

ABSTRACT

A Theory of Forgiveness Motivations

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Previous social psychological work in forgiveness has focused on the motivations for revenge, avoidance, and benevolence. These motivations are used primarily as a way of measuring forgiveness. McCullough et al. (2000) suggest that a decrease in the motivation for revenge and avoidance, and an increase in the motivation for benevolence constitute forgiveness. This theory, however, does not explain what happens when a victim chooses revenge or avoidance following an offense instead of forgiving. This theory also does not integrate other theories of motivation. One possible theory of motivation is the Two Process Model (TPM, Sheldon 2011). In this theory, experiencing a psychological need (competence, relatedness, or autonomy) leads to a desire to satisfy the need, which will lead to a behavior that will satisfy the need. This paper combines the theory of forgiveness motivations with TPM suggesting that an interpersonal offense leads to a psychological need which will lead to the motivation for revenge, avoidance, and benevolence. It is further suggested that only forgiveness will lead to need satisfaction, while revenge and avoidance are mechanisms for preventing further need depletion. Two online studies were conducted to validate the model along with one lab

study that attempted to further examine the model. The results showed that offenses had no effect on need satisfaction. Revenge, avoidant, and benevolent motivations were affected by revenge, avoidance, and forgiveness. This suggested that any response does in fact affect forgiveness motivations. There was, however, no pattern for the results. Future work should attempt to examine if there is a pattern in forgiveness motivations following an offense response. Significance, limitations and suggestions for future work are also suggested.

A Theory of Forgiveness Motivations

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DEDICATION

For my wife and son, my ultimate cheerleaders

CHAPTER ONE

Introduction

Humans are social animals and we thrive in groups. In fact, we survive better in groups (Cosmides & Tooby, 1989). However, part of group life is coping with times when a person, often a group member, offends us. Researchers have been examining ways people respond to offenses. Forgiveness is one potential way to alleviate the negative feelings that result from a transgression. The effects of situational determinants and personality characteristics related to forgiveness, revenge, and avoidance have been investigated with emphasis having been on forgiveness. This project will present a theory of forgiveness incorporating revenge and avoidance, using the Two Process Model (TPM; Sheldon, 2011) of psychological needs as a theoretical framework. This work will study two areas of research that forgiveness researchers have neglected. First, it will examine how the different forgiveness motivations lead to different responses to offenses. Second, it will also begin to explore some of the outcomes that result from taking revenge and avoiding an offender.

Forgiveness

Several definitions of forgiveness exist. McCullough, Pargament, and Thoresen (2000) define forgiveness as a “prosocial change toward a perceived transgressor” (p. 9). Enright and Coyle (1998) define forgiveness as being willing to “abandon one’s right to resentment, condemnation and subtle revenge” (p. 108). This definition suggests there are affective, cognitive, and behavioral components of forgiveness, and all are necessary.

Although the definitions vary, one similarity is that forgiveness is a conscious process in which the person decides to forgive and then works toward forgiveness (cf., Karremans & Van Lange, 2010). Although there is disagreement about how to define forgiveness, there is agreement about what forgiveness is not. All theorists agree forgiveness is not condoning, excusing, pardoning, forgetting, or denying (Enright & Coyle, 1998).

According to Enright and Coyle, pardoning refers to the offender being absolved from legal action due to the offense. Although pardoning can happen when forgiveness is extended, it is not necessary. Condoning happens when the offended person justifies the offense; in these cases, forgiveness is no longer required. Excusing implies the victim believes there is a justifiable reason the offense was committed. Forgetting and denying do not alter the view of the offense for the victim, and all theorists agree this is important for forgiveness.

Despite all the research previously done there is little theoretical work guiding research. The existing theories are of two types: intervention theory and social psychological theory. The intervention work has been done by Worthington and colleagues (Wade & Worthington , 2005; Worthington , 2006) and Enright and colleagues (Baskin & Enright, 2004; Enright & Fitzgibbons, 2000; Enright & the Human Development Study Group, 1991).

Intervention Theory

Worthington and colleagues (Wade & Worthington , 2005; Worthington , 2006, 2009) propose forgiveness is an internal process that can be achieved through psychological work. In this conception forgiveness does not need to involve the original offender. Around this definition Worthington (2001) has developed a five step process of

forgiveness: the REACH model. In the first step of the process the person is asked to recall (R) the offense. Building empathy (E) for the offender is the focus of the next step. Then they are to give an altruistic (A) gift of forgiveness to the offender. In this step, the person commits to forgiving the offender, usually accomplished in part by having the person remember times when they themselves have hurt others. In the fourth step the person is to publicly commit (C) to the forgiveness they have extended. This need not be to the offender, but can be done to a close friend, even spoken out loud privately, or in writing. This step is meant to help people hold (H) onto their forgiveness when they begin to doubt it in the future. The REACH model has been effective in increasing forgiveness.

McCullough and Worthington (1995) compared two interventions that both used versions of the REACH model. One intervention encouraged participants to forgive because it is good for the forgiver, the other encouraged participants to forgive to restore the relationship with the offender. They found that both interventions increased forgiveness and increased desire to reconcile. McCullough, Worthington and Rachal (1997) examined empathy as it relates to the REACH model in a group of college students who had a specific person in mind they wanted to forgive. Using the REACH model as a framework, two interventions were developed; an empathy-focused intervention, and a non-empathy intervention. They also used a waitlist control group. The empathy group differed from the non-empathy group in that the empathy group focused on creating empathy for the offender while trying to forgive. The non-empathy group only talked about forgiving the offender. Both the empathy and non-empathy

groups increased in forgiveness over the control group; additionally the empathy group increased in forgiveness over the non-empathy group.

There are many similarities between Worthington's (2001) REACH model and Enright and the Human Development Group's (1991) process model. Although many of the steps in the two models are the same, the order of the steps is a difference. Enright and colleagues developed a 20-step forgiveness intervention grouped into 4 phases. The first phase is called the uncovering phase, and is similar to the recall step in Worthington's model. During uncovering, participants explore the hurt that was caused to them by the offense. The second part is the decision phase, in which the person is to commit to forgive. The next phase, the work phase, is where the two models differ slightly. The person is to try and forgive, develop empathy for the offender, reframe the offense, and accept the hurt caused. In Worthington's model the person commits to forgive after developing empathy for the offender. Enright's model, on the other hand, switches these two steps. In the outcome phase the person examines the effect of forgiving the offender.

Hebl and Enright (1993) examined the process model of forgiveness with a sample of elderly women all trying to overcome an offense. They used a control group, a waitlist control group, and an experimental group. The experimental group went through an intervention based on the process model. Participants in the experimental condition were taught about forgiveness during eight group sessions. At the end of the intervention both the experimental group and control groups were given measures of forgiveness. Forgiveness increased in the experimental group participants when compared with the control groups. The model was further validated with incest survivors. Freedman and

Enright (1996) compared a waitlist control group with a treatment group that received a forgiveness intervention. The treatment group had higher levels of forgiveness than the control group.

Al-Mabuk, Enright, and Cardis (1995) used a sample of college students who felt they had been denied love by their parents. A control group received a social skills development class, whereas an experimental group went through a forgiveness intervention. Al-Mabuk et al.'s use of a positive control in this study provided a more stringent test of the model. Across two studies the process model of forgiveness increased forgiveness over and above the social skills development class. Across these three studies (Al-Mubak et al., 1995; Freedman & Enright, 1996; Hebl & Enright, 1993) forgiveness increased in the experimental group over the control group.

Baskin and Enright (2004) examined all of the forgiveness intervention studies that had been published to date. They grouped the studies in one of three types of interventions: a process group, process individual, or a decision based intervention. The process group interventions are interventions that view forgiveness as a process rather than a decision and used a group setting. The process individual interventions also viewed forgiveness as a process, but used individual sessions instead of group sessions. The decision based interventions are ones that tried to help participants make the decision to forgive. Baskin and Enright showed that process approaches, whether group or individual, increased forgiveness over a control group, but decision based interventions showed no differences from control groups. They concluded that the process interventions increase forgiveness, but the decision based interventions do not.

Worthington (2006, 2009) also posits that following an offense a gap in relationship equality is created, this inequality is called the injustice gap. When an injustice gap occurs the victim will want to reduce or eliminate the gap, reestablishing justice. Worthington (2006, 2009) suggests there are several ways the injustice gap can be reduced or eliminated: through revenge, avoidance and forgiveness. Worthington warns, however, that revenge and avoidance cannot completely close the injustice gap. For example, when a victim chooses avoidance or revenge, the offender will now feel offended due to the victim's actions, and the offender becomes a victim as well. Now both parties feel an injustice gap. This motivates the original offender to seek revenge or avoidance, which in turn increases the original victim's gap. The continual reciprocation of avoidance and revenge will lead to a cycle of injustice with the gap never being closed. This has many similarities with equity theory (Hegtvedt, 1990; Paleari, Regalia, & Fincham, 2011). According to Worthington, the only way the injustice gap can be closed is through forgiveness.

Social Psychology and Forgiveness

Although a considerable amount of work has been done on forgiveness and counseling (Baskin & Enright, 2004; Freedman & Enright, 1996; McCullough & Worthington, 1995), this work has focused more on ways to encourage people to forgive, and helping people overcome difficulties in forgiving. A social psychological theory would explain how forgiveness operates, and why forgiveness happens in one situation and not another. It would also attempt to explain mechanisms of forgiveness. The social-psychological model of forgiveness suggested by McCullough and colleagues (McCullough & Hoyt, 2002; McCullough & Witvliet, 2002; McCullough et al., 1998)

posits that forgiveness is a change in three types of motivations: revenge, avoidance, and benevolence.

McCullough and colleagues applied Gottman's (1993) work on married couples and divorce to forgiveness. Gottman (1993) posited three types of emotional responses characterizing conflicts in marital relationships: hurt or perceived attack, righteous indignation, and a general positive feeling. McCullough and colleagues (McCullough, 2001; McCullough, Bono, & Root, 2007; McCullough et al., 1998, 1997) suggest that these three responses to relationship conflict correspond to systems of motivation that determine how people react to being offended. The first system is the desire to avoid the offender, and corresponds to hurt or perceived attack. The second system is the desire to seek revenge for an offense, and corresponds to righteous indignation. The last system is the desire to be benevolent toward the offender, and corresponds to the general positive feelings. Forgiveness then becomes a decrease in the motivation to seek revenge on the offender, a decrease in motivation to avoid the offender, and an increase in the motivation to show benevolence toward the offender.

In support of the motivation model of forgiveness, McCullough, Bellah, Kilpatrick, and Johnson (2001) showed that forgiveness is decreased when a person feels more vengeance and ruminates about an offense. They conducted three studies and all showed that an increase in rumination and vengeance decreased forgiveness as measured by revenge and avoidant motivations. Although there is little theoretical work examining mechanisms of forgiveness and how they relate to each other, there is a large body of research that examines how different constructs are related to forgiveness.

Correlates of Forgiveness

Much of forgiveness research has examined how different variables either increase or decrease the likelihood of forgiveness. There has been very little work integrating these variables together. In a recent meta-analysis, Fehr, Gelfand, and Nag (2010) examined correlates of forgiveness and organized them into what they called the tripartite typology of forgiveness. They suggest that when a person forgives, a change happens through cognitions, affect, and relational and socio-moral constraints. Fehr et al. (2010) further explain that these three types of correlates can be either situational or dispositional in nature. Each correlate will be discussed individually in the next section.

Cognitive Situational

The cognitive situational aspects affect how a victim views the offense. The correlates from this category discussed by Fehr et al. (2010) are intent, apology, harm severity, and rumination. Restitution, another cognitive situational correlate not discussed by Fehr et al. (2010), is also reviewed here.

Intent. Intent is defined as how purposeful the person perceives the offender to have been when committing the offense. Intent is thought to affect forgiveness by changing the way a victim perceives the offender (Fehr et al., 2010). When a victim contemplates forgiving the offender the victim makes inferences about the cause of the behavior. To a victim, a deliberately hurtful action is perceived as worse than an accidental one because the action is perceived as telling more about a person's nature (Fein, 2001). McCullough et al. (2003) had participants write about past offenses and found that when offenses were perceived as more intentional, victims forgave less. In a

study demonstrating the causal effect of intent, Struthers, Eaton, Santelli, Uchiyama, and Shirvani (2008) paired participants with a confederate and asked participants to answer questions on a computer. Attached to the computer was a joystick. Participants were instructed not to touch the joystick because it would cause a loss of data. The confederate at some point in the study touched the joystick either accidentally or intentionally. Participants forgave less when the joystick was touched intentionally compared to unintentionally. Consistent with these past studies, Fehr et al. (2010) found a moderate effect of intent on forgiveness. Overall research has shown that when an offense is seen as intentional it is forgiven less than when the offense is perceived as accidental.

Apology. Apology is thought to affect forgiveness by increasing empathy toward the offender (McCullough et al., 1998). Unfortunately, research on the relationship between apology and forgiveness has resulted in inconsistent outcomes. Recall and survey methods have shown that forgiveness is increased by an apology (Takaku, Weiner, & Ohbuchi, 2001; Witvliet, Ludwig, & Vander Laan, 2001). Studies with lab-based offenses have been less consistent than studies using recalled offenses. Some studies have shown that apology increases forgiveness (Bottom, Gibson, Daniels, & Murnighan, 2002; Green, Burnette, & Davis, 2008). Bottom et al. (2002) studied the effectiveness of apology in promoting forgiveness for non-cooperation in a prisoner's dilemma game. The partner was a preprogrammed computer, and after defecting it apologized during the course of the game. Participants were more likely to forgive "partners" who offered an apology. Other experimental studies have shown that apology decreases forgiveness (Eaton, Struthers, Shomrony, & Santelli, 2007; Ohbuchi, Kameda,

& Agarie, 1989; Weiner, Graham, Peter, & Zmuidinas, 1991). Struthers et al. (2008), described above, examined the effect of apology. In their study they showed that when the offense was intentional and the offender apologized there was less forgiveness than when the offense was intentional and the offender did not apologize. This suggests that the relationship between apology and forgiveness may be more complicated than simply the presence or absence of an apology.

Fehr and Gelfand (2010) criticize this past research because it viewed apology as a dichotomous variable: either there was an apology or there was no apology. They argue that apology is more complex than just a dichotomous situation. An apology can consist of three components: 1) offers of compensation, 2) expressions of empathy, and 3) acknowledgement of a violated rule or norm (Fehr & Gelfand, 2010). The relationship between apology and forgiveness is not as simple as having one or more of these components.

A person's view of the world and what influences the interpretation of events, known as self-construal, can affect a victim's reactions to an apology. A strong collective self-construal, or emphasizing group affiliations as important to one's sense of self, would make offender acknowledgement of a violated rule or norm more effective at increasing forgiveness. However, an interpersonal self-construal, seeing relationships with others as important, would make offender expressions of empathy more effective. On the other hand, a personal self-construal would make offers of compensation more effective. Fehr and Gelfand (2010) had participants read different offense scenarios and apologies to these offenses. Aspects of the apology were manipulated across the scenarios. For participants who had a strong personal self-construal, offers of

compensation increased forgiveness, whereas for those with an interpersonal self-construal, expressions of empathy increased forgiveness. However, acknowledgement of violation of norms was effective at increasing forgiveness for those with a strong collective self-construal. This study has started to explain the conflicting results about the effectiveness of apologies (Fehr & Gelfand, 2010). Even with some disparate findings in general the research suggests apologies increase forgiveness. Fehr et al. (2010) support this previous research, showing that apology had a moderately positive effect on forgiveness.

Harm severity. Despite the intuitive connection between severity and decreased forgiveness, few explanations exist for this link (Fincham, Jackson, & Beach, 2005). However, there has been ample research showing a link. For example, when reading offense scenarios with a more severe offense, participants wanted a stronger apology in order to forgive the offender (Ohbuchi et al., 1989). Boon and Sulsky (1997) had participants rate the forgivability of a series of offenses, and as severity increased, forgivability decreased. Darby and Schlenker (1982) showed that young children who observed actors committing a transgression were less likely to indicate they would forgive the offender when the offense was more severe. Overall the perceived severity of an offense has been shown to decrease forgiveness. Fehr et al.'s (2010) meta-analysis supported the past research and showed a negative relationship between harm severity and forgiveness.

Rumination. Scott and McIntosh (1999) define rumination as “negative thoughts that result from blocked goal pursuits” (p. 1046). Brown and Phillips (2005) asked

participants to recall an offense and showed that the more the victim ruminated about the offense the less they forgave the offender. McCullough, Bellah, Kilpatrick, and Johnson (2001) suggested that rumination might serve the vengeful person by helping to keep revenge goals prominent, and would result in less forgiveness. They found over an eight-week period that vengefulness increased rumination, and rumination in turn decreased forgiveness. They also found that a decrease in rumination increased forgiveness and decreased vengefulness. McCullough et al. (2007) showed in three longitudinal studies that when a person increases the amount of rumination about an offense, there are increases in the motivations of revenge and avoidance, and decreases in benevolence toward the offender. Fehr et al. (2010) further supported these results showing rumination was moderately negatively related to forgiveness. Rumination encourages the person to think over and over about the offense, which will only strengthen the negative emotions and feelings that surround the offense. Although people need to think about an offense in order to forgive someone for it, rumination is a hindrance of forgiveness.

Restitution. Across many studies restitution for an offense has been shown to increase forgiveness (Ohbuchi et al., 1989; Weiner et al., 1991; Witvliet, Hinze, & Worthington, 2008; Zechmeister, Garcia, Romero, & Vas, 2004). Carlisle et al. (2012) induced a transgression, and examined the effects of restitution on forgiveness. Participants thought they were working with another student in a resource distribution study. During the first round the fake participant only gave 2 of 10 tickets to the real participant, which functioned as a transgression. In Round 2 some participants received restitution by receiving 9 of 10 tickets from the fake participant. The results showed

restitution increased a behavioral measure of forgiveness, operationalized as distribution of tickets by the real participant in Round 3.

Cognitive Dispositional

The cognitive situational correlates will be different for every offense situation, whereas the cognitive dispositional correlates are personality characteristics that will affect the thoughts and attitudes a victim has about every offense. The ones discussed by Fehr et al. (2010) are agreeableness, perspective taking, and trait forgiveness.

Agreeableness. Agreeableness is a person's ability to get along with others, and is the personality dimension that is most often linked with forgiveness. McCullough et al. (2001) have found that agreeableness is related to increased forgiveness; however, these data and other similar studies (Berry, Worthington, Parrott, O'Connor, & Wade, 2001) have been criticized for not examining how personality measures affect forgiveness for specific transgressions (McCullough & Hoyt, 2002). In order to fill this gap, McCullough and Hoyt (2002) examined descriptions of actual offenses, and aggregated the scores on those offenses. They found agreeableness predicted greater forgiveness over the aggregated offenses. McCullough (2001) suggested people high in agreeableness were less likely to feel revenge motivations toward an offender. Fehr et al. (2010), in their meta-analysis, also found a moderately positive relationship between agreeableness and forgiveness.

Perspective taking. Perspective taking is the act of attempting to see the world from another person's viewpoint. Perspective taking can increase empathy, lead to an offense being seen as less intentional, or lead to an understanding of the offender's

intentions (Exline, Baumeister, Zell, Kraft, & Witvliet, 2008). According to Exline and Zell (2009), when people take the perspective of the person who offended them, or think about a similar offense they have committed, they are more likely to forgive. Exline et al. (2008), in a study that used hypothetical scenarios, participant recall of offenses and even attitudes toward group atrocities, found when people see themselves as capable of committing a similar offense they are more likely to forgive. Fehr et al.'s (2010) meta-analysis also showed that perspective taking had a moderately positive relationship with forgiveness.

Trait forgiveness. This has also been described as *forgivingness* (Roberts, 1995), or the general tendency a person has to forgive another. Berry et al. (2001) found that trait forgiveness is related to forgiveness for a specific offense. They also found that a measure of trait forgiveness is negatively related to anger, hostility, and neuroticism, but positively related to agreeableness. Fehr et al.'s (2010) study showed trait forgiveness is moderately related to forgiveness.

Affective Situational

The previous correlates all affected how a person views an offense. The affective correlates are the moods and feelings that a victim experiences after an offense. The affective situational correlates discussed by Fehr et al. (2010) are positive mood, negative mood, state empathy, and state anger.

Positive and negative mood. Moods influence forgiveness, as shown in the “mood as input” theory. Moods are attached to salient aspects of a situation that then affect how a person responds to that situation (Clore, Schwarz, & Conway, 1994; Martin,

Ward, Achee, & Wyer, 1993). To examine positive and negative moods' effect on forgiveness, Aquino, Tripp and Bies (2006) asked utility workers to complete a survey about workplace offenses. Aquino et al. analyzed the factors that encouraged people to forgive and found negative mood did not affect whether a person forgave; however, it did positively predict whether a person would seek revenge. According to some researchers, seeking revenge is a proxy for forgiveness or more accurately, unforgiveness (Karremans, Van Lange, & Holland, 2005; Worthington, Witvliet, Pietrini, & Miller, 2007). In a study of workplace retaliation, employees of a manufacturing plant completed surveys of workplace offenses. In these offenses negative mood increased the likelihood of retaliatory behavior (Skarlicki, Folger, & Tesluk, 1999). Fehr et al. (2010) showed that positive mood was not related to forgiveness, whereas negative mood was related to forgiveness. There is a need for more research on the effects of negative and positive mood on forgiveness; however, the little that exists suggests that negative mood decreases forgiveness, but positive mood might only have a slight effect, if any.

State empathy. State empathy, or feeling empathy in a specific situations, has been shown to increase forgiveness (McCullough & Witvliet, 2002; McCullough et al., 1998). In a study discussed earlier, McCullough et al. (1997, Study 1) showed that in an empathy-based intervention, the apology and forgiveness relationship was mediated by empathy. Empathy has a strong positive relationship with forgiveness (Fehr et al., 2010; Fincham, Paleari, & Regalia, 2002; McCullough, 2001; Toussaint & Webb, 2005; Tsang, McCullough, & Fincham, 2006).

State anger. There is little direct evidence that anger will affect forgiveness, but anger has been associated with retaliation and aggression, which decrease forgiveness. Huang and Enright (2000) examined the facial expressions and behavior of people describing a forgiven offense. While talking about the offense people who had forgiven out of obligation showed more angry behaviors and expressions than those who forgave out of love. Fehr et al. (2010) supported this study, showing state anger was moderately related to forgiveness.

Affective Dispositional

The affective situational correlates are aspects of the specific situation that affect the emotions of the victim. The affective dispositional are characteristics of the person that affect the victims' emotions. The correlates discussed by Fehr et al (2010) are empathic concern, trait anger, neuroticism, and self-esteem.

Empathic concern. Empathy is an other-oriented emotion characterized by feelings of sympathy, compassion, and tenderness toward others (Batson, Eklund, Chermok, Hoyt, & Ortiz, 2007). Macaskill, Maltby, and Day (2002) asked participants to complete measures of individual differences in forgiveness and empathic concern, and found participants higher in empathy also scored higher on a dispositional measure of forgiveness. In a recent meta-analysis (Fehr et al., 2010) empathic concern was positively related to forgiveness, but surprisingly, the effect was small.

Trait anger. Trait anger is a person's average level of anger, as opposed to the anger felt in a specific situation. A person who is inherently more likely to feel anger may be less likely to forgive. If a person is lower in trait anger, the anger felt in a

specific situation will be less compared to a person high in trait anger. This would then increase the likelihood that a person would forgive. Konstam, Chernoff, and Deveney (2001) had participants complete measures of anger, forgiveness, shame, and guilt. They found that generally people higher in trait anger were less likely to forgive others. Berry et al. (2001) showed across several studies that higher levels of anger were related to less forgiveness. They were also able to show a relationship partner's ratings of dispositional anger were negatively related to forgiveness. The relationship between forgiveness and trait anger was negative and weak in Fehr et al.'s (2010) meta-analysis.

Neuroticism. McCrae and Coasta (2008) define neuroticism as typically reacting to life events in a stressful way. If events are perceived as stressful, a more neurotic person is apt to see offenses as more severe than a less neurotic person, which could decrease the likelihood of forgiveness. If a person high in neuroticism experiences an offense it is more likely they would perceive the event as stressful. Berry et al. (2001), in a study examining the validity of a dispositional measure of forgiveness, found that neuroticism is related to less dispositional forgiveness. To further examine the effect only with specific offenses, McCullough and Hoyt (2002) on three different occasions asked participants to read offense scenarios and answer questions about how they would react to the offense. Across the three occasions they showed that neuroticism was associated with a decrease in forgiveness. Fehr et al.'s (2010) results showed neuroticism was related to decreased forgiveness.

Self-esteem. Eaton, Ward, and Santelli (2006) explain that self-esteem is having a robust sense of self, and may help protect against an offense, especially when the offense

is seen as threatening to the self. They showed self-esteem predicts both dispositional and state forgiveness. However, Brown and Phillips (2005) found no relationship between self-esteem and both dispositional and state forgiveness. In an attempt to explain the differences in results, Eaton, Struthers, Shomrony, and Santelli (2007) explained there are two different types of self-esteem: secure self-esteem and insecure self-esteem. Secure self-esteem is where the person has high conscious self-esteem, often called explicit self-esteem, and high unconscious self-esteem, often called implicit self-esteem. Insecure self-esteem is having low unconscious self-esteem and high conscious self-esteem. Eaton et al. suggested that people with insecure self-esteem would focus more on aspects of the apology that confirmed the harm done by the offense than would those with secure self-esteem and, as a result, would forgive less. Eaton et al. showed there was no relationship between forgiveness and self-esteem for those with secure self-esteem. However, participants with insecure self-esteem forgave less, especially when the offender apologized. Fehr et al.'s (2010) meta-analysis also found no significant relationship between self-esteem and forgiveness. Taken together these studies suggest more work needs to be done to examine the link between self-esteem and forgiveness. Recent work by Luchies, Finkel, McNulty, and Kumashiro (2010) showed that a victim's self-respect and self-concept worsen when an offender does not offer sufficient amends but the victim forgives anyway. This work suggests that it might be that forgiveness affects self-esteem rather than self-esteem affecting forgiveness.

Situational Constraints

Fehr et al. (2010) also examined different aspects of a relationship that could affect whether a person forgives. They called these situational constraints and they

included relationship closeness, relationship commitment, and relationship satisfaction. In both a recall study and an intervention study, McCullough et al. (1997) found that following an offense, people in close relationships will increase actions to repair the relationship. Across several different studies with people who had recently experienced an interpersonal offense from a relationship partner, McCullough et al. (1998) showed that relationship closeness increases forgiveness. Finkel, Rusbult, Kumashiro, and Hannon (2002) showed, across three different studies, that relationship commitment increases forgiveness. Study 1 was a priming study that manipulated commitment and assessed reactions to offense scenarios. Study 2 was a survey study in which individuals described previous offenses in their current relationships. Study 3 was an interaction record study in which individuals provided reports of offenses when they happened over the course of a 2-week period. Fehr et al.'s (2010) results supported this previous research, showing that relationship closeness, commitment, and satisfaction were significantly related to forgiveness.

Dispositional Constraints

Fehr et al. (2010) also examined other characteristics of the person not already discussed and how they affect forgiveness. These they called dispositional constraints and included social desirability and religiosity. Social desirability was shown by Rye et al. (2001) to be related to two different measures of forgiveness, which suggests that people perceive forgiveness as a positive trait and want others to think they are forgiving. Although Rye et al. (2001) found a positive relationship between forgiveness and social desirability, Fehr et al. (2010) suggested this relationship is small.

The link between religiosity and forgiveness has been wrought with some confusion. Although research has shown that religiosity is related to increased dispositional forgiveness, it is not related to forgiveness for specific transgressions (McCullough & Worthington , 1999). This disconnect has been termed the religion forgiveness discrepancy. Tsang, McCullough, and Hoyt (2005) suggested two possible explanations for the discrepancy: (a) a problem of measurement, and (b) religious people use religious meaning systems to rationalize unforgiveness. Tsang et al. found religious people showed increased forgiveness when it was aggregated across several offenses, indicating the discrepancy might exist because of the way we measure forgiveness.

Tsang et al. (2005) hypothesized that although forgiveness is important to all major religions, religions also have multiple meaning systems that can allow members to justify both forgiving and unforgiving behavior. Tsang et al. showed using pilot study data that people who endorsed the belief that God is vengeful had lower forgiveness scores. This study gives some support to the idea that religious people are less forgiving because they can rationalize it.

Barnes and Brown (2010) proposed a third explanation for the religion-forgiveness discrepancy. They posited that religious individuals have a value-congruent bias, which leads them to place more weight on their values than on previous behaviors, when predicting future forgiveness behaviors. Therefore a religious person would be more likely to predict they would forgive someone in the future because they value forgiveness than a non-religious person. Across two studies they found that the relationship between forgiveness forecasts and religion is mediated by the importance of forgiveness.

Davis, Hook, and Worthington (2008) suggested one of the reasons for the mixed evidence of a relationship between religion and forgiveness is because past research only used a single item to measure religiosity. They suggest the relationship is much more complex, and a multifaceted approach to measuring religion must be used. In a recall study, Davis et al. (2008) showed that anxious and avoidant attachment to God decreased forgiveness. Other research (Fox & Thomas, 2008) examined the effect of religiosity, religious affiliation and forgiveness, and found that religiosity was a much stronger predictor of forgiveness than was religious affiliation. Although complex, there is a relationship between forgiveness and religion. Fehr et al. (2010) did support this and found a small effect of religion on forgiveness.

Sample and Study Characteristics

Fehr et al. (2010) also examined several possible moderating variables that have been shown to affect forgiveness. They called these variables sample and study characteristics and included gender of the victim, age, and time since an offense. Many studies have shown a relationship between gender and forgiveness (Exline & Zell, 2009; Exline et al., 2008; Root & Exline, 2011) For example, Konstam et al. (2001) showed that for men, shame proneness and pride in one's behavior was related to forgiveness, whereas for women guilt-proneness and anger reduction determined whether they forgave. Other studies have shown no relationship between gender and forgiveness (Boon & Sulsky, 1997; Fehr et al., 2010). Girard and Mullet (1997) asked participants of varying ages to read different offense scenarios and indicate whether each offense was forgivable or not. They found older people are more likely to forgive an offender. However, Fehr and his colleagues (2010) found only a negligible relationship between

age and forgiveness. McCullough et al. (2003) showed that longitudinally there are few consistent effects of time on forgiveness. Although this research and Fehr et al. (2010) showed time since the offense was not significantly related to forgiveness, some studies have shown effects. In two studies, Wohl and McGrath (2007) asked participants to mark on a sliding scale how long ago an offense occurred. The anchors on the scale were manipulated so that some participants marked on the extreme end of the scale. As a result the offense appeared subjectively to have happened longer ago. Other participants marked in the middle and the offense appeared subjectively to have been more recent. They found those who marked on the extreme end were more forgiving. This suggests that although actual time since the offense might not have an effect on forgiveness, perceived time might. More research is needed to examine the relationship between time since the offense and forgiveness.

Unconscious Predictors of Forgiveness

Karremans and Van Lange (2010) investigate other correlates of forgiveness that are more unconscious. Unlike the previous definitions and work on forgiveness that suggests it must be a conscious process, Karremans and Van Lange suggest that in some instances forgiveness can be unconscious. They suggest closeness as one unconscious predictor of forgiveness. Most of the past research with closeness and forgiveness has suggested when a close other offends someone forgiveness is more likely to occur because of a desire to maintain the relationship. However Karremans and Van Lange (2010) also suggest that in committed relationships over time people can learn that forgiveness generally leads to positive experiences. This will reinforce future forgiveness, and will lead to forgiveness that often happens automatically without

conscious thought. Karremans and Aarts (2007) showed that primed relationship closeness increased forgiveness, suggesting forgiveness can indeed be unconscious.

Karremans and Van Lange (2010) suggest social justice as another unconscious predictor. Karremans and Van Lange (2005) primed a person's sense of justice which led to more forgiveness. A third unconscious predictor is the subjective passage of time. As stated earlier, Wohl and McGrath (2007) showed that the subjective passing of time increased forgiveness. Perceived power was also suggested as an unconscious predictor of forgiveness. Karremans and Smith (2010) suggest that when a person feels like they have control of the outcomes and resources in a relationship, they are more likely to forgive others. Karremans and Smith primed participants with a feeling of power and feelings of inferiority and found that those who were primed with power were more likely to forgive, but only when the offender was a person to whom they were strongly committed.

Revenge

Forgiveness researchers have used a reduction in revenge motivation as a measure of forgiveness and as a result have neglected the effects and outcomes of increased revenge. Although McCullough et al.'s (McCullough, 2001; McCullough et al., 2007, 1998, 1997) work on revenge motivations has been very important for research in forgiveness, little work has been done examining the effects on the victim of taking revenge. R. T. McClelland (2010) suggests that when an offense happens a person's self is harmed and, in order to restore the lost self-esteem, or what he calls "normal narcissism," a person must exact revenge. Researchers have suggested that revenge is a

human universal (Gollwitzer, Meder, & Schmitt, 2011; R. T. McClelland, 2010). What is unclear about revenge is the possible outcomes from taking revenge on an offender.

McCullough, Kurzban, and Tabak (2011) propose that revenge evolved as a mechanism for deterring repeat offenses. Gollwitzer et al. (2011) suggest two other theories to explain why people might seek revenge: the comparative suffering hypothesis and the understanding hypothesis. The comparative suffering hypothesis (Frijda, 1994) suggests that when an offense happens, the victim experiences an imbalance and a desire to restore balance through seeking revenge on the offender, similar to McCullough et al.'s evolutionary explanation. This also has similarities to Worthington's (2006, 2009) injustice gap and equity theory (Hegtvedt, 1990; Paleari et al., 2011). In the understanding hypothesis, revenge is done for two reasons: (a) to communicate to the offender the revenge behavior is a result of the offense, and (b) to deter the offender from repeating the offense.

Across three studies, Gollwitzer et al. (2011) tested both the comparative suffering and the understanding hypothesis. Participants wrote an essay that was supposedly judged by another participant; this was, however, a bogus judging. Participants were informed that the quality of the essay would affect how much money they received for the study. All participants were judged harshly by their partner and therefore did not earn much money. Then participants were given an opportunity to exact revenge and write a note to their partner. The note was to allow the participant the opportunity to tell the offender why the participant was taking revenge, testing the understanding hypothesis. In all studies, Gollwitzer et al. found that participants felt more satisfaction when the offender understood why they were exacting revenge than

when they just exacted revenge. This suggests that victims seek revenge with the desire to ensure the offender knows the punishment is for the pain the offense caused the victim.

Avoidance

Similar to revenge, little research has examined the effects of avoiding an offender following an offense. Barnes, Brown, and Osterman (2009) hypothesized that a victim might avoid an offender to protect the self from further injury, or a victim might also use avoidance as a way to punish the offender. The victim might avoid so the offender feels rejected, and misses the social support the victim provided. Barnes et al. (2009) had participants recall an offense and asked about their responses to that offense. They treated offense severity as a predictor variable and found that more severe offenses led to greater anger. Anger then led to both a desire for revenge and self-protection, which both led to avoidance of an offender. This study suggests that not only do people avoid an offender to protect themselves, but also to seek revenge.

Forgiveness, Revenge, and Avoidance

Saying a change in revenge, avoidance and benevolence is a measure of forgiveness is not an adequate way to measure forgiveness. The motivations might decrease through forgiveness, but they might also decrease through unforgiving behaviors, for example by the person exacting revenge or being avoidant. Witvliet et al. (2001) showed that when people imagine retribution for a fake offense they decrease in the desire for revenge, but this did not make the person feel more forgiving. Examining what happens to these motivations when a person takes revenge or avoids an offender is another important step in forgiveness theory.

Another aspect of McCullough's theory is that it focuses on motivations; nonetheless, it has not incorporated other established theories of motivation. This has resulted in forgiveness motivations being used solely to measure forgiveness rather than an attempt to explain how forgiveness operates. Incorporating both revenge-taking research, avoidance research, and a theory of motivation with the forgiveness motivation theory would allow for a more complete theory of forgiveness and begin to allow for more fine grained predictions of a victim's response to an offense.

Motivation and Need Theories

Sheldon (2011) and others (Emmons, 1989) note that a complete understanding of behavior cannot be obtained by reducing behavior to cognitive and biological processes. An understanding of human needs and how the needs affect a person's motives is essential. Baumeister and Leary (1995) have suggested nine criteria for establishing something as a psychological need. The potential need must (a) produce effects readily under all but adverse conditions, (b) have affective consequences, (c) direct cognitive processing, (d) lead to ill effects (such as on health or adjustment) when thwarted, (e) elicit goal-oriented behavior designed to satisfy it, (f) be universal in the sense of applying to all people, (g) not be a derivative of other motives, (h) affect a broad variety of behaviors, and (i) have implications that go beyond immediate psychological functioning. Historically there have been two need theories: Motivational Drive Theory (MDT), and Self-Determination Theory (SDT).

Motivational Drive Theory

MDT suggests needs are “nonconscious motives that orient people automatically toward the pursuit of varying incentives in the world” (Sheldon, 2011, p. 552). In other words, a need is an unconscious driving force that pushes people to seek after experiences that will satisfy the needs a person has. Sheldon calls this theory the “needs as motives” theory, because MDT suggests that needs motivate people to action. Sheldon (2011) showed in a recent review MDT has only shown that six of the nine criteria are satisfied: needs produce behavioral effects, direct processing, elicit goal-oriented behavior, affect a broad variety of behavior, and have implications beyond immediate functioning.

MDT (D. C. McClelland, 1987) suggests three needs: 1) need for achievement, 2) need for affiliation, and 3) need for power. The need for achievement is the need to succeed and do well in what a person engages. The need for affiliation is the need to be with and feel connected to others. The need for power is the need to have control over others. MDT also suggests that people have differing levels of each need, what is called need strength. A person’s need strength determines how much of one need a person has, and how often they will have to seek after that need. Need strength is determined by past experiences with needs and behavior. For example, if in the past a person has been able to easily satisfy the need for achievement then achievement, need strength will increase. This suggests reinforcement history will affect need strength.

Self-Determination Theory

The second need theory, SDT, suggests that needs are “requirements for particular types of conscious experience that bring happiness and growth” (Sheldon, 2011, p. 552).

This suggests that when an experience provides what a person needs, that experience will lead to positive outcomes. This theory has focused on examining how well-being increases when needs are satisfied. Sheldon (2011) calls this the “needs-as-requirements” theory because it suggests that needs are a requirement for well-being. MDT’s view of needs is slightly different in that MDT suggests a need will motivate a person to seek after experiences that will satisfy needs. SDT by contrast suggests that if an experience satisfies a need, more well-being will result from the experience (Deci & Ryan, 2000).

SDT (Deci & Ryan, 2000) also posits three needs: autonomy, competence, and relatedness. Deci and Ryan (2000) describe autonomy as the feeling that behaviors and actions are volitional. Competence is having the feeling that your actions are effective. Relatedness is feeling connected with others. Sheldon and Gunz (2009) criticize SDT because it has focused only on three of Baumeister and Leary’s (1995) nine criteria: that needs have affective consequences (La Guardia, Ryan, Couchman, & Deci, 2000), that needs have ill effects when thwarted (Ryan & Deci, 2000a), and the universality of needs (Ryan & Deci, 2000b). These three criteria talk about outcomes of the need. Sheldon (2011) suggests that the other 6 criteria, which focus on how needs motivate behavior, have not been examined by SDT.

The first need posited by MDT and SDT (D. C. McClelland, 1987; Ryan & Deci, 2000a) is competence or achievement, which is having the feeling that actions are effective. Comparing MDT and SDT, Sheldon (2011) explains that relatedness and affiliation are the same need (Sheldon & Schöler, 2011). White (1959) suggested that both animals and humans have a desire to interact with their environment. Skinner (1953) suggested that babies will increase the rate of a behavior when that behavior has

noticeable effects on the environment. Babies will kick more when their kicking moves a mobile, or turns a light on and off. Simply producing an effect on the environment is reinforcing (Ryan & Deci, 2000a). White suggested this desire to interact and effect one's environment is a desire for competence. This desire also leads to more learning. Danner and Lonky (1981) showed that when children were free to choose their activity in a learning task where skill develops incrementally, children chose the activity that was just slightly more difficult than their skill level. The children also reported that the task that was most interesting was the one just above their skill level. This research shows that there is a need to be and increase in competence.

The second need posited by MDT and SDT (D. C. McClelland, 1987; Ryan & Deci, 2000a) is relatedness or affiliation, which is feeling connected with others. Attachment theories have shown that the need for relatedness is important for optimal growth and development. In fact Baumeister and Leary (1995) presented evidence that relatedness satisfies all nine criteria for being a psychological need. Ryan and Deci (2000a) suggest that work on minimal groups has shown that people are more than willing to create social bonds, and do so very rapidly (Tajfel, Billig, Bundy, & Flament, 1971). Ryan and Deci also suggest that even under less than ideal circumstances people still create social bonds with each other (Latané, Eckman, & Joy, 1966). In fact, La Guardia, Ryan, Couchman, and Deci (2000) found across different attachments people showed increased well-being when they felt more secure in their attachments.

The previous two needs were similar in both MDT and SDT. The third need in each theory is different however. The third need in MDT is the need for power. Sheldon (2011) proposes that the need for power is not a basic psychological need at all,

purporting that when people do not have control over others they do not experience psychological deficits. SDT (2000) suggests autonomy as the third need. Autonomy is defined as the feeling that a person's actions are volitional. It has been shown that when a person feels that their actions are volitional, motivation for a behavior becomes self-directed (Deci & Ryan, 2000; Vansteenkiste, Simons, Lens, Sheldon, & Deci, 2004). In fact previous research (Deci, Koestner, & Ryan, 1999) showed across 128 studies, all contingent, external, tangible rewards decreased autonomy. Also surveillance (Lepper & Greene, 1975), evaluation (Harackiewicz, Manderlink, & Sansone, 1984), and deadlines (Amabile, DeJong, & Lepper, 1976) have all been shown to decrease autonomy.

Each need is necessary for optimal psychological functioning, growth, and well-being. When one or more of the needs is not satisfied, optimal functioning will decline. For example, Shields, Ryan and Cicchetti (2001) examined children's narratives about their parental relationships and found that maltreated children (having a chronic relatedness need) showed deficits in social function and emotion regulation. These deficits also affected their ability to create good peer relationships as evidenced by observer ratings from a week long summer camp.

Two Process Model

Sheldon (2011) suggests a way to integrate both MDT and SDT. Using his integrated theory, all nine of Baumeister and Leary's (1995) criteria for needs are satisfied. He calls this new theory the Two Process Model (TPM). Sheldon defines needs in the TPM as "evolved tendencies to seek out certain basic types of psychosocial experiences and to feel good and thrive when those basic experiences are obtained" (p.552). This definition is a combination of the previous two. It suggests that needs are

both unconscious drives to gain satisfaction of our needs (needs as motives), but also when an experience leads to satisfaction of the need this will result in positive outcomes (needs as requirements). The two processes in this theory - needs driving and needs reinforcing behavior - suggest needs move people to pursue adaptive behavioral motives, and also reinforce behavior when the behavior satisfies a need.

In the TPM model (Sheldon, 2011), when a need goes unmet the person will feel motivated to satisfy that need. This motive will often lead to behavior, which should satisfy the need. The satisfaction of the need will be reinforcing and will thus strengthen the behavior in the future. However, this process does not always happen smoothly. Motives do not always lead to behavior: a person can be motivated and for some reason fail engage in a behavior. For example, a person who is hungry will not necessarily seek out food (e.g., someone with anorexia). An example of needs as requirements being thwarted is eating food that does not provided the required nutrition (e.g., eating junk food). These two processes of drives and reinforcements are often coupled and work together, but sometimes this is not the case. For this reason, Sheldon (2011) asserts that needs as motives and needs as requirements need to be thought of as two aspects of an often coupled process.

In order to show how the two different processes operate, Sheldon and Gunz (2009) first showed that needs act as motives for behavior. They asked participants about current need satisfaction and their desire for certain activities. They found that participants low on any one of the needs endorsed the desire for activities that would lead to satisfaction of the corresponding need. In a second study they experimentally deprived people of their needs to show that a need will lead a person to seek after satisfaction for

the corresponding need. Sheldon and Gunz gave participants a personality survey. Participants were told their results showed they would either have trouble in life making friends (relatedness need), have trouble succeeding in school (competence need), or have little autonomy in life (autonomy need). When people were deprived of their need for relatedness and competence they had a desire to satisfy the corresponding need. For example participants who had their competence need deprived had a desire to gain more competence and only competence. Lack of autonomy did not show this effect; however, Sheldon and Gunz suggested it was because their autonomy deprivation manipulation did not actually deplete autonomy. This research suggested that needs can act as motives for behavior.

Sheldon, Abad, and Hinsch (2011) examined how motives for a behavior, and the satisfaction one gets from the behavior, are two separate processes. They found that feelings of disconnectedness and feelings of connectedness were both related to increased Facebook usage. They were interested in why both would be related to increased usage. They conducted an intervention study. First they asked participants to report the amount of time they spend on Facebook (Time 1). Participants were then asked to not use Facebook for 48 hours; after this time they completed another survey (Time 2). They were instructed they could return to normal Facebook usage, and 48 hours after Time 2 they were sent another survey (Time 3). During the cessation period feelings of connection declined, but only changes in disconnection predicted greater use in the 48 hours after the cessation period. This suggests that needs as motives (feeling disconnected) drives Facebook usage, but needs as requirements (feeling connected)

results from Facebook usage, or feeling connected is a reward of using Facebook. They are two distinct processes that are often coupled.

The early research testing the TPM suggests that needs act as both motives and requirements. Applying the TPM to other areas will help to expand the theory and may shed additional light on how some of these concepts operate. Because the TPM is a theory of motivation and McCullough and colleagues' work has shown that motivations are active in forgiveness, connecting the TPM and forgiveness research may be fruitful. This next section will examine how forgiveness motivations and the TPM can be connected.

Two Process Model and Forgiveness

In connecting the TPM and forgiveness, the suggestion is that an offense depletes a need in some way. For example, if a person is lied to by a friend, then the victim might experience depletion in relatedness. An insult by a supervisor might result in depletion of need for achievement. Because the person now feels a need, as the TPM suggests, they will be motivated to satisfy that need (Sheldon, 2011; Sheldon & Schöler, 2011). McCullough and colleagues (McCullough & Hoyt, 2002; McCullough & Witvliet, 2002; McCullough et al., 1998) have argued that when an offense occurs a person becomes motivated to seek revenge, motivated to avoid the offender, and motivated to not be benevolent toward the offender. These motives can be thought of as drives to encourage the victim to mend the hurt caused by the offense. These motivations might have developed to encourage behaviors following an interpersonal that will relieve negative emotions. This is not to say these are the only motives that result from an offense, but

they are the most studied. The motive for revenge and avoidance might be thought of as ways to prevent further hurt from the offender.

McCullough et al. (2011) posit that revenge behaviors evolved as a mechanism for victims to deter offenders from repeating an offense. This might lead to need satisfaction, and prevent further need depletion. Avoidance might also be another mechanism to accomplish the same goal. As suggested earlier, avoidance can serve both a protective function and a punishment function (Barnes et al., 2009). Similar to revenge, avoidance might also lead to need satisfaction, and prevent further need depletion from a repeat offense. The third motive that results from an offense is a decrease in the motive to be benevolent. Although this motive goes down it might be the only route to satisfying the need that results from an offense. Being benevolent towards the offender could help the victim feel more connected to the offender. It might increase autonomy because it demonstrates to the victim the offender is not in control of the situation. Doing a good deed of being benevolent might also increase the victim's competence. The TPM would suggest the response chosen would ideally lead to need satisfaction, but might only prevent further depletion. Although benevolence might lead to the best long term outcomes it is probably the most difficult, and might not always be successful. The TPM also suggests that sometimes the response does not lead to need satisfaction. For example, if a person forgives and the offender commits the offense again forgiveness would not be reinforced and might result in the person becoming less forgiving, and in the future choosing either revenge or avoidance.

Currently, there is no direct empirical evidence that forgiveness, revenge, or avoidance will satisfy a person's psychological needs. Forgiveness has been shown to

increase well-being (Friedman & Toussaint, 2006; McCullough, 2000; Worthington et al., 2007). Need satisfaction has also been shown to increase well-being (Reis, Sheldon, Gable, Roscoe, & Ryan, 2000; Ryan & Deci, 2000a, 2000b). This suggests that perhaps forgiveness will also satisfy psychological needs. Worthington (2006, 2009) suggests that revenge will not completely close the injustice gap, and the only way to completely close the gap is through forgiveness. This would suggest revenge will not lead to need satisfaction; it will only prevent further depletion. However, as discussed, revenge can also feel satisfying (Gollwitzer et al., 2011), which might indicate it would satisfy a need. Taking revenge on an offender might help a victim to feel more autonomous because they asserted their own actions. Similarly to revenge, avoiding an offender might not satisfy a need, but might be a way to prevent further depletion. Nevertheless research in avoidance also suggests that a person might avoid for different reasons such as getting revenge (Barnes et al., 2009). If a victim avoids an offender for revenge reasons this might affect whether avoidance satisfies a need. The previous research (Barnes et al., 2009; Gollwitzer et al., 2011) on revenge and avoidance suggests there are reasons to assume revenge and avoidance could lead to need satisfaction or could simply be a way of avoiding further depletion.

One important question still unanswered by forgiveness theory is: What determines whether a person will seek vengeance, avoidance, or benevolence following an offense? One possibility suggested by the TPM is a person's need strength. That is, how much of any one need that a person must satisfy might be a predictor of the response a victim chooses following an offense. For example a victim of theft might be motivated

to seek revenge, avoid the situation, and not be benevolent. The TPM suggests that the victim will choose the behavior that has in the past resulted in the most need satisfaction.

In summary, connecting the TPM and forgiveness motivation theory will have some of the following benefits. It will help determine the possible outcomes of revenge and avoidance. By examining if revenge and avoidance lead to need satisfaction it can be determined whether they are beneficial. Showing that revenge and avoidance are good in some instances will be beneficial in helping to develop forgiveness interventions.

Connecting forgiveness theory with the TPM will integrate forgiveness theory into a broader social psychological theory allowing for new predictions. It will also suggest ways of predicting which response a victim will choose. If motivation for revenge is high following an offense revenge maybe the more likely choice. If motivation for benevolence does not decrease too far following an offense a victim might be more likely to forgive.

Therefore, the following studies attempted to answer several questions. First, does an offense lead to some kind of a need? In order to determine if in fact the TPM can be connected to forgiveness we must show that an offense leads to need depletion. Second, does need depletion following an offense lead to the motivations for revenge, avoidance, and benevolence? And do levels of these needs predict which response a victim will choose? Previous forgiveness research has focused on how offenses lead to the motivations for revenge, avoidance, and less benevolence. In order to connect motivations for forgiveness and the TPM there must be a link between need depletion and these motivations. If an offense does not lead to depletion then it would be inappropriate to connect the TPM to forgiveness in this way. The last question is: Do responses of

forgiveness, revenge, and or/avoidance lead to need satisfaction? Knowing the outcomes of each of these behaviors would be important in helping to predict why a person might be more likely to choose one behavior over the other in the future.

CHAPTER TWO

Study 1: Recall Study

Introduction

In Study 1 an online survey was conducted to confirm whether an offense leads to need depletion, and then further leads to motivation to satisfy the need. This was accomplished by having participants describe an offense and then describe their need satisfaction after the offense. Study 1 also examined if imagining revenge, avoidant, or forgiving responses led to need satisfaction. Need satisfaction was measured at different times during the study to determine if the recollection of an offense led to need depletion and if imagining different responses to the offense leads to need satisfaction. The level of need satisfaction that resulted from the responses was compared across the groups. Having participants recall their own offenses led to a variety of offenses which allowed for a broad test of the theory.

Hypotheses

Study 1 had four hypotheses: 1) An offense would lead to depletion of a psychological need. 2) Need depletion would lead to motivation for increased revenge, avoidance, and decreased benevolence, 3) Taking revenge and avoiding would not lead to need satisfaction, and (4) Forgiving would lead to need satisfaction.

Methods

Participants

Participants were recruited through Baylor's online recruitment tool, SONA Systems, and through Amazon's Mechanical Turk. Participants from Baylor received one hour's worth of course credit in exchange for their participation. Participants from Amazon's Mechanical Turk Mechanical Turk (MTurk) received \$0.75 for their participation. MTurk is a "crowdsourcing" website where brief tasks are posted and a person can decide whether to complete the task for monetary payment. Individuals were instructed to complete an online survey through the Qualtrics survey administration tool. A sample of 250 participants (159 female, 37 male, 54 not reported) was collected. Unfortunately due to survey errors no other demographic data was collected. Of the participants 215 were from Baylor University. Due to not finishing the survey and having significant missing data 48 participants were removed from analyses leaving a sample of 202 participants (196 from Baylor, 6 from Mturk).

Procedure

Participants were directed to an online informed consent. Once consent was obtained, participants were directed to an online survey. First, participants completed a measure of psychological need satisfaction (Time 1) (Sheldon & Hilpert, 2012), following which participants were asked to describe an unresolved offense for which someone else was responsible for significantly hurting their feelings. Participants were asked to describe the offense in as much detail as possible, and to try and recall the feelings they had while the offense was happening. After describing the offense, they

were asked to complete another measure of need satisfaction (Time 2) and the Transgression Related Interpersonal Motivations (TRIM; McCullough & Hoyt, 2002). Following the completion of these surveys, participants were randomly assigned to imagine different responses (described below) to the offense they recalled. Responses were adapted from scenarios used in previous research (Witvliet, Worthington, et al., 2008).

Revenge Response. You decide to get back at the person for what they did to you, to make the person pay for what they have done. Imagine getting revenge for what the person did to you. Imagine how it will feel when you take revenge and what taking revenge will be like.

Avoidance response. You decide to stop thinking about the whole thing. You change your life so you don't have anything to do with the person anymore. Imagine avoiding the person. Imagine what you will have to do to not talk to them, going out of your way to not see them anymore. Imagine how this will make you feel and what it will be like.

Forgiving response. You consider what it would mean to forgive this person. You decide to release your negative feelings toward them. Imagine giving a gift of mercy and wishing that person well, even in a very small way. Imagine the thoughts, feelings you had or would have as you release the hurt, and grant forgiveness to this person. Imagine how this will make you feel and what it will be like.

As with the offense, participants were asked to imagine the response in detail. Following each of the responses participants were asked to complete the measure of need satisfaction, and the TRIM again for how they felt after the response (Time 3).

Measures

Need satisfaction. Need satisfaction was measured using the Balanced Measure of Psychological Needs (BMPN; Sheldon & Hilpert, 2012). The BMPN has three subscales: relatedness, competence and autonomy. Each subscale has six items: 3 positively worded and 3 negatively worded items. The utility of the measure comes in being able to combine the positively and negatively worded items into one scale or to

separate them out as separate scales in order to examine if lack of need satisfaction is important for the variables being examined. Example positive and negative relatedness items were “I feel close and connected with other people who are important to me” and “I felt unappreciated by one or more important people.” Example positive and negative competence items were “I was successfully completing difficult tasks and projects” and “I struggled doing something I should be good at.” Example positive and negative autonomy items were “My choices were based on my true interests and values” and “I had a lot of pressures I could do without.” Alpha reliability for the autonomy scales for all studies ranged from 0.70 - 0.78. The reliability for the competence scales for all studies ranged from 0.79 – 0.80. The reliability for the relatedness scale for all three studies ranged from 0.74 - 0.82.

Forgiveness motivation. Forgiveness motivation was measured using the Transgression Related Interpersonal Motivations scale, which was a measure of a person's revenge, avoidance, and benevolence motivation (McCullough & Hoyt, 2002). This is a common measure of forgiveness such that the less revenge, less avoidance, and more benevolence motivation a person has, the more forgiving they are. This scale assumes that a person has a relationship with the offender. The revenge subscale consists of 5 items (e.g., “I’ll make him/her pay,” “I want to see him hurt and miserable”). The avoidance subscale has 7 items (e.g., “I live as if he/she doesn’t exist, isn’t around,” “I withdraw from him/her”). The benevolence subscale has 5 items (e.g., “I have given up my hurt and resentment.”). Items are rated on a 5-point Likert type scale (1 = strongly disagree and 5 = strongly agree). Alpha reliabilities for this sample ranged from 0.95 to 0.93 for all three subscales (McCullough & Hoyt, 2002).

Predictions

1) There would be a decrease in need satisfaction between Time 1 and Time 2. This would show that recalling offenses led to need depletion. 2) Participants in the forgiveness condition would experience need satisfaction, shown by an increase in need satisfaction scores from Time 2 to Time 3. 3) Participants in the revenge and avoidance conditions would show no increase in need satisfaction from Time 2 to Time 3. 4) Participants in the revenge condition would show a decrease in revenge motivation from Time 2 to Time 3. 5) Participants in the avoidance condition would show a decrease in avoidant motivations between Time 2 and Time 3. 6) Participants in the forgiveness condition would show an increase in the motivation for benevolence between Time 2 and Time 3. No prediction was made about need depletion or satisfaction due to the lack of previous research.

Results

Prediction 1 was that there would be a decrease in need satisfaction from Time 1 to Time 2. Prediction 2 said that participants in the forgiveness condition would experience an increase in need satisfaction from Time 2 to Time 3. Prediction 3 was that participants in the revenge and avoidance conditions would show no increase in need satisfaction from Time 2 to Time 3. These three predictions were analyzed using three Split Plot Factorial (SPF)- 3.3 ANOVAs (Kirk, 2012) with participant's response condition (revenge, avoidance, and forgiveness) and time (Time 1, Time 2, and Time 3) as the independent variables and need satisfaction scores (relatedness, autonomy, and competence) as the dependent variables. For means and standard deviations see Table 1 for correlations see Table 2.

Relatedness

For relatedness need satisfaction there was a significant effect of time ($F(2, 398) = 3.64, p = 0.03, \omega^2 = 0.008$). There was no effect of response condition ($F(2, 199) = 0.20, p = 0.82, \omega^2 = 0$) or the interaction ($F(4, 398) = 1.61, p = 0.17, \omega^2 < 0.004$) (see Figure 1). Follow up analyses using paired samples t-tests showed that there was a significant increase in relatedness from Time 1 to Time 2 ($t(201) = 2.30, p = 0.02, \omega^2 = 0.03$). There was also a significant decrease in relatedness from Time 2 to Time 3 ($t(201) = 2.41, p = 0.02, \omega^2 = 0.03$).

Autonomy

For autonomy need satisfaction there was no effect of time ($F(2, 398) = 0.69, p = 0.50, \omega^2 = 0$), the response condition ($F(2, 199) = 0.04, p = 0.96, \omega^2 = 0$) or the interaction ($F(4, 398) = 0.25, p = 0.91, \omega^2 = 0$). See Figure 2.

Competence

For competence there was no effect of time ($F(2, 398) = 1.70, p = 0.18, \omega^2 = 0.002$), the response condition ($F(2, 199) = 0.62, p = 0.54, \omega^2 = 0$) or the interaction ($F(4, 398) = 0.72, p = 0.58, \omega^2 = 0$). See Figure 3. There was no decrease in need satisfaction from Time 1 to Time 2. Describing an offense did not cause participants to experience a depletion of their needs. There was also no change in need satisfaction from Time 2 to Time 3 for participants in the forgiveness response conditions. Imagining a forgiving response did not increase need satisfaction as predicted. Need satisfaction did not increase in the revenge and avoidance conditions. Imagining a revenge or an avoidance response did not lead to need satisfaction.

Table 1
Study 1 Need and Motivation Means and Standard Deviations

Response Condition		Time 1		Time 2		Time 3	
		Mean	SD	Mean	SD	Mean	SD
Revenge							
	Relatedness	3.61	4.03	4.55	4.33	3.19	4.76
	Competence	2.01	3.22	1.46	4.27	1.70	4.35
	Autonomy	1.28	3.61	2.03	3.94	2.07	3.83
	Revenge			1.90	0.95	2.22	1.13
	Avoidant			2.68	1.17	2.77	1.20
	Benevolent			3.54	0.92	3.24	1.04
Avoidance							
	Relatedness	3.75	4.15	4.37	3.40	4.04	4.40
	Competence	1.72	4.40	2.47	2.99	2.18	4.46
	Autonomy	1.68	4.85	2.03	3.19	2.10	5.22
	Revenge			1.78	0.89	1.91	0.95
	Avoidant			2.68	1.09	3.05	1.21
	Benevolent			3.57	0.98	3.30	1.07
Forgiveness							
	Relatedness	4.19	3.64	4.21	4.08	4.15	4.02
	Competence	2.09	3.56	2.22	4.02	2.06	4.13
	Autonomy	2.06	3.64	2.03	3.51	2.27	4.26
	Revenge			1.86	0.92	1.64	0.84
	Avoidant			2.71	1.21	2.47	1.17
	Benevolent			3.47	0.94	3.58	0.89
Total							
	Relatedness	3.85	3.93	4.38	4.25	3.80	4.41
	Competence	1.70	3.87	2.05	4.40	1.98	4.30
	Autonomy	1.92	3.95	2.03	4.20	2.15	4.45
	Revenge			1.85	0.92	1.92	1.01
	Avoidant			2.69	1.15	2.77	1.21
	Benevolent			3.53	0.94	3.37	1.01

Table 2
Correlation Table for Study 1 Variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. T1 Relate	1.00														
2. T1 Autonomy	0.60*	1.00													
3. T1 Competence	0.64*	0.67*	1.00												
4. T2 Relate	0.69*	0.51*	0.49*	1.00											
5. T2 Autonomy	0.55*	0.80*	0.60*	0.63*	1.00										
6. T2 Competence	0.51*	0.61*	0.74*	0.58*	0.68*	1.00									
7. T3 Relate	0.66*	0.46*	0.48*	0.69*	0.49*	0.54*	1.00								
8. T3 Autonomy	0.46*	0.73*	0.55*	0.50*	0.81*	0.65*	0.62*	1.00							
9. T3 Competence	0.50*	0.56*	0.75*	0.57*	0.62*	0.80*	0.55*	0.67*	1.00						
10. T2 Revenge	-0.37*	-0.30*	-0.22*	-0.35*	-0.23*	-0.20*	-0.39*	-0.24*	-0.21	1.00					
11. T2 Avoid	-0.15*	-0.18*	-0.14	-0.15*	-0.07	-0.07	-0.17	-0.10	-0.11	0.55*	1.00				
12. T2 Benevolence	0.17*	0.14	0.07	0.20*	0.09	0.04	0.14	0.05	0.06	-0.55*	-0.72*	1.00			
13. T3 Revenge	-0.29	-0.21*	-0.21*	-0.21*	-0.15*	-0.15*	-0.37*	-0.19*	-0.15*	0.70*	0.40*	-0.40*	1.00		
14. T3 Avoid	-0.14*	-0.19*	-0.14*	-0.10	-0.10	-0.05*	-0.18*	-0.15	-0.12	0.40*	0.78*	-0.54*	0.54*	1.00	
15. T3 Benevolence	0.16*	0.16*	0.15*	0.11	0.06	0.07*	0.19	0.07	0.04	-0.40*	-0.59*	0.69*	-0.57*	-0.71*	1.00

Note. T1 = Time 1; T2 = Time 2; T3= Time 3, * correlations significant at .05.

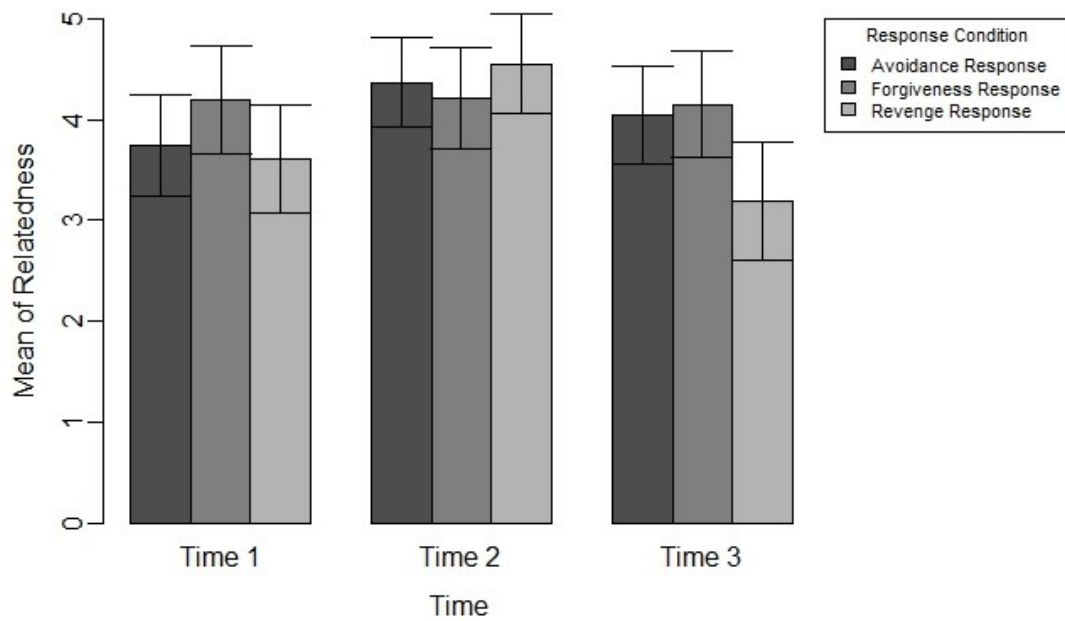


Figure 1. Study 1 Relatedness Need Satisfaction by Time and Response Condition.

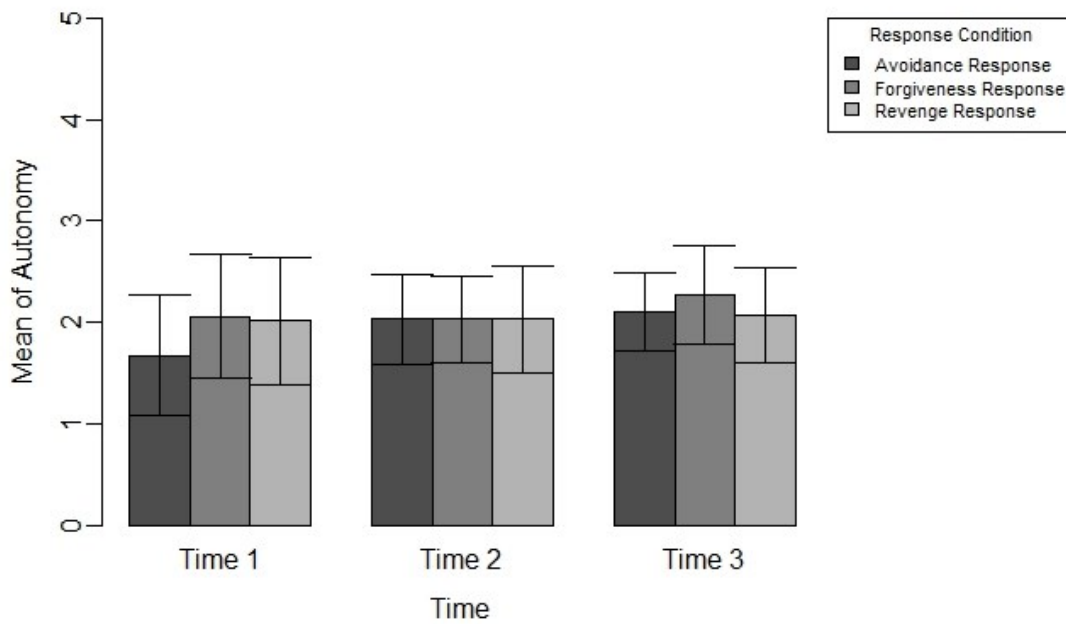


Figure 2. Study 1 Autonomy Need Satisfaction by Time and Response Condition

Prediction 4 was participants in the revenge condition would show a decrease in revenge motivation. Prediction 5 stated participants in the avoidance condition would show a decrease in avoidant motivations. Prediction 6 stated participants in the forgiveness condition would increase in benevolent motivations. All these predictions were analyzed using three SPSS-3.2 ANOVAs (Kirk, 2012), with participants response condition (revenge, avoidance, and forgiveness) and time (Time 2 and Time 3) being the independent variables, and TRIM scores (revenge, avoidant, and benevolent motivations) being the dependent variables.

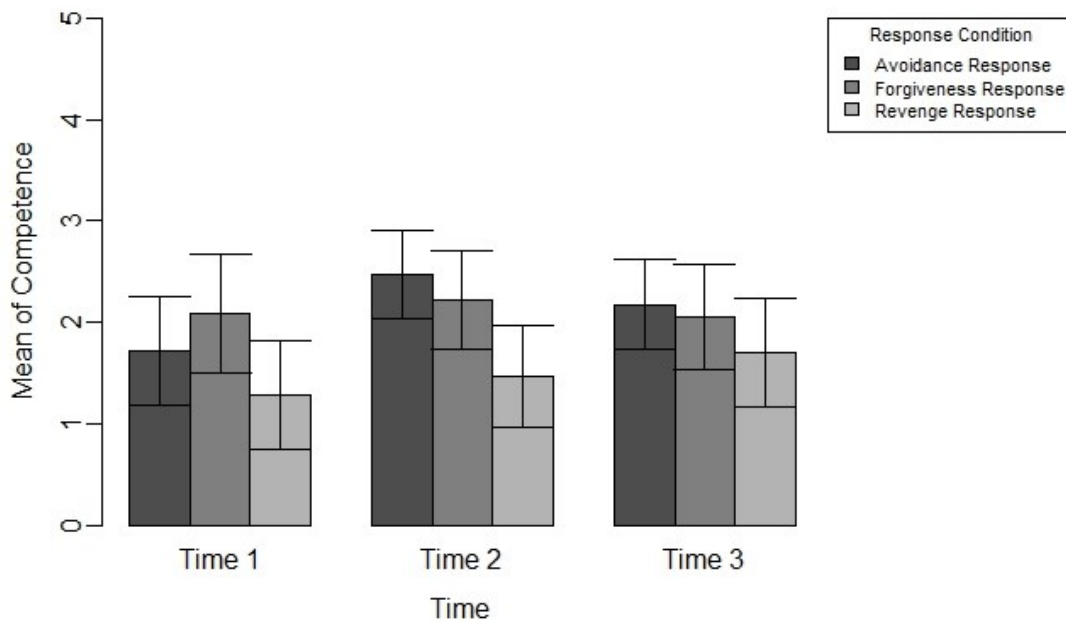


Figure 3. Study 1 Competence Need Satisfaction by Time and Response Condition

Revenge Motivation

The effect of time and response condition on revenge motivation was analyzed to test prediction 4. Prediction 4 stated that participants in the revenge condition would

show a decrease in revenge motivation from Time 2 to Time 3. For this result to be tenable an omnibus test would have to show a significant interaction between response condition and time. The omnibus interaction test was significant ($F(2,199) = 8.83, p < 0.001, \omega^2 = 0.04$). See Figure 4. The effects of response condition ($F(1,199) = 0.22, p = .80, \omega^2 = 0$) and time ($F(1,199) = 2.91, p = .08, \omega^2 = 0.004$) were not significant. Follow-up analyses using treatment contrast interactions showed that, contrary to the prediction, participants in the revenge condition increased in revenge motivation from Time 2 to Time 3 ($F(1,199) = 12.23, p < 0.001, \omega^2 = 0.008$; for means and SDs see Table 1). For participants in the avoidance condition there was no change in revenge motivation from Time 2 to Time 3 ($F(1, 199) = 3.13, p = 0.08, \omega^2 = 0.001$). Participants in the forgiveness condition decreased in revenge motivation from Time 2 to Time 3 ($F(1, 199) = 5.27, p = .02, \omega^2 = 0.002$). Although participants increased in revenge motivation when they imagined a revenge response, it is important to note that both the forgiveness and the revenge responses changed participant's revenge motivation.

Avoidant Motivation

The effect of time and response condition on avoidant motivation was analyzed to test prediction 5. Prediction 5 stated that participants in the avoidance condition would show a decrease in avoidant motivation between Time 2 and Time 3. This would be indicated with a significant interaction between time and the response condition, and this was in fact what was found ($F(2,199) = 12.43, p < 0.001, \omega^2 = 0.05$). See Figure 5. The effects of response condition ($F(1,199) = 1.60, p = .20, \omega^2 = 0.003$) and time ($F(1,199) = 2.97, p = .08, \omega^2 = 0.005$) were not significant. Follow up analyses using treatment contrast interactions were conducted in order to see if the prediction was supported.

Contrary to the prediction participants in the avoidance condition increased in avoidant motivation from Time 2 to Time 3 ($F(1,199) = 20.36, p < .001, \omega^2 = 0.01$, for means and SDs see Table 1). Participants in the revenge condition showed no change in avoidant motivation from Time 2 to Time 3 ($F(1,199) = 0.99, p = .32, \omega^2 = 0$). However participants in the forgiveness condition decreased in avoidant motivation from Time 2 to Time 3 ($F(1,199) = 6.42, p = 0.01, \omega^2 = 0.008$). Although participants in the avoidance condition increased rather than decreased in avoidant motivations there was a change in motivations.

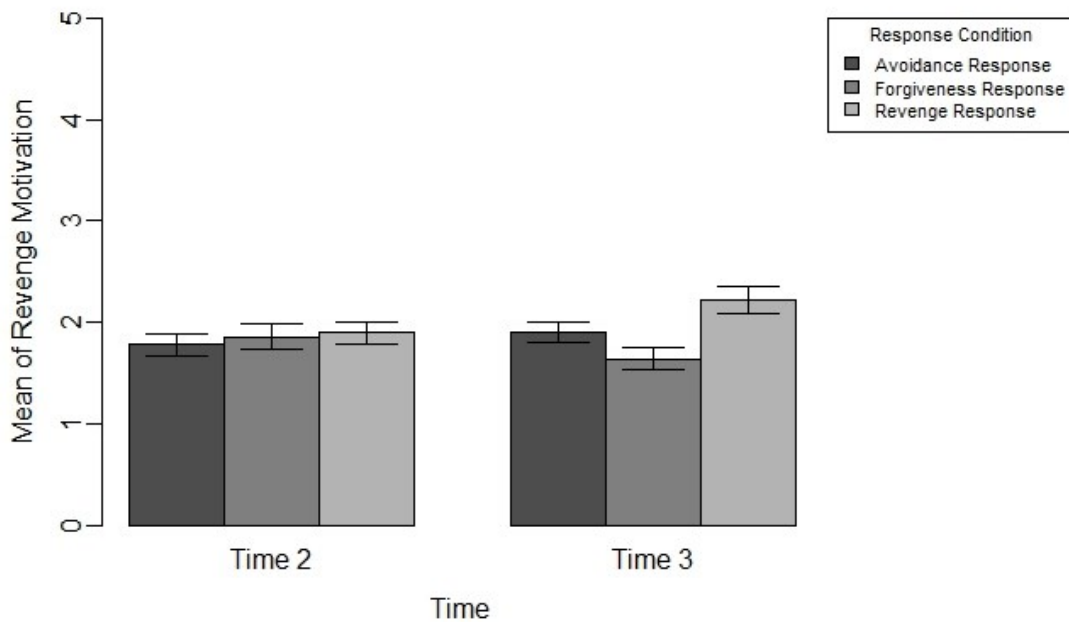


Figure 4. Study 1 Revenge Motivation by Time and Response Condition

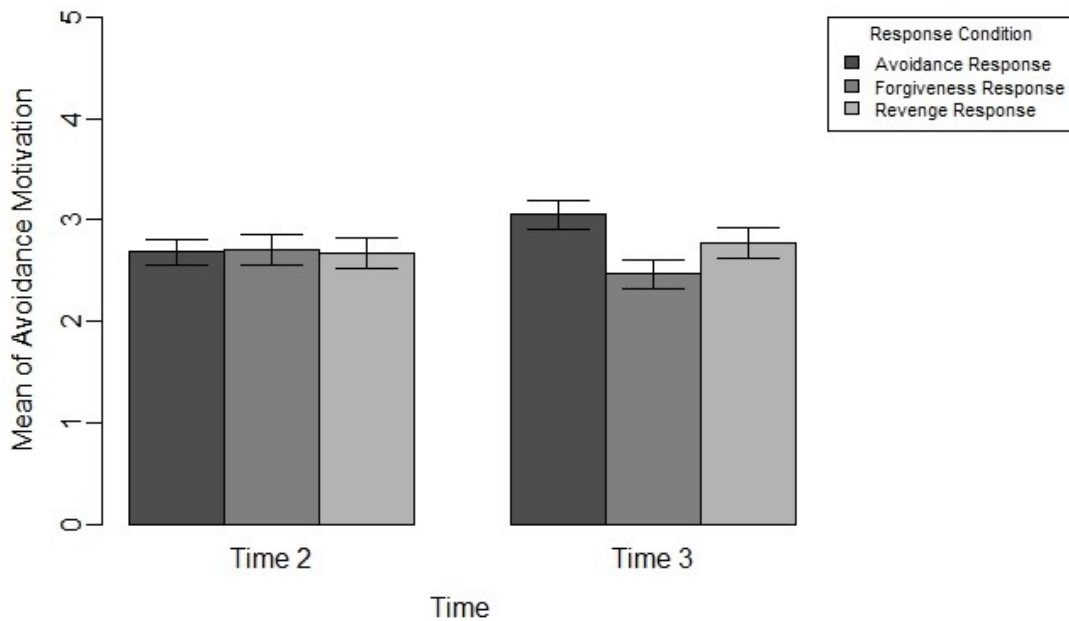


Figure 5. Study 1 Avoidant Motivation by Time and Response Condition

Benevolent Motivation

The effect of time and response condition on benevolent motivations was analyzed to test prediction 6. Prediction 6 stated that participants in the forgiveness condition would show an increase in the motivation for benevolence between Time 2 and Time 3. This prediction was first examined with the interaction term of the omnibus test. There was a significant interaction between time and response condition ($F(2,199) = 5.38, p < 0.005, \omega^2 = 0.02$). See Figure 6. The effect of response condition ($F(1,199) = 2.00, p = .13, \omega^2 = 0.005$) was not significant. The effect of time ($F(1,199) = 6.78, p = .01, \omega^2 = 0.01$) was significant. The interaction was followed by treatment contrast interactions. Contrary to the prediction, after imagining a forgiving response there was no change in participants' benevolent motivations from Time 2 to Time 3 ($F(1,199) = 1.28, p = 0.26, \omega^2 = 0.0002$, for means and SDs see Table 1). There were however significant

decreases in both the revenge motivation from Time 2 to Time 3 ($F(1,199) = 10.55, p = .001, \omega^2 = 0.006$) and avoidant motivation from Time 2 to Time 3 ($F(1,199) = 5.78, p = 0.02, \omega^2 = 0.003$). Although imagining a forgiving response did not increase benevolent motivation the means were in that direction. Forgiveness did, however, decrease revenge and avoidant motivations.

Discussion

Study 1 showed describing an offense does not decrease need satisfaction. In fact, after describing an offense there was an increase in relatedness need satisfaction, and after imagining a response relatedness need satisfaction decreased, regardless of the response. Both of the results for relatedness were contrary to the predictions. Participants might have already managed to repair some of the hurt from the offenses they were describing. Then when describing the offense they were reminded of the progress made which led to an increase in relatedness. Relatedness might also be an important need with respect to offenses, since most offenses happen within the context of some relationship. This could explain why the other needs were not affected by the offense description. It is also possible that describing an offense long after it happened is not enough to lead to a decrease in need satisfaction.

TRIM scores were affected by different offense responses. In Study 1 after imagining a revenge response there was an increase in revenge motivation. Although this was not hypothesized it does support the idea of the injustice gap (Worthington, 2006, 2009). Worthington suggests that getting back at an offender following an offense leads to feelings of injustice in the offender as well. The offender will then attempt to get back at the original victim. This will in turn create more injustice in the original victim. This

continual process of both parties trying to repay an injustice can continue forever. This study also suggests that not only can a revenge reaction lead to retaliation from another party, it can also lead to more revenge in the revenge taker. This result conflicts with Witvliet et al. (2008) where they found that participants who took revenge decreased in revenge motivations, and showed no other changes in avoidant and benevolent motivations.

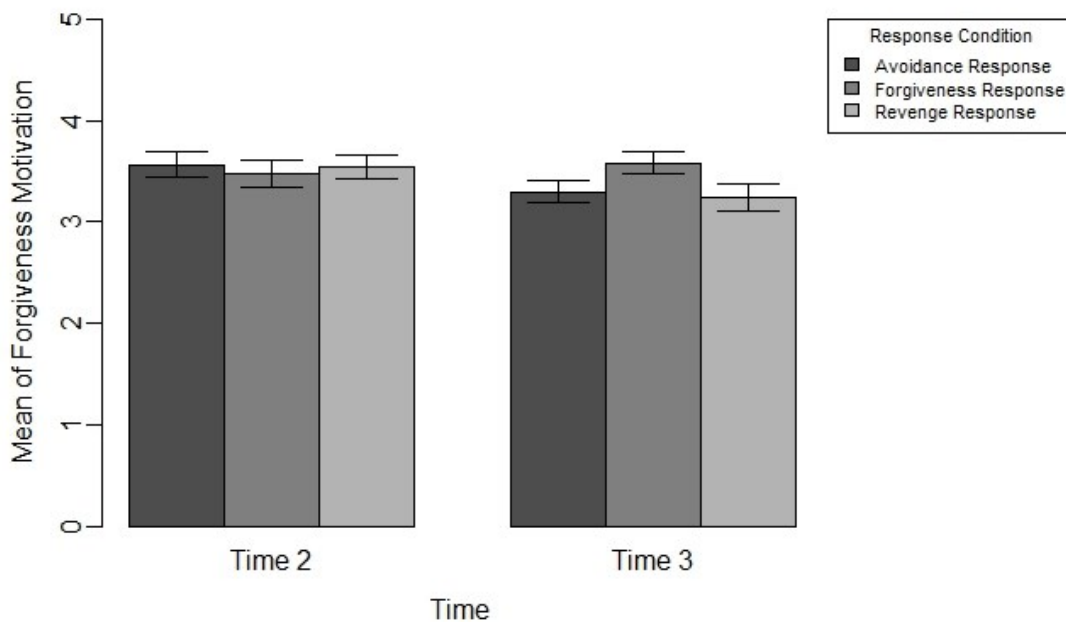


Figure 6. Study 1 Benevolent Motivation by Time and Response Condition

It is interesting to note that revenge and avoidant responses increased their respective motivations. Although imagining a forgiving response had no effect on benevolent motivations, both revenge and avoidant motivations were decreased with a forgiving response. This is in support of McCullough and colleagues' (McCullough & Hoyt, 2002; McCullough & Witvliet, 2002; McCullough et al., 1998) definition of

forgiveness, that forgiveness is a decrease in revenge and avoidant motivations, and an increase in benevolent motivation. What has not been shown is that revenge and avoidant responses can also have an effect on these motivations.

This study suggests that it is important for researchers to examine other responses to an offense besides just forgiveness. If a change in these motivations can happen when a person takes revenge or avoids an offender, measuring forgiveness with these motivations becomes more complicated and researchers should be aware of this.

CHAPTER THREE

Study 2: Scenario Study

Introduction

One weakness of Study 1 was that participants were able to recall any offense they wanted. This type of design lacked control and introduced the potential for confounds. Differences in motivations in Study 1 might have resulted from the different types of offenses chosen by the participants, and not from the revenge, avoidant or benevolent responses to those offenses. Study 1 also tested whether an offense leads to a decrease in need satisfaction, and leads to the motivations for revenge, avoidance and forgiveness. Although this idea was not supported in Study 1 this could be a result of recalling an offense and not because offenses do not lead to a decrease in need satisfaction. Study 2 used a standardized offense scenario in an attempt to extend the results of Study 1. Participants in Study 2 were asked to read a script of an offense and imagine that the offense happened to them. They then were randomly assigned to one of three response conditions where they imagined a revenge, avoidant or forgiving response to the offense. The effect of the response on need satisfaction and forgiveness motivations was also examined.

Hypotheses

Study 2 had four hypotheses: 1) An offense would lead to depletion of a psychological need. 2) Need depletion would lead to motivation for increased revenge,

avoidance, and decreased benevolence, 3) Taking revenge and avoiding would not lead to need satisfaction, and (4) Forgiveness would lead to need satisfaction.

Methods

Participants

Participants were recruited through Baylor's online recruitment tool, SONA Systems, and through Amazon's Mechanical Turk. Participants from Baylor received one hour's worth of course credit in exchange for their participation. Participants from Amazon's Mechanical Turk Mechanical Turk (MTurk) received \$0.75 for their participation. MTurk is a "crowdsourcing" website where brief tasks are posted and a person can decide whether to complete the task for monetary payment. Individuals were instructed to complete an online survey through the Qualtrics survey administration tool. The sample consisted of 237 participants (144 female, 46 male, and 47 no response). As with Study 1 due to survey errors no other demographic data was collected. However 203 of the participants were from Baylor University. Due to not finishing the survey and having significant missing data 23 participants were removed from analyses leaving a sample of 216 participants (203 from Baylor, 13 from Mturk).

Procedure

Participants who consented to participate were directed to an online questionnaire. Participants first completed a baseline measure of need satisfaction (Time 1), after which they read a scenario describing an offense taken from Witvliet et al. (2008) (offense text is below). They were asked to imagine that the offense happened to them and to imagine how they would feel as a result of the offense.

You have been worried all day. Soon after leaving your house this morning, you realized that you had left your wallet on your dresser at home. Your wallet not only contains a large amount of money, but your credit cards, check card, driver's license. Finally, after a particularly long day, you have the opportunity to return to your place to retrieve your wallet. As you approach your door, you fumble for your keys, but they are not in your pocket. Suddenly you notice your door is partly open. You try to remember if you locked the door that morning, thinking again of your wallet, and you enter your place.

You close the door behind you and set down your bag like you do every day when you come home. Then it hits you. Your belongings and furniture are all scattered and misplaced. Drawers in your desk are hanging open, papers and books lay thrown about. The wastebasket is toppled over, expelling the paper trash across the floor. The room looks strangely empty. Stunned, you realize your TV, laptop, and iPod are gone. Your heart beats more rapidly as the reality of the situation sinks in. You realize that you have been robbed. You walk into the bathroom area, and find that even here the burglar went through your personal belongings. The burglar obviously avoided no area. Then a sweeping panic takes over you as you think of your wallet. Your heart pounds and you tense up as you frantically search the place where you usually keep your keys and wallet, but they are not there. You race from room to room, trying to think whether perhaps you placed them somewhere else, hoping that the burglar did not find them. As the minutes wear on, it dawns on you that you had parked nearby. Scared, you race out the door searching for your vehicle. You see a different car where yours should be. You cannot believe this is actually happening to you. What kind of person would do such a thing? Your wallet, house keys, vehicle, iPod, and TV were stolen, and you have no idea who might have taken them. You feel so violated. On top of that it will even be hassle to cancel credit cards and get a new driver's license.

In the next few hours, you make the report to the appropriate authorities and make a list of the things that are missing. At the top of the list are your vehicle, wallet and keys. Then there's your iPod and TV. Beyond that, you realize the burglar also stole fifty dollars, some loose change, your watch, and a treasured keepsake from someone you love. You give this list to the authorities and they inform you that they will get in touch with you if they find a suspect.

Following the reading of the offense (Time 2), participants were asked to complete another measure of need satisfaction and a measure of revenge, avoidance, and benevolence toward an offender (TRIM). Participants were then assigned to one of three conditions: revenge response, avoidant response, or forgiveness response (response descriptions below). There was a short introduction to the responses that was similar

across all responses, following which there was a portion specific to each condition. Participants in the revenge condition read a scenario where the participants got revenge on the offender for the offense. Participants in the avoidance condition read a description of them avoiding the offender. Participants in the forgiveness condition read a description of them forgiving the offender for the offense.

Response introduction. A few days following the burglary, the investigating detective contacts you. The police have apprehended an individual who they believe burglarized your place and stole your vehicle.

Several weeks and months have gone by as you have waited for the criminal trial of the person charged with burglarizing your residence and stealing your vehicle. The perpetrator has to go through a public trial, which gets press coverage in your local paper. The result of the trial is that the perpetrator is found guilty. As part of the sentencing process you are asked by the court to make a recommendation for sentencing since you were the victim. The lawyer who is trying this person tells you that the normal sentence for this crime is several years on probation.

Revenge response. Since the crime you have had to replace everything that was stolen and spent hours taking care of things. You imagine the person having to pay and get what they deserve and more. When the court asks you to suggest a sentence you tell the court that a few years on probation is not enough for the crime. You want this person to pay for what they did to you so you suggest the person spend several years in prison.

Avoidance response. Since the crime you have had to replace everything that was stolen and spent hours taking care of things. You have, however, tried to go on living your life, and to avoid thinking about what happened to you. When the court asks you to suggest a sentence you tell the court that you don't want to have anything to do with the case or the sentencing, and you decline to provide a recommendation.

Forgiveness response. Since the crime you have had to replace everything that was stolen and spent hours taking care of things. Despite this, you have intentionally forgiven and thus you let go of your hurt, and instead focus on what compassionate response you could genuinely have for this person. Although you have forgiven the person you don't want them to not face consequences of their actions. Because of this when the court asks you to suggest a sentence you tell the court to give him several years on probation, the minimum sentence that would still be fair.

After reading the response, participants were again instructed to think about how they felt after their response. Following this description they were asked to complete

another measure of need satisfaction and the TRIM (Time 3). This allowed for an examination of how the different responses led to changes in need satisfaction and forgiveness motivations.

Predictions

1) There would be a decrease in need satisfaction between Time 1 and Time 2. This will show that recalling offenses lead to need depletion. 2) Participants in the forgiveness condition would experience need satisfaction, shown by an increase in need satisfaction scores from Time 2 to Time 3. 3) Participants in the revenge and avoidance conditions would show no increase in need satisfaction from Time 2 to Time 3. 4) Participants in the revenge condition will show a decrease in revenge motivation from Time 2 to Time 3. 5) Participants in the avoidance condition would show a decrease in avoidant motivations between Time 2 and Time 3. 6) Participants in the forgiveness condition would show an increase in the motivation for benevolence between Time 2 and Time 3. No prediction was made about need depletion or satisfaction due to the lack of previous research.

Results

Prediction 1 was that there would be a decrease in need satisfaction from Time 1 to Time 2. Prediction 2 said that participants in the forgiveness condition would experience an increase in need satisfaction from Time 2 to Time 3. Prediction 3 was that participants in the revenge and avoidance conditions would show no increase in need satisfaction from Time 2 to Time 3. These three predictions were analyzed using three SPSS-3.3 ANOVAs (Kirk, 2012) with participant's response condition (revenge,

avoidance, and forgiveness) and time (Time 1, Time 2, and Time 3) being the independent variables and need satisfaction scores (relatedness, autonomy, and competence) being the dependent variables. Means and SDs for all variables can be found in Table 3 and correlations in Table 4.

Table 3
Study 2 Need Satisfaction and Forgiveness Motivations' Means and Standard Deviations

Response Condition		Time 1		Time 2		Time 3	
		Mean	SD	Mean	SD	Mean	SD
Revenge	Relatedness	4.20	3.84	3.90	4.58	3.36	4.58
	Competence	2.07	4.08	2.19	3.83	1.49	4.49
	Autonomy	2.45	3.76	2.48	4.30	1.83	4.24
	Revenge			2.62	0.94	2.71	1.10
	Avoidant			3.86	0.97	3.69	0.73
	Benevolent			2.82	0.84	2.68	0.83
Avoidance	Relatedness	4.26	4.08	4.08	4.19	4.00	3.95
	Competence	2.36	3.77	2.51	3.88	2.11	3.64
	Autonomy	2.81	3.94	2.51	3.84	2.59	4.04
	Revenge			2.95	1.09	2.50	0.99
	Avoidant			3.74	0.76	3.85	0.65
	Benevolent			2.48	0.89	2.74	0.80
Forgiveness	Relatedness	3.12	4.12	3.35	4.69	3.61	4.62
	Competence	1.36	4.40	1.45	4.81	1.39	4.35
	Autonomy	2.23	4.33	1.73	4.39	2.32	4.53
	Revenge			3.04	1.06	2.59	1.03
	Avoidant			3.65	0.77	3.67	0.84
	Benevolent			2.37	0.95	2.94	0.86
Total	Relatedness	3.85	4.04	3.77	4.48	3.66	4.38
	Competence	1.92	4.10	2.04	4.21	1.67	4.16
	Autonomy	2.50	4.01	2.23	4.18	2.25	4.27
	Revenge			2.88	1.04	2.60	1.03
	Avoidant			3.74	0.74	3.74	0.74
	Benevolent			2.55	0.91	2.79	0.83

Table 4
Correlation Table for Study 2 Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. T1 Relate	1.00														
2. T1 Autonomy	0.56*	1.00													
3. T1 Competence	0.56*	0.65*	1.00												
4. T2 Relate	0.81*	0.55*	0.51*	1.00											
5. T2 Autonomy	0.51*	0.77*	0.53*	0.64*	1.00										
6. T2 Competence	0.46*	0.57*	0.76*	0.52*	0.59*	1.00									
7. T3 Relate	0.71*	0.56*	0.51*	0.81*	0.56*	0.53*	1.00								
8. T3 Autonomy	0.55*	0.75*	0.51*	0.63*	0.78*	0.61*	0.68*	1.00							
9. T3 Competence	0.47*	0.54*	0.77*	0.58*	0.58*	0.76*	0.56*	0.60*	1.00						
10. T2 Revenge	-0.19*	-0.16*	-0.08	-0.17*	-0.15	-0.10	-0.08	-0.18*	-0.16*	1.00					
11. T2 Avoid	0.13	0.11	0.08	0.10	0.08	0.09	0.09	0.08	0.11	0.16*	1.00				
12. T3 Benevolence	0.05	0.10	0.07	0.11	0.10	0.09	0.02	0.04	0.12	-0.64*	-0.19*	1.00			
13. T3 Revenge	-0.18*	-0.15*	-0.09	-0.21*	-0.17*	-0.19*	-0.25*	-0.25*	-0.18*	0.65*	0.09	-0.43*	1.00		
14. T3 Avoid	0.03	-0.02	0.03	0.02	-0.02	-0.02	0.02	-0.02	0.08	0.22*	0.58*	-0.33*	0.23*	1.00	
15. T2 Benevolence	-0.02	0.08	0.04	0.07	0.07	0.06	0.11	0.10	0.16*	-0.42*	-0.24*	0.59*	-0.48*	-0.30*	1.00

Note. T1 = Time 1; T2 = Time 2; T3= Time 3. * correlations significant at .05.

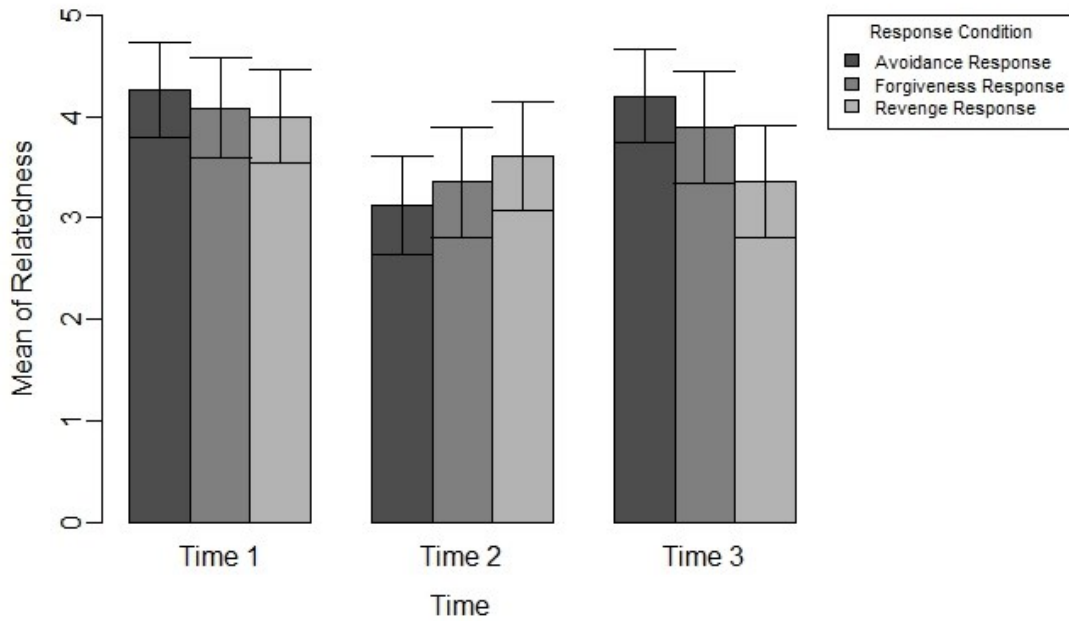


Figure 7. Study 2 Relatedness Need Satisfaction by Time and Response Condition.

Relatedness

For relatedness need satisfaction there was no effect of response condition ($F(2,213) = 0.67, p = 0.51, \omega^2 = 0$), time ($F(2,436) = 0.79, p = 0.62, \omega^2 = 0$), or the interaction ($F(4,436) = 1.98, p = 0.10, \omega^2 = .01$). See Figure 7.

Autonomy

For autonomy there was no effect of response condition ($F(2,213) = 0.39, p = 0.68, \omega^2 = 0$), time ($F(2,436) = 1.16, p = 0.31, \omega^2 = 0$), or the interaction ($F(4,436) = 1.77, p = 0.13, \omega^2 = 0.004$). See Figure 8.

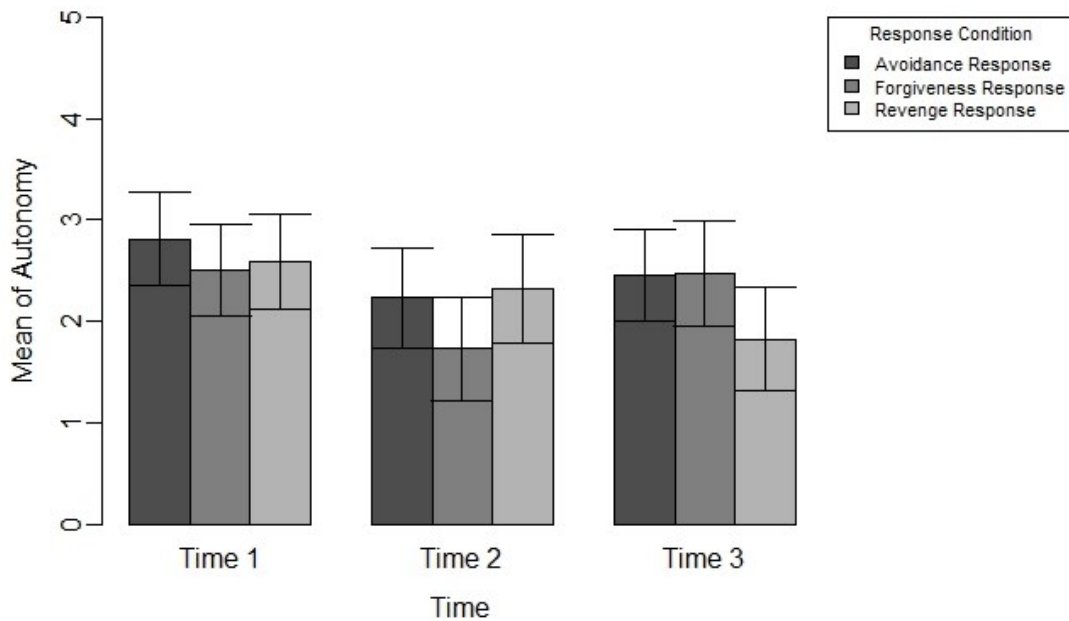


Figure 8. Study 2 Autonomy Need Satisfaction by Time and Response Condition

Competence

For competence there was no effect of response condition ($F(2,213) = 1.08, p = 0.34, \omega^2 = 0$), time ($F(2,436) = 1.93, p = 0.15, \omega^2 = 0.003$), or the interaction ($F(4,436) = 0.57, p = 0.69, \omega^2 = 0$). See Figure 9. There was no change in need satisfaction from Time 1 to Time 2 which does not support prediction 1. There was no change in need satisfaction for participants in the forgiveness condition from Time 2 to Time 3. Imagining a forgiving response did not lead to need satisfaction. There was also no change in need satisfaction for participants in the revenge and avoidance conditions, which suggests that revenge and avoidance do not increase need satisfaction.

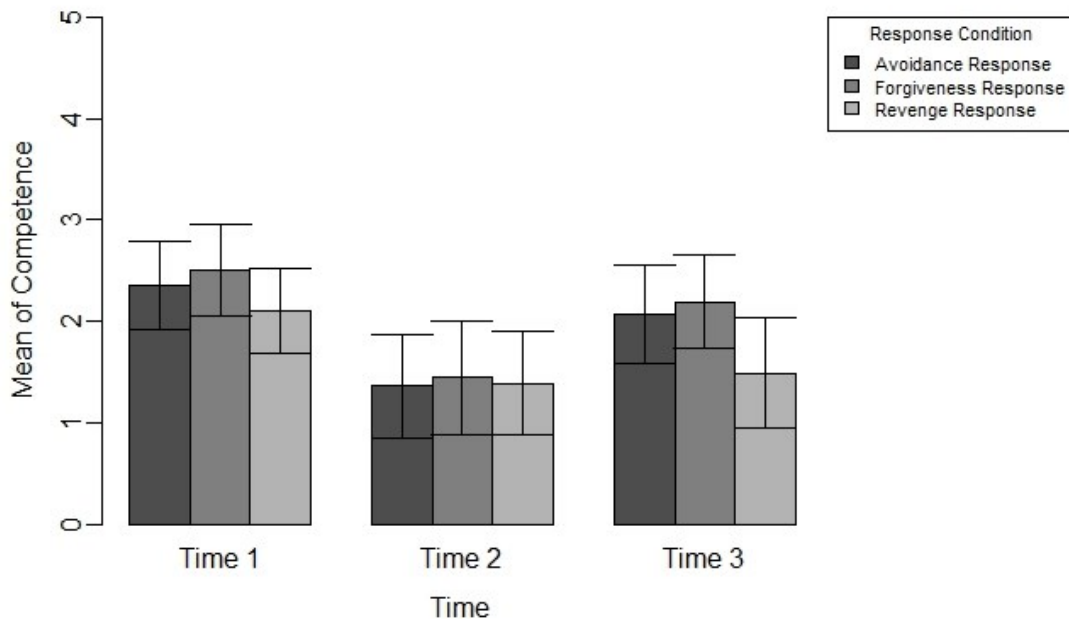


Figure 9. Study 2 Competence Need Satisfaction by Time and Response Condition

Prediction 4 was participants in the revenge condition would show a decrease in revenge motivation. Prediction 5 stated participants in the avoidance condition would show a decrease in avoidant motivations. Prediction 6 stated participants in the forgiveness condition would increase in benevolent motivations. All these predictions were analyzed using an SPSS-3.2 ANOVAs (Kirk, 2012), with the response condition (revenge, avoidance, and forgiveness) and time (Time 2 and Time 3) being the independent variables and participants TRIM scores (revenge, avoidant, and benevolent motivations) being the dependent variables.

Revenge Motivation

The effect of time and response condition on revenge motivation was analyzed to test prediction 4. Prediction 4 stated that participants in the revenge condition would show a decrease in revenge motivation from Time 2 to Time 3. For this result to be

tenable an omnibus test would have to show a significant interaction between response condition and time. The interaction was significant ($F(2,218) = 9.05, p < 0.001, \omega^2 = 0.04$). There was also a significant effect of time ($F(1,218) = 25.75, p < 0.001, \omega^2 = .05$); however, there was no effect of response condition ($F(2,213) = 0.28, p = 0.76, \omega^2 = 0$). See Figure 10.

In order to test prediction 4, treatment contrast interactions were conducted. Results showed that, contrary to the prediction, there was no change in revenge motivation for participants in the revenge response condition ($F(1,218) = 0.26, p = 0.61, \omega^2 = 0$). There were, however, changes in revenge motivation from Time 2 to Time 3 for both the forgiving condition ($F(1,218) = 18.90, p < 0.001, \omega^2 = 0.01$) and the avoidance condition ($F(1,218) = 23.45, p < 0.001, \omega^2 = 0.02$). Participants in the avoidance and forgiving conditions both decreased in revenge motivation from Time 2 to Time 3. Imagining a revenge response in this study did not lead to any change in revenge motivation. Although the means were in the same direction as Study 1 this change was not significant. It is interesting to note that when participants imagined either a forgiving or an avoidant response there was a decrease in revenge motivation.

Avoidant Motivation

The effect of time and response condition on avoidant motivations was analyzed to test prediction 5. Prediction 5 stated that participants in the avoidance condition would show a decrease in avoidant motivation between Time 2 and Time 3. This would also be indicated with a significant interaction between time and the response condition. There was a significant interaction effect ($F(2,218) = 4.91, p = 0.008, \omega^2 = 0.2$). There was no significant effect of time ($F(1,218) = 0.38, p = 0.16, \omega^2 = 0$), or response condition

($F(2,213) = 0.16$, $p = 0.85$, $\omega^2 = 0$). See Figure 11. In order to test prediction 5, treatment contrast interactions were conducted. Contrary to the prediction participants in the avoidance condition showed no change in avoidance motivation following an avoidant response ($F(1,218) = 1.75$, $p = 0.19$, $\omega^2 < 0.001$). For participants in the forgiving condition there was also no effect of imagining a forgiving response on avoidant motivation ($F(1,218) = 0.18$, $p = 0.67$, $\omega^2 = 0$). There was, however, a difference for participants in the revenge condition: they showed a decrease in avoidant motivation after imagining a revenge response ($F(1,218) = 8.40$, $p = 0.004$, $\omega^2 = 0.01$). Participants in the avoidance condition did not change in avoidance motivation from Time 2 to Time 3. Imagining an avoidant response did not lead to a decrease in avoidant motivation, which did not support prediction 5. However, imagining a revenge response did decrease avoidant motivation.

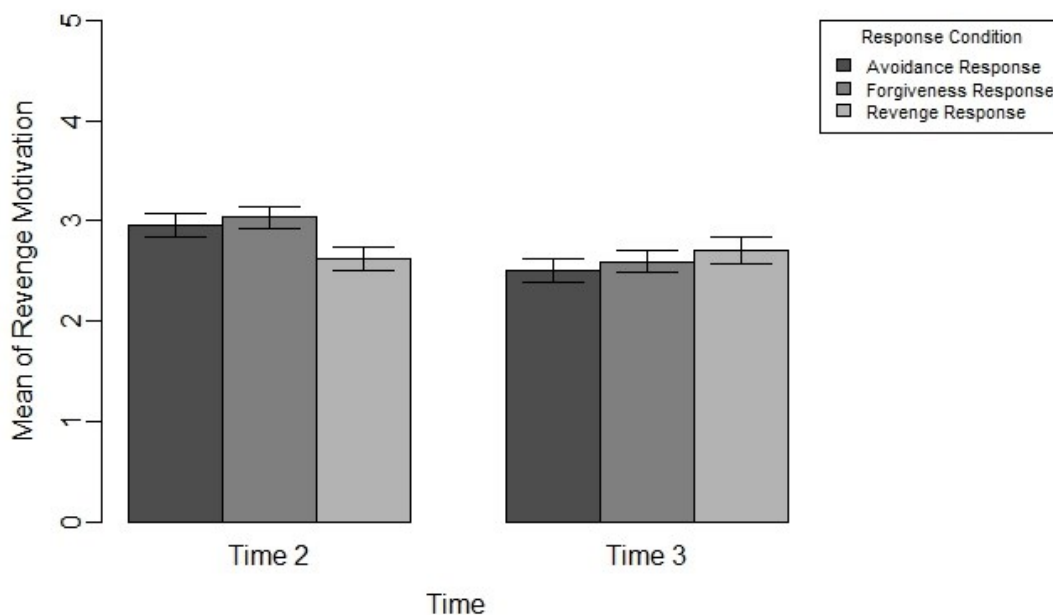


Figure 10. Study 2 Revenge Motivation by Time and Response Condition

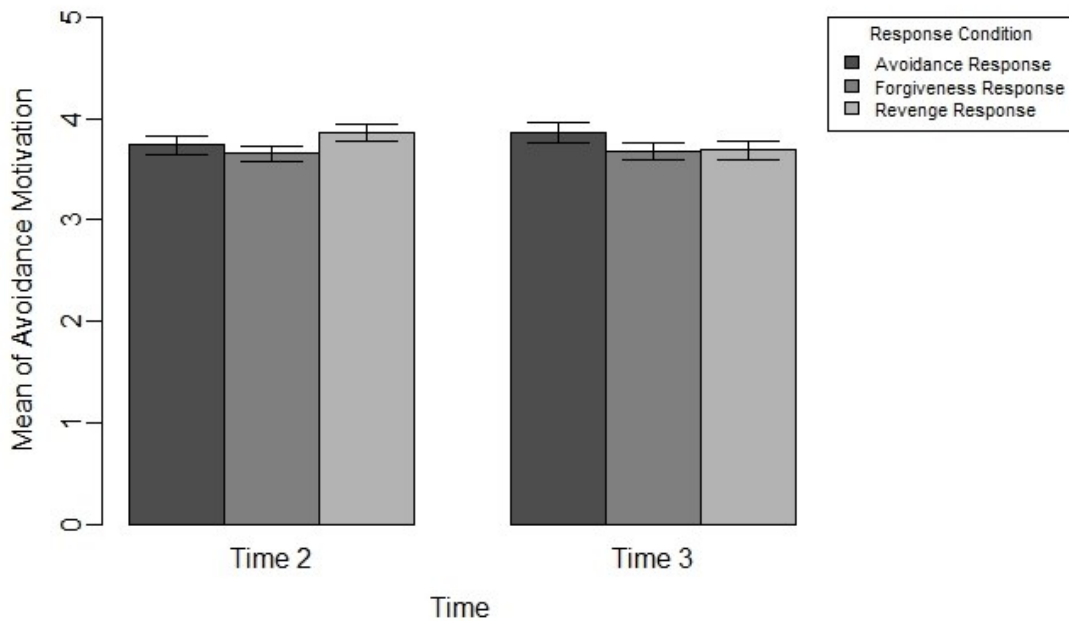


Figure 11. Study 2 Avoidant Motivation by Time and Response Condition

Benevolent Motivation

The effect of time and response condition on benevolent motivation was analyzed to test prediction 6. Prediction 6 stated that participants in the forgiveness condition would show an increase in the motivation for benevolence between Time 2 and Time 3. This prediction was first examined with the interaction term of the omnibus ANOVA. The ANOVA did show a significant interaction between response condition and time ($F(2,218) = 19.14, p < 0.001, \omega^2 = 0.08$). There was also a significant effect of time ($F(1,218) = 20.84, p < 0.001, \omega^2 = 0.04$). There was, however, no effect of response condition ($F(2,213) = 0.86, p = 0.42, \omega^2 = 0$). See Figure 12. In order to test prediction 6, treatment contrast interactions were conducted. As predicted, participants in the forgiveness condition increased in benevolent motivation after imagining a forgiving response ($F(1,218) = 43.60, p < 0.001, \omega^2 = 0.03$). There was also an increase in

benevolent motivations following an avoidant response ($F(1,218) = 9.99, p = 0.001, \omega^2 = 0.01$). There was, however, a significant decrease in benevolent motivations following a revenge response ($F(1,218) = 4.01, p = 0.046, \omega^2 = 0.002$). Imagining a forgiving response increased a participant's benevolent motivation, which supported prediction 6. Also imagining a revenge or an avoidant response both had an effect on benevolent motivation.

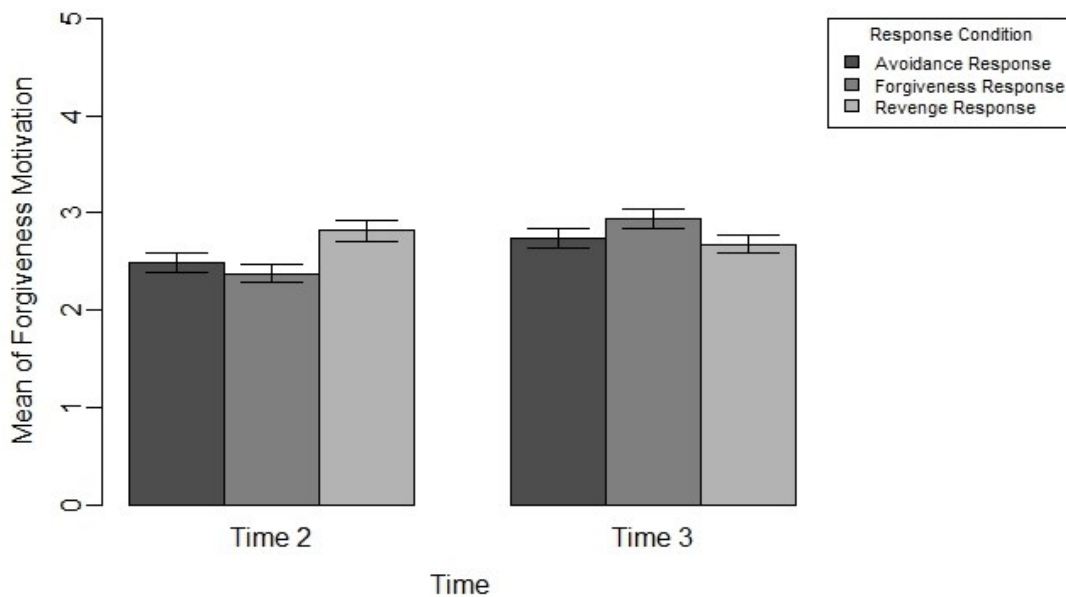


Figure 12. Study 2 Benevolent Motivation by Time and Response Condition

Discussion

Study 2 showed that there was no effect of an offense or an offense response on need satisfaction. As with Study 1 revenge and avoidance responses did not affect need satisfaction. A forgiving response also had no effect on need satisfaction. Revenge, avoidant and forgiving responses all had some effect on forgiveness motivations.

There was again no effect of forgiveness on need satisfaction scores. One explanation for this is that participants were not able to fully imagine how a person would

feel when they are robbed. Using a real offense where it is possible to measure need satisfaction directly following the offense could provide a better opportunity for seeing the hypothesized effects. As predicted revenge and avoidance did not increase need satisfaction.

There were effects of the responses on TRIM scores as was seen in Study 1. For participants in the revenge condition there was a non-significant increase in revenge motivation and a decrease in benevolent motivation. For participants in the forgiveness condition there was a decrease in revenge motivation and an increase in benevolent motivations. Although in Study 2 the difference in revenge motivation was not significant, but the means were in the same direction as Study 1. In Study 1 a forgiving response decreased revenge motivation and increased benevolent motivation. In Study 1 the difference in benevolent motivation in the forgiveness condition was not significant; it was in the same direction as in Study 2. This does suggest a pattern of results from Study 1 to Study 2, at least for revenge and forgiving responses and revenge and benevolent motivations. For revenge and forgiveness the pattern of results is consistent from Study 1 to Study 2. However for avoidance there does not appear to be a pattern from Study 1 to Study 2.

Taken together Study 1 and Study 2 suggest that perhaps offenses have no effect on need satisfaction. However it is clear that responses to an offense do affect forgiveness motivations. Although the pattern for avoidance is unclear it does appear that there is a pattern for forgiveness and revenge responses with revenge and benevolence motivations.

CHAPTER FOUR

Study 3: Lab Experiment

Introduction

Since recall studies cause bias in the types of offenses people recall and scenario studies offer very little psychological realism, a lab study was conducted to further establish the theory. Additionally Study 3 examined if different amounts of the motivations predict the response a participant chooses. In Study 3, participants took part in a study where an offense was created in the lab. As part of the study people's revenge, avoidant, and benevolent motivations were manipulated. Need satisfaction was measured both before and after the offense to assess need depletion. People were allowed to then respond to this offense with revenge, avoidance, and/or forgiveness. Allowing participants to choose their response in Study 3 was meant to lead to a feeling of autonomy that was not present in Studies 1 and 2, it added realism to the situation, and allowed me to examine the effect of choosing the response.

Hypotheses

Study 3 had five hypotheses 1) An offense would lead to depletion of a psychological need. 2) Need depletion would lead to motivation for increased revenge, avoidance, and decreased benevolence, 3) Taking revenge and avoiding would not lead to need satisfaction, (4) Benevolence would lead to need satisfaction, and 5) Different levels of motivations would predict responses to the offense.

Methods

Participants

Participants were 90 (18 males, 70 females, 2 did not respond) Baylor psychology students that participated for course credit. The sample was diverse with 51 Caucasian, 9 African American, 13 Hispanic, 12 Asian, and 3 identified as other. The average age for participants was 18.9 yrs. Due to suspicion seven people were removed with 2 additional participants removed because of experimenter error. Retaining these people in the dataset did not affect the results.

Procedure

Participants came individually to the lab. They were told they were participating in a group with three other psychology students. They were told the study was examining how dyads interact within groups. Participants were told that in each round, two people in the group were randomly paired to do a partnership interaction. The number of rounds was random, with at least four, and not even the experimenter knew exactly how many rounds there were. All study interactions happened over the computer. In actuality participants worked alone and all interactions were preprogrammed into a computer. Participants were told that in each round, one person in the dyad would have the opportunity to distribute 100 tickets.

Prior to the first round participants completed a measure of need satisfaction (Time 1). In the first round the actual participant was always paired with “Participant A”. In this round participants received a distribution of twenty tickets, and Participant A received eighty. For some randomly assigned participants, this distribution was by chance (Control group) and for other participants it was a Distribution round with the

fake Participant A as the distributor (Offense condition). For participants in the control group this resulted in the same negative outcome as those in the experimental group, but without an offense. For those in the offense condition, the unfair distribution by Participant A was the offense. Following this round, participants completed a measure of need satisfaction (Time 2) and a TRIM measure (modified to account for the fact there was no real relationship between the participants).

Participants were next given an IAT, which they were told measured the underlying feelings that the participants had for their partner. After completing the IAT participants were randomly assigned to one of four groups: revenge, avoidance, benevolence, and neutral group. Participants in the revenge group received false feedback that they wanted to get back at their partner. Participants in the avoidance group received false feedback that they wanted to avoid their partner. Participants in the benevolence group received false feedback that they wanted to be kind toward their partner. Participants in the neutral group received false feedback that they wished the outcome had been more in their favor. After this feedback the next round started. In the next round the real participant was again paired with Participant A and was given the opportunity to make a distribution decision.

In this round all participants were the distributor. They were also told that in this round, in addition to distributing the tickets they could choose to spend tickets on two things. First they could buy the chance that all of their partner's tickets be taken from their partner. Participants would keep their tickets, but all of their partner's tickets would be taken from them. This was the measure of revenge behavior. They could also buy the chance that they would never be paired with their current partner again. This became the

measure of avoidant behavior. For each ticket a participant put toward either of these options the chance that it would happen would go up by 1%. If they put all 100 tickets toward the option then the chance was 100%. The number of tickets distributed to the other participant was the measure of benevolence. Following the participants choice they again completed a measure of need satisfaction, the modified TRIM measure, and other related measures.

Predictions and Statistical Analysis

1) For participants in the offense condition there would be a decrease in need satisfaction scores from before Round 1 to after Round 1. This would show that offenses lead to need depletion. 2) Participants in the revenge condition would pay more tickets toward the revenge response in Round 2. 3) Participants in the avoidance condition would pay more tickets toward the avoidant response in Round 2. 4) Participants in the benevolent condition give more tickets to their partner in Round 2. 5) The more tickets distributed to the other participants in Round 2 would result in a greater increase in need satisfaction scores from after Round 1 to after Round 2. 6) Participants who gave more tickets to the revenge and avoidance behaviors would show no increase in need satisfaction from after Round 1 to after Round 2.

Results

Manipulation Checks

In order to determine if the unfair distribution in Round 1 was seen by participants as an offense, three CR-3 ANOVAs were conducted. Response condition (revenge, avoidance, and forgiveness) was the independent variable, and emotions following Round

1 were the dependent variables. Results (means and SDs in Table 3) showed that for positive emotions there were no differences between the offense conditions and the no offense condition ($F(4,67) = 2.974, p = 0.10$). For negative emotions and empathic emotions there were no differences between the offense conditions and the no offense condition ($F(4,67) = 1.52, p = 0.21$; $F(4,75) = 2.64, p = 0.07$ respectively). This suggests that perhaps the unfair distribution was not seen as an offense for the participants.

Table 5
Study 3 Means and Standard Deviations for Need Satisfaction and Motivations

Feedback Condition		Time 1		Time 2		Time 3	
Avoidance		Mean	SD	Mean	SD	Mean	SD
	Relatedness	6.39	3.90	5.06	5.42	4.83	4.49
	Competence	3.89	4.59	3.56	5.12	3.33	3.83
	Autonomy	4.67	3.36	4.17	3.29	4.89	3.60
	Positive			2.74	1.11	3.87	1.71
	Negative			4.15	2.04	2.23	1.09
Revenge	Empathy			2.43	1.23	2.99	1.72
	Relatedness	7.28	3.16	7.00	3.99	5.56	3.67
	Competence	4.56	2.87	5.44	3.22	5.50	3.01
	Autonomy	4.50	4.31	4.56	4.22	4.22	3.61
	Positive			2.27	1.15	3.87	1.72
Forgive	Negative			3.24	2.23	2.17	1.11
	Empathy			2.03	1.04	2.84	1.36
	Relatedness	7.18	4.17	7.35	4.65	6.00	4.44
	Competence	4.29	3.89	4.94	3.96	5.12	3.04
	Autonomy	4.76	3.61	5.47	3.74	6.65	3.86
Chance	Positive			2.85	1.36	3.61	1.76
	Negative			3.25	2.06	1.93	0.81
	Empathy			2.54	1.29	2.79	1.25
	Relatedness	7.68	2.89	7.79	2.99	5.16	4.57
	Competence	5.37	3.96	5.53	4.19	6.58	4.48
No Offense	Autonomy	4.47	3.94	4.53	4.54	5.21	4.84
	Positive			2.27	1.41	3.03	1.73
	Negative			3.64	1.79	2.28	1.05
	Empathy			2.03	0.99	2.28	1.22
	Relatedness	6.71	3.51	6.88	4.31	5.24	3.90
	Competence	4.00	4.30	3.94	3.67	5.65	3.64
	Autonomy	4.47	3.24	3.94	3.91	5.35	3.72
	Positive			1.66	0.78	2.81	1.49
	Negative			2.29	1.29	1.38	0.72
	Empathy			1.62	0.93	2.45	1.46

Need Depletion

Prediction 1 stated that participants in the offense condition would decrease in need satisfaction scores from Time 1 to Time 2. Paired samples t-tests were conducted on the three need satisfaction scores to test this prediction. There was no change in relatedness need satisfaction from Time 1 to Time 2 ($t(72) = 1.13, p = 0.26, \omega^2 = 0$; for means and *SDs* see Table 5). There was also no change in autonomy or competence need satisfaction from Time 1 to Time 2 ($t(72) = 0.69, p = .49, \omega^2 = 0$; $t(80) = -1.23, p = 0.22, \omega^2 = 0$ respectively). Experiencing the offense did not deplete needs, which did not support prediction 1.

Revenge, Avoidance, and Benevolence Behaviors

Prediction 2 stated participants in the revenge feedback condition would pay more tickets toward the revenge response in Round 2. Prediction 3 stated participants in the avoidance feedback condition would pay more tickets toward the avoidant response in Round 2. Prediction 4 stated participants in the benevolent feedback condition would give more tickets to their partner in Round 2. These predictions were analyzed using a multivariate analysis of variance with condition (revenge, avoidant, and benevolent) as the independent variable. The number of tickets distributed, the number of tickets paid to the revenge response, and the number of tickets paid to the avoidant response were the dependent variables. Results of the analysis were not significant ($\lambda(3,52) = 0.87, p = 0.64$). Participants in the revenge feedback condition did not give more tickets to the revenge response, participants in the avoidance feedback condition did not give more tickets to the avoidance response, and participants in the forgiveness feedback condition

did not give more tickets to the forgiving response. These results did not support predictions 2 through 4.

Distribution and Need Satisfaction

Prediction 5 stated the more tickets distributed to the other participant in Round 2 would result in a greater increase in need satisfaction scores from Time 2 to Time 3.

Prediction 6 stated that participants who give more tickets to the revenge and avoidance behaviors would show no increase in need satisfaction from Time 2 to Time 3.

Predictions 5 and 6 were analyzed using three multiple regressions with the amount of tickets given to each response as the predictor variables and change in need satisfaction scores as the outcome variables. Mean centered Time 2 need satisfaction scores were entered into each regression to control for initial differences. Means and SDs for distribution scores can be found in Table 6.

Table 6
Means and Standard Deviations for Round 2 Resource Distributions by Condition

Condition	Forgiveness Distribution		Revenge Distribution		Avoidance Distribution	
	Mean	SD	Mean	SD	Mean	SD
Avoidance	21.41	16.83	5.59	10.21	5.59	5.83
Forgive	20.67	15.1	7.46	8.73	5.53	6.70
Revenge	16.39	13.57	14.50	19.36	4.00	4.59
Chance	22.82	14.83	2.76	7.67	3.94	6.19
No offense	25.42	19.82	5.83	9.85	3.33	3.89

Results of the different regressions showed that, in general, ticket distribution did not predict change in need satisfaction (See Table 7). For relatedness, a participant's distribution did not predict change in relatedness from Time 2 to Time 3. Initial need

satisfaction score was the only predictor. Change in competence scores was also not predicted by participants' distributions. Competence was predicted by initial Time 2 competence score. Change in autonomy scores was predicted by a person's revenge distribution such that as a person's revenge distribution went up autonomy scores went down. Change in autonomy was also predicted by initial Time 2 autonomy scores. Giving more tickets to the partner in Round 2, the forgiving response, did not predict greater need satisfaction. Forgiving a person did not increase need satisfaction, count to predictions. The revenge response decreased a person's autonomy need satisfaction, but had no effect on competence or relatedness. For people who took revenge there was a decrease in autonomy need satisfaction. For the avoidance response there was no change in need satisfaction which does support prediction 6.

Table 7
Study 3 multiple regression results.

Predictor	Coefficient	SE	t	p
Relatedness				
intercept	2.85	1.12	2.55	0.01*
Forgiveness	-0.05	0.03	-1.69	0.10
Revenge	-0.07	0.04	-2.02	0.05
Avoidance	0.07	0.08	0.87	0.39
Round 2 Relatedness	0.42	0.10	4.10	0.00***
Competence				
intercept	-0.52	0.75	-0.69	0.49
Forgiveness	0.01	0.02	0.49	0.63
Revenge	-0.01	0.03	-0.48	0.63
Avoidance	0.00	0.06	0.04	0.97
Round 2 Competence	0.28	0.08	3.45	0.00***
Autonomy				
intercept	1.20	1.04	1.14	0.26
Forgiveness	-0.04	0.03	-1.16	0.25
Revenge	-0.08	0.04	-2.28	0.03*
Avoidance	-0.12	0.07	-1.62	0.11
Round 2 Autonomy	0.45	0.12	3.77	0.00***

Discussion

In general there were no effects seen in Study 3. The unfair distribution did not make participants more negative toward their partner. This is contrary to other research (Carlisle et al., 2012), which showed following an unfair distribution participants are more negative toward their partner. There was also no change in need satisfaction for participants who were in the offense condition.

There was also no effect of feedback condition on whether participants chose to get revenge, avoid or forgive their partner for the unfair distribution. This is the first study that attempted to manipulate participant's motivations by using a bogus IAT. It could be that motivations were not affected by the IAT. Unfortunately there was no data that can be used to test whether this manipulation worked.

There was also no effect of a person's response on subsequent need satisfaction. This does not support the hypothesis that forgiveness would increase need satisfaction. It is possible that this is also a result of people not perceiving the unfair distribution as an offense. Study 3 showed that offenses do not affect need satisfaction and responses to offenses also do not affect need satisfaction. This supports results of both Study 1 and Study 2.

CHAPTER FIVE

General Discussion

There was no change in need satisfaction following an offense, and no increase in need satisfaction following any type of response. Imagining a response to a real offense and an imagined response did have an effect on the TRIMs. The effect of avoidance was not consistent; however the effects of revenge and forgiving responses were consistent across Study 1 and Study 2. There was, however, no effect of responses in Study 3. The findings will be discussed in detail in different parts. First those findings related to need satisfaction will be discussed, and then findings related to the TRIMs.

Need Satisfaction

Except for Study 1, there was no change in need satisfaction following an offense. There are several suggestions for why there was no effect of need satisfaction in these studies. First, Study 1 asked participants to describe a real offense; it is possible that describing an offense after the fact does not affect need satisfaction. If an offense does lead to need depletion the change most likely happened right after the offense. Asking participants to describe the offense at a later time might not be enough to change it again. Future studies should have participants complete surveys closer to the time of the offense. For Study 2, participants might not have felt imagining an offense was distressing enough to cause a change in need satisfaction. Although Study 3 attempted to overcome these weaknesses, because participants in the offense condition did not seem to feel more negative toward their partner than those in the no offense condition, the offense

might not have been severe enough. Future studies should attempt to develop a more severe offense.

Although other studies have used experimental methods to deplete needs (Sheldon & Schöler, 2011; Sheldon et al., 2011; Sheldon, Ryan, Deci, & Kasser, 2004), no other studies have attempted to by using an interpersonal offense. Other studies have used a prompt to induce changes in need satisfaction. For example, Sheldon and Gunz (2009) were successful at depleting participant's needs by giving feedback to a fake personality test. This could be similar to our asking participants to describe a response and imagine a response. Based on this and other previous studies it was thought that describing a past offense, imagining an offense, and experiencing one in the lab would deplete a person's needs. The lack of change in need satisfaction following an offense suggests that an offense does not deplete a person's needs.

Need satisfaction was not affected by the type of response a person imagined happening, or in Study 3 the type of response the participants chose. It is possible that offenses do not affect need satisfaction, because offenses also did not deplete needs and forgiveness did not increase need satisfaction. Other studies have shown that different responses can lead to need satisfaction of a specific need. For example, Sheldon et al. (2011) showed that participants who used Facebook increased in relatedness need satisfaction, but no other needs were satisfied. There are some possible explanations for why these studies showed no change in need satisfaction following a forgiving response to an interpersonal offense. It is possible that imagining a forgiving response is not effective enough to increase need satisfaction. These studies were the first that attempted to satisfy a person's needs by having them imagine a behavior.

TRIM Scores

Although TRIM scores did not change in the hypothesized direction for any of the studies, there were changes in TRIM scores. There did not appear to be any pattern for the changes with avoidance; however there did seem to be a pattern with revenge and forgiving responses. The pattern for avoidance could be more complicated because avoidance following an offense can serve two functions (Barnes et al., 2009). First a victim might avoid an offender to prevent being hurt again, or second to get revenge for the offense. The different patterns in the avoidance condition from Study 1 and Study 2 could result because victims are avoiding for different reasons. One possible reason for the differences seen in Studies 1 and Studies 2 could be because of differences in the offenses. Study 1 had participants recall offenses which might have resulted in offenses within a relationship; this type of offense might lead to more avoidance to get revenge. Study 2 had participants imagine a robbery, which was committed by a stranger. This type of offense might lead to participants avoiding so they do not get hurt again. Future research should attempt to examine avoidance following an offense in order to determine if there is a pattern. Researchers should examine different types of offenses to determine if different offenses encourage different reasons for avoidance.

Witvliet et al. (2008) showed that a revenge response resulted in a decrease of revenge motivation, but had no effect on any of the other motivations. Although the data here showed that taking revenge did have an effect on need satisfaction, it showed different results from Witvliet et al. In Study 1 a revenge response increased revenge motivation instead of decreasing it, and in Study 2 although the means were in the same direction as those found in Study 1 the difference did not reach significance. This might

suggest that in some instances revenge might actually lead to an increase in revenge motivation. This is in line with the idea of the injustice gap (Worthington , 2006) which suggests that when a victim takes revenge the offender will in turn become offended and this will lead to future retaliation by the offender. After the offender retaliates the victim will now want to retaliate again. These retaliations can go back and forth in a continuous cycle. The results that taking revenge leads to more revenge motivation suggests that as, Worthington posited, revenge will lead to an increase, rather than a decrease, in the injustice gap. This could be important for counselors who are working with people who are thinking of revenge. If taking revenge does increase revenge motivation rather than decrease it in some circumstances, counselors should endeavor to discourage victims from taking revenge when applicable. Another difference in these studies from Witvliet et al. (2008) is that a revenge response also affected other motivations besides just revenge. For example in Study 1 a revenge response decreased benevolent motivations, and in Study 2 it decreased avoidant motivations.

The pattern of results for forgiveness in Studies 1 and 2 support the previous research in forgiveness motivations. This research (McCullough et al., 1998, 2001) has suggested that forgiveness is characterized by a decrease in revenge motivation, a decrease in avoidance motivations, and an increase in benevolent motivations. Studies 1 and 2 also highlight the importance of examining revenge and avoidant responses to offenses as well as forgiving responses. Much of the previous research in the area has not focused at all on revenge and avoidance and only studied forgiveness.

For revenge and forgiveness responses the pattern of results is consistent from Study 1 to Study 2. In Study 1 in the revenge response condition there was an increase in

revenge motivation, and a decrease in benevolent motivation. Although in Study 2 the difference in revenge motivation was not significant, the means were in the same direction as Study 1. In Study 1 a forgiving response decreased revenge motivation and increased benevolent motivation. Although in Study 1 the difference in benevolent motivation in the forgiveness condition was not significant, it shows the importance of examining all the possible responses to an offense.

Limitations

The lack of results with need satisfaction may also have been due to the limitations of each of the studies. Study 1 had participants recall an offense. Using a recalled response could allow for a significant change in motivations and need satisfaction to have happened before participation. Study 2 asked participants to imagine a response. Participants might not have been able to fully imagine how someone feels when they are robbed. Study 3 attempted to utilize an actual standardized offense to increase realism and maintain control. Although similar offenses have been used in the past (Carlisle et al., 2012) this offense might not have been severe enough. Although each of the studies attempted to show change over time the limited time frame of each of the studies might not have allowed for changes in need satisfaction to have resulted. Future studies should use longitudinal methods in order to give time for changes in need satisfaction to happen.

Implications

These studies did not show support for many of the hypotheses, from this it did not appear that revenge, avoidance, or forgiveness will increase a person's need

satisfaction. This also suggests that the TPM does not apply to forgiveness or responses to an offense. The results also did not suggest that forgiveness motivations will predict responses to an offense. However they did show that following an offense revenge, avoidance, and forgiveness can all affect the forgiveness motivations that a person feels. Although some research in forgiveness has examined revenge and avoidance (Witvliet, Worthington et al., 2008) this research is the first to allow participants to imagine their own revenge and avoidant responses. Although Witvliet et al. (2008) had participants imagine holding a grudge in their study the grudge instructions were very specific. In Study 1 participants were allowed to imagine their own revenge response. This further suggests that in future studies researchers need to examine revenge and avoidance responses to offenses and not just forgiving responses.

APPENDIX

APPENDIX A

Measures

Balanced Measure of Psychological Needs

Please read each of the following statements carefully, thinking about how true it is for you.

1	2	3	4	5
no agreement		some agreement		much agreement

1. I felt a sense of contact with people who care for me, and whom I care for.
2. I was lonely.
3. I felt close and connected with other people who are important to me.
4. I felt unappreciated by one or more important people.
5. I felt a strong sense of intimacy with the people I spent time with.
6. I had disagreements or conflicts with people I usually get along with.
7. I was successfully completing difficult tasks and projects.
8. I experienced some kind of failure, or was unable to do well at something.
9. I took on and mastered hard challenges.
10. I did something stupid, that made me feel incompetent.
11. I did well even at the hard things.
12. I struggled doing something I should be good at.
13. I was free to do things my own way.
14. I had a lot of pressures I could do without.

15. My choices expressed my “true self.”
16. There were people telling me what I had to do.
17. I was really doing what interests me.
18. I had to do things against my will.

Transgression-Related Interpersonal Motivations Inventory

For the questions on this page, please indicate your current thoughts and feelings about the person who recently hurt you. Use the following scale to indicate your agreement with each of the questions.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree.	Strongly Agree

1. I'll make him/her pay.
2. Wish that something bad would happen to him/her.
3. Want him/her to get what he/she deserves.
4. Going to get even.
5. I want to see him/her hurt and miserable.
6. I keep as much distance between us as possible.
7. I live as if he/she doesn't exist, isn't around.
8. I don't trust him/her.
9. I find it difficult to act warmly toward him/her.
10. I avoid him/her.

11. I cut off the relationship with him/her.
12. I withdraw from him/her.
13. Even though his/her actions hurt me, I still have goodwill for him/ her
14. I want us to bury the hatchet and move forward with our relationship
15. Despite what he/she did, I want us to have a positive relationship again
16. I have given up my hurt and resentment.
17. Although he/ she hurt me, I put the hurts aside so we could resume our relationship.
18. I forgive him for what he/she did to me.
19. I have released my anger so I could work on restoring our relationship to health.

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