, McCullough et al., 2003; Tsang et al., 2006). The present results suggest that experiential mode of writing has beneficial effect on benevolence or the positive motivation of forgiveness but not on avoidance or revenge or the negative motivation of forgiveness among individuals with high anger rumination.

Limitations

The study has several limitations that should be kept in mind in interpreting the results. First of all, there was not a true control group in the study wherein participants did not write anything during the study. Without this control group, it could not be determined whether the effects of the control or experiential group on unforgiveness, benevolence, intrusive thoughts and negative affect were due to the effect of writing. Similarly, participants in the control condition were asked to recall an interpersonal hurt before the writing interventions as participants in the experiential group. Perhaps the recall of a specific event in the first session had led participants in the control group to be suspicious of the purpose of the study and this could have biased or confounded their results by them behaving in ways to

confirm the experimenter's hypotheses. Second, the measures used in the study were based on self-reports and not on objective actual behavior such as avoidance and revenge behavior which are indicators of unforgiveness. Third, the current study was conducted among undergraduate students, thus the results can not be generalized to adults living in the community. However, the wide range of the types of interpersonal hurt experienced by the current sample suggests these experiences may not be only limited to undergraduate students and thus may have broad implications. The current study recruited undergraduate students because this population does experience interpersonal hurt that can result in emotional distress and grief responses. Thus, this sample was suitable for exploring the effects of writing on distress reactions limited to these events. Similarly, generalizing the study's results to culturally diverse populations needs to be done with caution until the study is replicated in these groups. For example, Asians value emotional self-control (Kim, Atkinson, & Yang, 1999) which is the opposite of experiential processing which involves exploring and expressing one's emotions. It is not known whether engaging in experiential mode of processing emotions would be a foreign and difficult task for Asians and thus not as effective as for Caucasians.

Future Research Directions

As discussed previously, there are some limitations with the design of the control group in the current study. Future study could set up a control group wherein participants are asked to write about a specific topic assigned by the experimenter that is removed from their personal lives or emotions. An example of a topic is "please describe the Greenhouse Effect". Future study may also examine the effects of experiential writing on specific interpersonal hurt among college students including romantic relationship break-up and parental conflict. Lepore and

Greenberg (2008) investigated the impact of expressive writing on psychological adjustment following a relationship breakup and found that writing buffered the effect of incomplete cognitive processing on upper respiratory symptoms. Specifying the interpersonal hurt would help us understand whether experiential writing has differential benefits for different types of interpersonal hurt experiences. Moreover, previous writing intervention studies have long follow-up periods such as a 4-month (Lepore & Greenberg, 2002) or a 6-month follow up (Gortner, Rude, & Pennebaker, 2006) after the completion of writing assignments. Future studies can extend follow-up session to a longer period than that of the present study; this may help examine whether the beneficial effect observed in this study can be maintained and may increase the power to detect changes in unforgiveness (i.e., revenge and avoidance). Studies that adopted the Pennebaker and Beall (1986)'s written emotional expression intervention have shown the efficacy of this intervention in improving psychosocial adjustment as well as physical health including reduced illness symptoms (Greenberg & Stone, 1992) and enhanced immune functioning (Pennebaker, Kiecolt-Glaser, & Glaser, 1988). Future study could examine the effect of experiential mode of processing an interpersonal hurt on physical health and physiological arousal/activation (e.g., tension, fatigue) (Lepore & Greenberg, 2002). Future study could also explore whether experiential writing has any effect on the valence and the content of the intrusive thoughts. Specifically, although there was no difference in the frequency of intrusive thoughts experienced for the participants in the experiential and the control conditions, the nature of the intrusive thoughts experienced may be different. Additionally, future studies could extend the current finding of the buffering effect of writing on benevolence to other positive emotions including empathy, compassion, and positive affect.

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Implications for Counseling

The study's finding has clinical applicability for those who have recently experienced interpersonal hurt. It suggests that training experiential self-focus processing mode to these individuals may help reduce their negative affect associated with the hurtful event during the writing and slowed down the average increase of negative affect after the writing. Specifically, the study indicates that promoting individual's awareness of their subjective feelings and experiences may be beneficial for regulating their negative emotions from the interpersonal hurt. It is noted that cultivating and increasing self-awareness is consistent with the central tenets of mindful therapy, shown to be effective in disrupting the maintenance of depressed mood (Teasdale et al., 2000), which highlights the importance of awareness of moment-to-moment thoughts and feelings as in experiential self-focus processing. The findings also provide encouraging empirical support for the utility of experiential mode of processing in promoting average increases in benevolence among individuals with the tendency to ruminate about past angry episodes. Other research has indicated that decreased unforgivenesss and increased benevolence are likely to help individuals experience increases in closeness and commitment with their transgressors (Tsang et al., 2006), thus further promoting relationship repair and reconciliation. Given that the experiential self-focus writing is a cost-effective intervention, clinicians can include this as part of the homework assignment for clients who tend to ruminate on anger-related events outside the clinical sessions. The beneficial effects of the experiential writing also suggest that it may be helpful to incorporate this specific mode of writing as an adjunct into recently developed forgiveness intervention programs (e.g., Baskin & Enright, 2004; Wade & Worthington, 2005).

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