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INFLUENCE OF POSITIVE EXPECTANCIES AND ADAPTIVE GOAL INVESTMENT ON
RELATIONSHIP ABUSE

By

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Influence of Positive Expectancies and Adaptive Goal Investment on Relationship Abuse

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According to the Bureau of Justice Statistics 21.5% of women and 3.6% of men were identified as victims of intimate partner violence (IPV) between 2001 and 2005 (Catalano, 2007). However, it is likely that these are underestimated rates due to un-reported incidents of IPV. A national survey conducted by the Centers for Disease Control and Prevention found that 35.6% of women and 28.5% of men reported having experienced rape, physical violence, and/or stalking by an intimate partner at some time in their life (Black, Basile, Breiding, Smith, Walters et al., 2011). Several attempts have been made to address the problem of IPV and increase understanding of the processes related to ending or changing violent relationships (e.g., Anderson, 1997; Burke, Gielen, McDonnell, O'Campo, & Maman, 2001; Little & Kantor, 2002; McPhail, Busch, Kulkarni, & Rice, 2007). Additional research addressing the process through which violence occurs may further our knowledge regarding how to intervene in and prevent IPV. Previous research has suggested that stress and coping models, in particular, Scheier and Carver's (2003) model of behavioral self-regulation, may be useful in understanding relationship violence (Armstrong & Fiore, 2010). Studies using aspects of this model have been found to be effective in describing the influence of positive expectancies, goals, and goal changes on the behaviors of individuals coping with cancer (Scheier & Carver, 2001), AIDS (Moskowitz, Folkman, Collette, & Vittinghoff, 1996) and heart disease (Boersma, Maes, Joekes, & Dusseldorp, 2006). However, this model has yet to be applied to the stress and coping that accompanies relationship violence. The following study applies Scheier and Carver's model of behavioral self-regulation to better understand the influence of positive expectancies, goals, and coping on relationship violence in a community sample of young adults (ages 18-25).

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CHAPTER 1

Influence of Positive Expectancies and Adaptive Goal Investment on Relationship Abuse

Violence is far too prevalent among intimate partners. Government estimates of reported intimate partner violence (IPV) indicate that over one in every five women and over three in every one hundred men were identified as victims of IPV between 2001 and 2005 (Catalano, 2007). Furthermore, it is likely that these estimates are low, given that most IPV goes unreported. Highlighting this issue, a recent national survey conducted by the Centers for Disease Control and Prevention (CDC) found that 35.6% of women and 28.5% of men reported having experienced IPV at some point in their lives (Black, Basile, Breiding, Smith, Walters et al., 2011).

Research has indicated that the repercussions of IPV are extensive. Black and her colleagues (Black et al., 2011) found that 28.8% of women and 9.9% of men who had experienced IPV reported some type of negative impact (i.e., fearfulness, concern for safety, post-traumatic stress disorder [PTSD] symptoms, injury, needing medical care, needing housing services, needing victims advocate services, needing legal services, contacting a crisis hotline, missing work/school, or contracting a sexually transmitted disease). Jones, Hughes and Unterstaller (2001) found that women who have experienced IPV are at higher risk for depression, substance use, and PTSD. Furthermore, as a consequence of partner violence, between three and ten million children are exposed to IPV each year (Pawelko & Koverola, 2007). Studies show that, children who have witnessed IPV are at greater risk for negative outcomes, including: experiencing additional forms of child abuse (Hughes, Gordon, & Poe, 2004; Pawelko & Koverola, 2007) mental health disorders (Haight, Shim, Linn, & Swinford,

2007; Owen, Thompson, & Kaslow, 2006), behavioral problems (Owen et al., 2006), and impaired relationship development (Davies & Struge-Apple, 2007; Pawelko & Koverola, 2007).

There is significant controversy regarding the rates and effects of IPV between genders. One meta-analysis found that women were more likely to use physical aggression than men (Archer, 2000). However, the same study also showed that men were more likely to inflict injury. Research also found that men and women attending college showed approximately equal rates of violence toward their partners, with 17% of men and 16% of women reporting that they had experienced violence from a partner in the last 6 months (Saewyc et al., 2009). Though rates of violence toward men are likely higher than reported by the Bureau of Justice Statistics (Catalano, 2007), more research needs to be conducted on men to understand the true effect IPV has on this population. Despite some research limitations, it is clear that the effects of IPV are prevalent and devastating for people exposed to and experiencing IPV.

As previously stated, research regarding actual rates of IPV among genders is still unclear. This study will attempt to reach a better understanding of how violence occurs by studying individuals of all genders, including transgendered individuals, as there is little research about IPV in this population. More specifically, the purpose of this study is to look at the utility of Scheier and Carver's model of behavioral self-regulation (BSR; e.g. Carver & Scheier, 1982; Scheier & Carver 2001, 2003) to increase understanding of factors that might influence violence in relationships. This model provides an opportunity to study the factors that might contribute to the decision to use violence. The following sections will describe the most predominant theories currently being used to understand IPV. The intention of this review is to understand the strengths and weaknesses of models already applied to IPV research and to propose an alternate model (the BRS model) for understanding IPV.

Feminist Theory

Generally, feminist theory states that violence toward women is fostered by social views that men should hold dominant roles over women (Anderson, 1997; Dobash & Dobash, 1979; Dutton, 2010). According to feminist theory, IPV is more likely to occur against women because of these oppressive social constructs.

Feminist theory is predominant in the study of IPV and is credited with bringing about many of the changes in the criminal justice system regarding violence against women, including more severe consequences for IPV offenses and mandated treatment for IPV offenders (McPhail, Busch, Kulkarni, & Rice, 2007). However, arguments have been made that the laws enacted due to the influence of feminist theory may be gender biased. A study by Carney and Buttell (2004) cited an increase in women sentenced to mandatory treatment for violence as a result of warrantless arrest laws. They indicate that warrantless arrest laws, which do not require the victim to press charges for an arrest to be made, were intended to increase arrest rates for male offenders. The results, however, have been surprising in that more females have been arrested under these laws (Carney & Buttell, 2004). Put differently, laws intending to correct a perceived flaw in the justice system, that violence against women was going unpunished, actually served to expose the reality that women are also guilty of perpetrating violence toward their partners, shedding new light on the complexity of IPV.

In accordance with the ideas of feminist theory, several studies have shown men to be more likely to perpetrate violence (e.g., Catalano, 2007; Center for Disease Control and Prevention, 2003; Tjaden & Thoennes, 2000; World Health Organization, 2002). Additional research has found gender and sexism to be an important factor in violent acts both in and out of the home. In a study using a community sample of women, 100% of the women reported

experiencing sexist discrimination, defined as “gender-specific life events or gender-specific stressors,” in other words, discrimination as a result of gender, in the past year (Berg, 2006, p. 973). More than 63% of participants reported being “picked on or physically harmed” because they were women (Berg, 2006, p. 974). This research indicates that threats based on gender are a common occurrence for many women.

Multiple studies also show that women experience gender bias in the workplace. For example, the United States Bureau of Labor Statistics (USBLS; 2009) found that women earned about 80% of what males earned on average in 2008. Other studies have found that women often encounter “gendered” work policies and the “glass ceiling,” which prevents them from progressing in the work place (e.g., Baxter & Wright, 2000; Hultin, 2003; Kwesiga, Bell, Pattie, & Moe, 2007; Sampson & Moore, 2008). This inequality may be particularly detrimental for women experiencing IPV. For example, in a review of the effects of work policies for women experiencing IPV, Kwesiga, Bell, Pattie, and Moe (2007) explain that IPV is likely to influence women’s productivity and attendance, yet little is offered by employers to assist women in violent relationships, and women are often penalized for missing work, rather than offered support or assistance. Kwesiga and her colleagues (2007) also found that women who are not fulfilling typical gender-roles in their relationships (e.g., women who are making more money than their partner or functioning as the primary provider) are more likely to experience increased abuse from partners when those persons hold strong beliefs about gender norms. These results show the pervasiveness of gender inequalities and the adversity that women encounter in their day-to-day lives. Gender inequality influences all women and may be particularly harmful and evident for women experiencing relationship violence.

Studies assessing the effect of social views of violence have supported feminist theory. Sellers, Cochran, and Branch (2005) conducted a study using individuals in an intimate relationship to determine if greater perceived acceptance of violence would be related to higher use of violence. Results from their study showed a greater likelihood of abuse when more social approval was anticipated. Feminist models of violent behavior are also apparent in general social views. Social views of “the perfect family” may influence women to aspire to a certain ideal despite the severity of abuse they are experiencing. Research on women experiencing IPV has found that women who asked for help in leaving a relationship were often told to remain for the sake of their marriage or their children (Armstrong & Fiore, 2010; Burke et al., 2001). In studies addressing why women remained in violent relationships, many women referred to their desire to remain a family and to provide a father figure for their children (Armstrong & Fiore, 2010; Ford-Gilboe, Wuest, & Merritt-Gray, 2005; Hendy, Eggen, Gustitus, McLeod, & Ng, 2003; Levendosky, Lynch, & Graham-Bermann, 2000). These findings support the notion that social acceptance of violence and social expectations of gender roles may influence individuals to remain in a violent relationship.

On the other hand, some aspects of feminist theory have been called into question. In a recent article, Dutton (2010) describes some of the weaknesses of feminist theory, including studies which use self-selected subject samples, such as women from domestic violence shelters, and men from court-mandated treatment groups, to generalize to the entire population. Dutton (2010) also states that studies have shown that the majority of men in North America do not find it acceptable to use violence against their spouse, thus disputing the notion that violence against women is an acceptable behavior in our society. Additionally, social views of male roles and the expectation that men should dominate in a relationship, may prevent men from seeking help

when experiencing IPV, for fear they will be judged as being non-masculine, resulting in underreporting of violence toward men (George, 2007; Hamel, 2007). Another issue that is not addressed by feminist theory is the evidence provided in multiple studies which show equal rates of violence perpetrated by men and women, as well as relationships in which both partners are violent (e.g., Appel & Holden, 1998; Archer, 2000).

Gendered social views clearly affect the functioning and well-being of women both in and out of the home. Additionally, some studies also show that men are more likely to inflict injury than women when violence is used (Archer, 2000; Straus, 2004; Tjaden & Thoennes, 2000). This often results in the utilization of more medical services and more time taken off work. These studies show that sequelae for women who experience violence may be more consequential. Despite these findings, evidence showing high rates of male victimization by their female partners remains to be explained and better understood. Feminist theory does not adequately address violence against male partners by female partners, violence against same sex partners, or mutual violence between partners (Carney & Buttell, 2004; George, 2007; Graham-Kevan, 2007).

Results from these studies show that both the rates of violence experienced and perpetrated remain unclear. More importantly, the effect and possible motivations for violence are not well understood. Gender roles and social expectations have not provided a thorough explanation of relationship violence at this point. Overall, these inconsistencies signify a need to research partner violence in all genders. These discrepancies also indicate that feminist theory may not adequately explain all relationship violence. In order to better account for all types of relationship violence, alternative theories are needed.

Social Exchange Theory

Social exchange theory explains human interactions in terms of economic theory and behavioral theory by considering social behavioral exchanges an exchange of goods (Homans, 1958). The theory posits that our behavior is based on a cost and reward system of response centered on the needs of the group in which we are functioning; be it a family, a couple, or a broader cultural group (Homans, 1958). Gelles, Straus, and others (Bird, Stith, & Schladale, 1991; Gelles, 1983; Gelles & Straus, 1988) have expanded social exchange theory to explain IPV in terms of interpersonal interactions and a social contract or social norms. Gelles and Straus (1988) explain that violence occurs in relationships because the benefit of violence within the family outweighs the cost. For example, if an individual in the family has more power in the relationship, his or her cost for committing abuse will be lower. Additionally, the cost of violence is reduced through a lack of social controls for violence and through social and familial expectations which reduce the influence of social control within the family. For example, if one member of a couple is violent and receives a benefit from the violence (e.g., obedience from a partner) at very little cost (e.g., low reactivity by the abused partner), and the violence occurs in a manner in which social controls are less present (e.g., violence occurs in the privacy of the home, police involvement is unlikely), abuse is more likely to continue because the reward of the violence outweighs potential cost to the abuser.

Gelles and Straus' (1988) National Family Violence Surveys were some of the largest studies of family violence ever conducted in the United States. These surveys were invaluable in determining the rates of child and partner abuse and providing estimates of increases and decreases in violence. Despite the extensive knowledge gained from these studies, Gelles and Straus did not administer assessments to determine if data collected from this sample might fit

with social exchange theory as an explanation for the occurrence of violence. In fact, very little empirical research has tested this theory. Riger and Krieglstein (2000) discuss the effect of welfare reform on victims of IPV. They explain that, because women may be more financially dependent on the relationship, women have less power in the relationship; this results in an increased likelihood of abuse and a decreased cost to the offender (Riger & Krieglstein, 2000). Additionally, the reduction of welfare benefits for impoverished individuals and the significant effect this reduction may have on women attempting to leave a relationship in which they are economically dependent, underscores the idea that family problems are considered private, rather than something that should be addressed socially, and that family units are less influenced by social controls which help to prevent violence (Riger & Krieglstein, 2000). Although there is evidence to support a lack of cost for abuse due to problems in the judicial system and because of the expected privacy of family matters, empirical research testing social exchange theory is limited.

Aside from a lack of research, other aspects of IPV are not well explained by social exchange theory. For instance, if social controls and the lack of punishment for violence would increase the likelihood that violence would occur, women would be more likely to be abusive, especially if their husbands are not abusive. This is because it appears to be more culturally acceptable for a woman to use physical violence against a man due to the assumption of a lower risk of physical harm (Gelles, 2007). Additionally, men are more likely to experience legal ramifications from hitting their partner than women are (Dutton, 2010). Therefore, the cost of social controls would be higher for men than for women, thus resulting in lower rates of violence perpetration by men and higher rates by women. These discrepancies are not accounted for by social exchange theory. Rather, the theory assumes that the cost for committing violence is lower

for a man. Additionally, in our society it is generally agreed that violence is not an appropriate means of conflict resolution (Dutton, 2010), and therefore, social controls and potential cost may be higher than assumed by social exchange theory.

Systems Theory

Where feminist theory and social exchange theory address social aspects of IPV, systems theory addresses the dynamics within a relationship that may lead to IPV. One of the first researchers to apply systems theory to IPV was Jean Giles-Sims (1983). Systems theory states that components within a system, in this case, individuals in a relationship, function through reciprocal influence, resulting in changes in the functioning of the system (Giles-Sims, 1983; Murray, 2006). The behaviors of individuals in the relationship are interrelated and work to create a system, with a particular set of boundaries, that is relatively stable (Giles-Sims, 1983). According to Giles-Sims (1983), responses to new behaviors change the system through feedback loops. In these feedback loops, negative responses to the new behavior decrease the likelihood of the behavior occurring again and positive responses to the new behavior increase the likelihood of the behavior occurring again. In other words, changes to the system occur through reinforcement. Additionally, stress on the system from external forces, such as economic strain or job related tension, may result in more pressure on individuals within the system and a greater likelihood that change will occur within the system as a response to that stress (Johnson & Lebow, 2000).

Systems theory offers a means of understanding relationship dynamics and the influences of one individual on another, and vice versa, in a more individualized manner than feminist theory. It is one of the few theories to account for the behaviors of both individuals in a relationship in order to better elucidate the causes for IPV. Studies examining the application of

systems theory to IPV have been limited by criticism from feminist theorists. Feminist theories find multiple problems with systems theory, including the possibility of victim blaming, a lack of attention to important power differentials, and the issues inherent in taking a non-blaming stance toward violent behaviors (Murray, 2006). Despite statements from proponents of systems theory disputing the idea that systems theory holds the victim equally accountable for the abuse (Goldner, 1998; Murray, 2006), the study of systems theory continues to be limited by the opposition from feminist theories. In fact, objections from feminist theorists have resulted in the limitation of funding for research on systems theory and the use of systems theory in therapy being outlawed from use in several states (Murray, 2006). As a result, very little research has been conducted on the effectiveness of systems theory in predicting or preventing family violence. However, the proposed study will utilize one aspect of systems theory, specifically feedback loops, which are a key element of all self-regulation models (Cameron & Leventhal, 2003), including the Scheier and Carver BSR model being tested here.

Social Learning Theory

While feminist theory accounts mainly for environmental influences in the form of social views and expectations, and systems theory looks at the influences of individuals within the couple, social learning theory includes both environmental and individual factors (Bandura, 1977). Social learning theory holds that human behavior is determined by “a continuous reciprocal interaction between cognitive, behavioral, and environmental determinants (p. vii, Bandura, 1977),” thus accounting for individual differences, social factors and the influence of reinforcement. In their revolutionary article on the effects of modeling on aggression in children, Bandura, Ross, and Ross (1963) showed that both directly witnessing specific forms of aggression and watching aggressive behaviors on video increases the amount of aggressive

behaviors exhibited by the child witness, thus affirming the influence of observational learning on aggressive behaviors. This finding regarding observational learning has been particularly influential in furthering our understanding of how and why intergenerational IPV may occur.

One of the first researchers to apply social learning theory to the field of IPV was K. Daniel O’Leary (1988). The work of O’Leary and his colleagues has been seminal in testing the multidimensionality of social learning theory, assessing both social and individual factors and their influence on aggression. O’Leary used Bandura’s social learning theory to explain how violence in the family of origin, aggressive personality style, stress, substance use, and relationship dissatisfaction can influence IPV (O’Leary, 1988). In a study of 94 men, who were followed for 30 months after being married, Lorber and O’Leary (2004) found support for social learning theory. Their study showed that measures of aggression prior to marriage, aggressive personality style, general aggression, and witnessing parental violence were all significantly and positively correlated to persistent aggression over 30 months. These findings indicate that each of these factors significantly influences violence.

Mihalic and Elliott (1997) looked at how the environmental factors of stress and marital satisfaction, as well as witnessing and experiencing violence as a child influenced later aggression. They found that witnessing and experiencing violence in childhood predicted relationship violence perpetration in women but not men. Their research also showed that stress and marital dissatisfaction predicted perpetration and victimization in men and women, thus emphasizing the importance of factors other than observational learning on aggressive behavior.

Bauserman and Arias (1992) addressed the effects of self-efficacy and investment on maintaining a relationship that is violent. Bandura (1977) postulated that the amount of behavioral investment an individual devotes to a particular task is based on their expectations of

the outcome. These expectations are based on prior experiences and personal estimates that an outcome will occur. Self-efficacy expectations are beliefs in one's own ability to perform the behavior needed to achieve a given outcome. In their study, Bauserman and Arias (1992) compared the levels of commitment and investment in a relationship for women who had been victims of IPV to women who had not experienced IPV. Their research found that successful investment (investment which resulted in positive relationship outcomes) was related to higher commitment. Findings indicated that investment and commitment were related to the frequency and severity of abuse, such that higher levels of abuse corresponded to more negative investment and in turn lower commitment to the relationship.

In summation, each of these studies shows that multiple factors determine behavioral outcomes and that observational learning is important in predicting aggression. Furthermore, these factors may operate differently for men and women.

Observational learning. Although Bandura (1977) emphasized the importance of both observational learning and individual factors on aggressive behaviors, many studies, including his own (Bandura et al. 1963), have focused mainly on observational learning and intergenerational transmission of violent behaviors. Since the publishing of Bandura, Ross and Ross' 1963 study on the effects of witnessing violence in children, many researchers have used different methods of experimentation to replicate their findings (Huesmann & Miller, 1994). In general, studies support the theory that observational learning influences later violence. Many of these studies have focused on male-to-female offenders (Murrell, Christoff, & Henning, 2005; Wareham, Boots, & Chavez, 2009).

In a study of 204 male domestic violence offenders, Wareham and her colleagues (2009) showed that individuals who had experienced childhood physical maltreatment were more likely

to commit minor partner violence than individuals who had not experienced childhood abuse. Another study found that the influence of witnessing family violence on later aggression differed by gender (Sims et al., 2008). In their sample, women were more likely than men to perpetrate mild, moderate, and severe violence if they had witnessed family violence (Sims et al., 2008). This study also found that the variance accounted for by previous experiences of severe violence was greater for men (62.7%) than for women (7%) (Sims et al., 2008), indicating that observational learning may be more influential in the aggressive behaviors of men. However, the opposite was found in a study by Mihalic and Elliot (1997), who showed that women were more affected by previous experiences with violence, such as witnessing violence or being a victim of child abuse. Although results from both of these studies indicate that different factors may influence relationship violence for each gender, it remains unclear what these influences might be.

Other research has disputed the impact of social learning on violent behaviors. One of the major criticisms of Social Learning Theory has been the lack of attention to genetic factors, which may influence aggressive behavior (Hines & Saudino, 2002, 2004; Huesmann & Miller, 1994). Huesmann and Miller (1994) explain that aggression has been shown to be a stable trait that can be detected as early as age 2 and can predict aggressive behavior in adulthood. On the other hand, research by Fritz and O'Leary (2004) shows that aggression declines over time in intimate relationships, thereby casting doubt on the idea that aggression is stable over time. Hines and Saudino (2004) have attempted to determine the influence of genetics on aggression using twin studies. Their research showed that genetic factors do account for some of the similarity in aggressive tendencies, but it is not the only factor.

Social learning theory offers an understanding of how IPV might be perpetuated by observational learning, reinforcement, and individual differences. However, most recent attempts to apply social learning theory to IPV have focused on the observational learning aspect of this theory, with some notable exceptions that have already been discussed (Bauserman & Arias, 1992; Lober & O’Leary, 2004; MacEwen & Barling, 1988; Mihalic & Elliott, 1997; O’Leary, 1988; O’Leary, Barling, Arias, & Rosenbaum, 1989). Although social learning theory has been criticized for a lack of attention to individual characteristics and genetic influences, both of these factors are considered in the original theory and, to some extent, have been included in the aforementioned research. On the other hand, Bandura (1977) was somewhat critical of the influence of motivation and drives, due to problems inherent in inferring motivation and drives based on external behaviors, as when one’s need for achievement is assessed by how much they achieve. Bandura (1977) emphasized that theories should be able to identify determinants of behaviors in a predictive way and held that this was not accomplished by theories of needs and motivations. Although he acknowledged the importance of individual differences, he felt that behaviors could be more readily explained by the interactions between the environment, the person (individual factors), and the behaviors. This did not include internal motivations, which he believed could not be adequately measured (Bandura, 1977).

However, recent research has shown that motivations may be measurable (Carver & Scheier, 1982, 2011; Carver, Scheier, & Fulford, 2008; Scheier & Carver, 2001, 2003) and that these motivations may be predictive of behavior. The following section will review theories which include methods of coping with stress and motivations for changing behavior. The focus of the current study is the utilization of Scheier and Carver’s BSR model that has borrowed and combined ideas from several theories (Carver & Scheier, 1982, 2011; Carver et al., 2008; Scheier

& Carver, 2001, 2003) and addresses environmental influences, individual factors, and motivations in the form of goals as a means of predicting behavior.

Stress, Coping, and Self-Regulation

Many theorists have contributed to an improved understanding of how individuals cope with the stress. These theories have focused on many areas and can be dated back to Freudian theories of defense mechanisms (Parker & Wood, 2008; Suls, David, & Harvey, 1996). Since their beginnings in theories of defense mechanisms, stress and coping models have evolved to help us understand how different aspects of coping can increase quality of life (e.g., Joeke, Maes, & Warrens, 2007; Scheier, Carver, & Bridges, 2001), improve health (e.g., Hoppmann, Gerstorff, Smith, & Klumb, 2007), and aid in recovery from traumatic experiences (e.g., Kramer, Ceschi, Van der Linden, & Bodenmann, 2005; Luszczynska, Benight, & Cieslak, 2009). Scheier and Carver's BSR model incorporates several aspects of stress and coping theories and provides a construct for understanding how individuals regulate their own behaviors when they experience stress. By including concepts from personality and social psychology theorists, as well as concepts from other fields, Scheier and Carver's theory of behavioral self-regulation explains changes in behaviors as a function of feedback loops (Carver & Scheier, 1982, 2011; Carver et al., 2008; Scheier & Carver, 2001, 2003). This theory offers a means of understanding behavioral change in terms of individual personality factors and motivation. Additionally, the flexibility of this theory allows for the understanding of external influences, such as social attitudes, on individuals' behaviors.

Behavioral self-regulation. The formation of new relationships is innately a stress inducing situation, in that it creates change and poses new and often unanticipated challenges. The current study applies Scheier and Carver's BSR model (cf. Carver & Scheier, 1982; Scheier

& Carver 2001, 2003) to newly forming intimate relationships in order to better understand the presence of relationship violence. The BSR has proven to be useful in accounting for health related behavior change in multiple studies (see Scheier & Carver, 2003 for a summary). The subsequent sections will discuss the various aspects of Carver and Scheier's model, as well as theories and research that have contributed to their development. This review will begin with a description of feedback loops, their functions and components. Goals and their importance in BSR will then be addressed. This will be followed by a description of various factors that influence each of the feedback loop components, including expectancies, ways of coping, and environmental influences.

Feedback loops. The foundation for Scheier and Carver's model is set in the theory of cybernetics, the study of regulatory systems. Theories of cybernetics have been utilized in various fields, including engineering and biology, for decades (Carver & Scheier, 1982, 2011). In 1960, Miller, Gillanter, and Pribram explored the use of cybernetics in describing how individuals plan responses and how behavior occurs as a result of planning. Miller et al.'s (1960) theory was based on a desire to bridge the gap between thoughts and stimuli, to actual responses. They indicated that prior to their incorporation of the act of planning into theories of human behavior, a true understanding of how behavior went from cognition and stimulus to actual behavior did not exist. Their theory provided an explanation of how cognitions translated into behaviors through a hierarchical process made of several components.

The hierarchical process was what they referred to as a plan (Miller et al., 1960). Miller and his colleagues (1960) conceptualized behavior as being organized in a hierarchical fashion in which behaviors are made up of several other behaviors at lower levels. This conceptualization became an important aspect of the conceptualization of goals in Carver and Scheier's model.

Miller et al. (1960) argued that plans are made up of four steps, Test-Operate-Test-Exit, or TOTE. In this system, individuals compare the current state with the desired state (test), act to change the current state (operate), compare again to see that the action has had an effect (test), and move on to another plan if the desired state has been reached (exit). Scheier and Carver propose a similar model with a feedback loop consisting of four main elements, 1) the input, 2) the reference value (the goal), 3) the comparator, and 4) the output (see Figure 1; Carver & Scheier, 1982, 2011; Scheier & Carver, 2001, 2003).

The input function brings in information about the current state. In this way it is similar to Miller et al.'s (1960) first test. However, Carver and Scheier have expanded on the concept of input to include the influence of an individual's expectancies regarding the desired change state. They explain that expectancies may be influenced by additional factors such as personality characteristics (Carver & Scheier, 2011; Scheier & Carver, 2001, 2003). In the current proposal, past experiences and social influences are also hypothesized to influence one's expectancies (see "Additional Factors" section below) as a facet of Scheier and Carver's conceptualization of input.

The second element of the feedback loop is the reference value, which provides information about desired outcomes and targets behaviors. In other words, the reference value serves as a goal, such as the goal of equality, power, companionship, commitment, or unity in a relationship. The reference value, hereby referred to as the goal, is of particular importance in Scheier and Carver's model because it is seen as the key element of self-regulation. Self-corrective behavior or behavior change occurs through a self-regulated process originating internally, by means of the goal, though it may be influenced by external factors.

The third element of the feedback loop is the comparator, which makes comparisons

between the input and the goal. This comparison results in one of two outcomes: 1) the comparator shows the input and reference value to be different, or 2) the comparator finds the input and reference value to be the same. The result of the comparator is that an individual will change or maintain his or her behavior to increase or decrease differences between the input and the goal.

These changes in behavior are conceptualized in the model as the output function. The output can be an overt behavior or an internal regulation process by which change occurs. The output will be different depending on the type of feedback loop.

In Scheier and Carver's theory, there are two types of feedback loops. The first and more commonly studied loop is a discrepancy reducing feedback loop (Carver & Scheier, 2011; Scheier & Carver, 2003). A discrepancy reducing feedback loop seeks to decrease the difference between the current state and the desired behavior, in order to approach a desired goal state. Carver & Scheier (2011) also refer to goals within these loops as approach goals. For instance, if a woman has the relationship goal of increased relationship commitment, she will change her behaviors to reach this goal and move away from the current state of less commitment. Perhaps she may show her own level of commitment by devoting more time to the relationship. If she observes through the comparator that her partner is becoming less committed to the relationship, that there is a greater discrepancy between the goal and the input, she may alter her behaviors or alter her goals to decrease this discrepancy.

The second type of feedback loop that has been less explored is a discrepancy enlarging feedback loop. In such a feedback loop the intent is to increase the distance between the present state and the desired state. In other words, these feedback loops function to avoid a given state and increase the difference between the input and the goal. Scheier and Carver (2003) refer to

these types of loops as targeting avoidance goals or anti-goals. For instance, if the goal is to stop violence in a violence relationship, an individual will alter behaviors which may appear to them to increase violence. As an illustration of the difference between an approach, or discrepancy reducing feedback loop, and an avoidance, or discrepancy enlarging feedback loop, consider the following scenario. In an abusive relationship the abuser may make goals to change the relationship. If an individual had the goal of being a good partner this would be considered an approach goal because the intention is to move toward a given state. On the other hand, if an individual made the goal to not be abusive, this would be an avoidance goal because it would be moving away from the present state.

The utility of these feedback loops in predicting behavior was assessed in a recent study by Sullivan and Rothman (2008), which tested the effectiveness of discrepancy enlarging and discrepancy reducing goals in reducing fat and caloric intake. In their experiment, Sullivan and Rothman's (2008) participants chose either an approach goal, which in the BSR model would fall within a discrepancy reducing feedback loop, or an avoidance goal, a discrepancy enlarging feedback loop. They found that avoidance goals were generally not as effective as approach goals in reducing caloric and fat intake. These findings suggest that it may be easier for people to organize their behavior around an approach goal in some instances. However, more research is needed to definitively understand how and when approach and avoidance goals are most effective. It is likely that both types of goals may be effective for different circumstances.

In addition to differences in approach and avoidance, goals have several important facets that influence how changes occurs within a given feedback loop. The following section addresses factors important to understanding how goals are organized and acted or not acted upon.

Goals. It is not difficult to understand the importance of goals in one's daily life. Think

about the process of getting out of bed in the morning. Perhaps one decides to sleep in a little longer than originally planned. On the other hand, one may get up immediately because there is something important to do. There are a number of possibilities for how one can decide to awaken each morning. As already explained, Scheier and Carver (cf., Scheier & Carver, 2003) believe that behaviors occur through a feedback system in which several components interact to achieve a given end state. Goals have several complex facets that influence the functioning of the feedback system. According to Carver and Scheier, there are at least two factors related to goals that influence getting out of bed each day, goal importance and the organization of goals within a hierarchy.

Goal importance and hierarchies. Waking up in the morning is generally not something that we think of as a goal. Rather we conceptualize it as something we must do in order to achieve other goals. However, if we did not reach this first goal of getting up, other goals could not be reached. Indeed, each goal is influenced by other goals. For example, one might have the goals of getting up, going to work, reading an article, being a good employee, and being a good person. Each of these goals is interrelated and occurs in a hierarchy in which each has a different level of importance for a given individual.

Powers (1973b) was one of the first to apply a hierarchical order to a behavior system in a way that related goals to one another. In Powers' (1973a) view, behavior was a function of negative feedback. As he conceptualized it, the purpose of any system is to control and reduce the movement away from a given goal. This control theory model described behavior as controlling the distance from a given goal. He further explained that in order to reach a given goal, several prior goals must be reached. For instance, looking at the goal of driving to work, it can be seen that an individual would need to control his or her muscle movements to steer the

car, to give the car an appropriate amount of gas, and to apply the brakes when necessary. Further, the individual would need to navigate traffic and take the appropriate route. Each goal accomplished would bring that person closer to the goal of arriving at work. Although steering the car may not appear to be the ultimate goal, and does not have as much perceived importance, it is essential to the accomplishment of the other goals. In this way several feedback loops function at the same time. Rather than having only one goal at a time, an individual must navigate multiple feedback loops which are interrelated.

Carver and Scheier (2011) expanded on this idea to show that not only do individuals have multiple goals at the same time, these goals may move toward or away from a given reference value (approach or avoidance). Additionally, they explored how different levels of importance effect behavior in a feedback loop. Whereas Powers (1973a) looked at behavior at the level of neurons, Scheier and Carver have addressed goal importance and level of abstraction in goals at a higher level of functioning, though they do acknowledge the function of smaller neurological changes (Scheier & Carver, 2003; Scheier, Carver, & Bridger, 2001).

In the BSR model, the higher in the hierarchy a goal is, the greater the level of abstraction and the greater the importance. For instance, if an individual has the goal of being a good partner, several goals are connected to that goal lower on the hierarchy. A more concrete goal may be to help clean up the house. Above this goal, there may be a more abstract goal of doing things that one's partner asks. This has significant implications for a relationship in which IPV occurs. The goal of being a good partner has more personal implications for that person and that individual may change smaller goals rather than changing the larger and more important goal. For instance, one might give in to a partner's demands, thus giving up a smaller goal, in order to

retain the larger goal of maintaining the relationship. Additionally, the more important a goal is, the more effort an individual will put into attaining it.

Research regarding goal importance has found that goal importance and disruption of goals that are in the mid and higher levels of a hierarchy may have an impact on behavior and emotional well-being. Joeke, Maes, and Warrens (2007) conducted a longitudinal study looking at the impact of a myocardial infarction (MI) on quality of life and self-management. They found that disruption of mid-level goals, for example, engaging in regular physical activities, was related to lower emotional, physical, social, and global quality of life. Their results show that lower level goals do have an impact on more abstract and higher level goals, such as happiness and overall quality of life.

Carver and Scheier's model also addresses the emotional response to different types of goals (Carver & Scheier, 1990, 2011; Carver et al., 2008) and Carver has conducted research addressing these emotional responses. In his research, Carver found that approach goals which are not reached induce reactions of frustration, anger, and sadness, while unmet avoidance goals are related to feelings of fear, guilt, and anxiety (Carver, 2009; Carver & Harmon-Jones, 2009). These findings are particularly important to IPV because different types of goals, specifically approach goals, appear to be related to feelings of anger; thus, difficulties reaching these goals may be more likely to result in violence. On the other hand, problems in attaining avoidance goals, such as ending violence, may result in feelings of guilt, fear, or anxiety.

The interrelatedness of each goal is complicated by the idea that one will have more difficulty, and a greater emotional response to giving up a higher level and more important goal. Lower order goals may change, thus affecting the attainability of the higher level goal. For violent relationships, it may be more difficult to disengage from goals that are on a higher level.

For instance, if a mother has the higher order goal of keeping her family together, lower order goals of physical and emotional health may be relinquished, in order to maintain the ability to attain the higher goal. An individual will work harder to achieve a more important goal. The more importance a goal has for the individual, the more distress they may experience in changing that goal (Carver et al., 2008). Therefore, they will be more likely to change lower order goals (e.g., tolerating physical or emotional abuse in the relationship), despite an increase in emotional distress. This is due to a lower intensity of emotional distress than would likely result from ending the relationship.

Goal disengagement and reengagement. Goals may be changed or given up more easily, depending on their importance. But how and when does one decide to disengage from a goal? Disengagement, or giving up on a goal, might be seen as a counterproductive response. However, there are many times when disengagement is an effective means of coping. Wrosch, Scheier, Carver, and their colleagues, have explored the positive effects of disengagement in several studies (Wrosch, Scheier, Carver, & Schultz, 2003; Wrosch, Scheier, Miller, Schultz, & Carver, 2003). As described in the next section, disengagement from a goal is highly influenced by one's expectancies regarding the attainability of a goal (see "Expectancies, Hope, and Optimism" section).

Some might conceptualize disengagement as a negative means of coping with stress, however, Carver and Scheier argue that by taking up a new and attainable goal, rather than holding onto an unattainable goal, individuals will be better able to make forward progress (Scheier & Carver, 2001). Various research studies have confirmed this hypothesis. Wrosch and his colleagues (Wrosch, Scheier, Miller, et al., 2003) studied the effects of goal disengagement and goal reengagement in different populations. Results showed that young adults who were able

to disengage from unattainable goals reported low levels of intrusive thoughts and perceived stress, as well as higher levels of self-mastery. Additionally, young adults who were able to reengage in new goals reported higher levels of subjective well-being. One finding that was not consistent with the BSR model was that goal reengagement was not related to subjective well-being for those who disengaged from unattainable goals. The researchers speculated that this may have to do with a younger population reporting less goal importance and higher expectations of being able to engage in new goals at a later time. To determine if the population was the cause for this effect, Wrosch, Scheier, Miller et al., (2003) conducted a second study comparing young adults and older adults. They found that older adults had less difficulty giving up unattainable goals and reengaging in new goals than younger adults, indicating that goal management may change over time and have a developmental trajectory.

Goal disengagement and well-being may operate similarly for violence in relationships. A recent study by Armstrong and Fiore (2010) found that women with children remain in abusive relationships longer than women without children. When interviews about the violence were examined qualitatively, a common goal described by women for staying in the relationship was to have a father figure for their children. Women described leaving their relationships after having disengaged from the goal of having a father for their children and increasing the importance of the goals of protecting their children and providing a safer environment. As violence in the relationship progresses, it may become easier to disengage from important goals and reengage in others. Other studies have found that relationship violence can decrease over time if goal changes occur (e.g., Wuest & Merritt-Grey, 2008). In a study of women in relationships which were violent and had become non-violent, women reported feeling able to change violent relationships by making new goals to “fortify” (Wuest & Merritt-Grey, 2008). In

other words they began reaching out for support from family and helping professionals, and started engaging in work, school, or community activities. Women explained that these new pursuits helped them to feel better about themselves and more confident in their abilities to change the relationship. These studies suggest that both goal reengagement and goal disengagement may be adaptive in relationships where violence is occurring.

Expectancies, Hope, and Optimism. Confidence and expectancies regarding one's ability to attain a goal have also been shown to be an important aspect of the BSR model. How an individual appraises his or her ability to succeed at a particular goal may influence his or her behavior in several ways.

Many influential theorists have addressed the role of expectancies in behavior (Bandura, 1977; Lazarus & Folkman, 1984; Rotter, 1954). Rotter's (1954) early work discussed expectancies as an individual's estimate of the probability that reinforcement will occur as a result of a given behavior, in a given situation. Bandura (1977) expanded on this idea to include aspects of social learning. He explained expectancies with two concepts, outcome and efficacy expectations. Bandura (1977) stated that outcome expectations are an individual's estimation that a specific behavior will lead to a specific outcome, based on observations of others and past experience. Efficacy expectations are one's perceived ability to engage effectively in a particular behavior in order to achieve a given outcome. He speculated that individuals will invest more in goals for which the expectations of a given outcome are higher. Scheier and Carver's views of perceived attainability and behavioral output are consistent with these ideas. Scheier and Carver also assert that higher perceived ability to attain a goal should result in more behavioral output to reach the goal. Thus, the more effective one expects to be in attaining their goals, the more effort one will exert to do so.

Lazarus and Folkman (1984) describe expectancies in terms of appraisal. They explain that appraisal is the degree of belief an individual has in his or her ability to influence a stressful relationship between the person and their environment. These ideas are important and influential to Carver and Scheier's perception of expectancies. Carver and his colleagues (2008) explain that peoples' past experiences and an assessment of their current resources and abilities to succeed, determine the likelihood of a given outcome. Additionally, the confidence of success for a given goal increases an individual's persistence toward accomplishing this goal (Carver & Scheier, 2011). In turn, greater effort should result in a higher likelihood of success. On the other hand, an expectation of failure will lead to less effort and an increased likelihood of failure (Carver & Scheier, 2011).

Expectancies are an important consideration in violent relationships. If an individual perceives the ability to reduce violence in the relationship as being high, s/he may continue to pursue a non-violent relationship. This may be particularly problematic for relationships in which violent episodes are intermittent because it may influence individuals to remain in a violent relationship longer and maintain goals that may ultimately not be achievable. This is similar to the concept of the cycle of violence, as applied to violence against women (Walker, 1978), in which periods of non-violence may renew hope and decrease the desire to disengage from goals of maintaining the relationship. On the other hand, working through problems in a relationship may pay off later. Fritz and O'Leary (2004) found that violence declines over time in relationships where violence occurred early in the relationship. Wuest and Merritt-Grey (2008) showed that women were able to change violence in their relationships by adapting their goals. Therefore, positive expectancies in combination with goal adaptation, in the form of

reengagement in other goals and disengagement for unattainable goals, may be helpful in changing violence in relationships overtime.

Optimism. Scheier and Carver also expanded on the idea of expectancies with their work on optimism. In a study describing the revision of the Life Orientation Test (LOT; see “Measures” section for specific information), Scheier, Carver, and Bridges (1994) describe expectations in the following way: “Optimists are people who tend to hold positive expectancies for their future; pessimists are people who tend to hold more negative expectations for the future” (p. 1063). Thus, individuals who are more optimistic tend to expect a higher likelihood of reaching their goals than someone who is more pessimistic.

Studies have found optimism to be effective in predicting positive outcomes. In a study of women with breast cancer, for example, Carver and his colleagues (1993) found that overall, optimism negatively correlated to distress over time. Lower levels of distress are consistent with Carver and Scheier’s (Carver, 2009; Carver & Harmon-Jones, 2009) conceptualization of emotional responses and distress induced by not achieving goals.

Another study goes beyond emotional distress to show that optimism can predict health outcomes. In a study of 230 pregnant women, Rini and her colleagues (Rini, Dunkel-Schetter, Wadhwa, & Sandman, 1999) addressed the influence of psychological resources, such as optimism and self-esteem, and social resources, on birth weight. The study found optimism to be highly correlated to resources and showed that resources were a significant predictor of birth weight. A recent study of 97,259 female participants found that women who were more optimistic, as measured by the Revised Life Orientation Test (LOT-R; Scheier et al., 1994), had lower rates of chronic heart disease and total mortality (Tindle et al., 2009). These findings show that optimism has significant predictive value for physical well-being.

Research regarding the effect of optimism on violence and coping with violence is limited. One study by Riolli, Savicki, & Cepani (2002) addressed the role of optimism in psychological adjustment for people who had experienced some level of trauma from violence. Their study group consisted of war refugees, people who had assisted refugees, and a group of non-involved immigrants from the Kosovo war of 1999. They found that resilience was related to higher optimism as well as other personality factors; low optimism was related to higher maladjustment. Although this study did not directly address IPV, participants in two of the groups had experienced significant violence or helped those that had experienced violence.

Findings from this study and from health outcome studies show that optimism may be an important behavioral predictor for individuals in developing relationships. If individuals perceive goals to be more attainable and have generally higher levels of optimism, they are more likely to pursue goals for a longer period of time. Additionally, individuals who are better able to disengage from unattainable goals and reengage in attainable goals may be better able to change problems in their relationship, possibly resulting in less violence or ending a violent relationship.

Coping style. Optimism also has important implications for coping styles, and these two concepts have often been studied together. Folkman and Lazarus made significant contributions to the development of the concepts of emotion-focused coping and problem-focused coping (Folkman & Lazarus, 1980; Lazarus & Folkman, 1984). As defined by Lazarus and Folkman (1984), emotion-focused coping consists of the regulation of negative emotions produced as a result of an event that is appraised as “harmful, threatening, or challenging” (p.150). Folkman and Lazarus explained that this type of coping is most adaptive when used in situations appraised as being unchangeable. On the other hand, problem-focused coping is intended to manage or change the person-environment relationship that is increasing stress. This type of coping is used

in an adaptive way for situations appraised as being changeable. Scheier and his colleagues report that problem-focused strategies tend to be utilized more by people with optimistic dispositions (Scheier, Carver, & Bridges, 1994).

The concepts of emotion- and problem-focused coping have been used in numerous studies of stress and coping as a means of conceptualizing different coping methods. A study of depression by Vitilano, DeWolfe, Maiuro, Russo, and Katon (1990) found that problem-focused coping was negatively related to depression when a stressor was appraised as changeable, and emotion-focused coping was positively related to depression when a stressor was perceived as changeable. This finding indicates that the use of emotion-focused coping in a changeable situation may increase risk of depression and that problem-focused coping may buffer these effects.

Carver and Scheier explain that coping is a dynamic process that occurs in the context of the feedback system (Carver et al., 2008). Within this system, coping will change as expectancies and perceived attainability of a goal changes. For instance, one might be more likely to use active coping, such as taking action to change the situation, rather than behavioral disengagement, which can be thought of as giving up attempts to cope, if s/he appraises the situation as being likely to occur. As an example, if an individual in an intimate relationship perceives that the relationship is likely to result in a happy and committed relationship, s/he may engage in more active coping, such as changing behaviors when problems occur, rather than ending the relationship (behavioral disengagement). Carver, Scheier, and Weintraub (1989) developed a measure of coping that assessed concepts similar to emotion-focused and problem-focused coping, called the Coping Orientation to Problems Experienced (COPE). Their scale included multiple forms of coping, such as active coping, planning, and reframing. In 1997

Carver developed a shorter version of the COPE, called the Brief COPE (see Appendix p. 158 for the full measure). The Brief COPE assesses 14 styles of coping, 1) active coping (e.g., making efforts to change the situation), 2) planning (e.g., thinking about what to do next), 3) positive reframing (e.g., looking for good outcomes resulting from the problem), 4) acceptance (e.g., accepting the reality of the problem), 5) humor (e.g., making jokes about the problem), 6) religion (e.g., praying), 7) using emotional support (e.g., getting emotional support from others), 8) using instrumental support (e.g., getting help and advice from others), 9) self-distraction (e.g., working on other activities), 10) denial (e.g., refusing to believe there is a problem), 11) venting (e.g., expressing negative feelings), 12) substance use (e.g., using drugs or alcohol), 13) behavioral disengagement (e.g., giving up attempts to cope), 14) self-blaming (e.g., criticizing one's self). Several studies using the Brief COPE have found a relationship between effective coping and better physical and psychological outcomes.

In a study of college students who had experienced an unexpected death of someone close to them, Schnider, Elhai, and Gray (2007) found that avoidance emotional coping, as measured by the Brief COPE, was a significant predictor of complex grief and PTSD severity after controlling for time since the most recent loss and the frequency of trauma experienced. Badr (2004) addressed the effect of coping styles in couples. She used items from the Brief COPE and the Relationship-Focused Coping Scale (Coyne & Smith, 1994, as cited in Badr, 2004) to address differences in coping for men and women in healthy couples and in couples in which one partner was ill. She found that significant differences in coping styles existed for men and women as a function of having an ill or well partner. These findings indicate that gender and situational factors may significantly impact coping style.

The utility of the Brief COPE was also demonstrated in a non-western population of Malaysian cancer patients (Schroevers & Teo, 2008). In their cross-sectional study, Schroevers and Teo (2008) found posttraumatic growth to be positively correlated to seven of the 14 subscales. Of the seven that were not correlated well to the measure, one was not endorsed by 93% of participants and was thus excluded from the analysis, three showed poor reliability, and three were avoidant coping strategies (behavioral disengagement, denial, and self-blame) which are expected to have a low correlation with posttraumatic growth. These findings may be significant for research regarding violent relationships because trauma is a frequent occurrence. The study results show that avoidant coping strategies do not help people to experience positive psychological changes after a traumatic event, while more active coping strategies do. It is possible that similar findings will be apparent in a population of individuals experiencing IPV. Findings from studies using the Brief COPE show that the designation of multiple coping strategies is useful in understanding how individuals cope with stress in their lives.

Of the concepts laid out in Carver and Scheier's model, coping is perhaps the most studied in the field of IPV. However, most studies addressing coping in IPV look mainly at emotion-focused and problem-focused coping. Results regarding the use of these types of coping have been mixed. Arias and Pape (1999) found that victims of IPV were significantly more likely than non-victims to engage in both problem- and emotion-focused coping. Another study by the same authors (Pape & Arias, 1995) found that emotion-focused coping was related to higher levels of PTSD symptoms in victims of IPV.

Other research has addressed types of coping at different points after a relationship has ended. Fiore and Kennedy (2000) found that women who had been out of their violent relationship for six months or less used more emotion-focused and problem-focused coping than

women who had been out of their relationship for one year or more. However, women who had higher levels of confidence showed greater use of problem-focused coping strategies, regardless of time out of the relationship. These results show that women just ending a relationship may rely more heavily on both emotion-focused and problem-focused coping strategies and that women who show higher levels of confidence may be more likely to use problem-focused coping upon leaving a relationship.

Calvete and his collaborators also addressed the role of coping for female victims (Calvete, Corral, & Estévez, 2008). They used a conceptualization of coping that encompasses 1) primary control engagement, which consists of problem-focused coping strategies and emotional regulation, 2) secondary engagement, which includes coping strategies such as cognitive restructuring and distraction, and 3) disengagement coping strategies, such as avoidance and denial. They found the use of disengagement coping methods was related to higher rates of depression and anxiety symptoms, while the use of secondary engagement coping strategies was related to better adaptive functioning. Additionally, they found that psychological abuse was correlated with higher utilization of disengagement and primary control coping.

Studies of coping in IPV have focused mainly on female victims of violence. Few studies have addressed the role of coping in the behavior of male offenders. Snow, Sullivan, Swam, Tate, and Klein (2006) studied the use of coping in male offenders who engaged in problem drinking. They found problem drinking was more likely in men who showed higher use of avoidance coping strategies, such as avoiding other people and day-dreaming. Additionally, avoidance coping was related to the perpetration of higher rates of physical and psychological abuse.

As previously noted, research regarding coping in both male and female offenders is limited. Additionally, results of studies targeting both victims and offenders have mixed findings pertaining to the use of different coping methods, levels of coping, and the influence these strategies might have on the use of violence or acceptance of violence in relationships. These findings indicate that different coping styles may be used adaptively in different situations and when expectations for the outcome are different. This is consistent with Scheier and Carver's model in that individuals may self-regulate their coping styles based on input information, and goal importance.

Additional Factors. Though Scheier and Carver have included a number of important factors in their model, previous theories of IPV have emphasized the importance of environmental influences more than studies using the Scheier and Carver BSR model. Research has shown that more favorable attitudes towards violence predicts IPV perpetration by men (Guoping, Yalin, Yuping, Momartin, & Ming, 2010; Smith, Thompson, Tomaka, & Buchanan, 2005). These results are consistent with feminist theory, which suggests that social acceptance of violence may perpetuate IPV, and social learning theory, which indicates that behaviors are influenced by social factors. Research regarding the influence of past violent experiences show that children who have witnessed violence are more likely to have relationship problems, such as IPV, later in life (Pawelko, & Koverola, 2007). Additionally, research shows that past experiences with violence predicts perpetration of violence in adulthood (Sims et al., 2008).

In the application of the BSR model being tested here, the input consists of an individual's perceptions about the current environment and expectancies regarding his or her ability to attain a given goal. These expectancies may easily be influenced by past experiences and attitudes toward violence. Although Scheier and Carver (2003) acknowledge this occurrence,

little research has focused on this aspect of their theory. An individual's impressions of what will happen are based on not just his or her current environment, but also past experiences. Therefore, the inclusion of environmental factors, such as attitudes toward violence, and previous experiences with violence, may add important information to the understanding of how goals, coping styles, optimism, and the other factors from Carver and Scheier's model, relate to IPV. Therefore, attitudes toward violence and past experiences with violence will be included in this research study.

Application of Behavioral Self-Regulation to IPV

Various aspects of the BSR model have been shown to effectively predict positive health and psychological outcomes. The use of this model, specifically information relating to expectations, goals, and means of coping, may aid in our understanding of the occurrence of IPV in relationships and the potential areas for prevention and intervention. Studies suggest that the risk of IPV is greater in younger populations (O'Leary et al., 1989) and that IPV declines over time in many violent relationships where mild and severe violence has occurred (Fritz & O'Leary, 2004; O'Leary et al., 1989). Thus, individuals in the early stages of relationship development and in a younger age group may be at higher risk of IPV. One aim of this study is to address the formations of relationship goals in a younger age group during a time of life transition, and to address how goals affected violence in developing relationships.

Hypotheses. The current study tested the utility of the BSR model as an explanatory framework for better understanding the dynamics of abuse in relationships. The overarching hypothesis of this study is that the proposed structural equation model testing the application of the BRS theory to IPV will effectively predict coping and abuse for the population studied here. The following hypotheses were tested within the context of the proposed model:

1. The construct of Positive Expectancies will be defined by the measured variables of Attitudes Toward Violence, experiences with Previous Violence, and Optimism.

1a. Positive Expectancies will be positively related to Positive Coping.

1b. Positive Expectancies will be negatively related to Negative Coping.

1c. Positive Expectancies will be negatively related to Level of Abuse.

2. The construct of Adaptive Goal Investment (AGI) will be defined by the measured variables of Relationship Importance, Relationship Commitment, Goal Importance, perceived Goal Attainability, and goal adjustment (Goal Disengagement and Goal Reengagement).

2a. AGI will be positively related to Positive Coping.

2b. AGI will be negatively related to Negative Coping.

2c. AGI will be negatively related to Level of Abuse.

CHAPTER 2

Methods

Participants

The current study focused on young adults from ages 18 to 25. This age range is generally a time of transition from being dependent and living with one's parents to more independent living and the seeking of long-term romantic relationships. Participants were recruited through the Psychology 100 subject pool at the University of Montana in Missoula, and Montana Tech of the University of Montana in Butte. Participants were given research credits required to complete their Psychology 100 course. Approximately 400 participants were needed to obtain enough power for the statistical analysis. In order to participate in this study, individuals were required to currently be in a romantic relationship which had lasted one month or more and be between the ages of 18 and 25. Participants were asked to individually complete a standardized assessment battery given via online survey. The survey took approximately 15-20 minutes to complete.

Measures

Each of the following measures were administered to participants online. See the Appendix (pp. 124-139) for a copy of the measures as they were given to participants. Items relating to previous experiences of violence, not as a result of the current relationship, were asked at the end of the interview to prevent emotional reactivity in recalling these events from influencing other responses. For items addressing relationships and relationship goals, individuals were prompted to complete the questions in response to their current romantic relationship.

Demographic Questionnaire. A demographics questionnaire (see Appendix, pp. 124-127) was administered to participants to determine their age, ethnicity, socioeconomic status, current occupation, gender, and year in school. In addition to more general demographics, the participants were asked specific questions about their relationship, including their relationship status (e.g., married, in a committed relationship, in an open relationship, etc.), the number of months or years they had been in their current relationship, and their current living situation (e.g., living with their parents, living with their partner, living with roommates, etc.). The variable of Relationship Commitment was measured using a scale indicating the percentage of participants' commitment to the relationship. Relationship Importance was measured using a 0 to 10 scale on which participants rated how important the relationship was to them.

Additional information regarding previous traumatic experiences that occurred outside the current relationship, such as child abuse, witnessing IPV, experiencing or witnessing rape, or other types of abuse or violence, was also assessed (Appendix, pp. 138-139). According to social learning theory, past experiences with violence may influence an individual's propensity to engage in or be a victim of abuse in relationships (see previous discussion of Social Learning Theory). Therefore, it was important to gather information about these experiences to determine their potential influence on participants' responses. In order to reduce the influence of cognitions and emotional responses regarding previous violence while completing other questionnaires, questions regarding past violent experiences that occurred outside the current relationship were asked at the end of the survey. The number of previous experiences with violence was totaled to obtain an overall Previous Violence score.

Perceived optimism. Optimism was measured using the Revised Life Orientation Test (LOT-R; Scheier et al., 1994). The LOT-R is a ten-item scale with six measured items and four

filler items (see Appendix, p. 128). The items are rated on a scale of 0 to 4, 0 being, “strongly disagree” and 4 being, “strongly agree.” Higher scores indicate higher levels of optimism. The LOT-R has high internal consistency ($\alpha = .78$) and test-retest reliability (.79 at 28 months; Scheier et al., 1994). For this sample the LOT-R had a Cronbach’s α of .75. The sum of all six measured items was used as a measure of optimism.

Goal measures. In order to give participants a context for their goal ratings, they were asked to describe three goals they had for their current relationship. Participants were then asked to rate the importance of each goal on a 0 to 10 scale, ranging from 0 being, “Not Important” to 10 being, “Very Important.” Participants were also asked their perceived likelihood of attaining their goals on a 0 to 10 scale, 0 being, “Not Likely” to 10 “Very Likely.” Please refer to the Appendix, pages 129 through 131 to view the full measure. The three importance scores (one for each goal) were averaged to compose an overall Goal Importance score. The three perceived attainability scores were also averaged to compose an overall perceived attainability score.

Goal Adjustment Scale. The Goal Adjustment Scale (GAS; Wrosch, Scheier, Miller, Schulz, & Carver, 2003) consists of 10 items addressing an individual’s tendencies to reengage or disengage from goals an individual is forced to stop pursuing (see Appendix, p. 132). Three scores can be calculated from the GAS, 1) a Goal Disengagement score, composed of the sum of items 1, 3, 6, and 8 (items 3 and 6 are reverse scored), 2) a Goal Reengagement score, composed of the sum of items 2, 4, 5, 7, 9, and 10, and 3) a total score composed of the sum of the goal disengagement and goal reengagement totals. Reliability scores for the Goal Reengagement Scale ($\alpha = .86$) and Goal Disengagement Scale ($\alpha = .84$) were obtained from a sample of 115 individuals ages 17-23, a sample similar to the sample proposed in this study (Wrosch, Scheier, Miller et al., 2003). These reliability scores indicate that the GAS items have high internal

consistency and are measuring reengagement and disengagement consistently among items. The Goal Disengagement and Goal Reengagement subscales were used to determine a participant's ability to adjust their behavior when faced with unattainable goals. In other words, this was a measure of goal adjustment. Reliability scores for the sample used in this study were good for both Goal Disengagement ($\alpha = .74$) and Goal Reengagement ($\alpha = .84$), but lower than in the validity study.

Conflict Tactics Scale –Short Form. The Conflict Tactics Scale-Revised Form (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996) is a measure of the methods used to resolve conflict between people. It is the most widely used measure for the identification of domestic violence (Straus, 2007). Reliability and validity of the CTS2, found in numerous studies, were summarized by Straus (2007). Reported Cronbach's alpha coefficients for internal consistency reliability ranged from .34 to .94 with a mean score of .77 (Straus, 2007). Test-retest reliability for the CTS2 ranged from .49 to .90 with a mean value of .72 (Straus, 2007). Although the CTS2 is a well-established measure, all possible conflict tactics are not described on the CTS2. However, the CTS2 is effective in identifying many problematic conflict tactics (Straus, 1979; Straus, 2007; Straus et al., 1996). Additionally, studies have found low correlations with social desirability scales, indicating that respondents are likely to report socially undesirable behavior if it applies (Straus, 2007). A short-form version of the CTS2 (CTS2S) was developed and tested by Straus and Douglas (2004; see Appendix, pp. 133-134). While the original CTS2 consisted of 78 items (Straus et al., 1996), the CTS2S consists of 20 items, and can be completed in 3 minutes (Straus & Douglas, 2004). Results from Straus and Douglas' (2004) study indicate that the CTS2S measures violence similarly to the CTS2 and has high validity correlations with the CTS2. However, the specificity of the CTS2S is lower and results in lower prevalence rates

(Straus & Douglas, 2004). Although the lower specificity likely results in fewer reports of violence, it is also likely to result in fewer false negatives. Furthermore, when considering the number of measures being given to participants, the use of the CTS2S will likely reduce participant testing fatigue and result in more accurate responding overall. Items are rated by participants on the frequency of occurrence, on a range from “Never” to “20 +”. Previous research has indicated that women may be more likely to scratch their partners, rather than hit or slap (Benson & Rogers, 2010). Therefore, the word “scratched” was added to items 9 and 10 to ensure that all physical behaviors were addressed. Participants were asked about the frequency of each behavior over the last 12 months of their relationship. If the participant had been in a relationship less than 12 months, they were instructed to describe the frequency of behavior over the duration of their relationship. Each item is rated for the individual completing the CTS2S and for his or her partner. Reliability for this sample, was good ($\alpha = .78$). The CTS2S was used to determine the severity and frequency of violence and abuse experienced and perpetrated by participants. The number of abusive episodes committed by participants was totaled to determine an overall Level of abuse score.

Coping. Methods of coping were measured using the Brief COPE (Carver, 1997; see Appendix, pp. 135-136). This assessment tool measures 14 coping methods. The Brief COPE was derived from the Coping Orientation to Problems Experienced (COPE) scale (Carver, Scheier, & Weintraub, 1989), which is currently the most used cross-situational measure of coping (Parker & Wood, 2008). The original COPE was developed from concepts of both Lazarus and Folkman’s model (1984) and Scheier and Carver’s model of behavioral self-regulation (Carver, 1997). The Brief COPE, rather than the COPE, was used in an effort to reduce demands on participants. Given the number of measures being completed by participants,

a reduction in the amount of effort needed to complete all the measures was likely to be useful in increasing participant involvement and effort in the study (Carver, 1997). The Brief COPE consists of 28 items, two per scale. Items are rated on a four item scale ranging from “I don’t do this at all” to “I do this a lot.” Cronbach’s alpha reliability levels ranged from $\alpha = .50$ to $\alpha = .90$, which is at or above the accepted cut-off for reliability of $\alpha = .50$ (Carver, 1997). Item loadings are similar to that of the original COPE. These results suggest that the Brief COPE has good internal validity (Carver, 1997). Cronbach’s alpha reliability for the current sample was high with a Cronbach’s alpha of .94. Scores from the Brief COPE were used in a confirmatory factor analysis to determine if two types of coping styles (negative and positive) could be extracted. These scores were intended for use as outcomes for the overall model.

Attitudes toward violence. As previously discussed, attitudes toward violence may predict abuse perpetration (Guoping et al., 2010). A measure of attitudes toward IPV may be useful in better understanding the overlap between individual goals and social influence on attitudes. The Intimate Partner Violence Attitude Scale – Revised (IPVAS-R; Fincham, Cui, Braithwaite, & Pasley, 2008; Smith, Thompson, Tomaka, & Buchanan, 2005) assesses attitudes toward IPV using a 17-item measure with three subscales, abuse, violence, and control (see Appendix, p. 160). Items for the IPVAS were developed based on reviews of research on psychological, verbal, and physical abuse, as well as the use of control, in abusive relationships. The original IPVAS consisted of 23 items. However, further validation research found that two of the items (“Using a knife or gun on a partner is never appropriate,” and “Threatening a partner is ok as long as I don’t hurt him or her”) were highly skewed (Fincham et al., 2008). Additional factor analysis found that three items had lower than acceptable factor loadings ($< .40$) onto their primary factor in the original development study (Smith et al., 2005) and low primary factor

loadings in the validation study (Fincham et al., 2008). The resulting IPVAS-R consisting of 17 items was validated using two student samples ($N = 859$ and $N = 687$). Factor loadings in a study by Fincham and his colleagues (2008) found good concurrent validity in correlations comparing other measures of relationship attitudes, and good discriminant validity for constructs of parental marital satisfaction and pro-divorce attitudes. The sum of all 17 items on the IPVAS was used as a measure of Attitudes Toward Violence. Cronbach's alpha for this sample was .75.

Design and Procedure

Participants were recruited from flyers posted in the University of Montana psychology building (the Skaggs building) where students sign-up for similar research projects. An electronic version of the flyer was also posted on a Psychology 100 "Blackboard" computer website accessible by Montana Tech students. Flyers consisted of the following information:

We are currently recruiting Psychology 100 students between the **ages of 18 and 25** who have been in a **romantic relationship that has lasted one month or more**. The purpose of the study is to understand how factors, such as your outlook on life, attitudes, and thoughts about your relationships influence your reactions in your relationship. If you agree to take this research survey, you will be given several questions about yourself, and your options on various topics, your current partner, and your experiences. Additionally, you will be asked questions about your personal health and safety. Questions asked on the survey are personal in nature and may cause mild discomfort to answer. No identifiable information will be collected. The survey will take about 15-20 minutes to complete. You may exit the survey at any time. There are no required answers. You will receive 1 research credit for your participation in the survey.

Participants were given an informed consent to read and sign electronically prior to beginning the survey. Online surveys were completed using SurveyMonkey, an online survey system meeting government standard 508, which requires accessibility for disabilities falling under the Disabilities Act. Additionally, SurveyMonkey protected participants through the use of a Secure Socket Layer system, which protects information using server authentication and data encryption. All additional security enhancements available through SurveyMonkey were used to ensure that participant information remained confidential. No identifying information was collected from participants.

After electronically signing the informed consent, participants completed the measures listed in the previous section. Data from the measures was translated by SurveyMonkey software into Excel files. These files were then transferred to SPSS and analyzed using SPSS and the Amos add-on of SPSS, which allows for the analysis of structural equation models.

Data Analysis. Data analysis began with preliminary analyses including a summation of demographic data, total scores, and correlations between variables of interest (see Chapter 3). Demographic data and total raw scores offer general information about the sample being studied here. Preliminary analyses also included specific information about levels of abuse and differences in abuse by gender. Correlational analyses were conducted in order to determine the strength of relationships between variables.

Preliminary analyses were followed by a factor analysis of the Brief COPE and Structural Equation Models (SEMs). Factor analysis of the Brief COPE was conducted using SPSS, while SEMs were analyzed using the Amos add-on of the SPSS program. Several structural equation models were tested. For the primary hypotheses the full sample of participants was used. The full

sample was tested using SEM to determine if the proposed model would fit combined data from all participants.

After the proposed model and main hypothesis were tested, secondary analyses were conducted in order to further understand the utility of this model in predicting abuse and coping in different subsamples and including different variables in the model. In secondary analyses two revised models, one including only Goal Disengagement, and one including only Goal Reengagement, were evaluated. These models were tested to determine if different goal adjustment strategies better predicted outcome variables. Following the assessment of goal adjustment variables several subsamples were tested. The purpose of these analyses was to determine if the model would better predict abuse and coping in difference groups. The subsamples tested were as follows: 1) Primary Victims (individuals who had received more abuse than they had committed), 2) Primary Offenders (individuals who had committed more abuse than they received), 3) women, and 4) men.

Due to the poor fit of all models, post hoc measurement models were analyzed to determine if a better understanding of model components could be reached. It was hoped the measurement models might elucidate any problems within the model that might have caused the model to poorly predict the outcome and latent variables. It was hoped that information from these models might help to improve future research using these variables.

Finally, multiple regression analyses were conducted to evaluate the effectiveness of measured variables in predicting outcome variables of Level of Abuse and Total Coping, without the use of SEM and latent variables.

Structural Equation Models. SEM allows for the analysis of data under a conceived theory, in this case, the behavioral self-regulation model proposed by Scheier and Carver, using

structural equations. Please refer to Figure 2 for the original full model proposed. SEM analysis also allows for use of latent variables to describe changes in variables throughout a model. Latent variables are proposed underlying constructs that are not tested directly. Rather, these variables are hypothesized to be composed of measures or subscales that are tested directly. In this study two latent variables were tested, Positive Expectancies and Adaptive Goal Investment (AGI). This model is described in three sections based on the latent variables and the outcome variables. However, it is important to recognize that each variable in the model is interrelated, meaning that each variable affects all the other variables in a given model. Therefore, results for each individual variable must be considered in light of the model proposed and considered given all the other variables in the model, and cannot be considered separately from the model proposed. A list and summary of the measured variables and latent variables used in the models can be found in Table 1.

The first latent variable is Positive Expectancies. Positive Expectancies was proposed as an underlying construct defined by total scores from three observed variables, the Revised Life Orientation Test (LOT-R), which measures Optimism, the Intimate Partner Violence Attitudes Scale (IPVAS), which measures Attitudes Toward Violence, and the total number of previous experiences with violence, hereby referred to as Previous Violence. It was expected that higher LOT-R scores, showing greater levels of Optimism, would be positively correlated to the construct of Positive Expectancies, while scores showing a greater acceptance of violence on the Attitudes Toward Violence scale, and greater frequency of Previous Violence, would be negatively correlated to the construct of Positive Expectancies. Prior experiences with violence (Previous Violence) combined with an individual's level of Optimism and Attitude Toward Violence were proposed to make up the latent variable and underlying construct of Positive

Expectancies in this model. This concept is based on the BSR concept of positive expectancies described previously. It was hypothesized that Positive Expectancies would predict coping and abuse such that higher levels of Positive Expectancies would predict higher levels of Positive Coping and lower levels of Negative Coping and abuse. It was also expected that Positive Expectancies would be positively correlated with the second latent variable Adaptive Goal Investment (AGI).

In the BSR model, behaviors are thought to change as discrepancies between the input and the goal become more evident. Research using the Goal Adjustment Scale (GAS) has suggested that the ability to adjust one's goals, given an inability to pursue these goals, results in more positive psychological well-being (Wrosch, Scheier, Miller et al., 2003). This study hypothesized that additional factors would also contribute to changes in goals and the concept of AGI. In the model proposed for this study it was assumed that participant reports of Relationship Importance, Relationship Commitment, Goal Importance, perceived Goal Attainability, Goal Disengagement, and Goal Reengagement, would compose an individual's tendencies to adjust their goals appropriately. It was expected that Relationship Importance, Relationship Commitment, Goal Importance, Goal Disengagement, Goal Reengagement, and perceived Goal Attainability would be positively correlated to AGI. Ultimately, this type of goal investment may be more beneficial to an individual's psychological well-being and could result in the use of more positive coping strategies and less use of abusive behaviors in the relationship. Therefore, it was hypothesized that higher levels of AGI would be related to higher levels of Positive Coping, lower levels of Negative Coping, and a lower Level of Abuse.

Level of Abuse, as measured by the CTS2S, and coping style, as measured by the Brief COPE, were used as outcome measures. It was expected that coping styles would tend to occur

in one of two ways, Positive or Negative Coping. Positive and Negative Coping were to be determined using factor analysis of Brief COPE scores. In summary, it was hypothesized that Positive Coping would be positively related to Positive Expectancies and AGI. Negative Coping and abuse were expected to be negatively related to Positive Expectancies and AGI.

Power analyses for SEM are not currently available. However, it has been recommended that SEM analyses for this type of model include at least 10 participants per parameter (Kline, 2011). The final number of parameters to be estimated totaled 36 requiring a minimum of 360 participants.

Secondary analyses. Additional analysis of goal adjustment tendencies was also conducted. The GAS allows for the calculation of a Goal Reengagement and a Goal Disengagement score. Each of these subscale scores was entered as a predicting variable for the construct of Adaptive Goal Investment (AGI). Two models were created to test the effect of each of these subscales alone on the model as a whole. In one model only Goal Disengagement was used (the other variables remained the same). In the other model, only Goal Reengagement was entered into the model (again, all other variables in the model remained the same). Previous research has been mixed regarding the relationship of Goal Reengagement and Goal Disengagement to positive psychological outcomes (see “Goal Adjustment Scale” section). Therefore, further analysis of disengagement and reengagement may increase our understanding of how disengagement and reengagement might influence coping and violence in relationships. When assessing the different types of goal adjustment, it was hypothesized that lower levels of disengagement or reengagement would be related to higher levels of abuse as a result of continued engagement in an abusive relationship.

Several subsamples (Primary Victims, Primary Offenders, women, and men) were also tested in the secondary analyses to determine if the main model proposed might better predict outcomes in certain groups. Individuals reporting higher scores for abuse received than committed on the CTS2S were considered Primary Victims while individuals reporting a higher score for abuse committed than abuse received were considered Primary Offenders. Similar analyses were conducted with men and women in separate groups to determine how well the model fit for each gender.

Measurement Models. Measurement models assess parts of a given model to determine how separate components of a given model function outside the influence of model variables not included in the measurement model. The purpose of measurement models is to evaluate the effectiveness of each component in predicting separate outcomes within the full model. Measurement models are often conducted as preliminary analyses, but were used as post hoc analyses here because their use was not originally proposed.

Multiple Regression Analyses. The use of multiple regression analyses was proposed for use should the SEM prove to be a poor fit to the data. Multiple regression analyses allow for more simple analysis of measured variables and their ability to predict a given measured outcome. While SEM allows for the analyses of several variables simultaneously and can include latent variables, multiple regression analysis allows for more simple evaluation of the relationship between variables.

CHAPTER 3

Results of Preliminary Analyses**Demographic Data**

The final sample consisted of 390 subjects. Of these, 252 (64.6%) identified themselves as female, 137 (35.1%) as male, and 1 (.3%) individual identified himself as transgender (female-to-male). This individual was included as a male in analyses where gender was considered. Analyses including this participant were compared to analyses where this participant was excluded, and they showed no statistical difference. Ninety-one percent of participants identified themselves as white or Caucasian. The average age of participants was 19.96 years with a range of 18 to 25 years. The majority of participants (56.7%) were college freshmen, 15.9% were sophomores, 14.1% were juniors, 12.8% were seniors, and .5% were graduate students. Most participants reported living in a dorm (31%) or with a roommate (25.9%). The remaining participants reported living with family members (20.5%), living with their partner (13.3%), living alone (7.9%), or living in a dorm with a family member (1%). One participant (.3%) did not report where s/he lived. Participants reported their partners to be an average of 21.10 years old, with a range of 17 to 50 years of age. The majority of participants (91.3%) described their partners as white or Caucasian.

In general, participants reported themselves being in a long-term and exclusive relationship. The average length of time in the relationship was 19.6 months (1.6 years) and the majority of participants (88.7%) described their relationship as “dating exclusively”. On average, participants reported their current relationship as being 8.5 for level of importance on a 10-point scale, with 0 being not important and 10 being extremely important. Participants also reported an average of 88.4% commitment to their relationship on a scale of 0% to 100%.

Positive Expectancies Scores

The latent variable, Positive Expectancies, was formed from three measured variables, the total score from the IPVAS, referred to as Attitudes Toward Violence, the total number of previous experiences with violence, referred to as Previous Violence, and the total score from the LOT-R, referred to as Optimism. These scores were hypothesized to determine an individual's Positive Expectancies for their relationship. Table 2 summarizes the mean scores, standard error, and range for each of these measures.

Adaptive Goal Investment (AGI) Scores

The second latent variable in the model, Adaptive Goal Investment (AGI), was formed using six scores: Relationship Importance, Relationship Commitment, Goal Importance, Goal Attainability, Goal Disengagement, and Goal Reengagement. These scores were expected to define the construct of AGI, which is posited to be related to decision-making in relationships. See Table 3 for a summary of scores from these six measures.

Abuse Scores

Full scale and subtest scores for the CTS2S were calculated using the midpoint values for each response, as recommended by Straus (2004). Midpoint values were as follows: 0 = This has never happened; 1 = Once; 2 = Twice; 4 = 3-5 times; 8 = 6-10 times; 15 = 11-20 times; 25 = More than 20 times; and 0 = Not in the past year, but it did happen before. The midpoint values were used in order to get the most accurate estimate of the number of abusive incidents reported. Negotiation scale items ("I explained my side or suggested a compromise for a disagreement with my partner," and "I showed respect for, or showed that I cared about, my partner's feelings about an issue we disagreed on") were not added to incidents of abuse because they are considered to be non-violent negotiation tactics. The remaining four scales of the CTS2S

included: 1) psychological abuse (i.e., “I insulted or swore or shouted or yelled at my partner”, and/or “I destroyed something belonging to my partner or threatened to hit my partner”), 2) physical violence (i.e., “I pushed, shoved, slapped, or scratched my partner”, and/or “I punched or kicked or beat-up my partner”), 3) injuring one’s partner (i.e., “My partner had a sprain, bruise, or small cut, or felt pain the next day because of a fight with me”, and/or “My partner went see a doctor [M.D.] or needed to see a doctor because of a fight with me”), and 4) sexual violence (i.e., “I used force [like hitting, holding down, or using a weapon] to make my partner have sex”, and/or “I insisted on sex when my partner did not want to or insisted on sex without a condom [but did not use physical force]”). These types of abuse were summed to calculate the Level of Abuse score. The Level of Abuse scores were used to assess the number of incidents of abuse reported. In this sample, the average number of abusive incidents respondents reported having committed against their partner was 5.33 incidents. Respondents reported, on average, that their partner had committed 6.19 incidents of abuse against the respondent. A total of 224 out of 390 individuals, 57.4%, reported committing at least one act of abuse in their relationship. One-hundred forty-three respondents, 36.7%, reported that they had not committed any abuse in their relationship and neither had their partner, meaning that 23 individuals (5.9%) reported that only their partner had used abuse in the relationship. Seventy-three (18.7%) respondents perpetrated more abuse against their partner and 83 (21.3%) experienced more abuse. In relationships where abuse occurred, 91 respondents (23.3% of the total sample, 40.6% of those who had committed abuse) reported equal rates of abuse. The average difference in the number of abusive acts committed by the respondent and by the respondent’s partner was 2.42 acts. The most commonly committed type of abuse was psychological abuse with 140 (62.5%) of the sample reporting having committed abuse committing only psychological abuse. Psychological

abuse was defined by: swearing, shouting, or yelling at one's partner, destroying something belonging to one's partner, and/or threatening to hit one's partner. Given that psychological abuse was the most prevalent type of abuse committed, the overall level of abuse and violence committed will be referred to as the Level of Abuse variable (see Table 1 for further explanation of variables) to reflect that the majority of participants reported committing only psychological abuse.

Differences in abuse by gender. For a summary of results of reported abuse by gender, please see Table 4. A total of 60.7% (153) of women and 51.4% (71) of men reported that they had committed some form of abuse against their partner. The difference between men and women in percentage of abuse committed was not statistically significant. Of those that committed abuse, 24.8% of women and 15.5% of men committed physical violence; 96.1% of women and 93% of men committed psychological abuse; 7.2% of women and 16.9% of men injured their partner; and 10.5% of women and 33.8% of men committed sexual violence against their partner. *T*-test analyses were conducted comparing types of abuse in men and women. Only sexual abuse committed was statistically significant. Results show that men ($M = 1.36$, $SD = 4.88$) are statistically more likely to commit acts of sexual violence than women $M = .21$, $SD = 1.54$; $t(152.04) = -2.69$, $p < .01$.

When looking at the full sample, including those individuals who did not report committing abuse and those that did report committing abuse, 20.6% of women and 15.2% of men reported committing more acts of abuse than their partner, and 20.6% of women and 22.5% of men reported being victims of more abuse. Equal rates of abuse committed and received were reported by 23.4% of women and 23.2% of men. A total of 35.3% of women and 39.1% of men reported having no abuse in their relationship. Chi-square tests were performed comparing

gender in each of these four categories. Results indicated that there was no significant difference between gender and either abuse committed or abuse received. $\chi^2 (1, n = 390) = 1.89, p = .59, \phi = .07$.

Four subsamples were formed and assessed using SEM analyses. Two groups were formed based on the level of abuse committed and perpetrated in the relationship. One group is referred to as Primary Victims. Inclusion in this subsample was based on CTS2S scores. Individuals who reported having received more abuse of any kind from their partner than they committed were assigned to this group. The total number of participants included in this group was 83 individuals. As previously noted, this was 21.2% of the total sample and 37.1% of those reporting abuse of any form in their relationship. The second group is referred to as Primary Offenders. Individuals in this group reported having committed more abuse than they received. A total of 73 participants (18.7% of the total sample, 32.6% of those reporting any abuse) were included in this group. Two additional analyses were conducted using women and men. There were 252 women in this sample, which made up 64.6% of the total sample. The individual who identified as transgender, female-to-male, was included in the subsample of men which consisted of 138 individuals (35.6% of the total sample). All analyses were conducted including the transgender participant and without this individual in the sample. No differences were found in the results. Therefore, this participant was included in order that his opinions and experiences not be excluded based solely on his gender difference.

Correlations Among Variables

Variables predicting Positive Expectancies and AGI were evaluated for correlations with the outcome variables (Total Coping and Level of Abuse). Listed here are some of the findings

more relevant to the model tested in this study. Please see Table 5 for a full summary of correlations.

The variable, Attitudes Toward Violence, as measured by the sum score from the IPVAS, was positively correlated with Level of Abuse ($p < .001$, $r = .26$). Attitudes Toward Violence scores were not significantly related to Total Coping score. Level of Abuse and Total Coping scores were significantly negatively correlated with Optimism ($p = .02$, $r = -.12$; $p = .001$, $r = -.17$, respectively). Level of Abuse was not significantly related to Previous Violence. Total Coping was significantly related to Previous Violence ($p = .001$, $r = -.18$).

Level of Abuse and Total Coping were not correlated with variables predicting AGI (Relationship Importance, Goal Importance, Goal Disengagement, and Goal Reengagement) with the exception of Goal Attainability ($p = .007$, $r = -.14$; $p < .001$, $r = -.21$, respectively). Only Total Coping was correlated to Relationship Commitment ($p = .007$, $r = -.14$).

The score for total abuse committed by participants (Level of Abuse) was highly correlated with abuse committed by partners ($p < .001$, $r = .84$) and Total Coping ($p < .001$, $r = .20$). The Level of Abuse score was also positively correlated with 11 out of 14 subscales of the Brief COPE including Active Coping ($p = .01$, $r = .12$), Planning ($p < .02$, $r = .12$), Acceptance ($p = .007$, $r = .14$), Humor ($p = .01$, $r = .13$), Emotional Support ($p = .008$, $r = .14$), Self-Distraction ($p = .008$, $r = .14$), Denial ($p < .001$, $r = .32$), Venting ($p < .001$, $r = .21$), Substance Use ($p < .001$, $r = .22$), Behavioral Disengagement ($p < .001$, $r = .22$), and Self-Blame ($p = .007$, $r = .14$).

CHAPTER 4

Results of Factor Analysis and Structural Equation Models**Factor Analysis for the Brief COPE**

As proposed, an exploratory factor analysis using the SPSS analysis program was performed on each of the 14 Brief COPE subscales to determine if Positive and Negative Coping latent variables would provide a good fit for the sample data. Results of a factor analysis conducted using a forced two-factor solution showed that the two factors accounted for only 46.8% of the variance with no rotation. The variance explained was also 46.8% with a varimax rotation. Because less than half of the variance could be explained using a forced two-factor model, it would not be useful to use this model for describing positive and negative coping. Additionally, items did not load onto factors in a theoretically relevant or logical manner. For example, the item “I’ve been concentrating my efforts on doing something about the situation I’m in,” loaded on to the same component as “I’ve given up trying to deal with it.” It does not seem that these two reactions would apply to the same type of coping. Also, only 5 (6 with a varimax rotation) out of 28 items loaded onto the second factor, which accounted for only 9.3% (16.5% with a varimax rotation) of the total variance explained. The first factor accounted for a large amount of the variance (37.5% with no rotation, 30.3% with a varimax rotation). However, the amount of variance accounted for by the second factor, the small number of items included in this factor, and the lack of consistency among items on both factors, does not support the use of this 2-factor model in further analyses.

Although it was hypothesized that Positive and Negative Coping styles would be found in this analysis, a good fit was not found for this model. It was originally proposed that Positive

Expectancies and Adaptive Goal Investment (AGI) would be positively related to Positive Coping and negatively related to Negative Coping within the context of the overall model. However, because a good fit was not found for Negative and Positive Coping as factors of the Brief COPE, the total amount of coping reported (Total Coping), calculated by summing scores from all 28-items of the Brief COPE, was used as an outcome variable rather than Positive and Negative Coping. Please see Figure 3 for the modified SEM model. Correlational data indicate a positive relationship between Total Coping and Level of Abuse, suggesting that the Total Coping score may relate to model variables in the same manner as was anticipated by the Negative Coping factor. As the Brief COPE was designed to be a measure of coping strategies that can be helpful, the relationships of other variables to the Total Coping score were expected to be the same as originally described for the proposed Positive Coping factor. Therefore, within the context of the overall model, Positive Expectancies and AGI were expected to be positively related to the overall level of coping (Total Coping).

Structural Equation Models

Structural equation modeling (SEM) provides a way to determine whether a particular model accurately fits a given sample. In addition to indices of fit, SEM provides information about how variables within the model relate to one another. Unlike some other methods of analysis, the variables within a structural equation model are considered simultaneously. Therefore, the relationships between variables and values of estimated parameters and the fit statistics must be considered within the context of the model and considering all other variables within the model. This method of evaluation allows for a rich understanding of how factors within the model work together to produce a given outcome. It also allows for the consideration of the influence of each variable at the same time, rather than having to consider each

relationship individually, without knowing the influence of other important factors. As such, SEM is useful in understanding complex behaviors, such as the use of abusive behaviors in relationships, because many factors can be evaluated simultaneously. On the other hand, it can be difficult to understand the importance of individual factors within such a model because each factor is being considered within the context of all the other factors. For the current models, several variables calculated from participants' reports of goal and relationship importance, optimism, attitudes, commitment, perceived attainability, and previous experiences, were assessed to determine how well the model predicts the use of abusive behaviors and coping in this sample.

Data preparation. SEM is extremely sensitive to missing data and abnormal data distribution, because the statistical analyses used in SEM are based on an assumption of normal distributions. As previously described, in SEM all variables are evaluated at the same time. Therefore, any problems that occur in one variable will then influence the results for all variables. Normality assessments were conducted on each variable included in the model to ensure that the model would not be negatively impacted by skewed distributions. It was found that the Level of Abuse, which is the sum of all abusive acts reported by participants against their partner, had high levels of skewedness (3.66) and kurtosis (18.87). Therefore, the Level of Abuse score was transformed (using square root values), as recommended by Kline (2011), to achieve greater normality in the Level of Abuse score distribution. The resulting values showed a more normal distribution (skewness = 1.34, kurtosis = 1.66), acceptable for use in the model. This transformed score was used in all described models. The remaining variables showed acceptable distributions for use in the model. As previously noted, the sum score from the Brief COPE

(referred to as Total Coping) was used, rather than two coping factors (i.e., negative and positive coping).

Residuals and estimates. Residuals are an indication of the difference between predicted values and observed values. Theoretically, in a perfect model there would be no difference between these two values; therefore, lower residuals indicate a better model. Correlation residuals are standardized covariance residuals. Correlation residuals will be described here because they are standardized, and values from one variable can be compared to values from other variables in the model. Using standardized values allows for easier comparison between variables with different scales. In general, residual values $> .10$ indicate that the model does not explain the given values adequately because there is too great of a difference between the predicted value and the observed value for the model to be considered an adequate explanation of the given data.

Estimates of direct, indirect, and total effects help to determine the amount of change that will occur in one variable due to the effects of another variable. Therefore, higher values show a greater effect. Indirect effects and total effects can help to understand mediation relationships. Since there are no mediating variables in the current model, direct and total effects have the same value and there are no indirect effects. Therefore, only total (direct) effects will be reported here. These values address the relationship between two variables, and it is important to remember that total effects must be examined within the context of the overall model. Standardized scores will be used to allow for easier comparison between values. These values are represented in visual format for the full sample in Figure 4. Comparisons of standardized total effects for Positive Expectancies from each of the seven models can be found in Table 6. Comparisons of

standardized total effects for Adaptive Goal Investment (AGI) for all seven samples can be found in Table 7.

Both residual values and estimates can only address the relationship between two variables at a time. Since all variables are interrelated, the importance of each of these independent relationships can only be assessed within the context of the overall model. If one variable shows poor estimate and residual values in relation to another variable, this does not necessarily mean that the overall model is not a good fit for the data. Similarly, if a variable shows good estimate and residual values, this does not mean that the overall model fit is good. Statistics considering all variables within the model offer a better understanding of how well this model will predict abuse and coping. Residual and estimate values can help to understand the relationship between two values and offer some information about the importance of a particular variable. They do not offer good information about the model as a whole. Therefore, goodness-of-fit indices were used as a more accurate and comprehensive portrayal of the overall model.

Goodness-of-fit indices. Statistics that identify a model as being a “good fit” do not necessarily show that the model is correct. These statistics only show that a particular model is a plausible explanation for a given sample (Kline, 2011). With this information in mind, goodness-of-fit statistics can be assessed and considered along with the residual and estimate values obtained from analyses. The set of indices reported in this study has been recommended by several researchers as providing the best means for determining overall fit because each index accounts for different factors within the model and each has different strengths and weaknesses (Byrne, 2010; Hu & Bentler, 1999; Kline, 2011). These include the chi-square test p -value, the root mean square error of approximation (RMSEA), goodness-of-fit index (GFI), and

comparative fit index (CFI). Please see Table 8 for a summary of the value recommended as an indication of good model-to-data fit for each of these indices.

The model chi-square test evaluates the difference between the population covariance and the covariance that the model predicts (Kline, 2011). In other words, the chi-square statistic looks at the difference between the most accurate possible model fitting the population perfectly, and the proposed model. Therefore, the model is being tested against an assumed “perfect model” and is tested for “exact fit,” meaning that it is tested under the assumption that there are no differences between the population covariances and the covariances predicted by the model. Because it is desired that the model match as closely to the population model as possible, the desired significance level should be close to 1.00, with a p -value that falls at a level $> .05$, (Kline, 2011). There are several limitations to using the chi-square values for estimating the fit of a model, including the assumption that there is a “perfect” model to which to compare. Using a “perfect” model as a measure of good-fit is the highest standard of comparison. Additionally, chi-square tests are very sensitive to non-normal distributions, high correlations between variables, and sample size.

The RMSEA adjusts for the complexity (degrees of freedom and parsimony) of the model. However, because the RMSEA considers degrees of freedom and sample size, increases in parsimony and increases in sample size may decrease the value of RMSEA such that greater complexity and a larger sample will cause a false positive result. This will be important to keep in mind, as the sample size for each of the models tested differs depending on the population in question (e.g., men versus women). Because the RMSEA compares to a distribution, it can be used to test a “close-fit hypothesis,” meaning that a range of scores, rather than an exact score, can indicate that the model fits the sample data well. To show that a model fits well, a p -value of

$\leq .05$ is desired (Kline, 2011). Using the RMSEA also provides confidence intervals allowing assessment of the possible range of RMSEA and data fit. RMSEA values that fall at or below .10, and a confidence interval that falls between .00 and .10, indicate that the “poor fit” hypothesis does not hold. In other words, the RMSEA confidence interval determines whether a model is a poor fit rather than comparing it to a “perfect” model.

The goodness-of-fit index (GFI) compares the proposed model to no model at all (or the “null model”) by estimating the proportion of the covariance in the data that can be explained by the model. More specifically, the GFI compares the model residual to the total variability in the sample covariance matrix (Kline, 2011, p. 207). Unfortunately, the GFI is also affected by sample size and may increase as sample size increases. This means that a larger sample could result in a GFI score that appears to show a good fit because the score has been inflated.

The comparative fit index (CFI), on the other hand, compares the level of improvement of the proposed model to the baseline model. The baseline model here is the independent model, which assumes that there is no covariance among observed variables and that all variables vary independently of one another. This comparison makes interpretation difficult because showing that one’s model is better than a model that has no variable covariances does not show that the model is particularly strong, only that it is better than a highly improbable model. The CFI, however, does provide an indication of how well the model fits independent of the sample size and complexity of the model. For the GFI and CFI, values closest to 1.0 indicate a good fit. It is generally accepted that values of .95 or greater indicate a good fit (Byrne, 2010; Kline, 2011). Table 9 summarizes each of the four goodness-of-fit statistic results from the revised model tested, the Goal Disengagement and Goal Reengagement models, and the four subsamples of the revised model.

Full Sample Model. The full sample model included all participants in the study, a total of 390 individuals. According to Kline (2011) and Byrne (2010) this sample size is likely to be adequate for a model with this complexity and number of parameters. As previously noted, the two-factor model of the Brief COPE did not adequately fit. Therefore, it was combined into one coping variable (Total Coping) and the revised score was used in all the samples and models tested. As described, transformed scores were used for the calculation of Level of Abuse to reduce skewedness and kurtosis to a level acceptable for SEM analysis. Other variables in the model remained the same as originally proposed.

For this model, there were 24 total variables, including 11 observed variables and 13 unobserved variables (11 error terms and 2 latent variables). There were 25 total parameters (hypothesized relationships) to be estimated and 66 sample moments (variances and unique covariances), leaving 41 degrees of freedom. This indicates that this model is over-identified. Model identification refers to whether or not a unique solution can be found based on the proposed model. In order for a model to produce a unique solution, it must be over-identified, meaning that the model has fewer free parameters than observations and > 0 degrees of freedom. All samples in which this model was tested (Primary Victim, Primary Offender, female, and male samples) are over-identified and can be tested using SEM.

Estimates. The latent variable of Positive Expectancies was tested as an underlying construct, hypothesized to be composed of the measured variables of Attitudes Toward Violence (measured by the IPVAS), Previous Violence experienced, and Optimism (measured by the LOT-R). Within this model, it was expected that Positive Expectancies would be positively related to Optimism and Total Coping, and negatively related to the following variables: Attitudes Toward Violence, Previous Violence, and Level of Abuse. Standardized total effects

are the sum of all effects both direct and indirect of one variable on another, which is also referred to as the path coefficient (Kline, 2011). The standardized total effect estimates the amount of change that will occur in one variable due to the effects of another variable. For each one standard deviation (also referred to as one unit), a given variable will increase or decrease the amount of the path coefficient. For example, if the standardized total effect value of the path between Optimism and Positive expectancies is .10 this means that for each one standard deviation increase in Positive Expectancies, Optimism will increase .10 standard deviations. These coefficients occur within the context of the model as a whole. Therefore, each coefficient is influenced by all the other variables within the model and cannot be considered outside of the context of the model.

For this model, standardized total effect values showed that one standard deviation change in Positive Expectancies resulted in a .55 decrease in Level of Abuse, a .39 decrease in Attitudes Toward Violence, and a .15 decrease in Previous Violence experienced. See Table 6 for a summary of standardized total effects for each sample and Figure 4 for visual representation of the total effects found in the full sample. These decreases showed a negative relationship between the latent variable and proposed underlying construct of Positive Expectancies, as hypothesized. There was also a .38 increase in Optimism, which indicates a positive relationship with Positive Expectancies, as proposed. Total Coping however, did not show the expected relationship with Positive Expectancies, but rather there was an estimated .42 decrease in Total Coping for each one unit change in Positive Expectancies.

Adaptive Goal Investment (AGI) is a latent variable proposed to be defined by the following measured variables: Relationship Importance, Relationship Commitment, Goal Importance, Goal Attainability, Goal Disengagement, and Goal Reengagement. It was expected

that each of these variables would be positively related to the construct of AGI. It was also expected that AGI would be positively related to Total Coping and negatively related to Level of Abuse. Standardized total effects showed that within this model, for each one standard deviation change in AGI there was a .88 increase in Relationship Importance, a .82 increase in Relationship Commitment, a .59 increase in Goal Importance, a .59 increase in Goal Attainability, and a .004 increase in Total Coping. These variables showed relationships in the expected direction.

However, for one unit change in AGI there was a .39 decrease in Goal Disengagement, a .12 decrease in Goal Reengagement, and a .12 increase in Level of Abuse. These variables showed relationships in the opposite direction of what was expected. This suggests that Goal Disengagement and Goal Reengagement are negative indicators of AGI. Please see Figure 4 for a visual summary of standardized total effects for the full sample.

Residuals. Residuals allow for a better understanding of the relationship between two variables. It is important to remember that residual values occur within the context of the model as a whole, and each variable within the model is influenced by all other variables in the model. Residuals show the differences between values predicted by a proposed model and actual observed values. Low residual values ($\leq .10$) indicate that the model explains the data well because the difference between what was proposed and what was observed is very small.

In the original model, an analysis of model standardized covariance residuals showed that only a few of the variable relationships were well explained by the model, with few values falling at, or below the .10 level. When related to Level of Abuse, the following variables showed residuals at or below .10: Relationship Importance (.02), Goal Importance (-.06), and

Previous Violence (-.02). None of the residual values for model variables related to Total Coping had values less than or close to .10.

Goodness-of-fit indices. Unlike residuals and estimates, goodness-of-fit statistics address the model as a whole. These statistics evaluate the likelihood that a given model has adequate predictive abilities for the proposed variables and fits the sample data well. The chi-square test addresses the proposed model's fit compared to the population. Higher values indicate a better fit to the population. The chi-square p -value for this model was $< .001$ indicating that the likelihood that the proposed model matches the population is less than .1% and this model is a poor fit.

The RMSEA estimates consider sample size and parsimony of the model. The RMSEA value was .12, which is above the recommended value of $\leq .10$. RMSEA statistics also offer a confidence interval, which helps to assess the likelihood that a given value is indicative of good fit. The confidence interval for this score was [.11, .14], suggesting a poor fit. However, RMSEA p -values $\leq .05$ indicate that a model is not a poor fit. The RMSEA p -value for this model was $< .001$, which suggests that the model is not a poor fit. Although this p -value falls within the desired range, the RMSEA score does not support this model as a good fit to the data.

The GFI compares the model residual to the total variability in the sample covariance matrix. Scores between .95 and 1.00 indicate that the model explains the data covariance well. For this model, the GFI was .88, indicating that the model does not fit the data well.

The CFI compares the proposed model to a baseline model that assumes there is no covariance among variables. Scores between .95 and 1.00 indicate that the hypothesized model adequately predicts covariances between variables. The CFI for this model was .73, signifying that the hypothesized model does not adequately predict covariances between variables.

Goal Disengagement and Goal Reengagement. Goal Reengagement and Goal Disengagement did not relate to other variables as expected. Previous research suggests that these two variables may play very different roles in goal adjustment (Wrosch, Scheier, Miller et al., 2003). More specifically, the impact of Goal Reengagement may change as people gain more life experience and get older. Because this sample population is relatively young, Goal Reengagement may function differently than expected. Additionally, it is possible that either Goal Disengagement or Goal Reengagement may have a greater impact or may help to better explain Adaptive Goal Investment (AGI) and the relationship between AGI and Levels of Abuse and Total Coping. In order to explore these issues further, it was proposed that Goal Disengagement and Goal Reengagement be entered individually into the overall model to see if placing them separately in the model would change the relationships in the model as a whole. These revised models were also intended to explore whether model fit would improve with the inclusion of either Goal Disengagement or Goal Reengagement alone.

For these two revised models, there were 22 total variables, including 10 observed variables and 12 unobserved variables (10 error terms and 2 latent variables). There were 23 total parameters (hypothesized variables) to be estimated and 55 sample moments (variances and unique covariances), leaving 32 degrees of freedom. These results indicate that this model was over-identified and can, therefore, be analyzed for a unique solution.

Goal Disengagement Only. For this model, the same sample of 390 participants was used. Goal Reengagement was removed from the model and only Goal Disengagement was included. All other variables remained in the same positions as the revised model using Total Coping.

Estimates. The same measured variables (Attitudes Toward Violence, Previous Violence, and Optimism) were hypothesized to compose the latent variable of Positive Expectancies. Standardized total effects showed that a one unit change in Positive Expectancies results in a .55 decrease in Level of Abuse, a .39 decrease in Attitudes Toward Violence, a .15 decrease in Previous Violence, and a .38 increase in Optimism. Within the context of this model, and considering all the other variables in this model, these coefficients were in the expected direction. Total Coping did not show the expected relationship, but showed a .42 decrease in Total Coping for one unit change in Positive Expectancies. These results are nearly identical to the original model including both Goal Disengagement and Goal Reengagement.

For this model, the latent variable of Adaptive Goal Investment (AGI) was hypothesized to be composed of the following measured variables: Relationship Importance, Relationship Commitment, Goal Importance, Goal Attainability, and Goal Disengagement. Goal Reengagement was not included as a predictor of AGI for this model. These variables were expected to be positively related to the construct of AGI. Standardized total effects for AGI show that for a one unit change in the latent variable of AGI there is a .88 increase in Relationship Importance, a .82 increase in Relationship Commitment, a .59 increase in Goal Importance, a .59 increase in Goal Attainability, and a non-significant, .01 increase in Total Coping. Goal Disengagement did not show the expected relationship with AGI, with a .39 decrease occurring for each one unit change in AGI. Level of Abuse also did not show the expected relationship with AGI, showing a .12 increase, which was not significant.

Residuals. Only a few residuals were at or below the desired value of $\leq .10$, which would indicate that the difference between what was proposed and what was observed was very small, and that the model explained these variables well. The residuals for Level of Abuse falling at \leq

.10 were as follows: Relationship Importance = .03, Goal Importance = -.06, and Previous Violence = -.02. There were no residual values related to Total Coping that had a value of $\leq .10$.

Overall, standardized total effects and residuals did not change drastically when Goal Reengagement was removed from the model. This indicates that relationships between Goal Disengagement and other variables are not contingent on Goal Reengagement being in the model.

Goodness-of-fit indices. Goodness-of-fit statistics looking at the fit of the model as a whole did not support the model as a good fit. The chi-square test comparing the hypothesized model to the population showed a p -value of $< .001$, indicating a proposed model population match of less than .1%, indicating a poor fit.

The RMSEA score, which accounts for sample size and parsimony, was .13 and had a confidence interval of [.11, .14]. Although the RMSEA p -value of $< .001$ is significant, the overall RMSEA score and the confidence interval were not within the desired range and do not support this model as a good fit to the data.

The GFI compares the residual to the total variability in the covariance matrix. The GFI score was .89. This score does not fall within the .95 to 1.00 range, suggesting that this model does not explain the overall model covariance well.

The CFI, which compares the proposed model to a model with no covariance among variables, showed a value of .74 which falls well outside the .95 to 1.00 range. The CFI value indicates that the proposed model is a poor fit.

Goal Reengagement Only. For this model, Goal Disengagement was removed from the analysis and Goal Reengagement was retained. The same sample of 390 participants was used.

Estimates. Standardized total effects show that, for one unit change in Positive Expectancies, there was a .54 decrease in Level of Abuse, a .39 decrease in Attitudes Toward Violence, a .15 decrease in Previous Violence, and a .38 increase in Optimism. These results are similar to those in the original model and occurred in the hypothesized direction. Like all previous models, Total Coping showed a negative relationship to Positive Expectancies with a .42 decrease for each one unit change in Positive Expectancies.

For this model, it was proposed that the latent variable of Adaptive Goal Investment (AGI) would be predicted by the following variables: Relationship Importance, Relationship Commitment, Goal Importance, Goal Attainability, and Goal Reengagement. Goal Disengagement was not included as a predictor. Standardized total effects for AGI show that for each one unit change in AGI there was a .88 increase in Relationship Importance, a .83 increase in Relationship Commitment, a .57 increase in Goal Importance, and a .58 increase in Goal Attainability. These results are similar to those of previous models and are consistent with the hypothesized relationships. Three variables, Goal Reengagement (-.10), Level of Abuse (.12) and Total Coping (-.01) did not show the expected results and had relationships with AGI in the opposite direction of what was proposed. These findings are very similar to findings from the previous two models.

Residuals. For Level of Abuse the following variables showed a residual at or below the desired level of $\leq .10$: Relationship Importance (.01), Goal Importance (-.07), and Previous Violence (-.05). Once again, there were no variables for Total Coping with residual values less than or close to .10.

The standardized total effects and residuals did not notably change, despite the removal of Goal Disengagement from the model.

Goodness-of-fit indices. When looking at the model as a whole, the chi-square test comparing the hypothesized model to the population had a p -value of $< .001$ indicating that there is less than a .1% chance this model fits to the population model and the model is a poor fit.

This model had an RMSEA score of .12 and a confidence interval of [.11, .14]. Although the RMSEA had a p -value of $< .001$, the RMSEA score and confidence interval did not support the rejection of the poor fit hypothesis because they were not within the desired range.

The GFI, which compares the residual to the variability in the covariance matrix, was .91. This score falls outside the desirable range (scores between .95 and 1.00). The CFI, which compared the hypothesized model to a model with no covariance among variables, had a value of .77. This value also falls outside the desired range of .95 to 1.00.

Victims versus Offenders. In order to determine how abusive behaviors were used by those who could be considered victims of abuse (because their partner used more abusive behaviors), and by those who could be considered offenders (because they used more abusive behaviors against their partners), the revised model using Total Coping and including both Goal Disengagement and Goal Reengagement, was used. However, only those individuals who had experienced more abuse than they committed ($n = 83$) were included in the Primary Victim model. For the Primary Offender model, only those individuals who had committed more abuse than they received ($n = 73$) were included. These sample sizes were too small to be considered adequate for a model of this complexity. Therefore, the results from these analyses were not reported here.

Analysis of Gender. As discussed in the introduction, there has been much controversy over the role of gender in IPV. While some theories and studies support the idea that males are more abusive, others find that abusive behaviors are exhibited by both sexes. To better elucidate

the role of gender for this model, analyses were conducted using only women or only men, including the transgender individual who identified himself as male.

Women. There were 252 women in the total sample. The original model was tested using this subsample of individuals. As with previous models using subsamples, these results should be interpreted with caution. However, samples over 200 are generally accepted as being adequate for SEM analysis (Bryne, 2010), though this is a less conservative means of estimating the needed sample size.

Estimates. The latent variable, Positive Expectancies, was again hypothesized to be defined by the measured variables Attitudes Toward Violence, Previous Violence experienced, and Optimism. Standardized total effects show that a one unit change in Positive Expectancies results in a .36 decrease in Attitudes Toward Violence, a .30 decrease in Previous Violence, and a .40 increase in Optimism. These results all occurred in the hypothesized direction and, to a similar degree, compared to the full sample model. However, the decrease in Previous Violence was .15 greater in this model compared to the full sample. For a one unit change in Positive Expectancies, there was a .56 decrease in Level of Abuse. This relationship occurred in the hypothesized direction and was similar to the effect seen in the full sample model. Positive Expectancies showed a negative relationship with Total Coping (- .41 standardized total effect), which was also a similar value to the full sample model.

The construct of Adaptive Goal Investment (AGI) was hypothesized to consist of the same measured variables as the full sample model (Relationship Importance, Relationship Commitment, Goal Importance, Goal Attainability, Goal Disengagement, and Goal Reengagement). It was expected that each of these variables would be positively related to AGI. Results show that for each one unit change in AGI, there was a .86 increase in Relationship

Importance, a .76 increase in Relationship Commitment, a .52 increase in Goal Importance, a .51 increase in Goal Attainability, a .40 decrease in Goal Disengagement, and a .06 decrease in Goal Reengagement. These values were similar to those found in previous models. Like other models, this sample also showed a negative relationship between AGI and Goal Disengagement and Goal Reengagement, which is the opposite direction of what was hypothesized.

AGI was hypothesized to be positively related to Total Coping and negatively related to Level of Abuse. Standardized total effects for AGI show that for a one unit change in AGI, there was a .12 increase in Level of Abuse, and a .004 increase in Total Coping. These values were also similar to those found in the original sample. The relationship between Level of Abuse and AGI was, once again, not in the hypothesized direction.

Residuals. Residual values at or below .10 indicate that the difference between predicted values and observed values is small, and that the model predicts these values well. When related to Level of Abuse, only Relationship Importance (.02) showed a residual below .10. There were no variables related to Total Coping with values \leq .10.

Goodness-of-fit indices. Goodness-of-fit values, addressing the model as a whole, were also used to assess the overall fit of the model. The chi-square test, compared the hypothesized model to the population and showed a p -value of $< .001$, indicating that the likelihood that the proposed model matches the population is less than .1%.

The RMSEA analysis had a value of .13, a confidence interval of [.12, .15] and a p -value of $< .001$. While the p -value indicates that the model is not a poor fit, the RMSEA score and confidence interval suggests that this model is a poor fit.

The GFI, which compares the model residual to total variability, had a value of .86, indicating that the model does not explain the data covariance well. The CFI, which compares

the proposed model to a model with no covariance between variables, had a value of .65, indicating that this model is a poor fit to the data.

Men. There were 137 men and 1 transgender individual who identified himself as male, for a total of 138 participants for use in this subsample. This sample size is too small for a model of this complexity. Therefore, results from this sample are not reported here.

CHAPTER 5

Measurement Models

In order to understand better why these models did not predict values as expected, post hoc measurement models looking at only the latent variables (Positive Expectancies and AGI) and the measured variables predicting these latent variables were conducted. Measurement models only look at one part of the overall model, the measurement of each latent variable alone. This type of model is used so that variables that might influence the measured variables predicting the latent variable can be considered without the influence of other model variables. In other words, the effect of other model variables was controlled for by excluding them from the analysis. Please see Figures 4 (Measurement Model for Positive Expectancies) and 5 (Measurement Model for Adaptive Goal Investment) for a visual representation of these models.

Positive Expectancies Measurement Model

In this model, only the measured variables of Attitudes Toward Violence, Previous Violence, and Optimism were included as predictors of the latent variable of Positive Expectancies. It was expected that Attitudes Toward Violence and Previous Violence would be negatively related to the underlying construct of Positive Expectancies. It was expected that Optimism would be positively related to Positive Expectancies.

Results. The error variance for Optimism was negative for this model causing this model to be not interpretable (see Primary Offender and Men models for a further explanation). Additionally, this model is just-identified, rather than over-identified, because there are zero degrees of freedom. Therefore, a unique solution cannot be found for this model. These results suggest that, without the other variables included, the role of these variables alone cannot be interpreted and therefore cannot accurately predict Positive Expectancies.

Adaptive Goal Investment Measurement Model

The following measures were hypothesized to explain the underlying construct of Adaptive Goal Investment (AGI): Relationship Importance, Relationship Commitment, Goal Importance, Goal Attainability, Goal Disengagement, and Goal Reengagement. It was expected that each of these measures would be positively related to the latent variable of AGI.

Results. The latent variable, AGI, showed the following standardized total effects for each measure: Relationship Importance showed a .88 increase for every one unit change in AGI, Relationship Commitment showed a .82 increase, Goal Importance showed a .58 increase, and Goal Attainability showed a .58 increase. Goal Disengagement and Goal Reengagement did not relate to AGI in the expected direction. Rather, they showed values of -.39 and -.12, respectively.

Residuals show the difference between values predicted by the model and observed values. None of the residual values for this model had a value of $\leq .10$, indicating that this model did not account well for predicted versus observed values.

Goodness-of-fit indices, which address overall model fit, were also tested. The chi-square statistic, which compared the hypothesized model to the population, indicated a p -value $< .001$. The RMSEA had an overall value of .21, a confidence interval ranging from .18 to .24, and a p -value of $< .001$. These results do not support this model as a good fit. The GFI was .88. This value suggests that the model does not explain data covariances well. The CFI, which compared the proposed model to a model with no covariance between variables, showed a value of .80, signifying that the model is a poor fit.

CHAPTER 6

Results for Multiple Regression Analyses

Multiple regression analyses were proposed to be conducted if SEM models were unsuccessful. While multiple regressions can assess the effects of variables simultaneously as in SEM, latent variables cannot be assessed. Here, the measures that made up the latent variables were entered into the model as a proxy for the latent variables assessed using SEM. As in the Structural Equation Models, transformed CTS2S scores (Level of Abuse) were used to improve the normality in distribution of this variable. See Table 10 for a summary of results from the Multiple Regression Analyses.

Positive Expectancies

The variables of Attitudes Toward Violence (as measured by the IPVAS sum score), Previous Violence (as measured by the sum total of previously experienced violence), and Optimism (as measured by the LOT-R total scores) were entered as independent (predictor) variables. Two multiple regressions were conducted using these variables, one with Level of Abuse as the dependent variable and the other using Total Coping as the dependent variable.

Abuse. Attitudes Toward Violence, Previous Violence, and Optimism scores were entered into the model simultaneously. The transformed CTS2S sum score (Level of Abuse) was used as the dependent variable. Relationship between abuse and the predictor variables was expected to be the same as they were in the SEM analyses with Attitudes Toward Violence and Previous Violence expected to be positively related to Level of Abuse, and Optimism expected to be negatively related to abuse. Several statistics are useful for understanding the influence of each variable within the regression. The beta coefficient (β) gives a standardized score showing the contribution of each variable to the overall regression when the other variables are controlled.

Beta coefficients are standardized so that each variable can be compared to the others. The squared part-correlations show the unique amount of variance each variable contributed to the overall variance. The p -value indicates whether the influence of a given variable is statistically significant or not. Results for each of the three variables are as follows: Attitudes Toward Violence $\beta = .25$, squared part-correlation = .06, $p < .001$, Previous Violence $\beta = .10$, squared part-correlations = .001, $p = .06$, and Optimism $\beta = -.05$, squared part-correlation = .003, $p = .31$. All relationships were in the expected direction. These findings show that Optimism does not make a unique contribution to this regression, and Previous Violence is slightly out of the significant range as well. Though Optimism and Previous Violence make a contribution to the overall variance, their contribution is not statistically significant. Only Attitudes Toward Violence was shown to have made a significant contribution to the overall variance. The total variance, explained by the model shown in the R^2 value, was 8%, indicating that together these variables explain 8% of the total variance of abuse committed by participants. Though this is not a large percentage of variance, the p -value of the F statistic was significant ($p < .001$), $F(3, 386) = 10.72$.

Coping. The same independent variables (Attitudes Toward Violence, Previous Violence, and Optimism) were entered into the model simultaneously. For this regression analysis, Total Coping was entered as the dependent variable. It was expected that Attitudes Toward Violence and Previous Violence would have a negative relationship with coping, while Optimism would have a positive relationship with coping. In this model, Previous Violence showed the greatest influence with a β value of .16, a squared part-correlation of .025, and $p = .001$. Optimism was the next greatest predictor, with a $\beta = -.12$, squared part-correlation = -.014, and $p = .02$. Attitudes Toward Violence was the weakest predictor, with a $\beta = .08$, squared part-

correlation = .006, and $p = .12$. All relationships in this model were the opposite of what was expected with Attitudes Toward Violence and Previous Violence having a positive relationship to coping and Optimism having a negative relationship.

These results show that Attitudes Toward Violence does not contribute a statistically significant portion of the variance to this model. Together, the three Positive Expectancy variables explained 6% of the variance for coping used by participants. Results show that this is a significant portion of the variance with a $p < .001$, $F(3, 386) = 7.62$.

Adaptive Goal Investment (AGI)

Two multiple regression analyses, one predicting Level of Abuse and the other predicting Total Coping, were conducted using the measured variables hypothesized to predict AGI in the SEM analyses. These variables included Relationship Importance, Relationship Commitment, Goal Importance, Goal Attainability, Goal Disengagement, and Goal Reengagement.

Abuse. The six previously described variables were entered into the model simultaneously. The transformed Level of Abuse score was used as the dependent variable to determine if these six variables could effectively predict the amount of abuse an individual would commit. It was expected that all the predictor variables would be negatively related to Level of Abuse. The individual variables within this model showed the following results: Relationship Importance $\beta = -.03$, squared part-correlation $< .001$, $p = .71$; Relationship Commitment $\beta = .08$, squared part-correlation = .003, $p = .28$; Goal Importance $\beta = .05$, squared part-correlation = .001, $p = .45$; Goal Attainability $\beta = -.18$, squared part-correlation = .02, $p = .01$; Goal Disengagement $\beta = .07$, squared part-correlation = .003, $p = .25$; Goal Reengagement $\beta = -.06$, squared part-correlation = .003, $p = .24$. These analyses show that only Goal Attainability accounted for a significant amount of the variance in this model. Results for the full

model showed that the amount of variance explained by these six variables was very low, accounting for only 3% of the total variance, a non-significant amount of variance ($p = .06$; $F [3, 386] = 2.08$). Of the six predictor variables in this analysis only three, Relationship Importance, Goal Attainability, and Goal Reengagement, showed the expected negative relationship with Level of Abuse.

Coping. The same variables were used to assess the amount of Total Coping used by participants. All predictor variables were expected to be positively related to Total Coping. Again, all variables were entered into the model simultaneously. The individual variables within this model showed the following results: Relationship Importance $\beta = .04$, squared part-correlation $< .001$, $p = .59$; Relationship Commitment $\beta = -.14$, squared part-correlation = .008, $p = .06$; Goal Importance $\beta = .27$, squared part-correlation = .039, $p < .001$; Goal Attainability $\beta = -.34$, squared part-correlation = .067, $p < .001$; Goal Disengagement $\beta = -.04$, squared part-correlation = .001, $p = .48$; Goal Reengagement $\beta = .06$, squared part-correlation = .003, $p = .28$. These results show that only Goal Importance and Goal Attainability contributed a significant amount of unique variance to Total Coping. Total variance explained by the model shown in the R^2 value was 9%. This percentage of explained variance proved to be a significant amount with ($p < .001$; $F [3, 386] = 6.59$). Once again, only half of the variables related to Total Coping in the expected positive direction, Relationship Importance, Goal Importance, and Goal Reengagement.

CHAPTER 7

Discussion and Conclusions**Discussion**

Results of this study found that the population was representative of young adults in committed relationship. The sample demographics fit the general demographics of this age group in the region where the study took place. Rates of abuse in this population were similar to previous studies using the CTS2S (Straus & Douglas, 2004). The validation study of the CTS2S showed that 57.5% of respondents reported committing psychological violence, 16.7% reported committing physical violence, 7.1% reported injuring their partner, and 12.1% reported committing sexual violence (Straus & Douglas, 2004). These rates are similar to the overall rates found in this study.

Results also found that there was a gender difference in only one type of violence. Men reported committing statistically higher rates of sexual abuse than women. This is an important finding for understanding differences in specific types of abuse committed and may have important implications for future research. All other differences in types of violence and the level of overall violence were non-significant. These results support studies finding that women and men commit equal rates of abuse (e.g., Appel & Holden, 1998; Archer, 2000).

Results from correlation analyses showed some unexpected outcomes. One of the most interesting findings was the correlation between Total Coping and Level of Abuse. This correlation was significant, but in the opposite direction expected. More specifically, coping and abuse were positively correlated, meaning that as level of coping increased, so did the level of abuse. This finding was the first sign that Total Coping may have been functioning as an indicator of distress, not good functioning. These results are contrary to other studies and

theories that indicate that lower coping ability and use of negative coping strategies is related to greater use of violence in relationships (e.g., Snow et al., 2006) and that high levels of coping in generally, result in improved functioning (e.g., Hoppmann et al., 2007; Joekees et al., 2007; Kramer et al., 2005; Luszczynska et al., 2009; Scheier et al., 2001). On the other hand, some research suggests that higher levels of coping may indicate greater levels of distress (Forsythe & Compas, 1987; Schuldberg, Karwacki, & Burns, 1996). It may be that higher levels of Total Coping may be positively correlated with increases in abuse because abuse creates instability in the relationship, thus resulting in the need for more coping strategies. Therefore, the overall level of coping techniques used might be indicative of how disruptive abuse is and how hard individuals have to work to manage/cope with the impact abuse has on their lives.

Not only did coping not function as expected in the correlational analyses, the factor analysis of the Brief COPE showed that coping did not break down into Positive and Negative Coping factors. Rather, results showed that people used a wide variety of coping techniques, rather than only positive or negative coping strategies. It is possible that distress resulted in the use of any sort of coping technique available rather than the selection of a positive or negative coping strategy.

SEM analysis of the full sample and the sample of women only showed that Positive Expectancies was negatively related to Total Coping. This makes sense if one considers that those with higher Positive Expectancies experience lower Levels of Abuse and thus require fewer coping skills in daily living. Correlations showed that coping and abuse were positively correlated, and multiple regression showed that measured variables thought to encompass the Positive Expectancies latent variable were related to coping in the opposite direction expected with optimism being negatively related to coping and attitudes toward violence and previous

violence being positively related to coping. This finding, though not expected has interesting implications for understanding how coping functions in this population. Results from this study do not provide definitive answers about why this occurred. However, future research may help to better understand how and why coping functioned as it did here. The implications for this study were that Total Coping had to be used, rather than a positive and negative coping factor. Also, the Total Coping variable appeared to have a negative impact on the fit of the SEM model.

The analysis of the full sample and the sample of women only showed that the model was a poor fit to the data. These findings indicate that for this particular sample the BSR model as conceptualized by this SEM did not fit. However, some parts of the model did fit as hypothesized. Namely, the Positive Expectancies latent variable appeared to be well defined by the measured variables of Attitudes Toward Violence, Previous Violence, and Optimism. Additionally, Positive Expectancies showed a strong relationship with Level of Abuse such that increased Positive Expectancies resulted in decreased abuse. However, Positive Expectancies showed a negative relationship with Total Coping. This was the opposite relationship hypothesized. However, this is consistent with the idea of Total Coping as an indicator of distress. Though fit was poor in all variations of the model (i.e., the full sample, Goal Disengagement Only, and Goal Reengagement only) and in the subsample of women, the Positive Expectancies latent variable showed consistent relationships with the measured variables and the outcome variables. These findings suggested that Positive Expectancies is a well-defined construct that may be useful to study in future research on the prevention and intervention of abuse in relationships.

AGI was also included in the model in order to test the effect of dynamic goal change described in BRS theory. AGI included variables assessing the importance of the relationship

and relationship goals, perceived attainability or goals, and an individual's tendency stop pursuing unattainable goals. The BRS model indicates that goals that are more important and are perceived to be more attainable will be pursued by an individual with more tenacity. On the other hand, it may be adaptive to stop pursuing goals that are not attainable. Participants' tendency to disengage from unattainable goals and reengage in attainable goals was measured using the Goal Disengagement and Goal Reengagement measures. It was hypothesized that each of these variables would make up the construct of AGI and that AGI would predict positive outcomes, including less abuse in the relationship and use of positive coping strategies. These hypotheses were not supported by the SEM analysis. Rather, the construct of AGI did not appear to be well predicted by these measured variables. Relationship Importance, Relationship Commitment, Goal Importance, and Goal Attainability did appear to be related positively related to the construct of AGI as expected. However, Goal Disengagement and Goal Reengagement were negatively related to this construct, indicating that they were not relating to AGI as expected and did not predict this construct as hypothesized. The construct of AGI was intended to encompass the different factors of goal change in the BRS model. However, this particular set of variables did not seem to fit together in a cohesive way that would support these variables as a construct. In the SEM analyses Goal Disengagement and Goal Reengagement did not seem to predict positive outcomes. As noted in Chapter 1 (see pp. 23-25) and Chapter 2 (see pp. 38-39), previous studies have found that higher levels of Goal Reengagement and Goal Disengagement predict positive outcomes. Previous research has examined Goal Reengagement and Goal Disengagement for individuals with unattainable goals (e.g., Wrosch, Scheier, Miller, et al., 2003). The current study was based on the assumption that having abuse in a relationship would make some relationship goals unattainable, such as the following goals written by participant:

“having a relationship with mutual respect”, “being patient and understanding”, “to treat and be treated with respect and having an open mind”, “be able to communicate without yelling or getting into fights”. However, not all the goals listed by participants would be made unattainable because of violence. Many participants listed goals such as “get married”, “travel abroad together”, “spend more time together”, “move in together”, and “have children”. Despite abuse in the relationship, these goals may be attainable. Therefore, Goal Disengagement and Goal Reengagement may not have been good predictors of AGI. It is likely that Goal Disengagement and Goal Reengagement are not positive means of reaching the goals participants in this study listed, since many of the goals may have been attainable despite abuse.

These two variables were included because of previous research supporting these variables as predicting positive outcomes when goals were not attainable (Wrosch, Scheier, Miller, et al., 2003). However, this population was young and their relationships, though described by participants as important and committed, were relatively short. Few of the participants were married or had children. Previous research by Armstrong and Fiore (2010) suggesting that women left abusive relationships after changing goals, was focused on an older population in more committed relationships (married women, women with children, etc.). The sample tested in this study did not appear to have the same types of goals or the same need to disengage from goals or reengage in new goals that a more long-term relationship might encounter. Therefore, Goal Disengagement and Goal Reengagement might not have been an adaptive way to reach relationship goals and would therefore to be a good predictor of adaptive goal investment. Models including only Goal Disengagement or Goal Reengagement did not improve model fit. Future research in this area may benefit from a simplified model excluding both Goal Reengagement and Goal Disengagement variables all together. It is also possible that

Goal Disengagement and Goal Reengagement might prove to be a more useful indicator of positive outcomes in a sample of individuals in more long-term abusive relationship where disengagement and reengagement might be healthier than pursuing existing goals. Future research might show these variables to be more useful predictors in a population in more long-term abusive relationships.

Although Goal Disengagement and Goal Reengagement did not fit the construct of AGI, the other four measured variables (Relationship Commitment, Relationship Importance, Goal Importance, and Goal Attainability) appeared to have a strong relationship with AGI. It may be useful to study these variables in future research to understand how they might influence an individual to stay in or leave an abusive relationship. However, different variables are needed to better define the construct of AGI so that it might better reflect the dynamic function of goals on behavior as described in the BRS theory.

AGI did not show a significant relationship to the outcome variables of Total Coping and Level of Abuse. This makes sense given that AGI was not a well-defined construct as measured by these variables. This likely contributed to poor overall fit of the model. Recommendations for model trimming indicate that non-significant relationships (i.e., AGI to Level of Abuse, and AGI to Total Coping) be removed from the model and the model reanalyzed for fit (Byrne, 2010; Kline, 2011). However, when this was done, results from the new model did not show improved fit, suggesting that the relationships between AGI and Level of Abuse and AGI and Total Coping are not the only problems within this model.

Measurement models were conducted to help better understand why the model did not fit the data as expected. The measurement model for Positive Expectancies was not interpretable and the measurement model for AGI showed a poor-fit, further supporting the idea that AGI is

not a well-defined construct as measured by these variables in this sample. Multiple regression analyses were used to understand the relationship between measured variables and outcome variables in a more simple form of analysis.

Multiple regressions looking at the measured variables of Attitudes Toward Violence, Previous Violence, and Optimism found that these variables accounted for a significant amount of the variance in Level of Abuse and Total Coping. As with previous analyses Total Coping appeared to be an indicator of distress, because it was negatively related to Optimism and positively related to Previous Violence and Attitudes Toward Violence. These findings again support the idea that Positive Expectancies is a useful construct for understanding these outcomes, though Total Coping occurred in the opposite direction hypothesized. Although both regression analyses accounted for a significant amount of the variance in the model, the amount of variance accounted for was small, accounting for 8% of the variance in the Level of Abuse regression and 6% of the variance in Total Coping. These findings suggest that additional variables might be useful in understanding what causes abuse and distress in relationship.

Multiple regressions looking at the measured variables thought to predict the latent variable of AGI (Relationship Importance, Relationship Commitment, Goal Importance, Goal Attainability, Goal Disengagement, and Goal Reengagement) and the outcome variables of Level of Abuse and Total Coping showed that these variables did not predict a significant amount of the variance in Level of Abuse. With respect to Total Coping, results showed that variables thought to predict AGI did account for a significant amount of the variance explaining Total Coping. More specifically, Goal Importance, Goal Attainability, and Relationship Commitment were the three variables accounting for the most variance in coping. Of the three variables accounting for the most variance, two, Relationship Commitment and Goal Attainability, related

to Total Coping in the opposite direction expected. This inconsistency in the direction of relationships again indicates that AGI as measured by these variables is not a coherent construct.

Limitations

There were several limitations evident in this study. The use of SEM was necessary to test the hypothesized model and understand the relationship between each of the variables within this model. Additionally, the use of SEM allowed for the analysis of latent variables, which cannot be done with other methods of assessment.

While SEM allows for the assessment of several variables simultaneously, this type of analysis has several shortcomings and different methods of analysis less sensitive to variable distribution might be more useful in understanding violent behaviors in relationships. One limitation of SEM is its sensitivity to any abnormality in the data entered into the model. This analysis does not allow for missing data points, highly skewed data, or problems with kurtosis. Any problems that exist in any variable will influence all model outcomes and each individual variable within the model. It is possible that this issue occurred with this model, though all precautions and statistical checks were done to prevent this. In particular, the variable of Level of Abuse was highly skewed. This is to be expected, given that abuse is not a “normal” behavior and would not fall into a normal distribution. This is one of the inherent difficulties of studying violence using analyses sensitive to distribution, which includes many types of statistical analyses. Future research might benefit from testing a population that has admitted to some form of abuse in order to reduce skewing of data. This sample included all forms of abuse and 62.5% of participants committed only psychological abuse. A sample of individuals committing a wide-range of different abuse types might provide a better understanding of relationship abuse.

Another limitation to SEM is that, with the assessment of multiple variables at once, the unique influence of each variable without the influence of other variables cannot be assessed. This makes understanding individual variables within a model difficult. Rather, only the model as a whole, including all model variables, can be assessed. Related to this limitation, when a model does not meet good-fit criteria, or does not meet requirements for interpretation, it is difficult to identify specific problems which have caused this to occur because the model must be interpreted as a whole. The samples of Primary Victims, Primary Offenders, and Men were too small to be interpreted. Each of these subsamples might offer unique information about how relationship abuse occurs. Though studies of men and women are often conducted in this field, it is rare that both genders are assessed in the same study and drawn from the same sample. The same is true for victims and offenders. Future research might benefit from a similarly designed study in which larger samples of victims, offenders, men, and women, are drawn from the same sample and assessed using the same variables.

This sample was also limited because the people included were within a narrow age range and had been in their relationships a relatively short period of time. A sample of individuals in more long-term committed relationships might have provided a better understanding of how goals change over time. In the same vein, this study was attempting to identify goal changes in just one sample. A longitudinal study that could have measured actual change might have provided a better understanding of goal changes as they are conceptualized in the BRS theory.

In an attempt to include all the important aspects of the BRS theory this study included a large number of variables in a complex model. This study might have benefited from a more simplified model with fewer variables. Each variable included in this model was done so with well-supported theoretical reasons. However, there were several indications throughout the study

which showed that coping and Goal Disengagement and Goal Reengagement were not functioning as expected. Preliminary correlational results indicated that each of these variables was not functioning as expected. Further analyses including factor analysis, SEM, and multiple regression analyses, verified that these variables did not function as hypothesized. It may have been helpful to exclude these variables all together.

Total Coping as measured by the Brief COPE also did not function as it was expected to. Total Coping appeared to be an indicator of level of distress. While this is useful information, it was not the intention of this study to assess distress level. It is possible that a different measure of coping, more specific to this population, would have provided a more accurate picture of how coping occurs in this population. Overall, this study did not find all the included variables to be useful predictors. However, these results paved the way to understanding which variables might be further studied and recognizing variables that might not be useful in later research.

Conclusions, Implications, and Suggestions for Future Research

Although the primary hypothesis that the model testing BRS theory would fit the sample data was not supported, several important findings arose from this study. Analysis of the type and frequency of relationship abuse in this sample found that psychological abuse was the most frequently used type of abuse among individuals reporting abuse in their current relationship. This type of abuse is sometimes thought of as benign and can be easily overlooked. However, the use of threats, insults, and verbal intimidation may have a significant impact on an individual's psychological and emotional well-being, which was not measured in the current study. Future studies may help to better understand the role this type of abuse plays in relationships, how it impacts partners, and how to prevent this type of behavior in the future.

This study also looked at the role of gender in relationship abuse. Results of SEM using gender specified subsamples were inconclusive because the model using the subsample of men was too small to be interpreted. However, *t*-tests comparing Level of Abuse scores showed that there was not a significant gender difference in committing abuse or in the type of abuse committed, with one exception. Men were more likely to commit sexual abuse than women. Treatment and prevention efforts might therefore benefit from reaching out to victims of both genders and discussing specific forms of violence. Knowing that men are more likely to commit sexual abuse is valuable information and may lead to a better understanding of what type of relationship abuse to target in prevention programs directed at helping potential male offenders.

The results of correlational analyses and SEM models also showed that coping, as measured by the Brief COPE, did not reveal the expected relationship with AGI, or Level of Abuse. There are several plausible explanations for this finding. Total Coping may have been an indicator of overall distress because higher levels of coping may indicate a greater level of distress requiring coping. It is also possible that, as Positive Expectancies increased, individuals became less reliant on coping skills and were better able to maintain stable relationships without the need for coping strategies. More research is needed to better understand this relationship because the results of this study are not able to adequately clarify this question.

Goal Disengagement and Goal Reengagement also did not function as expected, showing a negative relationship with the underlying construct of AGI. It was expected that Goal Disengagement and Goal Reengagement would be positively related to a construct thought to measure adaptive investment in relationship goals. Similar to Positive Expectancies and Total Coping, it is possible that as the other measured variables predicting AGI increased, the need for Goal Disengagement and Goal Reengagement decreased. This may have been because

disengagement or reengagement was not a necessary activity for individuals highly engaged in their relationship and with a high perceived attainability of their goals. Unfortunately, results from the models only looking at either Goal Disengagement or Goal Reengagement did not clarify the function of either variable. This is because the resulting change to other variables was small. Research regarding these factors has been mixed (e.g., Wrosch, Scheier, Miller et al., 2003). In order to better understand these factors and how they function for people in intimate relationships, more research is needed. It may be helpful to look at individuals in more long-term relationships and to address these variables in a longitudinal study that might better assess goal changes in the way they are conceptualized in the BSR theory.

In addition to finding that Goal Disengagement and Goal Reengagement did not relate to AGI as expected, SEM analyses also showed that AGI did not relate to Level of Abuse as expected. Rather than showing a negative relationship to Level of Abuse, AGI showed a positive but non-significant relationship. This indicates that as AGI was not a useful predictor of Level of Abuse in this model and sample. Multiple Regression analyses further support the lack of utility for these variables showing that none of these variables predicted a significant portion of the variance for changes in Level of Abuse. While future research might benefit from individually examining each of the measure thought to predict AGI, the results of this study do not support the use of the AGI construct as conceptualized in this study for this population in future studies.

Although several of the variables did not predict outcomes as expected the latent variable of Positive Expectancies and the measured variables predicting this construct appeared to be very useful in understanding relationship abuse and coping, if coping were considered an indicator of distress. Attitudes Toward Violence, Previous Violence, and Optimism each related to Positive Expectancies as hypothesized, indicating that these variables are useful in predicting this

construct. Additionally, the construct of Positive Expectancies negatively related to Level of Abuse. Multiple regression analyses also support the idea that these three variables help to predict relationship abuse, though the contribution of Optimism and Previous Violence were not statistically significant.

These findings show that the construct of Positive Expectancies, and the measured variables defining this construct, are useful to understanding how relationship abuse occurs and help to predict lower rates of abuse. This information may be used in intervention and prevention efforts for IPV. Changing attitudes that individuals have towards using controlling behaviors and abuse in relationships might help to prevent future relationship abuse. Likewise, helping individuals to have a more optimistic viewpoint might prevent relationship abuse. For those individuals that have experienced violence in the past, prevention and intervention efforts might address how these past experiences have influenced the individual's current ideas about relationships. Individuals might then have an opportunity to change how they think about relationships and change their expectations for a relationship to include non-abusive means of conflict resolution.

Like other variables in this study, the relationship between Positive Expectancies and Total Coping was not as expected. The SEM analyses showed that as Positive Expectancies increased, Total Coping decreased. One probable reason for this relationship is the same as that previously described for AGI and Total Coping. If one has high Positive Expectancies including a negative attitude toward violence, few prior experiences with violence, and a high level of optimism, that individual may have little need for coping strategies and would therefore show low levels of coping. This conjecture was supported by Multiple Regression analyses showing

positive correlations with Total Coping and the measured variables of Previous Violence and Attitudes Toward Violence, and a negative relationship with Optimism.

Considered with all the other evidence regarding coping, this study supports the idea that higher levels of goal and relationship investment and optimism, along with negative attitudes toward relationship violence and a history of little previous experience with violence, may contribute to less need for the coping strategies identified in the Brief COPE. Additionally, these factors may contribute to less use of abuse in relationships. Further studies looking at factors found to be important in this study may help to increase our understanding of relationship abuse and how individuals cope in relationships. Research in these areas may also improve current efforts to prevent and intervene in relationship abuse by guiding where these treatments are focused.

References

- Anderson, K.L. (1997). Gender, status, and domestic violence: An integration of feminist and family violence approaches. *Journal of Marriage and the Family*, 59, 655-669.
- Appel, A.E. & Holden, G.W. (1998). The co-occurrence of spouse and physical child abuse: A review and appraisal. *Journal of Family Psychology*, 12(4), 578-599.
- Archer, J. (2000). Sex differences in aggression between heterosexual partners: A meta-analytic review. *Psychological Bulletin*, 126(5), 651-680.
- Arias, I. & Pape, K.T. (1999). Psychological abuse: Implications for adjustment and commitment to leave violent partners. *Violence and Victims*, 14(1), 55-67.
- Armstrong, G.H. & Fiore, C. (2010). *Influence of children on decision making for women experiencing violence*. Poster presented at the annual meeting of the American Psychological Association, San Diego, CA.
- Badr, H. (2004). Coping marital dyads: A contextual perspective on the role of gender and health. *Personal Relationships*, 11, 197-211.
- Bandura, A. (1977). *Social learning theory*. Englewood cliffs, NJ: Prentice-Hall.
- Bandura, A., Ross, D., & Ross, S.A. (1963). Imitation of film-mediated aggressive models. *Journal of Abnormal and Social Psychology*, 66(1), 3-11.
- Bauserman, S.A.K., Arias, I. (1992). Relationships among marital investment, marital satisfaction, and marital commitment in domestically victimized and nonvictimized wives. *Violence and Victims*, 7(4), 287-296.
- Baxter, J. & Wright, E.O. (2000). The glass ceiling hypothesis: A comparative study of the United States, Sweden, and Australia. *Gender & Society*, 14(2), 275- 294.

- Benson, T. & Rogers, J.R. (2010). *The experiences of heterosexual men who have been targets of intimate partner violence*. Paper presented at the annual meeting of the American Psychological Association, San Diego, CA.
- Berg, S.H. (2006). Everyday sexism and posttraumatic stress disorder in women: A correlational study. *Violence Against Women, 12*(10), 970-988.
- Bird, G.W., Stith, S.M., & Schladale, J. (1991). Psychological resources, coping strategies, and negotiation styles as discriminators of violence in dating relationships. *Family Relations, 40*, 45-50.
- Black, M.C., Basile, K.C., Breiding, M.J., Smith, S.G., Walters, M.L., Merrick, M.T., Chen, J., & Stevens, M.R. (2011). *The national intimate partner and sexual violence survey: 2010 summary report*. Atlanta, GA: National Center for Injury Prevention and Control Centers for Disease Control and Prevention.
- Boersma, S.N., Maes, S., Joeques, K., & Dusseldorp, E. (2006). Goal processes in relation to goal attainment: Predicting health-related quality of life in myocardial infarction patients. *Journal of Health Psychology, 11*(6), 927-941.
- Burke, J.G., Gielen, A.C., McDonnell, K.A., O'Campo, P. & Maman, S. (2001). The process of ending abuse in intimate relationships: A qualitative exploration of the transtheoretical model. *Violence Against Women, 7*(10), 1144-1163.
- Byrne, B.M. (2010). *Structural equation modeling with AMOS: Basic concepts, applications and programming* (2nd ed.). New York: Routledge.
- Calvete, E., Corral, S., & Estévez, A. (2008). Coping as a mediator and moderator between intimate partner violence and symptoms of anxiety and depression. *Violence Against Women, 14*(8), 886-904.

- Cameron, L.D. & Leventhal, H. (2003). Self-regulation, health, and illness: A overview. In L.D. Cameron & H. Leventhal (Eds.), *The self-regulation of health and illness behavior*, (pp. 1-13). New York: Routledge.
- Carney, M.M., & Buttell, F.P. (2004). A multidimensional evaluation of a treatment program for female batterers: A pilot study. *Research on Social Work Practice, 14*(4), 249-258.
- Carver, C.S. (1997). You want to measure coping but your protocol's too long: Consider the Brief COPE. *International Journal of Behavioral Medicine, 4*(1), 92-100.
- Carver, C.S. (2009). Threat sensitivity, incentive sensitivity, and the experience of relief. *Journal of Personality, 77*(1), 125-138.
- Carver, C.S. & Harmon-Jones, E. (2009). Anger is an approach-related affect: Evidence and implications. *Psychological Bulletin, 135*(2), 183-204.
- Carver, C.S., & Scheier, M.F. (1982). Control theory: A useful conceptual framework for personality-social, clinical, and health psychology. *Psychological Bulletin, 92*(1), 111-135.
- Carver, C.S. & Scheier, M.F. (1990). Origins and functions of positive and negative affect: A control-process view. *Psychological Review, 97*(1), 19-35.
- Carver, C.S. & Scheier, M.F. (2011). A model of behavioral self-regulation. In P.A.M. Van Lange, A.W. Kruglanski, & E.T. Higgins (Eds.), *Handbook of theories of social psychology*, (pp.505-525). Thousand Oaks, CA: Sage.
- Carver, C.S., Scheier, M.F., & Fulford, D. (2008). Self-regulation processes, stress, and coping. In O.P. John, R.W. Robins, & L.A. Pervin (Eds.), *Handbook of personality: Theory and Research, 3rd ed.*, (pp. 725-742). New York: Guilford Press.
- Carver, C.S., Scheier, M.F., & Weintraub, J.K. (1989). Assessing coping strategies: A theoretical based approach. *Journal of Personality and Social Psychology, 56*(2), 267-283.

Carver, C.S., Pozo, C., Harris, S.D., Noriega, V., Scheier, M.F., Robinson, D.S. et al. (1993).

How coping mediates the effect of optimism on distress: A study of women with early stage breast cancer. *Journal of Personality and Social Psychology*, 65(2), 375-390.

Catalano, S. (2007). Intimate partner violence in the United States. In *Bureau of justice statistics reports*. Retrieved from <http://www.ojp.usdoj.gov/bjs/cvict.htm>.

Center for Disease Control and Prevention. (2003) *Costs of intimate partner violence against women in the United States*. Atlanta, GA: National Center for Injury Prevention and Control.

Chen, F., Bollen, K.A., Paxton, P., Curran, P.J., & Kirby, J.B. (2001). Improper solutions in structural equation models: Causes, consequences, and strategies. *Sociological Methods & Research*, 29(4), 468-508.

Davies, P.T., & Struge-Apple, M.L. (2007). The impact of domestic violence on children's development. In J. Hamel & T. L. Nicholls (Eds.), *Family interventions in domestic violence* (pp. 165-189). New York: Springer.

Dobash, R. E., & Dobash, R. P. (1979). *Violence against wives: A case against patriarchy*. New York: Free Press.

Dutton, D.G. (2010). The gender paradigm and the architecture of antiscience. *Partner Abuse*, 1(1), 5-25.

Fincham, F.D., Cui, M., Braithwaite, S., & Pasley, K. (2008). Attitudes toward intimate partner violence in dating relationships. *Psychological Assessment*, 20(3), 260-269.

Fiore, C. & Kennedy, L.T. (2000). Stay-leave decision making in battered women: Trauma, Coping and Self-Efficacy. *Cognitive Therapy and Research*, 24(2), 215-232.

- Folkman, S. & Lazarus, R.S. (1980). An analysis of coping in a middle-aged community sample. *Journal of Health and Social Behavior, 21*, 219-239.
- Ford-Gilboe, M., Wuest, J., & Merritt-Gray, M. (2005). Strengthening capacity to limit intrusion: Theorizing family health promotion in the aftermath of woman abuse. *Qualitative Health Research, 15*(4), 477-501.
- Forsythe, C. J., & Compas, B. E. (1987). Interaction of cognitive appraisals of stressful events and coping: Testing the goodness of fit hypothesis. *Cognitive Therapy and Research, 11*(4), 473-485.
- Fritz, P.A.T. & O'Leary, K.D. (2004). Physical and psychological partner aggression across a decade: A growth curve analysis. *Violence and Victims, 19*(1), 3-16.
- Gelles, R.J. (1983). An exchange/social control theory. In D. Finkelhor, R.J., Gelles, G.T. Hotaling & M. Straus (Eds.), *The dark side of families: Current family violence research*, (pp. 151-165). Newbury Park, CA: Sage
- Gelles, R.J. (2007). Family Violence. In D.J. Flannery, A.T. Vazsonyi, & I.D. Waldman (Eds.), *The Cambridge handbook of violent behavior and aggression*, (pp. 403-417) New York: Cambridge University Press.
- Gelles, R.J. & Straus, M.A. (1988). *Intimate violence*. New York: Simon & Schuster.
- George, M.J. (2007). The "great taboo" and the role of patriarchy in husband and wife abuse. *International Journal of Men's Health, 6*(10), 7-21.
- Giles-Sims, J. (1983). *Wife battering: A systems theory approach*. New York: Guilford.
- Goldner, V. (1998). The treatment of violence and victimization in intimate relationships. *Family Process, 37*(3), 263-286.

- Graham-Kevan, N. (2007). The re-emergence of male victims. *International Journal of Men's Health, 6*(10), 3-6.
- Guoping, H., Yalin, Z., Yuping, C., Momartin, S., & Ming, W. (2010). Relationship between recent life events, social supports, and attitudes to domestic violence: Predictive roles in behaviors. *Journal of Interpersonal Violence, 25*(5), 863-876.
- Haight, W.L., Shim, W.S., Linn, L.M., & Swinford, L. (2007). Mother's strategies for protecting children from batterers: The perspectives of battered women involved in child protective services. *Child Welfare, 86*(4), 41-62.
- Hamel, J. (2007). Toward a gender-inclusive conception of intimate partner violence research and theory: Part 1- traditional perspectives. *International Journal of Men's Health, 6*(10), 36-53.
- Hendy, H.M., Eggen, D., Gustitus, C., McLeod, K.C., & Ng, P. (2003) Decision to leave scale: perceived reasons to stay in or leave violent relationships. *Psychology of Women Quarterly, 27*, 162-173.
- Hines, D.A. & Saudino, K.J. (2002). Intergenerational transmission of intimate partner violence: A behavioral genetic perspective. *Trauma, Violence, & Abuse, 3*(3), 210-225.
- Hines, D.A., & Saudino, K.J. (2004). Genetic and environmental influences on intimate partner aggression: A preliminary study. *Violence and Victims, 19*(6), 701-718.
- Homans, G.C. (1958). Social behavior as exchange. *The American Journal of Sociology, 63*(6), 597-606.
- Hoppmann, C. A., Gerstorff, D., Smith, J., & Klumb, P. L. (2007). Linking possible selves and behavior: Do domain-specific hopes and fears translate into daily activities in very old age? *Journal of Gerontology, 62B* (2), 104-111.

- Hu, L. & Bentler, P.M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), 1-55.
- Huesmann, L.R. & Miller, L.S. (1994). Long-term effects of repeated exposure to media violence in childhood. In L.R. Huesmann (Ed.), *Aggressive behavior: Current perspectives*, (pp. 153-186). New York: Plenum Press.
- Hughes, F.M., Gordon, K.C., & Poe, M. (2004). Broadening our understanding of the treatment of children in martially violent families. *The Family Psychologist*, 20(3), 4-9.
- Hultin, M. (2003) Some take the glass escalator, some hit the glass ceiling? Career consequences of occupational sex segregation. *Work and Occupations*, 30(1), 30-61.
- Joekes, K., Maes, S., & Warrens, M. (2007). Predicting quality of life and self-management from dyadic support and overprotection after myocardial infarction. *British Journal of Health Psychology*, 12, 473-489.
- Johnson, S. & Lebow, J. (2000). The “coming of age: of couple therapy: A decade review. *Journal of Marital and Family Therapy*, 26(1), 23-38.
- Jones, L., Hughes, M., & Unterstaller, U. (2001). Post-Traumatic Stress Disorder (PTSD) in victims of domestic violence: A review of the research. *Trauma, Violence, & Abuse*, 2(2), 99-119.
- Kline, R.B. (2011). *Principles and practice of structural equation modeling* (3rd ed.). New York: The Guilford Press.
- Kramer, U. Ceschi, G., Van der Linden, M., & Bodenmann, G. (2005). Individual and dyadic coping strategies in the aftermath of a traumatic experience. *Swiss Journal of Psychology*, 64(4), 241-248.

- Kwesiga, E., Bell, M.P., Pattie, M., & Moe, A.M. (2007). Exploring the literature on relationships between gender roles, intimate partner violence, occupational status, and organizational benefits. *Journal of Interpersonal Violence, 22*(3), 312-326.
- Lazarus, R.S. & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer Publishing.
- Levendosky, A.A., Lynch, S.M., & Graham-Bermann, S.A. (2000). Mother's perceptions of the impact of woman abuse on their parenting. *Violence Against Women, 6*(3), 247-271.
- Little, L., & Kantor, G.K. (2002). Using the ecological theory to understand intimate partner violence and child maltreatment. *Journal of Community Health Nursing, 19*(3), 133-145.
- Lorber, M.F. & O'Leary, K.D. (2004). Predictors of the persistence of male aggression in early marriage. *Journal of Family Violence, 19*(6), 329-338.
- Luszczynska, A. Benight, C.C., & Cieslak, R. (2009). Self-efficacy and health-related outcomes of collective trauma: A systematic review. *European Psychologist, 14*(1), 51-62.
- McPhail, B.A., Busch, N.B., Kulkarni, S., & Rice, G. (2007). An integrative feminist model: The evolving feminist perspective on intimate partner violence. *Violence Against Women, 13*(8), 817-841.
- Mihalic, S.W. & Elliott, D. (1997). A social learning theory model of marital violence. *Journal of Family Violence, 12*(1), 21-47.
- Miller, G.A., Galanter, E., Pribram, K.H. (1960). *Plans and the structure of behavior*. New York: Henry Holt and Co.
- Moskowitz, J.T., Folkman, S., Collette, L., & Vittinghoff, E. (1996). Coping and mood during AIDS-related caregiving and bereavement. *Annals of Behavioral Medicine, 18*(1), 49-57.

- Murray, C.E. (2006). Controversy, constraints, and context: Understanding family violence through family systems theory. *The Family Journal: Counseling and Therapy for Couples and Families*, 14(3), 234-239.
- Murrell, A.R., Merwin, R.M., Christoff, K.A. & Henning, K.R. (2005). When parents model violence: The relationship between witnessing weapon use as a child and later use as an adult. *Behavior and Social Issues*, 14, 128-133.
- O'Leary, K.D. (1988). Physical aggression between spouses: A social learning theory perspective. In V.B. Van Hasselt, R.L. Morrison, A.S. Bellack, & M. Hersen (Eds.), *Handbook of family violence*, (pp. 31-55). New York: Plenum Press.
- O'Leary, K.D., Barling, J., Arias, I., & Rosenbaum, A. (1989). Prevalence and stability of physical aggression between spouses: A longitudinal analysis. *Journal of Consulting and Clinical Psychology*, 57(2), 263-268.
- Owen, A.E., Thompson, M.P., & Kaslow, N.J. (2006). The mediating role of parenting stress in the relation between intimate partner violence and child adjustment. *Journal of Family Psychology*, 20(3), 505-513.
- Pape, K.T. & Arias, I. (1995). Control, coping, and victimization in dating relationships. *Violence and Victims*, 10(1), 43-54.
- Parker, J.D.A. & Wood, L.M. (2008). Personality and the coping process. In G.J. Boyle, G. Matthews, & D.H. Saklofske (Eds.) *The SAGE handbook of personality theory and assessment, Volume 1: Personality theories and models*, (pp. 506-519). Thousand Oaks, CA: Sage Publications.
- Pawelko, L. & Koverola, C. (2007). Exposed—The developmental impact of domestic violence on children. In K.A. Kendall-Tackett, & S.M. Giacomoni (Eds.), *Intimate partner violence*,

- (pp. 22.1-22.23). Kingston, NJ: Civic Research Institute.
- Powers, W.T. (1973a). *Behavior: The control of perception*. Chicago: Aldine Publications.
- Powers, W.T. (1973b). Feedback: Beyond behaviorism. *Science*, *179*, 351-356.
- Riger, S. & Krieglstein, M. (2000). The impact of welfare reform on men's violence against women. *American Journal of Community Psychology*, *28*(5), 631-647.
- Rini, C.K., Dunkel-Schetter, C., Wadhwa, P.D., & Sandman, C.A. (1999). Psychological adaptation and birth outcomes: The role of personal resources, stress, and sociocultural context in pregnancy. *Health Psychology*, *18*(4), 333-345.
- Rioli, L., Savicki, V., & Cepani, A. (2002). Resilience in the face of catastrophe: Optimism, personality, and coping in the Kosovo crisis. *Journal of Applied Social Psychology*, *32*(8), 1604-1627.
- Rotter, J.B. (1954). Basic concepts. In J.B. Rotter (Ed.) *Social learning and clinical psychology*, (pp. 105-183). Englewood Cliffs, NJ: Prentice-Hall.
- Saewyc, E.M., Brown, D., Plane, M.B., Mundt, M.P., Zakletskaia, L., Weigel, J., & Fleming, M.F. (2009). Gender differences in violence exposure among university students attending campus health clinics in the United States and Canada. *Journal of Adolescent Health*, *45*, 587-594.
- Sampson, S.D. & Moore, L.L. (2008). Is there a glass ceiling for women in development? *Nonprofit Management & Leadership*, *18*(3), 321-339.
- Scheier, M. F., & Carver, C. S. (2001). Adapting to cancer: The importance of hope and purpose. In A. Baum & B. L. Andersen (Eds.), *Psychosocial interventions for cancer*, (pp. 15-36). Washington, DC: American Psychological Association.

- Scheier, M. F., & Carver, C. S. (2003). Goals and confidence as self-regulatory elements underlying health and illness behavior. In L. D. Cameron and H. Leventhal (Eds.), *The self-regulation of health and illness behaviour*, (pp. 17-41). London, UK: Routledge.
- Scheier, M.F., Carver, C.S., Bridges, M.W. (1994). Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): A reevaluation of the life orientation test. *Journal of Personality and Social Psychology*, 67(6), 1063-1078.
- Scheier, M. F., Carver, C. S. & Bridges, M. W. (2001). Optimism, pessimism, and psychological well-being. In E. C. Chang (Ed.), *Optimism and pessimism: Implications for theory, research, and practice*, (pp. 189-216). Washington, DC: American Psychological Association.
- Schnider, K.R., Elhai, J.D., & Gray, M.J. (2007). Coping style use predicts posttraumatic stress and complicated grief symptom severity among college students reporting a traumatic loss. *Journal of Counseling Psychology*, 54(3), 344-350.
- Schroevers, M.J. & Teo, I. (2008). The report of posttraumatic growth in Malaysian cancer patients: Relationships with psychological distress and coping strategies. *Psycho-Oncology*, 17, 1239-1246.
- Schuldberg, D., Karwacki, S.B., & Burns, G.L. (1996). Stress, coping, and social support in hypothetically psychosis-prone subjects. *Psychological Reports*, 78(3), 1267-1283.
- Sellers, C.S., Cochran, J.K., & Branch, K.A. (2005). Social learning theory and partner violence: A research note. *Deviant Behavior*, 26, 379-395.
- Sims, E.W., Dodd, V.J.N., & Tejada, M.J. (2008). The relationship between severity of violence in the home and dating violence. *Journal of Forensic Nursing*, 4, 166-173.

- Smith, B.A., Thompson, S., Tomaka, J. & Buchanan, A.C. (2005). Development of the intimate partner violence attitude scales (IPVAS) with a predominantly Mexican American college sample. *Hispanic Journal of Behavioral Sciences*, 27(4), 442-454.
- Snow, D.L., Sullivan, T.P., Swan, S.C., Tate, D.C., & Klein, I. (2006). The role of coping and problem drinking in men's abuse of female partners: Test of a path model. *Violence and Victims*, 21(3), 267-285.
- Straus, M.A. (1979). Measuring intrafamily conflict and violence: The Conflict Tactics (CT) Scales. *Journal of Marriage and the Family*, 41(1), 75-88.
- Straus, M.A. (2004). Prevalence of violence against dating partners by male and female university students worldwide. *Violence Against Women*, 10(7), 790-811.
- Straus, M.A. (2007). Conflict Tactics Scales. In N.A. Jackson (Ed.), *Encyclopedia of domestic violence* (pp. 190-197). Routledge, NY: Taylor & Francis Group.
- Straus, M.A. & Douglas, E.M. (2004). A short form of the revised conflict tactics scales, and typologies for severity and mutuality. *Violence and Victims*, 19(5), 507-520.
- Straus, M.A., Hamby, S.L., Boney-McCoy, S., & Sugarman, D.B. (1996). The revised conflict tactics scales (CTS2): Development and preliminary psychometric data. *Journal of Family Issues*, 17(3), 283-316.
- Sullivan, H. W., & Rothman, A. J. (2008). When planning is needed: Implementation intentions and attainment of approach versus avoidance health goals. *Health Psychology*, 27(4), 438-444.
- Suls, J., David, J.P., & Harvey, J.H. (1996). Personality and coping: Three generations of research. *Journal of Personality*, 64(4), 711- 735.

- Tindle, H.A., Chang, Y., Kuller, L.H., Manson, J.E., Robinson, J.G., Rosal, M.C., Siegle, G.J., & Matthews, K.A. (2009). Optimism, cynical hostility, and incident coronary heart disease and mortality in the women's health initiative. *Circulation, 120*, 656-662.
- Tjaden, P., & Thoennes, N. (2000). *Extent, nature, and consequences of intimate partner violence: Findings from the National Violence Against Women Survey*. Washington, DC: US Department of Justice.
- United States Bureau of Labor and Statistics (2009). *Highlights of Women's Earnings in 2008*.
- United States Census Bureau (2008). *Current Population Survey*.
- Vitilano, P.P., DeWolfe, D.J., Maiuro, R.D., Russo, J., & Katon, W. (1990). Appraised changeability of a stressor as a modifier of the relationship between coping and depression: A test of the hypothesis fit. *Journal of Personality and Social Psychology, 59*(3), 582-592.
- Walker, L.E. (1978). Battered women and learned helplessness. *Victimology: An International Journal, 2*(3-4), 525-534.
- Wareham, J., Boots, D.P., & Chavez, J.M. (2009). A test of social learning and intergenerational transmission among batterers. *Journal of Criminal Justice, 37*, 163-173.
- World Health Organization. (2002) *World report on violence and health: Summary*. Geneva, Switzerland: Author.
- Wrosch, C., Scheier, M.F., Carver, C.S., & Schulz, R. (2003). The importance of goal disengagement in adaptive self-regulation: When giving up is beneficial. *Self and Identity, 2*, 1-20.
- Wrosch, C., Scheier, M.F., Miller, G.E., Schulz, R., & Carver, C.S. (2003). Adaptive self-regulation of unattainable goals: Goal disengagement, goal reengagement, and subjective well-being. *Personality and Social Psychology Bulletin, 29*(12), 1494-1508.

Wuest, J. & Merritt-Grey, M. (2008). A theoretical understanding of abusive intimate partner relationships that become non-violent: Shifting the pattern of abusive control. *Journal of Family Violence, 23*, 281-293.

Table 1

Summary of Observed and Latent Variables Used in Statistical Analyses

Variable Name	Definition	Expected Relationship to Latent Variables When Increased
Level of Abuse	Sum of midpoint scores from the CTS2S indicating the number of abusive incidents the participant reported having committed against his/her partner.	Decrease in PE Decrease in AGI
Total Coping	Sum score of items from the Brief COPE indicating the overall amount of coping used.	Increase in PE Increase in AGI
Positive Expectancies (PE)	Latent variable defined by the following measured variables: Attitudes Toward Violence, Previous Violence Experienced, and Optimism	Latent Variable
Attitudes Toward Violence	Sum score of Intimate Partner Violence Attitudes Scale (IPVAS). Measured variable defining the latent variable Positive Expectancies	Decrease in PE
Previous Violence	Sum of previous experiences with violence outside of the current relationship. Measured variable defining the latent variable Positive Expectancies	Decrease in PE
Optimism	Sum of scores from the Revised Life Orientation Test (LOT-R). Measured variable defining the latent variable Positive Expectancies	Increase in PE
Adaptive Goal Investment (AGI)	Latent variable defined by the following measured variables: Relationship Importance, Relationship Commitment, Goal Importance, Goal Attainability, Goal Disengagement, Goal Reengagement.	Latent Variable
Relationship Importance	Rating of relationship importance on a scale of 0-10. Measured variable defining the latent variable Adaptive Goal Investment (AGI).	Increase in AGI
Relationship Commitment	Percentage of relationship importance. Measured variable defining the latent variable AGI.	Increase in AGI
Goal Importance	Average of three ratings of relationship goal importance. Measured variable defining the latent variable AGI.	Increase in AGI
Goal Attainability	Average of three rating of relationship goal attainability. Measured variable defining the latent variable AGI.	Increase in AGI
Goal Disengagement	Subscale of the Goal Adjustment Scale (GAS) measuring propensity to disengage from unattainable goals. Measured variable defining the latent variable AGI.	Increase in AGI
Goal Reengagement	Subscale of the GAS measuring propensity to reengage in new goals. Measured variable defining the latent variable AGI.	Increase in AGI

Table 2

Summary of Total Scores for Positive Expectancy Variables

	Optimism	Previous Violence	Attitudes Toward Violence
Mean	15.40	3.38	29.66
Std. Error	0.18	0.23	0.37
Minimum	0.00	0.00	17.00
Maximum	24.00	22.00	85.00

Table 3

Summary of Adaptive Goal Investment Scores

	Relationship Importance	Relationship Commitment	Goal Importance	Goal Attainability	Goal Disengagement	Goal Reengagement
Mean	8.54	88.4%	8.20	7.61	9.40	21.31
Std. Error	0.08	9%	0.07	0.09	0.14	0.19
Minimum	0.00	0%	0.00	0.00	4.00	6.00
Maximum	10.00	100%	10.00	10.00	20.00	30.00

Table 4

Abuse Levels by Gender

	Women (%)	Men (%) ^a
Committed Any Form of Abuse	153 (60.7)	71 (51.4)
<i>Type of Abuse Committed</i>		
Psychological Abuse	147 (96.1)	66 (93)
Physical Violence	38 (24.8)	11 (15.5)
Injured Their Partner	11 (7.2)	12 (16.9)
Sexual Violence	16 (10.5)	24 (33.8)*
No Abuse in the Relationship	89 (35.3)	54 (39.1)
Equal Rates of Abuse	59 (23.4)	32 (23.2)
Committed More Abuse Against Partner	113 (20.6)	21 (15.2)
Partner Committed More Abuse	113 (20.6)	31 (22.5)

^a Sample includes one transgender individual who identified as male

* Significant at the .01 level

Table 5

Correlations

	1	2	3	4	5	6	7	8	9	10	11
1) Level of Abuse	1										
2) Total Coping	.20**	1									
3) Attitudes Toward Violence	.26**	.09	1								
4) Previous Violence	.04	.18**	-.11*	1							
5) Optimism	-.12*	-.17**	-.20**	-.17**	1						
6) Relationship Importance	-.04	-.09	-.09	.003	.09	1					
7) Relationship Commitment	-.03	-.14**	-.07	.02	.06	.75**	1				
8) Goal Importance	-.06	.02	-.15**	.09	.14**	.47**	.42**	1			
9) Goal Attainability	-.14**	-.21**	-.13**	.01	.28**	.47**	.43**	.63**	1		
10) Goal Disengagement	.08	-.002	.16**	-.07	-.14**	-.33**	-.26**	-.36**	-.27**	1	
11) Goal Reengagement	-.07	.03	-.09	.01	.08	-.10	-.07	-.12*	-.03	.33**	1

* Significant at the .05 level

** Significant at the .01 level

Table 6

Standardized Total Effect Values for Positive Expectancies

Variable	SEM Model/Subsample			
	Full Sample	Goal Disengagement	Goal Reengagement	Women
Level of Abuse	-.55	-.55	-.54	-.56
Total Coping	-.42	-.42	-.42	-.41
Attitudes Toward Violence	-.39	-.39	-.39	-.36
Previous Violence	-.15	-.15	-.15	-.30
Optimism	.38	.39	.38	.40

Note. When assessing total effects it is important to recall that these coefficients occur within the context of the model as a whole and with the influence of all variables in the model.

Table 7

Standardized Total Effect Values for Adaptive Goal Investment (AGI)

Variable	SEM Model/Subsample			
	Full Sample	Goal Disengagement	Goal Reengagement	Women
Level of Abuse	.12	.12	.12	.12
Total Coping	.004	.01	-.01	.004
Relationship Importance	.87	.88	.88	.86
Relationship Commitment	.82	.82	.83	.76
Goal Importance	.59	.59	.57	.52
Goal Attainability	.59	.59	.58	.51
Goal Disengagement	-.39	-.39	NA	-.40
Goal Reengagement	-.12	NA	-.10	-.06

Note. When assessing total effects it is important to recall that these coefficients occur within the context of the model as a whole and with the influence of all variable in the model.

Table 8

Summary of Recommended Adequate Fit Statistics and Indications of Goodness of Fit

Index	Good-Fit Values
Standardized Covariance Residual	$\leq .10$
Chi-Square <i>p</i> -value	$> .05$
Root Mean Square Error of Approximation (RMSEA)	$\leq .05$
Goodness-of-Fit Index (GFI)	$>.95$
Comparative Fit Index (CFI)	$>.95$

Note: Recommendations for adequate fit values are based on the works of Byrne (2010) and Kline (2011).

Table 9

Summary of Fit Statistics

Statistic	Full Sample	Goal Disengagement	Goal Reengagement	Women
N	390	390	390	252
Chi-square <i>p</i> -value	<.001	<.001	<.001	<.001
RMSEA <i>p</i> -value	<.001*	<.001*	<.001*	<.001*
(90% CI)	(.11-.14)	(.11 -.14)	(.11-.14)	(.12-.15)
GFI	.88	.89	.91	.86
CFI	.73	.74	.77	.65

* meets good fit criteria

Table 10

Summary of Multiple Regression Analysis Results

	Level of Abuse				Total Coping			
	β	Squared Part-Correlation	Significance	Cumulative R^2 Change	β	Squared Part-Correlation	Significance	Cumulative R^2 Change
Positive Expectancies			< .001	.08			<.001	.06
Attitudes Toward Violence	.25	.060	< .001		.08	.006	.12	
Previous Violence	.10	.008	.06		.16	.025	.001	
Optimism	-.05	.003	.31		-.12	-.014	.02	
Adaptive Goal Investment			.06	.03			<.001	.09
Relationship Importance	-.03	<.001	.71		.04	<.001	.59	
Relationship Commitment	.08	.003	.28		-.14	.008	.06	
Goal Importance	.05	.001	.45		.27	.039	<.001	
Goal Attainability	-.18	.019	.01		-.34	.067	<.001	
Goal Disengagement	.07	.003	.25		-.04	.001	.48	
Goal Reengagement	-.06	.003	.24		.06	.003	.28	

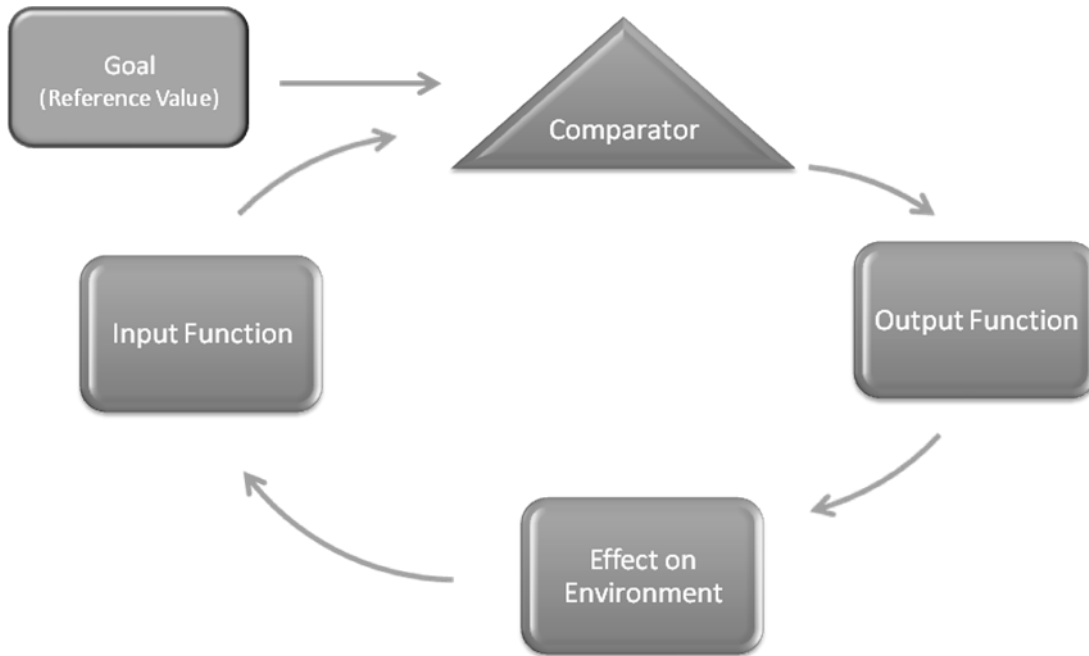


Figure Caption

Figure 1. The goal driven behavioral feedback loop.

Note. Adapted from Scheier and Carver (2003).

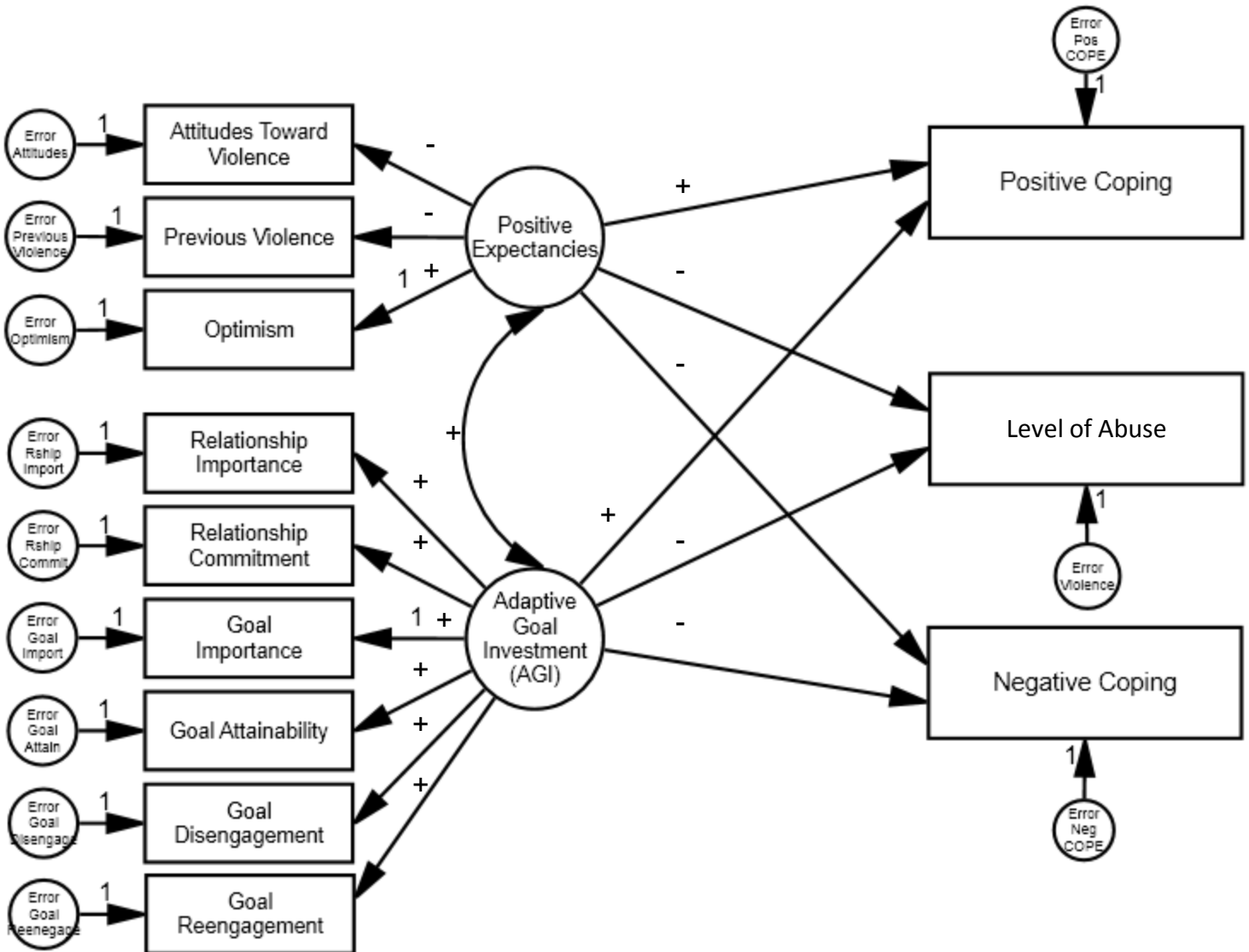


Figure 2. Originally hypothesized model. Positive and negative signs indicate the expected direction of standardized total effects. The number 1 indicates the regression weight for the path coefficient was initially set at one for the indicated variables.

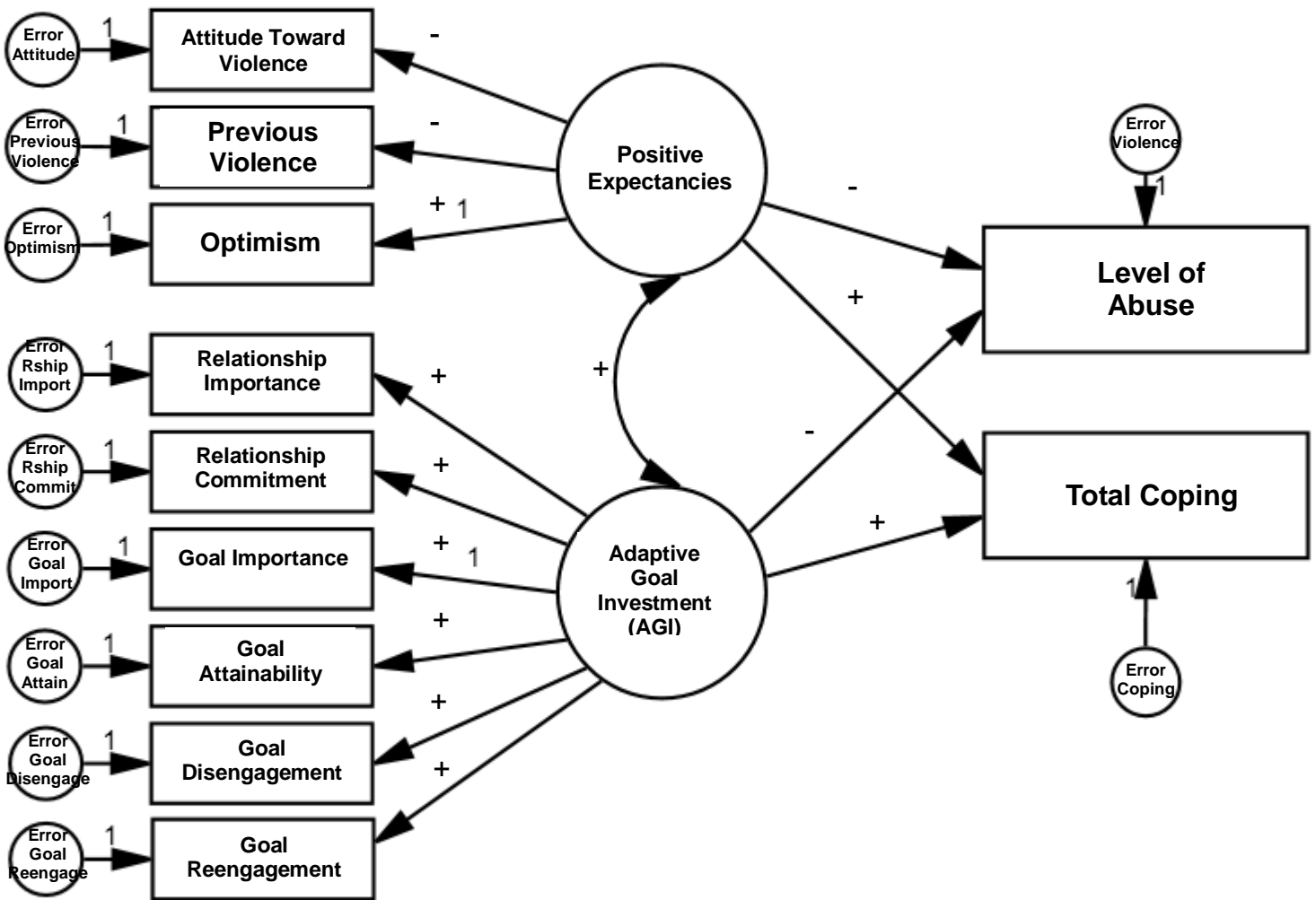


Figure 3. Revised model using Total Coping score. Positive and negative signs indicate the expected direction of standardized total effects. The number 1 indicates the regression weight for the path coefficient was initially set at one for the indicated variables.

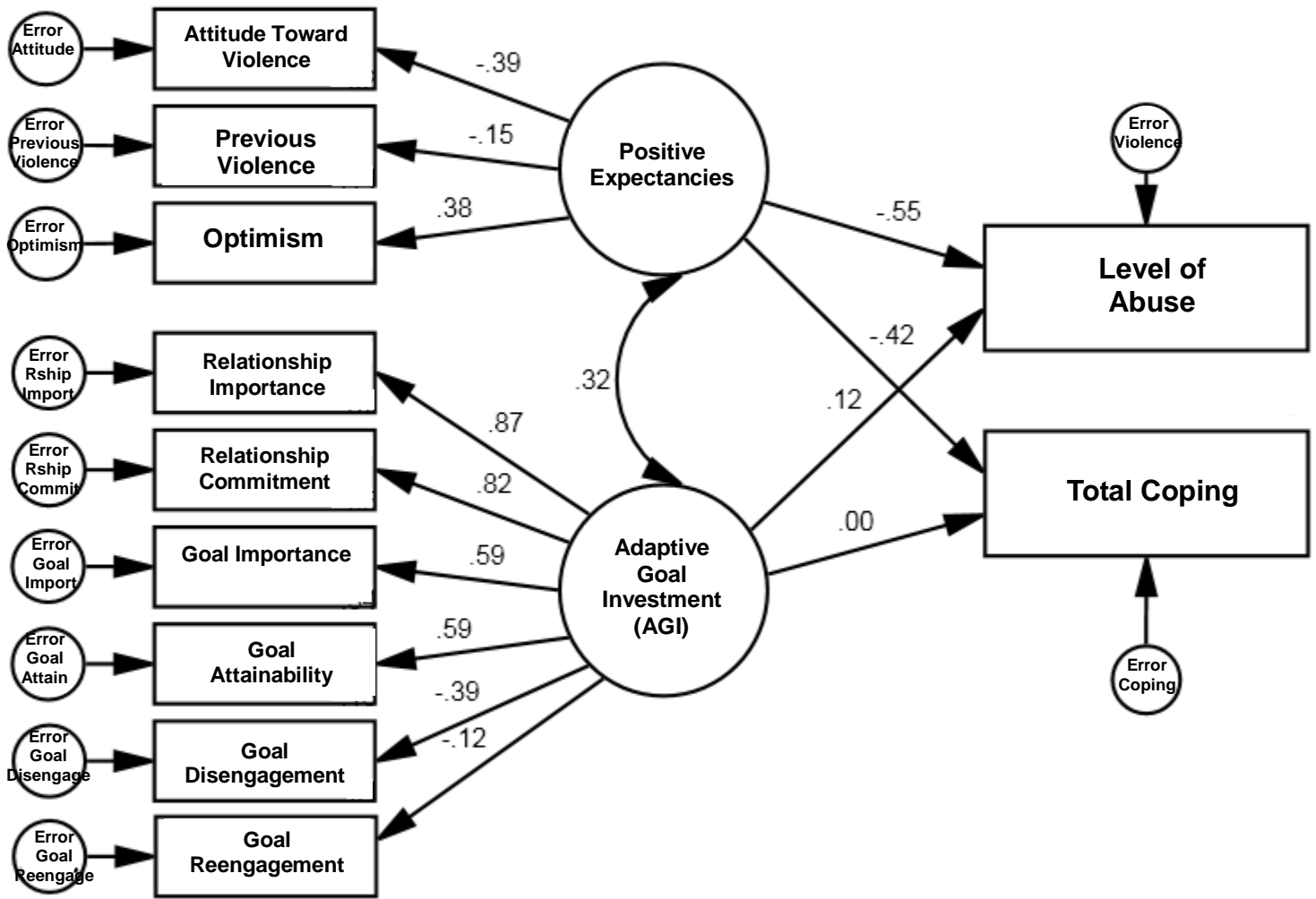


Figure 4: Standardized Total Effects for Revised Model. Numbers indicate the value of total effects between variables for the full sample of 390 participants.

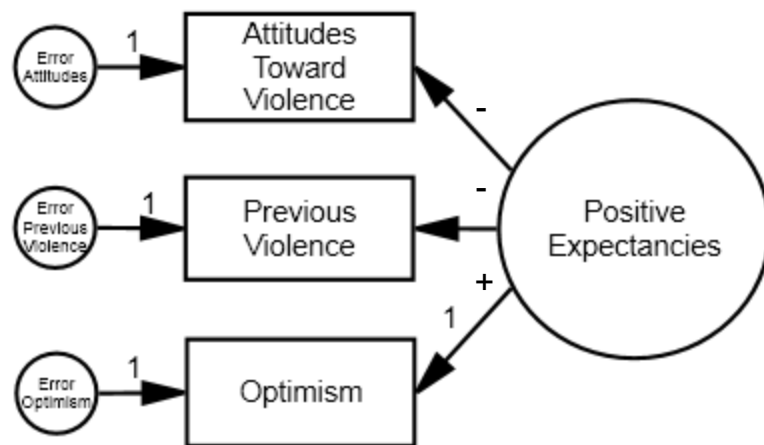


Figure 5: Measurement Model for Positive Expectancies. Positive and negative signs indicate the expected direction of standardized total effects. The number 1 indicates the regression weight for the path coefficient was initially set at one for the indicated variables.

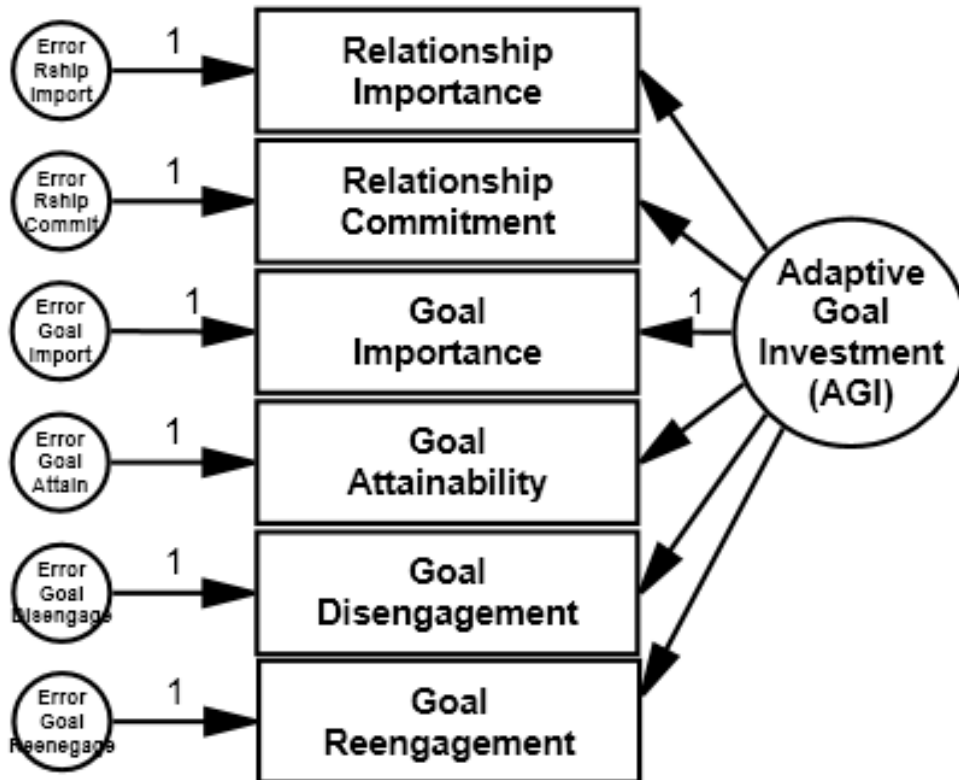


Figure 6: Measurement Model for Adaptive Goal Investment. All measured variables were expected to be positively related to the latent variable. The number 1 indicates the regression weight for the path coefficient was initially set at one for the indicated variables.

Appendix

Survey As It Was Administered to Study Participants

To participate in this study you must be between the ages of 18 and 25.

You must also currently be in a relationship that has lasted at least one month to participate in this survey.

If you do not meet BOTH of these criteria, please discontinue the survey now.

About you:

1. What is your age in years:

What is your age in years:

2. How long have you been in your current relationship:

Months

Years

3. What is your ethnicity:

4. What is your gender:

- Female
- Male
- Transgender- male to female
- Transgender- female to male

5. What year in school are you:

- Freshman
- Sophomore
- Junior
- Senior
- Graduate school student

6. Are you currently employed:

- Student only (Skip to question 10)
- Student and homemaker
- Student and employed full time
- Student and employed part time

7. If you are currently employed, what is your occupation:

8. What is your approximate YEARLY income: 9. OR what is your hourly wage

Pay per hour

AND how many hours do you
work a week

10. Where do you currently live (choose more than one option if needed):

- With family member(s) (parent(s), or other relative(s))
- With my partner
- With roommate(s) to whom I am not related
- In a college dorm with roommate(s) to whom I am not related
- In a college dorm with family member(s)
- I live alone

Your current partner:

Please answer the following questions about your CURRENT partner:

1. What is your partner's age:

2. What is your partner's ethnicity:

3. What is your partner's gender:

- Male
- Female
- Transgender- male to female
- Transgender- female to male

4. Do you have children:

- No (Skip to the next page)
- Yes - With my current partner
- Yes - Some of my children are with my current partner
- Yes - With someone other than my current partner

5. If you have children, what are their ages and genders:

Age:

Gender:

Age:

Gender:

Age:

Gender:

Age:

Gender:

Age:

Gender:

The LOT-R:

Please answer the following questions about yourself by indicating the extent of your agreement:

1. Be as honest as you can throughout, and try not to let your responses to one question influence your response to other questions. There are no right or wrong answers.

	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
In uncertain times, I usually expect the best.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is easy for me to relax.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If something can go wrong for me, it will.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'm always optimistic about my future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy my friends a lot.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It's important for me to keep busy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I hardly ever expect things to go my way.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I don't get upset too easily.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I rarely count on good things happening to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall, I expect more good things to happen to me than bad.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Relationship Goals:

We all have goals in life, such as the goal to graduate from college or the goal to get a well-paying job. For this study I would like to know about goals you have for your current relationship. These goals may be about things you want to do in your relationship, things you want from your partner, or about the relationship as a whole. Your relationship goals may include all these factors or may be about different issues. Please list three goals you have for your current relationship in the spaces below. **PLEASE BE SURE TO DESCRIBE THREE GOALS.**

1. Relationship Goal 1



2. Relationship Goal 2



3. Relationship Goal 3



4. Which for these goals is the most important to you:

- Relationship Goal 1
- Relationship Goal 2
- Relationship Goal 3

5. How important is it for you to achieve this goal:

	Not Important	(0)	(1)	A Little Important	(2)	(3)	(4)	Somewhat Important	(5)	(6)	(7)	Very Important	(8)	(9)	Extremely Important	(10)
Importance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6. How likely do you think it is that you will achieve your goal:

	Not Likely	(0)	(1)	(2)	(3)	(4)	Likely	(5)	(6)	(7)	(8)	(9)	Very Likely	(10)
Likelihood:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

7. Which for these goals is the NEXT most important to you:

- Relationship Goal 1
- Relationship Goal 2
- Relationship Goal 3

8. How important is it for you to achieve this goal:

	Not Important	(0)	(1)	A Little Important	(2)	(3)	(4)	Somewhat Important	(5)	(6)	(7)	Very Important	(8)	(9)	Extremely Important	(10)
Importance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

9. How likely do you think it is that you will achieve your goal:

	Not Likely	(0)	(1)	(2)	(3)	(4)	Likely	(5)	(6)	(7)	(8)	(9)	Very Likely	(10)
Likelihood	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. Which for these goals is the NEXT most important to you:

- Relationship Goal 1
- Relationship Goal 2
- Relationship Goal 3

GAS:

During their lives people cannot always attain what they want in a relationship and are sometimes forced to stop pursuing the relationship goals they have set. We are interested in understanding HOW YOU USUALLY REACT when this happens to you. If this has not happened in your relationship, think about how you would LIKELY react should you not be able to pursue your relationship goals. Please indicate the extent to which you agree or disagree with each of the following statements, as it usually applies to you or would apply if this were to happen.

1. If I have/had to stop pursuing an important goal in my relationship...

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
It is/it would be... easy for me to reduce my effort towards the goal.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I (would) convince myself that I have other meaningful goals to pursue.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I (would) stay committed to the goal for a long time; I can't let it go.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I (would) start working on other new goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I (would) think about other new goals to pursue	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I (would) find it difficult to stop trying to achieve the goal.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I (would) seek other meaningful goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is/would be... easy for me to stop thinking about the goal and let it go.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I (would) tell myself that I have a number of other new goals to draw upon.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I (would) put effort toward other meaningful goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Brief COPE:

All relationships have problems sometimes. These items deal with ways you cope when problems occur in your relationship. There are many ways to try to deal with problems and different people deal with things in different ways. I'm interested in how you've tried to deal with problems in your relationship. I want to know to what extent (how much or how frequently) you've been doing what the item says when a problem occurs. Don't answer on the basis of whether it seems to be working or not—just whether or not you're doing it. Try to rate each item separately in your mind from the others.

1. Make your answers as true FOR YOU as you can:

	I haven't been doing this at all	I've been doing this a little bit	I've been doing this a medium amount	I've been doing this a lot
I've been turning to work or other activities to take my mind off things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been concentrating my efforts on doing something about the situation I'm in.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been saying to myself "this isn't real."	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been using alcohol or other drugs to make myself feel better.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been getting emotional support from others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been giving up trying to deal with it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been taking action to try to make the situation better.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been refusing to believe that anything bad has happened.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been saying things to let my unpleasant feelings escape.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been getting help and advice from other people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been using alcohol or other drugs to help me get through it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been trying to see it in a different light, to make it seem more positive.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been criticizing myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been trying to come up with a strategy about what to do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been getting comfort and understanding from someone.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been giving up the attempt to cope.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	I haven't been doing this at all	I've been doing this a little bit	I've been doing this a medium amount	I've been doing this a lot
I've been looking for something good in what is happening.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been making jokes about it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been accepting the reality of the fact that something bad has happened.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been expressing my negative feelings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been trying to find comfort in my religion or spiritual beliefs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been trying to get advice or help from other people about what to do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been learning to live with it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been thinking hard about what steps to take.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been blaming myself for things that happened.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been praying or meditating.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've been making fun of the situation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

IPVAS:

Read the following statements CAREFULLY

1. Please indicate your level of agreement with the statements below according to the following scale:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I would be flattered if my partner told me not to talk to someone to whom I might be attracted.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would not like for my partner to ask me what I did every minute of the day.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is okay for me to blame my partner when I do bad things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I don't mind my partner doing something just to make me jealous.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would not stay with a partner who tried to keep me from doing things with other people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
As long as my partner doesn't hurt me, "threats" are excused.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
During a heated argument, it is okay for me to bring up something from my partner's past to hurt him or her.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would never try to keep my partner from doing things with other people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think it helps our relationship for me to make my partner jealous.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is no big deal if my partner insults me in front of others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is okay for me to tell my partner not to talk to someone to whom they might be attracted.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Threatening a partner with a knife or gun is never appropriate.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think it is wrong to ever damage anything that belongs to a partner.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It would not be appropriate to ever kick, bite, or hit a partner with one's fist.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is okay for me to accept blame for my partner doing bad things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
During a heated argument, it is okay for me to say something just to hurt my partner on purpose.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It would never be appropriate to hit or try to hit one's partner with an object.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Previous Violence:

Please answer the following questions about your past experiences.

1. In the past have you ever experienced an event in which you could have been, or were harmed or threatened with death (e.g., a bad car accident or other accident, a natural disaster, etc.)?

- No (skip to question 3)
- Yes

2. How many times did this happen:

- Once
- Twice
- 3-5 times
- 6-10 times
- 11-20 times
- More than 20 times
- This has never happened to me

For the following questions, please refer to situations involving anyone EXCEPT your current partner:

3. In the past, have you ever been yelled at, threatened, degraded, humiliated, or otherwise emotionally abused by anyone OTHER THAN YOUR CURRENT PARTNER:

- No (skip to question 5)
- Yes

4. How many times did this happen:

- Once
- Twice
- 3-5 times
- 6-10 times
- 11-20 times
- More than 20 times
- This has never happened to me

5. In the past, have you ever been physically abused (shoved, slapped, hit, kicked, beat-up, etc.) by anyone OTHER THAN YOUR CURRENT PARTNER:

- No (skip to question 7)
- Yes

6. How many times did this happen:

- Once
- Twice
- 3-5 times
- 6-10 times
- 11-20 times
- More than 20 times
- This has never happened to me

7. In the past, have you ever been forced to perform any sexual acts (touching, fondling, intercourse, etc.) by anyone OTHER THAN YOUR CURRENT PARTNER:

- No (skip to the next page)
- Yes

8. How many times did this happen:

- Once
- Twice
- 3-5 times
- 6-10 times
- 11-20 times
- More than 20 times
- This has never happened to me