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A PRELIMINARY TRIAL OF ACT SKILLS TRAINING FOR  
AGGRESSIVE BEHAVIOR

by

Amie Nichole Zarling

An Abstract

Of a thesis submitted in partial fulfillment of the  
requirements for the Doctor of Philosophy degree  
in Psychology in  
the Graduate College of  
The University of Iowa

May 2013

Thesis Supervisor: Associate Professor Erika Lawrence

## ABSTRACT

The objective of the current research was to test the initial feasibility and potential efficacy of a group-based Acceptance and Commitment Therapy (ACT) intervention for partner aggression, compared to a support and discussion control group, in a clinical sample of adults. Specifically, the study was intended to provide preliminary evidence of the impact of an ACT group on psychological and physical aggression, and to examine the processes responsible for any treatment effects. One hundred and one participants (mean age = 31; 68% female) were randomly assigned to receive ACT or the support and discussion control group. Both interventions consisted of 12 weekly 2-hour sessions and participants were assessed with self-report measures at pre-treatment, twice during treatment, at post-treatment, and at 3- and 6-month follow-up. Results of growth curve modeling analyses demonstrated that participants in the ACT group had significantly greater decreases in psychological and physical aggression at post-treatment and follow-up, and also showed improvements in depressive symptoms, interpersonal problems, and social functioning. Finally, the effect of the ACT group on psychological and physical aggression was mediated by experiential avoidance, suggesting that the intervention had its effects, at least in part, through increasing emotional acceptance. These results demonstrate that an ACT approach to aggression may be a viable alternative to traditional treatments.

Abstract Approved: \_\_\_\_\_  
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Title and Department

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Date

A PRELIMINARY TRIAL OF ACT SKILLS TRAINING FOR  
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Amie Nichole Zarling

A thesis submitted in partial fulfillment of the  
requirements for the Doctor of Philosophy degree  
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Thesis Supervisor: Associate Professor Erika Lawrence

Graduate College  
The University of Iowa  
Iowa City, Iowa

CERTIFICATE OF APPROVAL

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PH.D. THESIS

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This is to certify that the Ph. D. thesis of

Amie Nichole Zarling

has been approved by the Examining Committee for the thesis requirement for the Doctor of Philosophy degree in Psychology at the May 2013 graduation.

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## INTRODUCTION

Aggressive acts directed toward another person represent the most serious and detrimental forms of individual and relationship dysfunction. Of the various forms of interpersonal aggression, the most common form occurs in the context of intimate relationships (Graham-Kevan & Archer, 2003; Holtzworth-Munroe, Meehan, Herron, Rehman, & Stuart, 2003; Johnson, 2005; Leone, Johnson, Cohan, & Lloyd, 2004). Aggression occurs in a broad range of intimate relationships -- targets of unrequited interest, dating, cohabiting, engaged and newlywed couples, separated and divorced couples, and 2<sup>nd</sup> and 3<sup>rd</sup> marriages (Moffitt, Krueger, Caspi, & Fagan, 2000; Tjaden & Thoennes, 2000) and includes psychological and physical acts.<sup>1</sup> (See Section I for a detailed discussion of the forms of aggression considered here.)

Aggression is highly prevalent in U.S. families (NIH, 2003), and leads to financial costs exceeding \$5.8 billion each year (CDC, 2009). Even mild and infrequent forms of aggression have negative consequences for victims, relationships, and children raised in these homes (e.g., Coker et al., 2002; Umberson, Anderson, Glick, & Shapiro, 1998). Great strides have been made with regard to understanding the consequences of aggression and predicting who is likely to engage in aggressive behavior. For example, etiological models have identified a broad range of societal, developmental, psychological and dyadic risk factors for aggression. However, far less progress has been made toward developing efficacious treatments targeting aggressive behavior. Specifically, existing interventions are narrowly based on theoretical tenets that have only modest empirical support, and employ therapeutic techniques that do not bring about clinically significant change in aggressive behavior (e.g., Babcock, Green, & Robie,

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<sup>1</sup> Sexual coercion and sexual aggression also occur in intimate relationships and are important to study. However, research indicates that sexual aggression is theoretically distinct from psychological and physical aggression, and most researchers have studied physical violence or sexual coercion, but not both (e.g., Katz, Moore, & May, 2008). Further, although aggression occurring in homosexual relationships is also important to study, research is only beginning to examine aggression occurring in these relationships. Therefore, the research on aggression cited throughout this paper refers to psychological or physical aggression occurring in heterosexual relationships.

2004). Indeed, few empirically-supported interventions exist, and those that do are limited in their efficacy (e.g., Babcock, et al., 2004; Murphy & Eckhardt, 2005).

Informed by the literature on risk factors for aggression, drawing from the empirical evidence examining the various functions of aggression, and guided by a contextual behavioral science approach, I have developed a model of psychological and physical aggression in which these behaviors are conceptualized as acts that function primarily as ways to escape from or avoid unwanted emotional experiences. I then translated this model into a novel treatment designed to reduce psychological and physical aggression in adults. The model includes several pathways through which aggression occurs and/or can be reduced, which are linked to specific treatment techniques and treatment components. The overall objective of the current research was to test the initial feasibility and potential efficacy of this new treatment in a clinical sample of adults. Specifically, the study was intended to provide preliminary evidence of the impact of this novel treatment on psychological and physical aggression, and preliminary evidence of the processes responsible for the expected treatment effects. The rationale for the current research is that, by identifying the specific processes that are (a) theoretically and functionally linked to partner aggression and (b) amenable to change, a treatment protocol targeting these specific processes will result in maximal therapeutic outcomes.

## CHAPTER 1

### OVERVIEW OF BASIC RESEARCH ON PHYSICAL AND PSYCHOLOGICAL AGGRESSION IN INTIMATE RELATIONSHIPS

#### **Defining Aggression**

Before reviewing the literature on aggression, it is necessary to define “aggression” and other key terms used in this paper. The literature is replete with terms to describe aggression that occurs in the context of intimate relationships, including intimate partner violence, domestic violence, battering, partner abuse, and partner aggression. Although definitions of these terms differ across researchers and disciplines, there is general agreement that the terms *violence*, *abuse* and *battering* denote severe forms of aggression (e.g., choking, beating up, using weapons) that cause physical (e.g., bodily injuries) and psychological harm (e.g., PTSD). These forms of aggression are generally studied in male perpetrators, wherein the physical violence is typically accompanied by systematic efforts to control, dominate, and terrorize the female victim through acts of physical violence, emotional abuse, economic control, and social isolation (e.g., Johnson, 1995). In contrast, the term *aggression* is typically used to denote a broader range of behaviors, from moderate (e.g., pushing, grabbing, throwing objects at the victim) and severe (e.g., punching, kicking) physical acts to verbal and emotional (e.g., belittling, controlling) acts. Relationships characterized by these forms of aggression are surprisingly common (25%-50% of couples; Lawrence & Bradbury, 2001; O’Leary et al., 1989).

In sum, although the behavioral content within the different terms overlaps substantially, the terms *partner aggression* or *aggression* will be used in the current paper. Additionally, I will focus on two specific types of partner aggression: physical and psychological aggression.

## **Physical and Psychological Aggression: Definitions, Prevalence Rates, and Consequences**

*Physical aggression* is the use of physical force with the potential to cause death, disability, injury, or harm. Physical aggression includes but is not limited to: scratching, pushing, shoving, throwing, grabbing, biting, choking, shaking, slapping, punching, burning, use of a weapon, and use of restraints or one's body, size, or strength against another person (CDC, 2009). The most frequently reported behaviors are grabbing, pushing, and slapping whereas more severe behaviors, such as forcible restraint, punching and kicking are less common (e.g., Leonard & Roberts, 1998). Physical aggression occurs in 25-57% of community (non-clinical) samples of dating, cohabiting, engaged and newlywed couples (e.g., Langer, Lawrence, & Barry, 2008; Lawrence & Bradbury, 2007; Leonard & Roberts, 1998; O'Leary et al., 1989), and in 66% of treatment-seeking couples (couples seeking treatment for relationship distress; O'Leary, Vivian, & Malone, 1992). In community samples and population surveys, men and women are equally likely to engage in physical aggression even after controlling for initiation and severity of the aggression (e.g., Caetano, McGrath, Ramisetty-Mikler, & Field, 2005; Capaldi, Kim, & Shortt, 2007; Kessler, Molnar, Feurer, & Appelbaum, 2001; Williams & Frieze, 2005). However, female victims are more likely to sustain injuries than male victims (e.g., Archer, 2000).

Physical aggression has implications for individual well-being (e.g., depression, anxiety, substance use, global physical health; Coker et al., 2002; Umberson, Anderson, Glick, & Shapiro, 1998) and relationship outcomes (relationship distress, separation and divorce; Frye & Karney, 2006; Lawrence & Bradbury, 2001). Moreover, children who witness interparental physical aggression suffer from more physical health problems (e.g., chronic and acute health difficulties; e.g., El-Sheikh, Cummings, Kouros, Elmore-Staton, & Buckhalt, 2008; McNeal & Amato, 1998) and behavioral problems (e.g., delinquent behaviors and psychopathology; Fantuzzo, et al., 1991) than children who do not witness aggression.

*Psychological aggression* involves acts, threats of acts, or coercive tactics with the potential to cause direct or indirect emotional harm to the victim. It includes, but is not limited to: humiliating, controlling what one's partner can and cannot do, deliberately doing something to make one's partner feel worthless or embarrassed, and using words or gestures to communicate the intent to cause harm (CDC, 2009). Psychological aggression is highly prevalent in intimate relationships and is not limited to relationships that are physically aggressive. Based on nationally representative samples, 75% to 80% of men and women report engaging in psychological aggression in the year prior to assessment (Stets, 1991; Straus & Sweet, 1992). Prevalence rates across the duration of a given relationship are similarly high, ranging from 80% to 95% (e.g., Barling et al., 1987; Schumacher & Leonard, 2005). Moreover, rates are similar across treatment-seeking couples and community (i.e., non-clinic) couples in the early years of marriage (Barling et al., 1987). Rates of psychological aggression are also similar for men and women, based on nationally representative surveys of married and cohabiting couples (e.g., Straus & Sweet, 1992) and behavioral observation studies of conflict interactions (e.g., Capaldi & Crosby, 1997).<sup>2</sup>

Emerging evidence demonstrates the effects of psychological aggression on depressive symptoms (Coker et al., 2002), relationship adjustment (Schumacher & Leonard, 2005), perceptions of one's own physical health (Straight, Harper, & Arias, 2003), alcohol use (Tjaden & Thoennes, 1998), and physical, occupational and cognitive functioning (Straight et al., 2003). Moreover, psychological aggression is associated with

<sup>2</sup> Researchers examining prevalence rates of psychological aggression have used a variety of measures, many of which suffer from poor discriminant validity when compared to the construct of global negative affect (e.g., TENSE; Schumacher & Leonard, 2005; Verbal Aggression Scale of the original CTS; Straus, 1979). There are several methodological limitations to the existing research that hinder our understanding of the unique effects of psychological aggression. First, most of the research on psychological aggression in intimate relationships has been conducted with samples in which severe physical aggression is also present (e.g., Arias & Pape, 1999). Second, psychological aggression as a predictor of mental health has typically been assessed cross-sectionally rather than longitudinally (e.g., Taft et al., 2006). Little is known about the developmental course of psychological aggression in normative populations or its impact on individual well-being.

mental and physical health problems beyond the effects of physical aggression (e.g., Follingstad, Rutledge, Berg, Hause, & Polek, 1990; Lawrence, Yoon, Langer, & Ro, 2009). Researchers have offered several possible explanations for this finding, such as the higher frequency and pervasiveness of psychological aggression (e.g., Arias & Pape, 1999) but the research is mixed (Yoon & Lawrence, under review).

### **Risk Factors of Psychological and Physical Aggression**

There is ample research on the risk factors of engaging in partner aggression, and the evidence indicates that the primary etiological variables are similar for men and women, and for psychological and physical aggression (Murphy & Blumenthal, 2000; Riggs & O'Leary, 1996; Sharpe & Taylor, 1999). For the purposes of the current paper, I have organized the broad array of risk factors into the following categories: (1) familial factors, (2) relationship factors, (3) personality traits and psychopathology, (4) cognitive and affective factors, and (5) other factors. Except where noted, *partner aggression* will refer to psychological and physical aggression collectively.

*Familial Risk Factors.* Individuals who engage in partner aggression as adults tend to be reared in family environments characterized by harsh discipline, low cohesion, and high conflict relative to non-aggressive adults (e.g., Margolin, Gordis, Medina, & Oliver, 2003). For example, aversive family communication during adolescence -- such as disapproving, threatening, or argumentative statements -- predicts partner aggression in young adulthood (e.g., Andrews, Foster, Capaldi, & Hops, 2000). Further, childhood exposure to violence is a significant predictor of partner aggression in adulthood (e.g., Avakame, 1998; Linder & Collins, 2005; Magdol, Moffitt, Caspi, & Silva, 1998; Stets, 1990). Individuals who engage in aggression against their partners are more likely than nonaggressive controls to report that they experienced violence in their families of origin, either as witnesses to interparental abuse or as victims of child abuse (Aldarondo & Sugarman, 1996; Dutton & Hart, 1992; Hotaling & Sugarman, 1986; Kalmuss, 1984; Sugarman & Hotaling, 1989).

***Relationship Risk Factors.*** A number of dyadic factors appear related to the initiation and maintenance of partner aggression. Although research on the association between relationship satisfaction and partner aggression has revealed mixed findings, there is emerging evidence that both psychological and physical aggression precede relationship distress and dissolution, whereas distress does not precede aggression (e.g., Lawrence & Bradbury, 2007). Rates of aggression are very high among treatment-seeking couples (treatment for relationship distress); approximately 66% of couples seeking therapy report partner aggression (O'Leary, Vivian, & Malone, 1992). Not surprisingly, high levels of conflict characterize relationships in which aggression occurs (e.g., Pan, Neidig, & O'Leary, 1994; Sugarman & Frankel, 1996). Interpersonal skill deficits (e.g., limited problem-solving capabilities, inappropriate communication skills) increase a couple's risk for relationship conflict in general and for partner aggression specifically (e.g., Schafer, Caetano, & Cunradi, 2004; O'Leary, Malone, & Tyree, 1994). Finally, in relationships where both partners are physically aggressive, the aggressive behavior tends to fluctuate together (partners demonstrate similar trajectories over time; e.g., Capaldi, Shortt, & Crosby, 2003). This latter finding is also supported by studies demonstrating that, in community (non-battering) samples, partner aggression is both dyadic and reciprocal (e.g., Sugarman & Hotaling, 1989).

***Psychopathology and Personality Risk Factors.*** Psychopathology and personality factors are the strongest and most consistent predictors of psychological and physical aggression (e.g., Chase, O'Leary, & Heyman, 2001; Ehrensaft, Cohen, & Johnson, 2006; Follingstad, Bradley, Helff, & Laughlin, 2002). Prospective developmental studies indicate that depression, conduct problems, and antisocial behavior in childhood or adolescence significantly predict partner aggression in young adulthood among men and women (Andrews, et al., 2000; Capaldi & Clark, 1998; Ehrensaft et al., 2003; Magdol, Moffitt, Caspi, & Silva, 1998). Across community and clinical adult samples, individuals who engage in partner aggression are significantly more likely to score in the clinical

range on measures of mood and anxiety symptoms (e.g., Capaldi & Owen, 2001; Dowd, Leisring, & Rosenbaum, 2005; Moffitt, et al., 2000; Pan, Neidig, & O'Leary, 1994; Swan, Gambone, Fields, Sullivan, & Snow, 2005). In particular, posttraumatic stress disorder (PTSD) is a very strong predictor of male and female partner aggression, reportedly reflecting a high incidence of childhood abuse and trauma (e.g., Murrell, Christoff, & Henning, 2007; Stuart, Moore, Gordon, Ramsey, & Kahler, 2006). The co-occurrence of substance abuse problems and partner aggression is also high, with rates ranging from 40% to 92% across studies (Brookoff, O'Brien, Cook, Thompson, & Williams, 1997; Easton, Swan, & Sinha, 2000).

Partner aggression has also been linked to Axis II disorders characterized by emotional difficulties, such as Antisocial Personality Disorder (ASPD) and Borderline Personality Disorder (BPD) (e.g., Goldenson, Geffner, Foster, & Clipson, 2007; Weizmann-Henelius, Viemero, & Eronen, 2004). The key personality facets subsumed under these Cluster B personality disorders -- impulsivity, manipulativeness, and aggressiveness – are strongly associated with partner aggression (e.g., Ehrensaft, Moffitt, & Caspi, 2004; Langer, Lawrence, & Barry, 2008; O'Leary, Malone, & Tyree, 1994). In addition, partner aggression is related to significant elevations in trait dependency (e.g., Goldenson, et al., 2007; Murphy, Meyer, & O'Leary, 1994). Finally, the negative effects of one risk factor (e.g., impulsivity) tend to be exacerbated by the presence of other risk factors (e.g., depressive symptoms) within the same individual. Similarly, when both partners are high on these risk factors, the risk of partner aggression increases significantly (Kim & Capaldi, 2004).

Other dispositional factors related to psychopathology and personality associated with partner aggression include maladaptive attachment patterns (e.g., Babcock, Jacobson, Gottman, & Yerington, 2000; Dutton, Saunders, Starzomski, & Bartholomew, 1994) and low self-esteem (Bernard & Bernard, 1984; Hotaling & Sugarman, 1986; Neidig, Friedman, & Collins, 1986). For example, Dutton (1994, 1998) integrated much

of the work on the personality characteristics of male batterers with attachment theory, postulating that anxious attachment, an unstable sense of self, and impulsivity are associated with hypersensitivity to perceived abandonment or rejection, which often leads to intense anger and physical aggression (e.g., Dutton, 2002).

*Affective and Cognitive Risk Factors.* Outside of Axis I and II diagnoses, fundamental affective and cognitive factors (i.e., specific emotions and thoughts) are risk factors for aggressive behavior. Of these factors, anger has received the most attention in the literature. Some researchers have found that, compared to nonviolent controls, individuals who engage in partner aggression evidence significantly greater anger and hostility<sup>3</sup> (e.g., Dutton, et al, 1994; Maiuro, Cahn, Vitaliano, Wagner, & Zegree, 1988; Sullivan, Meese, Swan, Mazure, & Snow, 2005). However, other studies have found that aggressive and nonaggressive individuals experience anger at comparable levels of frequency and intensity (e.g., Dye & Eckhardt, 2000), leading researchers to conclude that *how* individuals respond to feelings of anger may be more related to aggression than the experience of anger itself.

Although less attention has been paid to other emotions, strong feelings of fear, jealousy, and shame tend to be reported by individuals who engage in partner aggression (e.g., Babcock, Costa, Green, & Eckhardt, 2004; Foran & O'Leary, 2008). Additionally, these individuals frequently have subjective experiences that are similar to those reported by patients who suffer from panic attacks, such as palpitations, increased respiration rate, chest pain, nausea, sweating, tremors, dizziness, a sense of losing control and feelings of

<sup>3</sup> Aggression researchers investigating anger and its concomitants have varied widely in the degree to which they differentiate between anger and hostility. Indeed, these terms are often used interchangeably in the literature (Eckhardt, Barbour, & Stuart, 1997). However, hostility is typically considered an attitudinal construct that involves the dislike and negative evaluations of others, an expectation that others are guilty of wrongdoing, a view that one is in opposition with others, and a desire to inflict harm or see others harmed (Berkowitz, 1993; Spielberger, 1988). In contrast, anger is generally regarded as a multidimensional construct consisting of physiological (general sympathetic arousal, hormone/neurotransmitter function), cognitive (irrational beliefs, automatic thoughts, inflammatory imagery), phenomenological (subjective awareness and labeling of angry feelings), and behavioral (facial expressions, verbal/behavioral anger expression strategies) variables (Berkowitz, 1993; Deffenbacher, 1994; Kassinove & Sukhodolsky, 1995).

fear and/or being trapped (e.g., George et al., 2000; Mitchell & Gilchrist, 2006). Finally, individuals who engage in partner aggression experience greater levels of emotional arousal in general than nonaggressive individuals (Dutton, 1998; Holtzworth-Munroe & Anglin, 1991; Holtzworth-Munroe & Hutchinson, 1993; Murphy, Meyer, & O'Leary, 1994).

Cognitive characteristics such as attributions, attitudes, and beliefs are also associated with partner aggression. Compared to nonaggressive individuals, aggressive individuals report more cognitive biases and irrational beliefs (e.g., Eckhardt, Barbour, & Davison, 1998), more aggressive thoughts in general (e.g., Clements & Holtzworth-Munroe, 2008), and more spouse-specific aggressive thoughts in particular (e.g., Holtzworth-Munroe, Rehman, & Herron, 2000). Aggressive individuals are more likely than non-perpetrators to attribute negative intent to their partners' behaviors (e.g., Byrne & Arias, 1997), and to evaluate the use of aggression more positively (e.g., as justified or appropriate to the situation; Sugarman & Frankel, 1996). However, as noted in qualitative reviews of this literature (Eckhardt & Dye, 2000), with few exceptions, this research is derived from assessment methods that require respondents to explicitly provide self-reports of their cognitive experiences using paper-and-pencil questionnaires. Moreover, assessment of cognitive constructs using implicit measures merely indicate that violent men are slightly more efficient at associating violent words with positive labels than nonviolent men; how this difference translates into actual conflict behavior in close relationships awaits further investigation (Eckhardt, Samper, Suhr, & Holtzworth-Munroe, 2012). In sum, the data are equivocal regarding a *causal* relation between specific cognitions and aggressive behavior (Norlander & Eckhardt, 2005).

*Other Risk Factors.* Situational risk factors for aggressive behavior include substance use, stress, and the nature of a couple's arguments in general. However, the specific ways in which these situational factors influence aggressive behavior are still unclear. With regard to substance use, the data are mixed. Some studies indicate that

alcohol and drug use is strongly associated with the incidence and severity of aggressive behavior, whereas other researchers report modest or no relation between these factors (e.g., Riggs & O'Leary, 1989; Stith, Rosen, McCollum, & Thomsen, 2004; Testa, Quigley, & Leonard, 2003). The data are similarly equivocal with regard to the influence of stress on aggression. Specifically, life stressors and chronic role strain appear to be distal risk factors for partner aggression (e.g., Langer, Lawrence, & Barry, 2008), but findings have been mixed regarding acute stress as a proximal risk factor for aggression (e.g., Barling & Rosenbaum, 1986; Cano & Vivian, 2003).

Consistent with the high conflict that characterizes aggressive relationships, the majority of community couples engaging in partner aggression report that arguments high in verbal aggression (e.g., yelling, name calling, insulting) precede more than 80% of physically aggressive events (Greenfield et al., 1998; Hyden, 1995). Findings from treatment-seeking couples support the contention that aggression occurs as couples' arguments escalate (Cascardi & Vivian, 1995). More specifically, psychological aggression is a common antecedent of physical aggression for men and women (Babcock et al., 2004; Capaldi & Crosby, 1997; Murphy & O'Leary, 1989), and physical aggression is particularly likely to occur if the psychological aggression does not end the conflict or reduce emotional arousal (e.g., Ray & Gold, 1996). These findings suggest that psychological aggression may contribute to the creation of an environment in which physical aggression is more likely to occur. Finally, several prominent themes or "triggers" of arguments in which partner aggression occurs have been identified, including real or perceived rejection, abandonment, and threats of dissolution (e.g., Fagan & Browne, 1994; Lloyd & Emery, 2000). For example, Babcock et al. (2004) found that the most common proximal antecedents of partner aggression are perceived infidelity and threats of dissolution. Individuals are also more likely to engage in aggression when they are unable to accurately infer how their partners feel about them or about the relationship (Stets, 1991).

### **Typologies and the Conceptualization of Aggression in the Current Study**

Bimodal classification systems of human aggression<sup>4</sup> typically reduce to two subtypes: (1) reactive or impulsive aggression and (2) proactive or instrumental aggression. *Reactive or impulsive aggression* -- also called irritable, defensive, hostile, affective, or “hot” aggression -- is viewed as occurring impulsively in response to aversive stimuli or events, in particular perceived or actual interpersonal threats (Dodge & Coie, 1987). Reactive aggression is associated with high affective/physiological arousal, minimal cognitive processing, and feelings of anger, anxiety, and depression (Chase, O’Leary, & Heyman, 2001). Specific to partner aggression, this type of aggression has been reflected by subtypes labeled Type 2 (Gottman et al., 1995), dysphoric/borderline (Holtzworth-Munroe & Stuart, 1994), Jekyll & Hyde (Hamberger & Hastings, 1986), preoccupied (Babcock, et al., 2000), and impulsive (Tweed & Dutton, 1998). *Proactive or instrumental aggression* -- also called planned, premeditated, or “cold” aggression -- is characterized by emotional detachment and a more instrumental form of violence. The aggressive behavior consists of controlled, intentional acts. Proactive aggression is believed to require forethought and planning, with minimal autonomic arousal. Specific to partner aggression, this type of aggression has been labeled Type I (Gottman et al., 1995), generally violent/antisocial (Holtzworth-Munroe & Stuart, 1994), narcissistic/psychopathic (Hamberger & Hastings, 1986),

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<sup>4</sup> Subtypes have also been proposed as a function of personality traits (e.g., dependent versus manipulative), violence severity (e.g., mild versus severe), generality of violence (violence directed toward one’s partner versus violence directed toward others), and patterns of interpersonal control. For example, integrating much of the work on the personality characteristics of male batterers, Dutton (1994; 1995) explored the utility of the Borderline Personality Organization (BPO), a continuum of personality traits – such as an unstable sense of self, intense anger, and impulsivity – that become activated in intimate relationships and result in intense anger and physical aggression. The most well-known typology of male batterers, presented by Holtzworth-Munroe and Stuart (1994), identifies the severity and generality of violence, as well as childhood experiences and personality traits, that are proposed to distinguish three groups of aggressors. Lastly, as an example of a typology defined by relationship factors, Johnson and Leone (2005) distinguish intimate terrorism from situational couple violence, not by characteristics of the perpetrator or the frequency of violent acts, but solely in terms of the interpersonal control dynamics in which they are embedded.

patriarchal/intimate terrorism (Johnson, 1995), and instrumental violence (Tweed & Dutton, 1998).<sup>4</sup>

Although it is customary to use typographical approaches to define partner aggression, these approaches prioritize the *form* of aggression (e.g., severity, frequency, generality) and, therefore, have not been used to conceptualize aggression in the current research. Rather, partner aggression is defined within a behavior analytic framework (see Section IV), such that the *function* of the aggression (rather than its form) is of paramount importance. Specifically, aggression is conceptualized in terms of the environmental or contextual factors that produce and maintain its occurrence and, in this way, may cut across the reactive/proactive distinction. For example, the model of partner aggression incorporates aversive “triggering” stimuli and emotional arousal (e.g., characteristics of the reactive subtype) as well as a consideration of the potentially reinforcing consequences of partner aggression (e.g., characteristics of the proactive subtype). (Of note, the model and treatment developed for the current research are hypothesized to address aggression that is superficially parallel to “reactive” rather than “proactive” aggression.)

## CHAPTER 2

### EXISTING MODELS AND INTERVENTIONS

Several theories of partner aggression have been developed, yet they vary with regard to their degree of empirical support and the degree to which they have been used to develop interventions. Tenets of feminist theory and social learning theory have received modest empirical support and have provided the foundation for the interventions currently used, whereas more recent models integrating diverse theoretical perspectives lack published tests of their empirical and clinical utility (e.g., Bell & Naugle, 2008; Capaldi & Kim, 2007; Finkel, 2007). A review of all theoretical approaches is not possible here (for a review, see Langer & Lawrence, 2010); therefore, given the focus of the current research, only the theories and models that apply to current interventions (feminist theory/Duluth Model and social learning theory/cognitive behavioral model), are discussed below.

#### **Feminist/Patriarchal Theory of Violence and the Duluth Model of Intervention**

Most current programs for partner aggression are based on feminist theory (also known as patriarchal theory) and the Duluth Model, wherein the primary origin of male-to-female violence is conceptualized to be patriarchal ideology and societal sanctioning of men's power and control over women (Pence & Paymar, 1993). According to the Duluth Model, men who are violent possess a sense of entitlement to dominate women and hold attitudes that condone violence toward and power over women. Within this model, physical, emotional/psychological, and sexual violence are all possible tools used to intimidate and subjugate women. Thus, male aggression is conceptualized as instrumental or proactive, with the goal of dominating one's female partner. Based on battered women's descriptions of their experiences, the *Power and Control Wheel* was developed to diagram the overall pattern of abusive and violent behaviors used by male batterers to establish and maintain control over their partners. A key tenet of the model is

that, just as family members and/or societal influences have taught these men certain attitudes toward women and about violence, these attitudes can be unlearned in treatment if the man accepts responsibility for his actions (Dobash & Dobash, 1979).

As a whole, the Duluth Model approach to intervention is embedded within a larger “coordinated community response” system that includes group programs, arrests for domestic violence, sanctions for non-compliance with court orders, support and safety planning for victims, and referrals to collaborative agencies (e.g., family court, child protection services, alcohol and drug treatment agencies, mental health agencies). The goal of interventions based on the Duluth Model is to protect victims from future abuse and to hold men accountable for their violent and controlling behavior. Implementation of this group model varies from state to state, averages 24 weeks (range = 8 –36 weeks), and is the treatment of choice in most communities. Most states with guidelines governing the content of interventions for individuals arrested for domestic violence mandate that the programs adhere to the Duluth Model in order to be state-certified or to receive state funding (e.g., Healey, Smith, & O’Sullivan, 1998).

Group programs based on the Duluth Model employ a “knowledge-attitude-behavior” theory of change, wherein instructive techniques are used to educate men about gender roles, violence, and their perceived right to use power and control to subjugate women. This process of re-education and re-socialization is aimed at reducing patriarchal attitudes and power and control motives (Pence & Paymar, 1993). In the standard 24-week structured group format, 8 themes are addressed in three-week intervals. The themes are derived from the *Power and Control Wheel* and include nonviolence, nonthreatening behavior, respect, trust and support, honesty and accountability, sexual respect, partnership, and negotiation and fairness. Each session begins with a review of the prior session and a discussion of homework assignments. In the first week of each theme, the theme is defined and analyzed and a video is shown of a man using a power and control tactic. The group then completes an exercise in which they discuss and

analyze the controlling behavior of the man in the video. The group facilitator then lectures and passes out “control logs” for men to record incidents in which they have engaged in controlling behaviors in the past week. In Week 2, the group discusses and analyzes each participant’s control log, with the facilitator guiding men’s explanations for their behaviors. The final week in each theme is spent exploring and practicing non-controlling and nonviolent behaviors such as time-outs, positive self-talk, assertiveness, and communication skills.

The Duluth Model approach to intervention has many strengths, most notably the emphasis on coordinating across criminal justice agencies and human service programs to help maximize the effectiveness of the intervention. Programs based on the Duluth Model do not include any concept of mutuality or symmetry of aggression, or a consideration of factors beyond patriarchal attitudes of power and control that may contribute to aggression. Specifically, power and control are (1) viewed as the prime motives for aggression, and (2) only applied to men, such that women as a group do not experience these motives. Rather, female aggression is presumed to be motivated by self-defense and is addressed within victim programs. Thus, individuals for whom aggression is not motivated solely by power and control (e.g., “reactive aggressors”) may be less likely to benefit from Duluth-based interventions, as the model guiding the intervention may not be applicable to these types of aggressors. Relatedly, there is limited evidence that patriarchal attitudes are a primary contributor to the perpetration of male aggression (e.g., Sugarman & Frankel, 1996). Thus, the evidence converges to suggest that targeting patriarchal attitudes may not be the most effective mechanism through which to reduce aggressive behavior in men.

Additionally, interventions based on the Duluth model employ confrontational tactics to reduce denial of aggressive behavior. However, the existing data do not support the notion that increases in acknowledgement of responsibility or reductions in denial are related to treatment success. In fact, a number of studies have shown that confrontational

tactics, as opposed to supportive and empathic tactics, are associated with *greater* recidivism following treatment (e.g., Miller, Benefield, & Tonigan, 1993; Miller, Taylor, & West, 1980). Finally, within the Duluth model, men's experiences of victimization and their emotions are viewed as rationalizations or justifications for aggression. Consequently, these factors are not targeted in the intervention, under the assumption that doing so would be condoning such rationalizations and may be dangerous for victims (e.g., Taft & Murphy, 2007). To the extent that factors such as trauma and anger contribute to aggressive behavior, interventions that do not address these contributions may be less likely to be effective. Two caveats should be noted, though. First, despite evidence that feelings of anger are associated with partner aggression, a causal link has not been established. Second, Duluth Model specialists acknowledge that offenders with diagnosed mental health problems might benefit from alternative treatments (Paymar & Barnes, 2009).

### **Social Learning Theory and Cognitive Behavioral Interventions**

One of the most well-documented theories of aggression is social learning theory (Bandura, 1973), which conceptualizes aggression as a learned behavior. A key tenet of social learning theory is that all individuals have the capacity for aggression, but the individual must first learn the behavior, experience situations that trigger his or her aggression, and be reinforced for the aggression. Based on learning and operant conditioning principles, a variety of experiences lead to aggression being learned (e.g., family, community, media), instigated (e.g., social rejection), and maintained (e.g., direct reinforcement, vicarious reinforcement, and self-reinforcement) (Bandura, 1973).

Applied to partner aggression, indirect and direct experiences with aggression in childhood are viewed as factors that lead one to engage in aggression against romantic partners as an adult. For example, aggression is learned via witnessing or directly experiencing physical abuse as a child, instigated by conflict in an adult relationship, and

maintained by a lack of appropriate conflict management skills. Support for this view is bolstered by extensive findings that witnessing or experiencing abuse as a child is associated with the future perpetration of partner aggression (e.g., Hotaling & Sugarman, 1986; Kalmuss, 1984; Leonard & Senchak, 1996).

Programs based on social learning theory utilize a cognitive-behavioral (CBT) approach of treatment.<sup>5</sup> In general these treatments focus on modifying faulty or problematic cognitions, beliefs, and emotions to prevent future violent behavior. Specifically, treatment is designed to: (a) increase one's motivation to end the abusive behavior and one's commitment to nonviolent relationships; (b) learn crisis-management strategies such as time-out; (c) learn anger management techniques including self-monitoring of one's anger and coping strategies, relaxation training, and cognitive restructuring of angry thoughts; and (d) learn communication skills including active listening, constructive emotional expression, assertiveness, and compromise. Time is allotted during each session to discuss ongoing personal and relationship issues not addressed during the structured portion of the session.

Programs utilizing CBT techniques represent several improvements over the Duluth Model, such that they utilize motivational techniques over confrontational techniques and have the ability to be adjusted for various forms of partner aggression (e.g., applied to male or female aggression, address factors such as trauma and anger to the extent they are relevant). However, these programs also present their own set of limitations. First, social learning theory is limited in its ability to account for individuals who engage in partner aggression *without* a history of witnessing or experiencing violence (e.g., Riggs, Caulfield, & Street, 2000). Second, social learning models of aggression offer explanations for the onset of aggression but are less likely to speak to the

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<sup>5</sup> Many CBT programs for partner aggression have also been informed by research on the individual (e.g., personality traits) and dyadic risk (e.g., relationship dissatisfaction) factors for partner aggression (e.g., Holtzworth-Munroe & Hutchinson, 1993), and have incorporated elements of other CBT treatments such as motivational interviewing (Miller & Rollnick, 1991).

factors that maintain aggression once an individual has been aggressive. Third, the few studies of these programs that have examined CBT-relevant constructs have revealed that clinically significant changes in aggressive cognitions or personality traits generally do not occur, and that any putative changes that occur do not lead to declines in aggressive behavior (i.e., changes in cognitions are not an effective mechanism of treatment; Feder & Forde, 2000; Morrel, Elliott, Murphy, & Taft, 2003). Fourth, although CBT-based programs are more likely than Duluth-based programs to consider the role of emotion via techniques such as anger management, very few studies have directly examined the effects of these techniques on emotional functioning. Moreover, there is little evidence for a relation between changes in the frequency of anger and changes in aggressive behavior over time (e.g., Murphy, Taft, & Eckhardt, 2007; Watt & Howells, 1999). Fifth, skills training components based on social learning theory tenets, such as increasing communication skills, have not been successful at reducing aggressive behavior (e.g., Davis, Taylor, & Maxwell, 2000).

### **Outcome Data**

The treatment outcome literature suggests that Duluth and CBT interventions are similarly efficacious (e.g., Morrel, Elliott, Murphy, & Taft, 2003; O'Leary, Heyman, & Neidig, 1999).<sup>6</sup> However, both types of intervention are only *modestly* efficacious. Treatment outcome studies based on these programs demonstrate very small effects on aggressive behavior beyond the effects of mandatory arrest alone. Completing an intervention program is related to a reduction in legal involvement (i.e., arrests for domestic violence; Babcock & Steiner, 1999), but physical aggression rates after

<sup>6</sup> In practice, most current interventions comprise a blend of the Duluth Model and the social learning model, and the techniques employed in each approach overlap substantially. Indeed, the Duluth Model webpage identifies itself as a cognitive-behavioral program ([www.duluth-model.org](http://www.duluth-model.org)). Duluth Model specialists have noted that, compared to CBT, the Duluth Model does “focus less on psychological assessment and more on how power relationships and entitlement are reflected in individuals, families, communities, and different cultures” ([www.duluth-model.org](http://www.duluth-model.org)). However, they also note that these differences are not as notable as the similarities in the programs’ approaches and philosophies (Paymar & Barnes, 2009).

treatment remain high (up to 47%) and psychological aggression (e.g., threats of violence) often remains elevated as well (e.g., Edleson & Grusznki, 1988). A meta-analysis of experimental studies revealed that, on average, a man who has been arrested, sanctioned, and completed an intervention program (Duluth, CBT, or a combination of both) is only 5% less likely to perpetrate physical aggression toward a female partner than a man who has only been arrested and sanctioned (Babcock et al., 2004). Moreover, these treatments are less effective at reducing physical aggression than mental health treatments are at reducing problems such as depression, anxiety, and marital distress (e.g., Johnson, Hunsley, Greenberg, & Schindler, 1999). In sum, treatment outcome studies have failed to identify superior treatments or intervention modalities, though these data are necessarily qualified by methodological limitations inherent in many of the outcome studies (e.g., high drop-out rates; see Eckhardt, Murphy, Black, & Suhr, 2006).

Studies focusing on specific treatment components or techniques (e.g., duration, educational or therapeutic) instead of general treatment packages have failed to identify a superior treatment or intervention modality for partner aggression. In a few exceptions, there is preliminary evidence that motivational techniques, used primarily within CBT approaches, are associated with positive treatment outcomes (Kistenmacher & Weiss, 2008; Taft, Murphy, Elliott, & Morrel, 2001). Such techniques, originally developed for substance abuse treatment, emphasize therapist expressions of empathic support, the development of a collaborative working alliance, and helping clients progress through stages of behavior change (Miller & Rollnick, 1991). Recent investigations indicate that these motivational enhancement techniques can be successfully adapted for interventions targeting partner aggression, and that these adapted interventions successfully lower resistance to – and enhance engagement in -- the programs (Kistenmacher & Weiss, 2008; Taft, et al., 2001). For example, Taft et al. (2001) found that motivational techniques were associated with greater session attendance, which in turn predicted better

treatment outcomes (i.e., lower partner reports of physical assault and injuries at post-treatment).

Given the lack of meaningful differences in outcomes between Duluth and CBT interventions, many researchers and clinicians speculate that common factors may be responsible for the similarities in outcomes. For example, group cohesion and therapeutic alliance are two factors that have strongly predicted treatment outcomes (e.g., Taft, Murphy, King, Musser, & DeDeyn, 2003). Greater group cohesion and a strong working alliance with the facilitator were associated with program compliance and lower levels of physical and psychological aggression at follow-up (e.g., Taft et al., 2003). Although I do not agree with the notion that aggressive behavior can be reduced simply by employing common factors alone, these findings do support the promotion of a collaborative therapeutic environment to bring about successful behavior change in this population.

### **Explaining the Limited Effectiveness of Existing Interventions**

Systematic examinations of interventions based on Duluth and cognitive-behavioral models demonstrate that both programs are limited in efficacy and yield only small effects on the reduction of aggressive behavior. I assert that a key reason for these limited effects is that the theories of change processes underlying these interventions are fundamentally flawed. As reviewed above, there are few empirical studies demonstrating that the proposed change processes in these models -- skills training, knowledge acquisition or cognitive restructuring, and emotional control techniques -- lead to reductions in aggressive behavior.

Current programs incorporating CBT typically conceptualize aggressive behavior as resulting, in part, from skills deficits. When applied to interventions, skills training involves the development of nonviolent alternative behaviors, such as conflict resolution, communication, and tension-reducing exercises (Pence & Paymar, 1993). The justification for employing these techniques is the assumption that individuals who

engage in aggression have failed to acquire these skills (e.g., Holtzworth-Munroe & Smutzler, 1996). However, several studies have demonstrated that these skills are either not improved during treatment, are developed but not used during intense conflict situations, or do not significantly relate to post-treatment aggressive behavior (e.g., Gondolf, 2000; Rosen, Kaminski, Parmley, Knudson, & Fancher, 2003).

The traditional approach to skills training poses a number of problems that may account for the lack of empirical support. First, individuals must have deficits in a particular skill in order to benefit from such training, which requires a level of assessment and subsequent treatment matching that usually is cost prohibitive. Second, skills training techniques have been criticized by many as too simplistic to deal adequately with the complexities of aggressive behavior (O'Donohue & Krasner, 1995). For example, it is one thing to learn rules about how to behave in certain situations, and another to behave in accordance with those rules in contexts that differ from the context in which the skills were taught and practiced (arguments with one's partner versus a controlled group environment). Third, in many cases, individuals with apparent skills deficits may actually have the skills as part of their behavioral repertoires, but not use them because other factors "block" their emission. For example, CBT interventions may not always be effective because individuals react too quickly to apply an alternative behavior. Before one can implement a skillful response (such as applying relaxation or a time-out), the emotional reaction may have already occurred. Therefore, an individual may have the component behaviors of adaptive communication but cannot put them together effectively in the context of certain thoughts or emotions that occur during relationship conflict. These individuals would likely benefit if the factors interfering with effective skill use were identified and targeted, instead of merely being taught or practicing skills they already "know." Overall, interventions for partner aggression may benefit from an exploration of why such skills deficits might exist, and addressing barriers to implementing skills in certain situations.

There also appear to be problems with proposed change processes related to cognitions and emotions. Current theories of partner aggression focus almost exclusively on the structural properties or the content of thoughts and emotions as causally related to aggressive behavior. Accordingly, traditional treatments subscribe to the very logical assumption that positive outcomes are achieved by minimizing or eliminating the occurrence or intensity of maladaptive cognitions or negative affect. First, one of a number of potential problems with this approach includes the implicit requirement for self-awareness but a lack of explicit attention in treatment on developing such introspective ability. With limited self-awareness it is, for example, difficult to recognize a maladaptive thought and then choose an alternative conscious response to a trigger stimulus (e.g., engaging in cognitive challenging). Second, there is no evidence that significant changes in the attitudes, thoughts, or emotions occur, or that any changes that do occur relate to treatment outcome. This is consistent with recent research on CBT for mental health problems, which has revealed that the cognitive restructuring components of CBT do not significantly improve therapeutic outcomes (e.g., Longmore & Worrell, 2007). Furthermore, such techniques may be invalidating, futile, or cause iatrogenic effects. For example, there are data to show that cognitions are not directly modifiable and that deliberate attempts to change or suppress thoughts can increase their occurrence and behavioral impact (e.g., Cioffi & Holloway, 1993). Furthermore, anger management techniques that emphasize emotional control may have similar limitations. For example, research shows that attempting to control emotions may inadvertently heighten their intensity and limit flexible behavioral responses (e.g., Posner & Rothbart, 2000). These findings demonstrate the risks of models that stipulate the causal status of internal experiences, and support the accumulating empirical evidence that attempting to change or eliminate the content of internal experiences is not the most effective way to change behavior (e.g., Biglan & Hayes, 1996).

## Summary and Conclusions

The majority of existing treatments for partner aggression are based on feminist and social learning theories and the Duluth and cognitive-behavioral treatment models, and are limited in their efficacy. Research on the change processes underlying the effects of treatment is limited. Moreover, research has not demonstrated that proposed change processes reliably occur or that they are linked to treatment outcomes. The evidence outlined above converges to suggest that a better understanding of the processes that may govern therapeutic change in aggressive behavior is needed, and that subsequent improvement in the efficacy of such treatments is likely to depend heavily on the quality of available theories to model these change processes. Just as it is becoming increasingly important in the broader psychotherapy field to move toward theoretically relevant mechanisms of change (e.g., Rosen & Davison, 2003), research on partner aggression must identify change processes within psychotherapies, demonstrate that they occur, and link these processes to client improvement, in order to contribute substantially to both empirical and clinical outcomes.

Integrating the information outlined in this section, a premise of the current research is that one way to begin to address the limitations of existing treatments is to critically examine the underlying assumptions of the theoretical models on which they are based. For example, existing models of partner aggression are mechanistic “information-processing” approaches that assume a change in the content of internal experiences (i.e., attitudes, thoughts, emotions) will directly cause a change in behavior (i.e., aggression). However, mechanistic models, which are also dominant in the broader psychotherapy literature, are often focused on the content of cognition and emotion and their prediction of behavior to the exclusion of how these cognitive and emotional events impact behavior (Hayes & Brownstein, 1986). Without information regarding the functional relationship between internal events and overt behaviors, these models are limited in their direct applied relevance. For example, making accurate predictions that hostile thoughts

precede aggressive behavior may be “correct” in an explanatory sense, but this prediction does not necessarily speak to how to change the behavior (e.g., Forsyth, Lejuez, Hawkins, & Eifert, 1996). In contrast with mechanistic models, contextual models are based on different underlying assumptions that lead to a focus on how thinking and feeling come to play a role in behavior and on identifying variables that can be manipulated to influence behavior. This necessarily leads to a focus on the broader *functions* of emotions and cognitions, rather than their content (Forsyth et al., 1996). Therefore, the negligible clinical utility of current theoretical models of partner aggression is due in part to the lack of consideration for the functional processes that may lead to positive therapeutic change.<sup>7</sup>

Third-generation behavioral interventions may address many of the problems with traditional approaches. One such treatment, Acceptance and Commitment Therapy (ACT; Hayes, Stroshal, and Wilson, 1999), seems well-suited for individuals who engage in partner aggression. In the last two decades, ACT has emerged from the expansion of traditional behavior analysis and addresses many limitations of the dominant mechanistic paradigms. Within the broader psychotherapy literature, ACT has led to tremendous progress in theory and research on basic principles that govern therapeutic change. I believe it may also prove useful in the study of partner aggression, which has not been conceptualized or treated well by traditional approaches. Thus, whereas the basic and applied research reviewed in Sections I and II provide the background for the study of partner aggression, Section III will necessarily interrupt the discussion of partner

<sup>7</sup> For a detailed review of mechanistic versus functional causation see Forsyth et al. (1996). Briefly, it should be noted that there is a voluminous body of research suggesting that cognitions do indeed cause behavior. From an empirical standpoint, however, this question would only be answerable if we could actually verify the occurrence of a cognition and manipulate it apart from other potentially causal cognitions, physiological responses, or environmental causes. In other words, we would have to manipulate cognitions apart from other manipulations that could be construed as causes to demonstrate whether a “cognition” and not something else is causal. All studies that purport to demonstrate the causal status of cognition or other private events involve environmental manipulations that could just as easily be viewed as causes.

aggression to detail the ACT approach. Following this summary, a model of partner aggression guided by this approach will be presented in Section IV.

## CHAPTER 3

### ACCEPTANCE AND COMMITMENT THERAPY

#### **Philosophical and Theoretical Foundations**

ACT is built on a philosophy of functional contextualism (e.g., Biglan & Hayes, 1996). One of the core assumptions of functional contextualism is that psychological events (e.g., thoughts and emotions) are behaviors in that they are viewed as ongoing acts interacting with events from the past (historical context) and the present (situational context). Because the goal of functional contextualism is the prediction and influence of events, the “truth” of any concept, model, or technique in the ACT approach is ultimately demonstrated by its ability to effectively and efficiently lead to the prediction and influence of behavior (i.e., workability). This is in contrast with mechanistic philosophies, which examine any hypothesis in terms of its basis in reality (i.e., predictive verification); if the model is shown to correspond to a range of relevant observations, then it is said to be true.

The contextualistic focus and workability truth criterion lead to two important facets of the ACT approach. First, values – an individual’s chosen life directions – are emphasized as the necessary precursor to the assessment of workability because they specify the criteria for behavior change. Second, causal analyses are limited to factors that are directly amenable to change. This leads to a functional conceptualization of causality that necessitates identifying broadly useful variables that control behavior, and that are also able to be manipulated. From such a perspective, thoughts and feelings do not cause other actions, except as regulated by their functional properties (Biglan & Hayes, 1996; Hayes & Brownstein, 1986). Therefore, mechanistic models that specify thoughts and emotions as causing behavior can be considered useful for prediction, but are considered incomplete in the absence of variables outside of the psychological event that can be manipulated, and in turn, influence behavior. For example, knowing that there is a relationship between experiencing anger and engaging in aggressive behavior does

not tell us why or how that anger leads to aggression or what can be done to influence that behavior. If we ultimately seek to *change* behavior, a model of the behavior must not only include variables that permit the prediction of that behavior, but also variables that, when manipulated, affect the probability of the behavior (e.g., Biglan, 2004). The limited progress of existing mechanistic approaches to inform treatment is attributable in part to a relatively greater focus on explanation to the neglect of influence. The compelling advantage of the ACT approach is that it identifies precise and objective principles of therapeutic change that can enhance the development and selection of more effective and efficient behavior modification techniques (e.g., Iwata, Vollmer, & Zarcone, 1990).

A premise of the proposed research is that existing programs for partner aggression demonstrate the risks of mechanistic theories, such that thoughts, emotions, or skill deficits are considered to be causes of aggressive behaviors in and of themselves, without reference to the broader context in which they occur (see Hayes & Brownstein, 1986). Consistent with the assumptions of behavior analytic theory, rather than attempting to change the *content* of thoughts or feelings so as to change overt behavior, the ACT approach focuses on changing the *contexts* that causally link these psychological domains. The therapeutic utility of addressing these broader contexts will be discussed in more detail below.

### **Experiential Avoidance and the Applied Theory of Psychopathology**

The motivation of humans to avoid negative experiences and the survival value associated with this aversion to unpleasant events are widely accepted concepts (Chawla & Ostafin, 2007). Avoidance has long been associated with psychopathology and maladaptive behavior. According to classical psychodynamic theory, much of psychopathology can be understood as resulting from avoidance (Freud, 1966). Proponents of gestalt therapy maintained the important role of avoidance and suppression in conceptualizing psychopathology (Perls, Hefferline, & Goodman, 1951). Finally,

traditional behavior therapy provides perhaps one of the most explicit linkages of avoidance and psychopathology, emphasizing that avoidance prevents new learning from occurring (Barlow, 1988; Mowrer, 1947). Specifically, Mowrer's (1947) two-stage theory of fear proposes that: 1) fear is acquired through classical conditioning and 2) as individuals avoid the feared stimulus, extinction cannot take place and thus the fear is maintained via operant conditioning. This model has been mostly applied to anxiety disorders, but also to other non-fear-based negative states, such as withdrawal symptoms after substance use. In this case, individuals going through withdrawal find this state unpleasant and might try to regulate it by avoiding it, i.e., by using the substance they are abstaining from (Baker, Piper, McCarthy, Majeski, & Fiore, 2004).

Integrating and expanding on these views of psychopathology, ACT views *experiential avoidance* (EA) as a common factor that underlies a wide range of seemingly diverse types of behavioral problems. EA is a phenomenon that occurs when a person is unwilling or unable to remain in contact with particular internal experiences (e.g., emotions, thoughts, physical sensations, memories, or urges) and engages in behaviors to alter the form or frequency of those experiences (e.g., Hayes, Wilson, Gifford, Follette, & Strosahl, 1996). EA is best conceptualized as a class of behaviors that, consciously or unconsciously, have as their function controlling or modifying internal experiences. Relatively benign examples include trying not to show signs of anxiety during a job interview, controlling feelings of boredom during a conversation with an important person, or distracting oneself from uncomfortable physiological sensations by listening to music during a dental procedure. In these contexts, EA is a relatively harmless short-term strategy to manage emotional expression; potential negative consequences such as energy and attention expenditure may be minimal.

Attempting to control internal experiences works as long as an individual can still live in a way that is consistent with his or her core values, and effort and progress can be made toward personally meaningful goals. However, EA becomes a pathological process

when it is applied rigidly and inflexibly such that it leads to harmful consequences or to devoting enormous time, effort, and energy to controlling or struggling with internal experiences. For example, cognitive techniques such as thought suppression and thought control are well-researched avoidance strategies. The attempt to suppress or control unwanted thoughts through worry and distraction has been shown to have the paradoxical effect of increasing the frequency of the unwanted thought (Wenzlaff & Wegner, 2000). Similarly, the avoidance of affective responses, emotional suppression, has been associated with poor psychological and physical health (Gross & John, 2003). Behavioral avoidant strategies or avoidant coping has been linked to negative psychological outcomes as well (Penley, Tomaka, & Wiebe, 2002).

Other examples of harmful EA may include excessive use of substances (e.g., alcohol, drugs, food) to reduce physiological arousal, engaging in excessive cognitive rumination or problem-solving to mitigate sadness, or avoiding social interactions so as to not experience anxiety at all. In each of these examples, the problematic behaviors appear in different forms but each *function* to escape, avoid, or alter internal states in ways that likely obstruct goal-directed behavior, diminish contact with present experiences, and yield impairment in functioning. For example, limited participation in intimate relationships in order to avoid feelings of vulnerability and thoughts of possible rejection may result in depression and further social withdrawal.

EA has been broadly implicated in the development and maintenance of many forms of psychopathology (e.g., mood and anxiety disorders; Marx & Sloan, 2002; Tull & Gratz, 2008) and behavioral problems (e.g., self-harm and substance abuse; Chapman, Gratz, & Brown, 2006; Forsyth, Parker, & Finlay, 2003), and the literature is replete with evidence of its toxic effects. First, internal experiences are often classically conditioned and not amenable to control strategies and, as mentioned above, attempting to avoid or control these experiences inadvertently heightens their intensity and prolongs their duration (e.g., Wenzlaff & Wegner, 2000). Second, avoidance strategies are often

negatively reinforced by the short-term relief, distraction, or escape provided, rendering such strategies more likely to be used automatically in response to future aversive internal states (e.g., Kashdon, Barrios, Forsyth, & Steger, 2006). Again, this pattern actually leads to long-term increases in the experiences trying to be avoided, and can easily establish a self-amplifying loop that is fairly resistant to change. Finally, research suggests that EA reduces an individual's sensitivity to, and ability to learn from, actual contingencies operating in the environment (e.g., that an avoided internal experience is not actually dangerous; Hayes, Kohlenberg, & Melancon, 1989). Thus, these strategies may be used rigidly across contexts and serve as a barrier to more adaptive approach-oriented responses, which ultimately may result in further intrapersonal (e.g., psychopathology) and interpersonal (e.g., loss of relationships) dysfunction.

### **The ACT Treatment Model**

According to the ACT approach, a useful theory of treatment is one that is linked to processes of change (also called *principles* or *mechanisms* of change) that identify conditions or targets of treatment that are likely to produce clinical gains. Within the ACT model, EA is a process tied to the theoretical model of psychopathology that also represents a clinically-relevant target toward which therapeutic techniques can be flexibly applied (e.g., Hayes et al., 1999). EA is targeted primarily via the promotion of antagonistic processes. That is, conditions that give rise to the antithesis of EA, termed *acceptance or willingness*, are hypothesized to lead to positive therapeutic outcomes. To bring about these conditions, the therapist aims to disrupt EA by changing the way one *interacts with* or *relates to* thoughts and emotions, with the goal to decrease the detrimental impact of thoughts and emotions on one's behavior. In other words, it is the behavioral inflexibility generated by EA that is the target of acceptance methods. From this perspective, there is no particular virtue to acceptance per se; it is not seen as an end in itself, but as a method of increasing effective behavior consistent with personal values. Therefore, the therapist also aims to strengthen *values-based* behavior by promoting

contact with chosen life directions and establishing them as a guide to ongoing purposive action. Below I discuss how specific techniques or strategies linked to acceptance and values are defined functionally, as well as how they are proposed to lead to successful outcomes. Then I describe how these techniques and strategies are integrated into a treatment model.

### **Acceptance**

Acceptance is operationally defined as a change in the function of a behavior evoked by a stimulus; specifically, a change from behavior functioning to avoid or escape to behavior functioning to pursue contact (Cordova, 2001). Acceptance-related therapeutic processes are antagonistic to EA and involve the active embrace of one's private internal experiences occasioned by one's history, without unnecessary attempts to change them or struggle against them. (Again, it is important to note that, within the ACT approach, acceptance of internal experiences, particularly psychological distress, is only indicated when avoidance of the distress is causing personal harm or impeding the use of more effective behaviors.) Acceptance entails the development of attention and openness to experiences, without attempts to fix, alter, suppress, or otherwise avoid the experiences. For example, clients are asked to become acquainted with painful emotions and allow themselves to feel the experience as it happens.

It has been hypothesized that this attentive and open stance toward internal experiences, in the absence of any dire consequences and without escape or avoidance, parallels nonreinforced exposure, and may ultimately establish an internal context that maintains the extinction of unwanted responses and promotes the acquisition of new responses (e.g., Lynch, Chapman, Rosenthal, Kuo, & Linehan, 2006). By allowing emotions to be experienced without struggle or judgment, new associations are acquired (the emotion "just is," the thought "just is," the memory "just is"). With repeated practice, associations between emotionally evocative stimuli and mindful behavior

become increasingly dominant, and the emotion may begin to elicit a variety of action tendencies, as opposed to the narrow subset of actions originally elicited.

### Values

As defined here, values represent a special class of reinforcers that are tightly linked to the rewarding or punishing effects of a given behavior. Values are integral to the ACT approach, wherein behavior consistent with an individual's personal values is seen as key to the individual's psychological health. Values-related therapeutic processes involve building behavior guided by desired life directions and what the individual cares about most deeply (Hayes et al., 1999; Wilson & Murrell, 2004); thus, therapeutic action is directed toward increasing awareness of and connection to one's own personal values and establishing these values as a guide for ongoing patterns of activity. It is not the therapist's purpose to influence which values a client endorses, but rather to help him or her contact naturally occurring reinforcement for living consistent with his or her chosen values, whatever they may be. Values are approached as process variables (ways of behaving) rather than outcome variables (desired life consequences). For example, if a client stated that he or she valued being in an intimate relationship (an outcome), the therapist would help him or her clarify qualities or ways of behaving that he or she can unilaterally bring to relationships that increase the likelihood of developing and maintaining close relationships. The reason for this is that, although the consequences for any given behavior are ultimately "out of one's hands," one always has the ability to act unilaterally in a predetermined fashion. Thus, thinking of values as ways of behaving affords more utility to a behavior therapist attempting to shape the increased emission of specific responses in clients. As described above, acceptance strategies often coincide with values-related strategies to address barriers to engaging in values-consistent behavior. In fact, connection with values often provides a motivational context in which mindfulness and acceptance is possible.

## **Integrated Treatment Model**

ACT makes use of a number of therapeutic strategies, many borrowed from other approaches and subsequently further developed within the ACT model. In general, ACT techniques are grounded in the cognitive-behavioral tradition, yet expand on it in important ways: rather than attempting to alter the form or frequency of maladaptive internal experiences (e.g., modifying the content of thoughts), the aim is to alter their function, how they are experienced, or how they influence other behavior. Specifically, such techniques focus on developing awareness of and openness to one's cognitive, emotional, and physical experiences – directly contacting these experiences without attempting to avoid or change them – via didactic and experiential exercises. A key principle is that attempts to control internal experiences are often not only ineffective but even counterproductive, in that they can actually result in a net increase in distress, result in significant psychological costs, or both. Deliberate change efforts are instead directed toward that which is *amenable to change* (i.e., under voluntary control), rather than toward internal experiences, under the assumption that it is only at this level that effective manipulation and influence may occur (e.g., Hayes & Brownstein, 1986). ACT also utilizes exercises aimed at identifying and connecting to personal values, translating these values into specific behavioral goals, and designing and implementing behavior change strategies to realize those goals. Thus, therapists aim to help clients fundamentally change their relationship with their thoughts and feelings in service of taking action guided by what is most important to them and experiencing life more fully and with less struggle. Put simply, such techniques are designed to create a psychological context in which thoughts and feelings do not *have to* affect behavior, and freedom to choose values-consistent action is more possible.

## **Treatment Outcomes**

Acceptance and values-related processes have been tested in experimental psychopathology studies from the earliest stages of their development. The findings

indicate that these processes are psychologically active, work in ways that comport with the underlying theory, and that positive outcomes are due in part to changes in these processes (e.g., Hayes, Luoma, Bond, Masuda, & Lillis, 2006; Lundgren, Dahl, & Hayes, 2008). Dozens of component studies on the effects of acceptance (e.g., Gutiérrez-Martínez, Luciano-Soriano, Rodríguez-Valverde, & Fink, 2004; Hayes et al., 1999) and values (Paez-Blarrinaa et al., 2008) indicate a variety of positive results. Furthermore, ACT shows impressive outcomes across a broad range of problems. For example, ACT has been explored in the treatment of substance abuse (e.g., Wilson & Byrd, 2004), trichotillomania (e.g., Twohig & Woods, 2004), PTSD (e.g., Batten, Orsillo, & Walser, 2005), high-risk sexual behaviors (e.g., Batten, Follette, & Aban, 2001), exhibitionism (e.g., Paul, Marx & Orsillo, 1999), psychosis (e.g., Bach & Hayes, 2002), and smoking (Gifford et al., 2004).

## CHAPTER 4

### APPLYING THE ACT APPROACH TO PARTNER AGGRESSION

#### **Introducing a Functional Model of Partner Aggression**

As outlined above, ACT provides an alternative to the existing mechanistic models of psychopathology and behavioral problems, and sufficient evidence exists to support its application to partner aggression. To guide this application, I have developed a functional contextual model of partner aggression (see Figure 1). Specifically, the model provides a framework in which functional processes plausibly operative in partner aggression are identified and linked to therapeutic change processes. In this way, the model is hypothesized to facilitate a practical advantage in conceptualizing and treating partner aggression. Before outlining the specific components of the model, the following points warrant attention. First, the model is influenced by elements of behavior theory and social learning theory (which have benefited from recent empirical evidence), and also draws heavily from models more closely aligned to the third-generation cognitive-behavioral interventions that have been developed to explain behaviors theoretically and functionally similar to aggression (i.e., the Experiential Avoidance Model of Self-Harm; Chapman et al., 2006). Moreover, partner aggression likely has multiple determinants, and this model is not intended as the final functional contextual word on partner aggression. Finally, the model is functional and therefore is applicable to many forms of aggression (e.g., psychological and physical aggression) and to aggression perpetrated by both sexes.

In contrast to inherent assumptions that aggression is an attempt to assert power over women (implicit in the Duluth model)<sup>8</sup> or the direct result of angry thoughts and

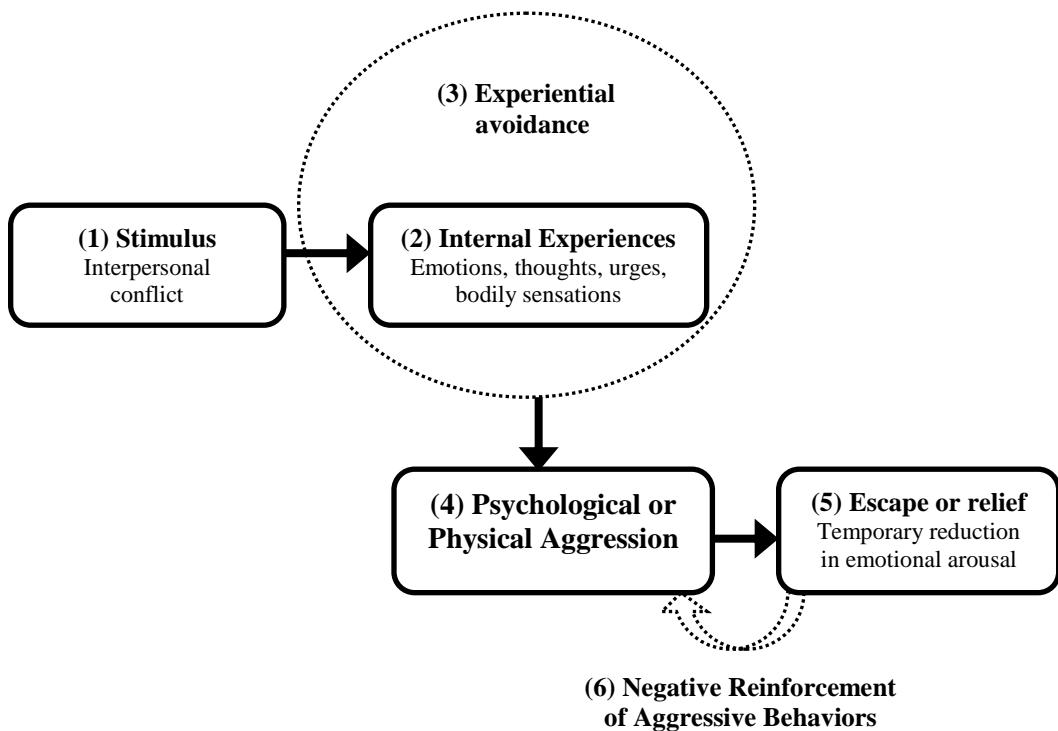
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<sup>8</sup> Feminist theorists and Duluth Model proponents assert that men use aggressive or coercive strategies in order to gain power and control (e.g., Pence & Paymar, 1993). However, it may be more fruitful to consider that aggression is not being used *merely* as an attempt to gain power or control, but also to *reduce* the unwanted or distressing experience of lacking power and control (e.g., powerlessness or weakness). If one is successful at “gaining power and control,” then he or she is likely changing his or her experience from one that is aversive to one that is not. In other words, traditional behavioral functional

feelings (implicit in the CBT model), the proposed model of aggression is based on the premise that, in a context of experiential avoidance, aggression is primarily a strategy for reducing or terminating unwanted emotional arousal. Thus, despite its obvious negative consequences, aggressive behavior is quite functional on a certain level, in that it may be exceedingly effective at terminating unwanted emotional states. According to the model, an emotionally evocative interpersonal conflict (e.g., real or perceived abandonment or rejection) occurs (1) and, based on the individual's learning history and the current context, an emotional response and accompanying thoughts, urges and bodily sensations are triggered (2). In a psychological context supporting experiential avoidance, fear or sensitivity to these internal experiences is strongly linked to an urge to escape from the aversive state of arousal (3). In turn, engaging in aggression in this context (4) may inadvertently provide distraction from, or reduction in, physiological arousal (5). Although this escape or relief is likely to be brief or temporary, it is all that is needed to negatively reinforce the behavior (6). Over time, repeated negative reinforcement trials strengthen the association between unpleasant emotional arousal and aggression, such that it becomes an automatic escape response, making aggressive behavior considerably more likely when the individual experiences similar conditions in the future. It also should be noted that the individual may first engage in other EA strategies (e.g., rumination, suppression, detachment, substance use) that increase distress or lower inhibitions and ultimately render the individual vulnerable to aggression in a more downstream manner.

Empirical evidence that supports this model as a useful way to conceptualize the function of partner aggression will be reviewed below. First I review findings from the general aggression literature that provide support for the behavioral principles of the

analysts would conceptualize attempting to gain power or control as a form of negative reinforcement: the removal of the aversive experience (powerlessness or weakness) increases the probability that an individual will continue to engage in a particular behavior (aggression or coercion).



*Figure 1.* Functional Model of Aggression: Illustration of the Hypothesized Relations among Experiential Avoidance and Partner Aggression.

proposed model. Second I review research on partner aggression that supports the premise that experiential avoidance represents a response tendency that is particularly strong among individuals who engage in partner aggression.

### Evidence From the General Aggression Literature

In the general aggression literature, the major theories of aggression (Anderson & Bushman, 2002; Berkowitz, 1989; Crick & Dodge, 1994; Huesmann, 1988) have yet to fully articulate how and why particular psychological variables (e.g., anger) are associated with aggressive behavior. However, empirical support for the emotional escape function of aggression can be found in studies that have examined the tension-reducing and negatively reinforcing effect of aggressive behavior. Early on, these studies primarily involved examinations of catharsis theory, which stated that engaging in aggression in response to frustration should lead to both (a) tension reduction and (b)

aggressive drive reduction (see Berkowitz, 1962). Examining the veridicality of this theory, several studies found support for the tension reduction prediction in that significant decreases in physiological arousal were observed to follow aggressive behavior (e.g., Hokanson & Edelman, 1966; Hokanson & Shetler, 1961). However, at the same time, evidence countering the drive reduction prediction was growing: numerous studies revealed that engaging in aggression did not result in a decrease in subsequent aggression, but actually increased the likelihood of subsequent aggressive behavior (e.g., Hokanson, 1974; Hokanson, Willers, & Koropsak, 1968).

More recent evidence provides support for the tension-reducing and reinforcing effects of aggression. For example, Bushman and colleagues (Bushman, 2002; Bushman, Baumeister, & Philips, 2001) have found evidence that aggression serves an affect regulatory function, such that individuals are significantly more likely to engage in aggressive behavior when told it will provide emotional relief or improve an aversive mood. Similarly, Verona and Sullivan (2008) found that physiological reductions following aggression reinforced subsequent aggressive acts, and that heart rate reductions following aggressive responding were associated with the probability of increased aggression. Coupled with the extensive evidence that individuals are significantly more likely to engage in a behavior when it has reduced their distress in the past (e.g., Tice, Bratslavsky, & Baumeister, 2001), the above findings suggest that the distress-relieving effects of aggression can be learned quickly. Moreover, these studies provide support for emotional escape as a powerful reinforcer for aggressive behavior.

### **Evidence From the Partner Aggression Literature**

There is ample evidence that partner aggression is associated with a wide variety of avoidant behaviors, providing support for the presence of stronger EA tendencies among these individuals (because behaviors comprising a response class covary; Nelson, 1988). Specifically, individuals who engage in partner aggression also engage in other behaviors that function to avoid or escape unwanted internal experiences, and they have

higher rates of clinical problems associated with avoidant or escape behavior. Indeed, it has been hypothesized that EA may actually *account* for the relationship between psychopathology and partner aggression (e.g., Tull, Jakupcak, Paulson, & Gratz, 2007).

First, partner aggressive individuals are less apt to *notice or identify* their emotions than non-violent controls. For example, they are less aware of their internal states and have greater difficulty recognizing emotions, particularly sadness and dysphoria (e.g., Umberson, Anderson, Williams, & Chen, 2003; Yelsma, 1996). Second, research has consistently demonstrated that partner aggression is associated with the *suppression or restriction* of emotions, such as by attempting to inhibit arousal or withhold emotional expression, particularly emotions that display vulnerability (e.g., Tull, et al., 2007). Third, individuals who engage in partner aggression are likely to feel socially anxious or uncomfortable, and *withdraw or disengage* from interpersonal interactions in order to avoid these feelings (e.g., Allen, Calsyn, Fehhrenbach, & Benton, 1989; Umberson, Williams, & Anderson, 2002). Avoiding uncomfortable yet important discussions with intimate partners may cause tension, conflict, and/or inhibited intimacy, which then leads to greater use of physical aggression (Reddy, Meis, Erbes, Polusny & Compton, 2011). Fourth, altering one's conscious connection to internal experiences is associated with partner aggression, such that general and violence-specific *dissociation* have been shown to correlate with the frequency and severity of aggression (e.g., Conrad & Morrow, 2000; Simonetti, Scott, & Murphy, 2000). Finally, when avoidant behavior occurs pervasively and is ineffective, it may result in or exacerbate clinical disorders. For example, many forms of psychopathology commonly associated with partner aggression (reviewed in Section I) are characterized by the presence of experiential avoidance, including BPD (e.g., Chapman, Specht, & Cellucci, 2005), PTSD (e.g., Marx & Sloan, 2002), substance use (e.g., Forsyth, et al., 2003), and mood disorders (e.g., Tull & Gratz, 2008). In sum, research indicates that individuals who engage in partner aggression

exhibit avoidant behaviors that exacerbate distress, further undermine behavioral control, and lead to poor relationship adjustment.

There is also evidence for several vulnerabilities that likely contribute to and maintain EA in partner aggressive individuals. These include (1) high levels of emotional arousal, (2) low levels of distress tolerance, (3) a lack of skillful emotional responses, and (4) the ability (or perceived ability) to obtain emotional relief from aggression. Each of these vulnerabilities are discussed in turn.

### **High Levels of Emotional Arousal**

Individuals who engage in partner aggression experience heightened levels of arousal compared to non-violent controls, particularly in response to interpersonal triggers. For example, studies indicate that they report more intense and reactive emotional responses than non-violent controls to situations involving real or perceived abandonment, rejection, interpersonal dependency, and jealousy (Dutton, 1998; Holtzworth-Munroe & Anglin, 1991; Holtzworth-Munroe & Hutchinson, 1993; Murphy, et al., 1994). There is also some evidence that high levels of lability or variability in emotional arousal predict partner aggression (e.g., McNulty & Hellmuth, 2008) and that heightened sensitivity to emotional cues serves as a risk factor for aggression among individuals who are emotionally labile (Babcock, Green, & Webb, 2008). Although limited in number, experimental studies on the biological bases of emotional responding provide additional evidence for the link between exaggerated emotional arousal and partner aggression (e.g., Babcock et al., 2001; Gottman et al., 1995). In addition to high levels of arousal favoring impulsive action, strongly established habits are more likely to guide and dominate behavior in this state. Individuals with high levels of emotional arousal or variability may experience their emotions as overwhelming and be more likely to attempt to avoid these emotions and the accompanying internal experiences.

### **Low Tolerance for Emotional Arousal**

Partner aggression may also be associated with a lower tolerance for emotional arousal (i.e., lower distress tolerance). Low tolerance for emotional distress would be expected to increase the urge to eliminate the emotional arousal, thus increasing the likelihood of engaging in some form of experiential avoidance behavior such as aggression. Distress tolerance is likely influenced by the degree to which individuals experience their emotional arousal as aversive or unpleasant, regardless of the actual level or intensity of the arousal. For instance, studies indicate that individuals who engage in partner aggression report that their affect is extremely unpleasant and negatively evaluate the expression of emotions (e.g., Jakupcak, Salters, Gratz, & Roemer, 2003). These individuals also demonstrate fear of their emotions, such that they are just as likely to fear the ostensibly positive emotions of love and happiness as the negative emotions of anxiety and sadness (e.g., Jakupcak, 2003). Dutton and his colleagues (e.g., Dutton, 1998; Dutton et al., 1994) have found that individuals who engage in partner aggression demonstrate an inability to tolerate emotions or to “soothe” themselves when distress arises. The subjective experience of *more aversive* emotional arousal likely makes it considerably more difficult to tolerate such emotional arousal, leading to attempts to avoid it. Research has shown that individuals who tend to experience aversive mood states are more apt to utilize aggression in response to negative affect when they also have a diminished capacity to tolerate such mood states (e.g., Auerbach, Abela, & Hoa, 2007). For example, individuals who report experiencing affect that is difficult for them to manage are more likely to abuse their partners and also tend to believe that they should not share their emotions or ask for help (Tager, Good, & Brammer, 2010).

### **Lack of Skillful Emotional Responses**

Another key component in the development of maladaptive EA behaviors may be limited access to, or inability to engage in, skillful emotional responses. Individuals with a lack of effective responses to emotional arousal are more likely to attempt to avoid



these emotions entirely and/or may be at greater risk for using potentially maladaptive strategies that make things worse (especially when the emotions are experienced as intense and aversive). That is, when faced with emotional arousal, individuals with emotional skill deficits may resort to quick, easily executable strategies to regulate or escape this arousal.

There is evidence to support the assertion that partner aggression may be related to emotional skill deficits. First, individuals who engage in partner aggression lack skills commonly implicated in optimal emotional functioning, such as the ability to verbally describe one's emotional state, to engage in goal-directed behavior when experiencing emotions, and to accept emotional states (e.g., Barbour, Eckhardt, Davison, & Kassinove, 1998; Eckhardt, Jamison, & Watts, 2002; Gratz, Paulson, Jakupcak, & Tull, 2009; Gratz & Roemer, 2004). For example, relative to nonviolent controls, partner aggressors have difficulty expressing anger with words and tend to proceed directly to aggressive forms of communication (e.g., Barbour et al., 1998; Eckhardt et al., 2002). Second, partner aggression is also associated with difficulty concentrating, accomplishing tasks, and remaining in control of one's behavior when experiencing negative emotions (e.g., Gratz & Roemer, 2004), as well as an inability to use emotions as information (e.g., Cohn, Jakupcak, Seibert, Hildebrandt, & Zeichner, 2010; Gratz et al., 2009). Third, these emotional skill deficits appear to generalize to the emotions of others as well; for example, more aggressive individuals are likely to misperceive facial displays of emotion (Babcock, et al., 2008) and disengage their attention ("tune out") when their partner expresses emotions (Schweinle & Ickes, 2007). Furthermore, individuals who engage in partner aggression exhibit poor empathic accuracy with regard to their partners' thoughts and feelings, as well as a general lack of understanding of others and/or an inability to tolerate the negative emotions of others (Clements, Holtzworth-Munroe, Schweinle, & Ickes, 2007). Thus, a lack of adaptive skills may contribute to aggressive behavior insofar

as a failure to express or respond to emotions in a healthy way leads to a reliance on maladaptive strategies (including aggression itself), which further increase distress.

In addition, EA itself contributes to increased emotional arousal, including elevated physiological arousal and subjective distress, which in turn leads to increased EA tendencies and results in a vicious cycle (e.g., Campbell-Sills, Barlow, Brown, & Hofmann, 2006). Thus, the heightened emotional arousal and distress that is often a consequence of EA may further contribute to the use of aggressive behavior in an attempt to avoid, escape, or otherwise regulate increasingly aversive internal states (Bushman et al., 2001; Jakupcak, 2003; Jakupcak et al., 2002).

### **Relief or Escape From Emotional Experiences**

Converging findings from a variety of observational and self-report studies provide support for the emotional escape function of aggression. A number of clinical observations suggest that psychological and physical aggression are used to avoid or terminate more vulnerable emotions. For example, it has been hypothesized that aggression is a strategy to regulate emotions, such as a way to transform negative and painful emotions into expressions of anger and violence to avoid “girlish” or “nonmale” emotions (e.g., Gilligan, 1996). Based on work with male batterers, Browning and Dutton (1986) theorized that aggression against one’s partner is used to reduce aversive physiological tension (and the emotions and labels attached to it) and to create emotional distance from one’s partner out of a fear of emotional intimacy. For example, it has been proposed that, in response to troubling thoughts about infidelity or abandonment, aggression may be used a strategy to avoid coming into contact with vulnerable thoughts and feelings (e.g., Babcock, et al., 2000; Schweinle & Ickes, 2007).

Empirical research indicates that not only do partner aggressors subjectively report higher levels of aversive internal arousal in general, but they also exhibit significantly more arousal before and during arguments than do controls (e.g., Margolin, John, & Gleberman, 1988) and display more objective negative affect during dyadic

conflict interactions (e.g., Babcock, et al., 2000). In addition, the majority of perpetrators report having initiated aggression during a period of negative emotion such as fear, jealousy, or anger, and report that these emotions are often preceded by their partners' displays of negative emotion (e.g., Babcock, et al., 2004). In one study, the mostly commonly cited "reason" for engaging in partner aggression was to stop an argument that led to emotional escalation (e.g., Hyden, 1995). Furthermore, preliminary empirical evidence supports the emotional escape function of partner aggression: individuals often engage in partner aggression as a way to avoid expressing or displaying emotional states (e.g., Tull, et al., 2007) and as a way to terminate feelings of vulnerability and negative affect in interpersonal situations (e.g., Cohn, Zeichner, & Siebert, 2008; O'Neil & Harway, 1997). In addition, aggression often provides a way to bypass demands for emotional expressiveness in intimate situations, relieving stress or anger temporarily (e.g., Moore & Stuart, 2004).

### **An ACT Approach to Treating Partner Aggression**

The functional model of partner aggression described above identifies EA as a theoretical process operative in partner aggression that corresponds to treatment components likely to manipulate this process and, in turn, to promote change in partner aggressive behavior. Specifically, the treatment components of ACT aimed at undermining EA are indicated by the model. These strategies provide an alternative to existing treatment approaches for partner aggression that utilize cognitive restructuring, emotional control techniques, and traditional skills training. Although acceptance and values-related processes are described in detail above, a brief description of their application to partner aggression is presented here.

First, given the evidence for the association between partner aggression and heightened levels of EA (and avoidant behaviors in general), decreasing deliberate efforts to control internal experiences is likely to both directly and indirectly relate to a reduction in aggressive behaviors. For example, helping these individuals pay attention to their

emotions and to notice their general responses to emotions (e.g., using substances, ruminating), as well as those specific to interpersonal conflict (e.g., aggression) is an important first step. Clearly articulating the actual short- and long-term effects (i.e., consistent or inconsistent with relationship values) of these responses is also necessary. Recognition of one's avoidance/control efforts and connection to their unworkability sets the stage for the next step: teaching more adaptive responses (i.e., acceptance) to support the emission of less EA behavior and the promotion of more values-consistent behavior. These strategies are antagonistic to EA by broadening behavioral repertoires to include responses that were previously "prevented" through rigid avoidance *and* by facilitating more effective and consistent movement toward individual values. Furthermore, values are a powerful motivating force, as very few clients will move toward the difficult acceptance work (i.e., approach problematic or painful internal experiences) unless the stakes are high enough to make voluntary exposure to this negative or unwanted content a legitimate, purposeful, life-promoting act.

Finally, values-related therapeutic work is focused on connecting to desired life directions that are not governed by internal experiences and building patterns of behavior that coincide with those chosen directions. Importantly, given a particular value (e.g., healthy intimate relationships), connecting with qualities of behavior (e.g., treating partner with respect) that will be inherently reinforcing for the individual is emphasized over specific goals (e.g., moving in with partner). Furthermore, "pleasantness" alone is inadequate to direct one's values, since many activities are pleasing but incompatible with valued behavior. Given that aggression and other maladaptive behaviors can be extremely hurtful to others and likely serve as a barrier to healthy interpersonal relationships, values work is expected to be particularly useful for this population. For example, by describing the types of relationships they would like to have, and then describing the ineffectiveness of their current behavior in having those relationships, the relation between the client's values and his or her aggressive behavior becomes more

psychologically present. Similar to motivational interviewing (Miller & Rollnick, 1991), this process likely has its effects by altering the stimulus functions of the consequences of aggressive behavior (e.g., “pleasant” consequences of aggression decrease and “unpleasant” consequences become more apparent). Subsequently, events that function as barriers to more effective and values-consistent behavior can be identified, providing targets for acceptance strategies.

## CHAPTER 5

### OVERVIEW AND SPECIFIC AIMS OF THE CURRENT STUDY

Informed by the literature on the risk factors for partner aggression and drawing from the broader psychopathology and psychotherapy literature, I have developed a functional contextual model of partner aggression. The model specifies *experiential avoidance* as a putative process that is hypothesized to underlie the propensity to engage in aggressive behaviors. In this way, the model provides a clinically useful framework that indicates ACT is likely to be both efficient and influential with regard to reducing aggression by targeting EA via acceptance strategies and promoting adaptive behavior change via values-based treatment components. Given the success of ACT in targeting behaviors theoretically and functionally similar to aggression (e.g., Hayes, Follette, & Linehan, 2004), it is proposed that similar success may be achieved with partner aggression.

The *overall objective* of the current research was to ascertain whether an ACT treatment group provides beneficial and significant gains for individuals who engage in partner aggression and, if so, to test the processes responsible for treatment effects. The intervention was tested by examining whether EA was impacted by the intervention and whether this accounted for any observed treatment effects. My *central hypothesis* was that ACT would lead to significantly greater reductions in aggressive behaviors than an attention placebo (AP) control group. Participants in the ACT treatment group were expected to show significantly greater reductions in partner aggression at post-treatment compared to the AP group. ACT treatment participants were also expected to demonstrate gradual reductions in EA during treatment. All treatment gains were expected to be maintained through the 6-month follow-up assessment. To accomplish my overall objective, I pursued 3 primary aims:

### **Specific Aim 1**

The first aim was to test the ability of ACT, compared to an attention placebo (AP) control, to impact aggressive behaviors. My *hypothesis* was that the participants in the ACT treatment group would (a) show significant reductions in partner aggressive behaviors from pre-treatment to post-treatment and (b) would maintain those gains through 6 months post-treatment. Additionally, these reductions would be significantly greater than the reductions among patients in the AP control group. Aim 1 is critical to begin to ascertain the efficacy of an ACT group intervention for reducing partner aggression.

### **Specific Aim 2**

The second aim was to test the ability of ACT, compared to an AP control, to impact the targeted process variable (experiential avoidance). My *hypothesis* was that participants in the ACT treatment group would (a) show significant reductions in levels of experiential avoidance from pre-treatment to post-treatment and (b) would maintain those gains through 6 months post-treatment. Moreover, these reductions would be significantly greater than the reductions in these variables among individuals in the AP control group. Aim 2 is necessary to ascertain whether the purported active treatment components actually influence the targeted processes. Aim 2 will be repeated with a measure of emotion dysregulation and a measure of hostile automatic thoughts.

### **Specific Aim 3**

The third aim was to examine the impact of changes in the targeted process variable (experiential avoidance) on changes in aggressive behaviors. My *hypothesis* was that reductions in aggressive behaviors from pre- to post-treatment would be partially mediated by reductions in experiential avoidance. Aim 3 is essential to examine the relation between changes in process measures and changes in outcome measures and to identify potential mechanisms of action in the treatment; specifically, whether positive changes in the outcome measures are accounted for by changes in treatment-relevant

process measures. As with Aim 2, Aim 3 will be repeated with a measure of emotion dysregulation and a measure of hostile automatic thoughts.

#### **Specific Aim 4**

The fourth aim was to test the ability of ACT, compared to an attention placebo (AP) control, to impact additional outcomes such as depression, interpersonal problems, and social functioning. Based on previous studies that have suggested that mindfulness and acceptance-based interventions decrease psychopathology symptoms and increase functioning (e.g., McCracken, Vowles, & Eccleston, 2005), my *hypothesis* was that the participants in the ACT treatment group would: (a) show significant reductions in depression symptoms from pre-treatment to post-treatment, (b) show significant reductions in interpersonal problems from pre-treatment to post-treatment, and (c) show significant increases in social functioning from pre-treatment to post-treatment. Additionally, these reductions would be significantly greater than the reductions among patients in the AP control group.

## CHAPTER 6

### TREATMENT CONDITIONS

#### **Group Therapists and Treatment Adherence**

All group sessions were led by three female master's level advanced clinical psychology doctoral students (including me) who completed training prior to the beginning of the study. Qualifications and training protocol for group leaders included greater than two years experience conducting therapy under the supervision of psychologists, experience leading cognitive-behavioral group therapy, training in ACT, experience conducting ACT in individual treatment, and participation in the ACT group treatment first as a group member and then as a group co-leader. (See *Appendix A* for the group leader training protocol.)

All group sessions were audio recorded and reviewed by me (and Dr. Lawrence and/or Dr. Marchman were consulted if needed) for protocol adherence and continued competence in study protocols. Because no absolute criteria exist (on the basis of ratings of tapes) to determine whether group leaders adhere to their respective treatment conditions (i.e., the extent to which they use techniques considered appropriate to the treatment approaches), adherence checklists were developed specifically for this study to provide guidelines for group leaders and to detail the content that ideally would be covered in each session. (See *Appendix B* for these checklists.) Using these checklists, group sessions were reviewed and coded by the group leader not involved in that particular group. Due to the flexibility of the treatments, inherent in the active treatment group in particular, a group leader can be adherent but implement content delivery in different ways from group to group (e.g., present content in a slightly different order). Furthermore, all group leaders met on a weekly basis to discuss any problems that may have arisen, any deviations from the group protocols, and to review elements of the protocol relevant to upcoming group meetings.

### **Treatment Protocols**

During the 1<sup>st</sup> group session of each treatment, the facilitators presented a group agreement or “contract” to the group participants that summarized general guidelines for the group and clearly communicated the expectations of group members, such as respecting group confidentiality. (See *Appendix C* for group agreement.) The agreement also outlined how the participants may get the most out of the group and reduce the likelihood of common interpersonal triggers (e.g., rejection, abandonment) occurring in the group environment. The agreement was discussed as a group, any questions were answered, and group participants were asked to sign the document if they agreed with the terms of the agreement. This document was intended to be an agreement for the participants themselves and was not kept by the group leaders.

All groups included 12 weekly sessions comprised of 6-8 participants and were conducted for two hours. One active treatment group and one AP control group ran simultaneously, and the 3 group facilitators co-led an equal number of groups in each treatment condition. Protocols were developed for both treatment conditions; they are summarized below. (See *Tables 1 and 2* for descriptions of the content covered in group sessions. Complete manuals are available upon request.)

#### **Attention Placebo Group**

To control for the effects of common factors (e.g., therapeutic alliance, client expectations) on outcomes, the attention placebo (AP) group included general therapeutic factors. Specifically, the control treatment was designed to provide elements of group therapy that serve as advantages over individual treatment (i.e., peer support, opportunities for sharing information, role modeling, feedback from peers, altruism, instilling hope; Yalom, 1995) while omitting the functional components of the active treatment. In other words, the AP treatment was intended to be a plausible, acceptable control therapy to control for nonspecific treatment effects (e.g., therapist attention, group support).



The AP group had a strictly support and discussion format and provided no instruction on ways to implement behavioral change. The group leader presented the session topic (see Table 1) and the participants discussed, reflected, and expressed feelings related to the topic. If necessary, the group leaders raised specific discussion questions to facilitate group dialogue and participant involvement and they were also provided with minimal didactic material, such as handouts or pamphlets, if group discussion waned. The group leaders did not teach any skills directly, have participants practice any skills in session, or assign homework. All group sessions followed a common format: (a) review of prior session, (b) topic presentation, and (c) group discussion.

### **Acceptance and Commitment Therapy Group**

The ACT group treatment was developed with the help of Dr. James Marchman. An initial draft was written me using ACT protocols from previous research studies and the literature, and then modified with feedback from Dr. Marchman. Core ACT exercises were chosen and adapted to fit the issues involved with this population, emphasizing emotional and behavioral skill enhancement techniques with a particular focus on interpersonal triggers and consequences. The group modules were didactic and experiential, combining psycho-education, in-vivo/imaginal exercises, and behavioral practice. The modules focused on the development of each skill in the group context, skill generalization outside of group, and homework assignments (see Table 2). Throughout the treatment, clients completed daily monitoring forms on the emotional precipitants of their use of problematic interpersonal behaviors, including aggression, as well as the consequences of their behaviors (e.g., the effect of their actions on their relationships). Additional daily monitoring forms were tailored to each particular module, and included identifying emotions and the information provided by these emotions, distinguishing between primary and secondary emotions, identifying the consequences of emotional

Table 1

*Attention Placebo Control Group Protocol*

Session(s)	Topic	Description
1	Introduction	This session will allow time for introductions and an opportunity for patients and facilitators to become acquainted as well as an explanation of the group format and group protocol.
2-3	Relationships	Discussion of relationships and the issues that arise in these relationships: (1) intimate partners, (2) parent-child, (3) extended family, and (4) friends.
4-5	Communication	Discussion of communication styles and how participants typically communicate with their loved ones.
6-7	Problem Management	Discussion of problem-solving and what works for each participant, particularly with regard to solving interpersonal problems.
8-10	Personal Health	Discussion of health related topics, such as eating, exercise, sleep, and other self-care behaviors.
11-12	Review and Closing	These sessions will include: (a) a review of previous group material, (b) a discussion of any remaining issues, and (c) a debriefing and discussion of the overall group experience.

unwillingness versus willingness, and engaging in actions consistent with valued directions.

All sessions followed a common format: (a) mindfulness exercise, (b) review of prior session and between-session assignments, (c) topic presentation, (d) exercises in a variety of formats to facilitate group discussion and application of session materials, and (e) homework assignment.

Table 2

*ACT Treatment Group Protocol*

Session(s)	Topic	Description
1	Introduction and Values	This session included introductions and an opportunity for clients and facilitators to become acquainted as well as an explanation of the group format and group protocol. Facilitators began to lay the foundation for future sessions by assisting clients in identifying and clarifying valued directions (and values were woven throughout all subsequent sessions). Specifically, identifying the kind of relationships they would like to have and how aggressive behaviors are getting in the way of establishing or maintaining those relationships.
2	Mindfulness	Session 2 introduced mindfulness and the purpose of developing this skill, and included experiential exercises to promote ongoing non-judgmental contact with psychological and environmental events as they occur. This is accomplished by using language more as a tool to note and describe events, not simply to predict and judge them.
3-4	Emotional Intelligence	These sessions focused on increasing emotional awareness and clarity. During these weeks, clients were assisted in improving their ability to identify and differentiate between emotional states and their responses to emotions. An emphasis was placed on the functionality of primary emotional responses, and clients were encouraged to identify both the information being provided by their primary emotions, as well as adaptive ways of acting on this information.
5-6	Acceptance	These sessions focused on the development of emotional acceptance, emphasizing the experiential benefits and emotion regulating consequences of emotional acceptance, as well as the potentially paradoxical long-term consequences of emotional avoidance. In addition to receiving psycho-education on the long-term consequences of these approaches, clients were encouraged to actively monitor and assess the different experiential consequences of emotional willingness (i.e., an active process of being open to emotional experiences as they arise) versus emotional unwillingness.

Table 2. Continued

Session(s)	Topic	Description
7-8	Defusion	These sessions focused on understanding the mind and the pros and cons of human language and cognition. Paradox, cognitive distancing, in-session exercises and a variety of other strategies are used to promote defusion experientially. The goal was to reduce participants' entanglement with verbal processes and to change the way they interact with or relate to their thoughts.
9-10	Behavioral Change	These sessions emphasized behavioral change, focusing on further values clarification and identifying barriers to adaptive behavioral change, integrating previous session material as necessary. Group work involved a focus on commitment and engaging in actions consistent with valued directions, with an emphasis placed on moment-to-moment choices in everyday living and process rather than outcome.
11-12	Review and Closing	These sessions included: (a) a review of previous group material, (b) a discussion of any remaining issues, and (c) a debriefing and discussion of the overall group experience.

## CHAPTER 7

### RESEARCH DESIGN AND METHODS

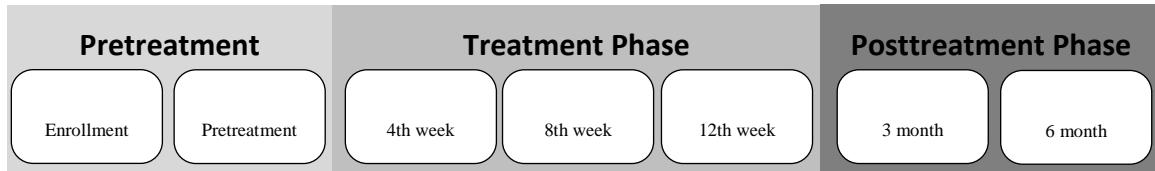
The entire study received Institutional Review Board approval.

#### **Overview of Research Design**

Participants were drawn from a clinical treatment-seeking population and were referred to the study primarily by mental health professionals at various clinics in the community. Eligible participants were randomly assigned to either the ACT treatment condition or to the AP control condition. Both conditions involved a 3-month treatment phase (12 weekly group sessions) and a 6-month follow-up phase (2 follow-up assessments at 3 and 6 months post-treatment). The nonspecific effects of group treatment (common factors such as group cohesion and therapeutic alliance) remained constant across conditions, and the theorized functional components were specific to the active treatment condition. Primary (partner aggressive behaviors) and secondary (depression, interpersonal problems, and social functioning) treatment outcomes and important treatment processes (EA, as well as emotion dysregulation and hostile automatic thoughts) were assessed 6 times total: at baseline, monthly during the 12-week treatment, and at 3- and 6-month follow-up assessments (see Figure 2). This design allowed me to test the hypothesis that participants assigned to the active group treatment condition would exhibit significantly fewer aggressive behaviors over the follow-up period relative to attention placebo control condition participants. This approach also allowed me to identify if and when: (1) a sufficient dose of therapy had been given to change the proposed process variable, (2) changes in this variable reliably occurred in response to identifiable treatment elements, and (3) changes in this variable preceded positive changes in outcome variables (e.g., reduction in aggressive behaviors).

#### **Participants**

Participants were male and female adults drawn from a treatment-seeking population. Participants included in the study were referred to the study primarily by



*Figure 2. Assessment Timeline.*

mental health professionals at various clinics in Iowa City, such as the University Counseling Service, Resource and Action Center, Community Mental Health, and the University of Iowa Hospitals and Clinics Adult Psychiatry. The study did not require a specific diagnostic problem or treatment focus, so participants may have been in mental health treatment for any reason. The referring clinicians provided potentially eligible clients with brochures containing information about the study and a telephone number to call if they were interested or would like further information. The brochures described the group treatment as skills training for individuals experiencing difficulties with emotion regulation and interpersonal relationships. When interested parties called, they were screened for appropriate inclusion criteria. Eligible individuals were required to endorse engaging at least 2 physically aggressive behaviors toward a current or former intimate partner in the past 6 months. Individuals under the age of 18 were not included. In order to ensure that all participants were able to give informed consent and participate actively in the treatment, individuals who reported current psychotic symptoms or who were non-English speaking were excluded.

### **Sample Size and Power Considerations**

The minimum number of participants per condition was determined by a power analysis using Optimal Design Software and procedures outlined by Cohen (1992) on the basis of 0.8 power to detect significant differences ( $p = .05$ , 1-sided). Prior research examining the effects of treatment on partner aggressive behaviors in clinical samples of couples has revealed within-group effect sizes of .30 - 1.0 and between-group effect sizes

of .50 - 1.5 (e.g., Schumm, O'Farrell, Murphy, & Fals-Stewart, 2009; Stith, et al., 2004) on the Conflict Tactics Scale (CTS-2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996) and the Multidimensional Measure Emotional Abuse Scale (MMEA; Murphy & Hoover, 1999). Thus, I estimated an average within group effect size of 1.0 on the CTS and MMEA, measures of physical and psychological aggression respectively, as a measure of clinically significant change in aggressive behaviors. The analysis indicated that a minimum of 28 participants per treatment condition ensured power at .80 for detecting between-group differences. As detailed below, the final N included 50 in the ACT treatment group and 51 in the AP control group.

### **Screening for Eligibility and Enrollment Procedures**

Interested respondents contacted me or a trained member of my research team via phone or E-mail, and a 15-minute phone meeting was scheduled. During this phone conversation, the respondent was provided with an overview of the study protocol and was screened for eligibility based on the inclusion and exclusion criteria. (See *Appendix D* for phone screening script.) Persons who met eligibility requirements and wished to participate were scheduled for an in-person intake appointment. This appointment was a 1-hour meeting with one of the group facilitators at the University of Iowa Seashore Psychology Clinic, during which the facilitator explained study participation and present the Informed Consent Document (ICD; e.g., delineation of possible risk factors, videotaping of group sessions, random assignment to treatment conditions). (See *Appendix E* for ICD.) If the ICD was signed, individual demographics (e.g., age, race, income, education) were collected and the MINI International Neuropsychiatric Interview was administered. Finally, if the group was scheduled to begin within one week, participants completed all process and outcome measures at this appointment. If group was not scheduled to begin within one week, participants scheduled an additional time within one week of the group commencing to come to the clinic to complete the process and outcome measures. Recruitment took place between March 2010 and January 2011.

Enrolled participants were randomly assigned to either the ACT group treatment condition ( $n = 50$ ) or to the AP control condition ( $n = 51$ ). Once 8-10 participants were randomly assigned to treatment conditions, they were contacted and informed of the date and time of group sessions. All participants began receiving treatment no more than 4 weeks after participating in the intake appointment. Figure 3 depicts participant flow through the study. Of the 164 participants who completed the screening procedures, 101 met the initial criteria for inclusion, attended an intake session, and were randomized to either ACT ( $n = 50$ ) or control ( $n = 51$ ). Of the 63 excluded participants, 34 were excluded for not meeting inclusion criteria and 29 declined to participate or could not be reached after the initial screening. Of the 50 participants randomized to ACT, 46 completed the pre-treatment assessment, 41 completed the 4-week mid-treatment assessment, 39 completed the 8-week mid-treatment assessment, 36 completed the post-treatment assessment, 35 completed the 3-month follow-up assessment, and 36 completed the 6-month follow-up assessment. Of the 51 participants randomized to the control group, 48 completed the pre-treatment assessment, 40 completed the 4-week mid-treatment assessment, 40 completed the 8-week mid-treatment assessment, 37 completed the post-treatment assessment, 35 completed the 3-month follow-up assessment, and 33 completed the 6-month follow-up assessment.

### **Treatment and Assessment Procedures**

Groups in both treatment conditions were equivalent in session length, frequency, and format (12 weekly, 2 hour sessions with 6-8 members) to ensure parallel therapeutic contact and degree of exposure to other participants. All group sessions took place in classrooms in Seashore Hall or Spence Laboratories on the University of Iowa campus. Participants were not asked to stop their individual mental health treatment and it was assumed that they continued their individual mental health treatment as usual, including the use of psychotropic medications, as medication utilization was not a focus of the study. (Data on the participants' involvement in individual mental health treatment is

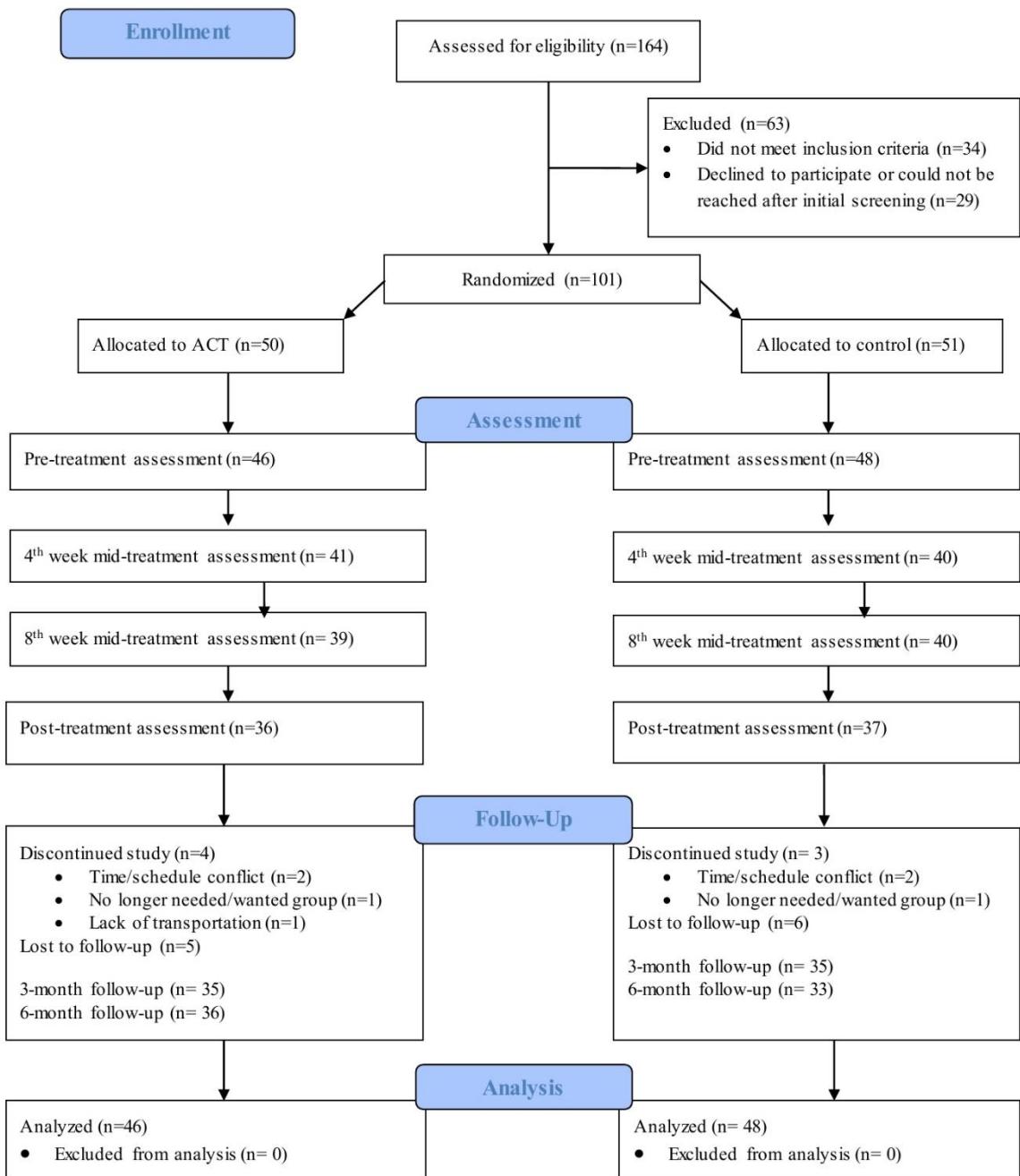


Figure 3. Participant Flow Chart.

presented below). The participants were not compensated for their participation but were offered the treatment at no cost. Treatment procedures were implemented as detailed in Section VI above.

All participants were administered measures at pre-treatment, during the treatment phase, and during the post-treatment follow-up phase, for a total of 7 assessment time points (see *Figure 2*). Specifically, in addition to the MINI diagnostic measure upon enrollment (Assessment 1), all participants were administered process and outcome measures within one week of treatment commencement to establish pretreatment/baseline levels of these variables (Assessment 2). Next, the same process and outcome measures were administered monthly during treatment (Assessments 3-5) and at 3 and 6 months post-treatment for follow-up assessments (Assessments 6-7). A short questionnaire was administered at Assessment point 7 to collect information about the mental health treatment they had been receiving throughout the course of the study. Finally, measures of common factors were administered at Assessment 4 (recent work in this area indicates that an assessment of working alliance and group climate requires at least four treatment sessions to be an accurate assessment; Crits-Christoph, Gibbons, Hamilton, Ring-Kurtz, & Gallop, 2011). The follow-up at 3 and 6 months was a naturalistic follow-up, as participants may or may not have been involved in other forms of treatment. Every effort was made to contact all participants for assessments, including dropouts, and financial incentives were offered for the 3- and 6-month follow-up assessments (\$25 for each follow-up session).

## **Measures**

See Table 3 for a list of all measures and Appendix F for copies of measures.

### **Therapy Checklist**

I created a short measure to assess participants' use of outside therapy with the help of Dr. Marchman and Dr. Lawrence. On this measure, participants rated the extent to which 17 different therapeutic techniques, activities conducted during their therapy

Table 3

*Measures*

Measure	Construct(s)	Type of Variable
MINI	Mood, anxiety, psychotic, and personality disorders	Diagnostic
WAI	Therapeutic working alliance	Common factors
GCQ	Group climate/cohesiveness	Common factors
AAQ	Experiential avoidance	Process
DERS	Experiential avoidance	Process
HAT	Explicit hostile/aggressive cognitions	Process
MMEA	Psychological aggression	Outcome
CTS	Physical aggression	Outcome
IIP	Interpersonal problems	Outcome
IDAS	Depression and anxiety symptoms	Outcome
SAS	Social adjustment	Outcome

sessions, and therapist behaviors are/were a part of their outside therapy during the course of the study on a scale of 1 (not at all) to 5 (always). The measure includes techniques similar to those employed in the present study, as well as techniques used in other therapy models (e.g., CBT, psychodynamic therapy techniques).

**MINI International Neuropsychiatric Interview–Version 6.0.0**

The MINI is a short, structured screening interview that was developed for the *Diagnostic and Statistical Manual of Mental Disorders*, 4th edition (*DSM-IV*; American Psychiatric Association, 1994) and the International Classification of Diseases, 10th edition (ICD-10) psychiatric disorders (Kendler, Gardner, Jacobson, Neale, & Prescott, 2005; Sheehan et al., 1998). The MINI assesses diagnostic criteria for the following disorders: MDD, dysthymia, panic disorder, agoraphobia, social phobia, obsessive-compulsive disorder, posttraumatic stress disorder, psychotic disorder, anorexia nervosa, bulimia nervosa, generalized anxiety disorder, and antisocial personality disorder. It also assesses for suicidal ideation and behavior, mania, and hypomania. The MINI has been

validated against the Structured Clinical Interview for DSM-IV (SCID; First, Spitzer, Gibbon, Williams, & Benjamin, 1996) diagnoses.

### **Working Alliance Inventory— Short Form**

The Working Alliance Inventory (WAI-SF; Hatcher, 2006) is a revision of the 36-item WAI (Horvath & Greenburg, 1989) and is a 12-item self-report measure designed to assess perceptions of the working alliance. The WAI has three subscales: (a) the bond between client and therapist, (b) client and therapist agreement on the goals of treatment, and (c) the extent to which the client and therapist see the tasks of therapy as relevant. Items (e.g., “The group leaders and I respect each other”) are rated on a 7-point scale of agreement ranging from 1 (*never*) to 7 (*always*). Higher total scores on the WAI reflect stronger alliances (possible range: 12-84). Previous research has indicated internal consistency of client ratings of the therapeutic alliance for the WAI Total scores from a sample of 124 client– counselor pairings was .98 and test–retest reliability over a 2-week period was high ( $r = .83$ ) (Tracey & Kokotovic, 1989). The WAI has adequate convergent and predictive validity (Hatcher, 2006). Participants’ perceptions of working alliance with the group facilitators were assessed during the 8<sup>th</sup> week of treatment. The alpha coefficient for this measure in the current study was .94.

### **Group Climate Questionnaire—Short Form**

The Group Climate Questionnaire (GCQ; MacKenzie, 1983) is a self-report measure that purports to assess individual group members’ perceptions of the group’s therapeutic environment. The GCQ contains 12 items rated on a 7-point Likert scale indicating extent of agreement, ranging from *not at all* (0) to *extremely* (6). The items were summed to create a total score, with higher scores indicating greater group cohesion (possible range: 0-72). The GCQ consists of items designed to assess behavioral descriptions of group climate in clear simple language, such as self-disclosure, cognitive understanding, confrontation, interpersonal conflict, and distrust (MacKenzie, 1983). The

GCQ is one of the most widely used instruments across a variety of settings and has been shown to be related to symptomatic improvement realized by group members (Burlingame, MacKenzie, & Strauss, 2003). Construct validity of the GCQ has been tested extensively, with links to outcome, process, and group differences and Cronbach's alphas for the subscales range from .88 to .94 (e.g., Kanas & Ziegler, 1984; Kivlighan & Goldfine, 1991; Tschuschke & Greene, 2002). The GCQ was chosen because it is the most commonly used measure of group climate, is well-studied with known psychometric properties, and is brief and easy to administer. Participants' perceptions of the group therapeutic environment were assessed during the 8<sup>th</sup> week of treatment. The alpha coefficient for this measure in the current study was .89.

### **Acceptance and Action Questionnaire-II**

The Acceptance and Action Questionnaire-II (AAQ-II; Bond et al., 2011) is a 10-item measure of experiential avoidance, or the tendency to avoid unwanted internal experiences (e.g., "I try hard to avoid feeling depressed or anxious"), as well as acceptance, the term used to describe the counter process (e.g., "My thoughts and feelings do not get in the way of how I want to live my life"). Participants are asked to rate how true each statement has been for them in the past month on a 7-point Likert scale (1 = never to 7 = always). Items are scored so that high scores on this measure are indicative of experiential avoidance and low scores are indicative of acceptance (possible range: 10-70). The AAQ-II has adequate internal consistency ( $\alpha=.70$ ) and adequate convergent, discriminant and concurrent validity. The alpha coefficients for this measure in the current study ranged from .86 to .92 across assessments.

### **Difficulties in Emotion Regulation Scale**

The Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004) is a 36-item measure that assesses individuals' typical levels of emotion dysregulation across 6 domains: non-acceptance of negative emotions, inability to engage in goal-directed behaviors when experiencing negative emotions, difficulties controlling impulsive

behaviors when experiencing negative emotions, limited access to emotion regulation strategies perceived as effective, lack of emotional awareness, and lack of emotional clarity. Participants were asked to rate how often each item has applied to them in the past month on a 5-point Likert scale (1 = almost never to 5 = almost always), and items were summed to create a total score (possible range: 36-180). The DERS has high internal consistency ( $\alpha=.93$ ), good test-retest reliability, and adequate construct and predictive validity (Gratz & Roemer, 2004). The alpha coefficients for this measure in the current study ranged from .90 to .94 across assessments.

### **Hostile Automatic Thoughts Scale**

The Hostile Automatic Thoughts (HAT) Scale (Snyder, Crowson, Houston, Kurylo, & Poirier, 1997) is a 30-item self-report measure designed to measure the frequency of automatic hostile cognitions. The frequencies with which specific hostile thoughts are experienced are rated on a 5-point Likert scale ranging from *not at all* to *all the time* across three subscales: physically aggressive thoughts, derogation of others, and revengeful thoughts (e.g., “What an idiot!” “I’ll show this person,” “I want to hit this person”). Internal consistencies for the subscales range from .88 to .92, and convergent and discriminant validity have been demonstrated through comparisons with other measures of hostility, anger, and positive thoughts (Snyder et al., 1997). The total score was used in the present study (possible range: 30-150). The alpha coefficients for this measure in the current study ranged from .86 to .89 across assessments.

### **Multidimensional Measure Emotional Abuse Scale**

The Multidimensional Measure Emotional Abuse (MMEA) Scale (Murphy & Hoover, 1999) is a 28-item scale assessing perpetration of emotional abuse, or psychological aggression as defined in this study. Four subscales have been rationally derived: *dominance/intimidation*, *restrictive engulfment*, *denigration*, and *hostile withdrawal*. The dominance/intimidation subscale has 7 items that measure threats (e.g., “threatened to hit the other person”), destruction of property (e.g., “threw, smashed, hit,

or kicked something in front of the other person”), and frightening behavior (e.g., “became angry enough to frighten the other person). The restrictive engulfment subscale includes 7 items assessing behaviors that may isolate the partner (e.g., “tried to stop the other person from seeing certain friends or family members”), restrict the partner’s activity (e.g., “complained that the other person spends too much time with friends”) and represent displays of jealousy (e.g., “checked up on the other person by asking friends where she/he was or whom she/he was with”). The denigration subscale includes 7 items assessing behaviors that are humiliating (e.g., “belittled the other person in front of other people”), and degrading (e.g., “said or implied the other person was stupid”). Finally, the hostile withdrawal subscale consists of 7 items assessing withdrawing behaviors intended to communicate displeasure or intended to punish the other person (e.g., “acted cold or distant when angry”). Participants rated how often they engaged in various types of behaviors on 7-point scales (0 = never to 6 = 20 times or more). Sum scores were calculated by adding the midpoints for each response category across tactics (e.g., for a response choice of 6-10x, the midpoint of 8 was used as the score). The psychometric properties of the MMEA have been tested in a sample of female college students and a sample of aggressive men in treatment, with  $\alpha$ s ranging from .83 to .94 (Murphy & Hoover, 1999; Taft et al., 2003). In a longitudinal study of couples, mean interspousal agreement correlations were .52 and alpha correlations were over .83 (Ro & Lawrence, 2007). At the pre-treatment interview, participants answered MMEA items in reference to the previous 3 months. For administrations of the MMEA occurring after treatment commencement, item wording was modified to refer to behaviors occurring since the last assessment (past 4 weeks during treatment, past 3 months at each follow-up assessment). Therefore, scores reflecting the past 3 months were divided by 3 so all scores reflect an average score per month. The alpha coefficients for this measure in the current study ranged from .81 to .92 across assessments.

### **Conflict Tactics Scales–2-Physical Assault Scale**

The Conflict Tactics Scales–2 (CTS-2; Straus et al., 1996) consists of 12 items assessing physical violence perpetration (e.g., “slapped” and “slammed against wall”). Participants rated how often they engaged in each behavior on 7-point scales (0 = never to 6 = 20 times or more). Composite scores were calculated by adding the midpoints for each response category across tactics (e.g., the midpoint 4 for 3-5 times), as recommended by Straus et al. (1996). As categorized by Straus et al. (1996), the CTS includes both mild or moderate acts (e.g., slapping; grabbing) and severe acts (e.g., kicking, choking). Straus and colleagues found the subscales to have good internal consistency in a sample of college students (alphas ranged from .86 - .95 across the subscales to be used for perpetration). At pre-treatment, participants answered CTS-2 items in reference to aggressive behavior that occurred during the previous 3 months. For administrations of the CTS-2 occurring after treatment commencement, item wording was modified to refer to behaviors occurring since the last assessment (past 4 weeks during treatment, past 3 months at each follow-up assessment). Therefore, scores reflecting the past 3 months were divided by 3 so all scores reflect an average score per month. The alpha coefficients for this measure in the current study ranged from .76 to .88 across assessments.

### **Inventory of Depression and Anxiety Symptoms**

The Inventory of Depression and Anxiety Symptoms (IDAS; Watson et al., 2007) is a factor analytically derived, multidimensional inventory that uses a 5-point Likert scale to assess the experience of symptoms over the past 2 weeks (1 = not at all to 5 = extremely). The IDAS has strong internal consistency reliability, with median coefficient alphas greater than .80 (Watson et al., 2007). The IDAS has shown good convergent and discriminant validity with diagnoses and self-report measures, as well as good short-term retest reliability in a psychiatric patient sample (Watson et al., 2007, 2008). The 20-item General Depression scale was used in the current study. This scale includes 10 Dysphoria

items, as well as 2 items each from the Suicidality, Lassitude, Insomnia, Appetite Loss, and Well-Being subscales. Items were summed to obtain a General Depression score (possible range: 20-100). The alpha coefficients for this measure in the current study ranged from .87 to .93 across assessments.

### **Inventory of Interpersonal Problems**

Interpersonal functioning was assessed with the 32-item short form of the Inventory of Interpersonal Problems IIP (IIP –32; Barkham, Hardy, & Startup, 1996; shortened from Horowitz, Rosenberg, Baer, Ureno, & Villasenor's, 1988, 127-item measure), which includes eight subscales: Dominant, Vindictive, Overly Cold, Socially Avoidant, Nonassertive, Exploitable, Overly Nurturant, and Intrusive. Participants were asked to indicate how often each type of interpersonal behavior is a problem on a 5-point Likert scale (0 = never to 4 = always); higher scores indicate increasing difficulties experienced. Horowitz (1999) reported internal consistency for the eight subscales in outpatient sample ranging from .88 to .89, test-retest reliability ranging from .71 to .98, discrimination from a measure of symptomatology, and sensitivity to change in clinical settings. For the present study, the sum of the item scores was used as an index of severity of interpersonal problems (possible range: 0-128). This measure was included in the study because it is one of the most frequently used instruments in psychotherapy outcome research (e.g., Strupp, Horowitz, & Lambert, 1997), including studies of treatments for aggression (e.g., Lawson & Brossart, 2009). The alpha coefficients for this measure in the current study ranged from .86 to .90 across assessments.

### **Social Adjustment Scale-Self-Report**

The Social Adjustment Scale (SAS Weissman & Bothwell, 1976) is a comprehensive measure of social functioning and, as such, is one of the most widely used measures of social functioning. The SAS covers role performance, interpersonal relationships, friction, feelings and satisfaction in work, and social and leisure activities with the extended family, as a spouse, parent, and member of a family unit. The questions

within each area cover performance at expected tasks, friction with people, finer aspects of interpersonal relationships, and feelings and satisfactions. Each item is scored on a 5-point scale with higher scores indicating poorer functioning, and skip-outs are included so that nonapplicable items are omitted. Total SAS score is calculated by averaging all applicable items (possible range: 1-5). The scale has shown internal consistency ( $\alpha = .77$ ), 1-week test-retest reliability ( $r = .83$ ), and sensitivity to detecting intervention effects (Burton & Stice, 2006; Stice, Shaw, Burton, & Wade, 2006). The alpha coefficients for this measure in the current study ranged from .79 to .87 across assessments.

### **Data Analytic Strategy**

All analyses were conducted with growth curve analytic techniques (Raudenbush & Bryk, 2001), which are ideally suited to multi-wave data, and performed with hierarchical linear modeling software (Version 6.04; Raudenbush, Bryk, Cheong, Congdon, & du Toit, 2004). Advantages include the ability to retain cases for which missing data are present, which permitted analysis of the full, intent-to-treat (ITT) sample—that is, using all available data from all randomized subjects as allocated. Therefore, for the ITT analysis, all data points for participants who were randomized were entered into the model. Completer results are only reported when different than ITT results, and include participants who completed treatment and at least one subsequent assessment. In addition, the ability of the multilevel framework to examine the effects of both individual and group level variables allows the possibility of conducting analyses to examine multilevel mediation.

Growth curve analyses allow for a 2-level process in data analysis. The dependent variables are investigated in a Level 1 model that captures individual growth trajectories plus error. The trajectory is specified as a function of time and contains two important individual growth parameters - an intercept and a slope - that determine the shape of true growth over time. The *intercept* represents the net “elevation” of the trajectory over time,

whereas the *slope* represents the rate of change over time. A Level 2 model is added to investigate the relations between Level 1 parameters and between-subjects factors. In the present study, levels and changes in aggressive behaviors, additional outcome variables, and process variables over time (Level 1) were examined by group membership (Level 2). The outcome and process variables were composed of 6 repeated measurements for each individual (Level 1) nested within groups (Level 2). These data were modeled as continuous variables according to a linear polynomial term with values of 0, 1, 2, 3, 6, 9, corresponding to the 6 assessments across 9 months: pre-treatment (0), during treatment (1, 2, 3) and follow-up (6, 9). For pre-post analyses, the assessments were set at (3) so that the intercept represented the last session, or post-treatment. For follow-up analyses, the intercept was shifted to the last follow-up (9) to facilitate group comparisons at those time points. Treatment condition was coded at Level 2 such that ACT = 1 and control = 0.

The first stage of the multi-level analysis entailed computing within-subject associations of all variables, and group differences in these associations, using a mixed-model approach. Independent samples *t*-tests and chi-square analyses were conducted to examine baseline differences between treatment conditions on all variables. Intercept and measurement time were included as random effects to allow for heteroscedasticity and autocorrelation of within-person measures (e.g., Singer & Willett, 2003). Linear, quadratic, and mean-and-variance models for each variable were estimated and compared to determine the best fitting models for the data. This is done by comparing models with linear and quadratic change terms. The HLM program provides fit statistics for each model that are compared to assess whether models with the linear or quadratic change terms provide a better fit to the data than the baseline model. If the omnibus test is significant, the individual fixed and random effects are examined for significance; fixed effects are average effects (e.g., average change over time), whereas random effects refer to individual effects (e.g., individual variability in change over time). For example, if the

omnibus test for the linear model is significant, there is significant linear change over time on average, significant individual variability in that change over time, or both. Thus, analyses were conducted with the best model to address whether slopes regressed on time are (a) significantly different from 0 and (b) show sufficient variation across cases to allow for predictive (Level 2) analyses. To conduct ITT analyses, a zero slope was assumed for each case that did not have at least 1 assessment beyond the pre-treatment baseline. Models were computed to estimate the degree to which attrition cases differed from non-attrition cases on key outcomes and processes (see below for detailed discussion of attrition and missing data). Please see Table 3 for a list of the measures that were used to operationalize each construct tested under each aim.

## CHAPTER 8

### RESULTS

#### **Enrollment and Baseline Characteristics**

Table 4 presents baseline demographic characteristics of the ITT sample ( $n = 101$ ). The mean age of participants was 31.45 years ( $SD = 7.39$ ), with ages ranging from 19 to 67 years. Commensurate with the local population, the majority of participants was Caucasian (82%). Sixty-eight percent (68%) of participants in the study were female, a percentage that is similar to that reported in other recent outpatient group treatment outcome studies for anxiety (61%; Price & Anderson, 2011) and borderline personality disorder (81%; Pistorello, Fruzzetti, MacLane, Gallop, & Iverson, 2012). In general, the sample was educated; most participants (86.3%) had completed some or all of college. Almost all participants (89%) were in a self-identified heterosexual romantic relationship at pre-treatment: 42% were engaged or married, 27% were dating, and 20% were cohabiting. Based on the MINI diagnostic tool, participants met criteria for a range of disorders, including any mood disorder (85%), substance use disorder (19%), social phobia (46%), generalized anxiety disorder (64%), borderline personality disorder (71%), and antisocial personality disorder (2%). The modal number of diagnoses was 3 ( $M = 3.23$ ,  $SD = 1.76$ ). There were no differences on demographic variables between men and women, with the exception that, on average, women in the study tended to be older ( $M = 34.36$ ) than men in the study ( $M = 30.13$ ),  $t(101) = 5.15$ ,  $p <.05$ . All analyses were collapsed across men and women.

#### **Psychometric Data**

Data for all variables generated normal distributions. Means and standard deviations of scores on all measures can be found in Table 5. Emotion dysregulation scores on the DERS at pre-treatment (mean = ~127) were higher than those previously reported in a sample of undergraduate students (Shorey, Cornelius, & Idema, 2011), but commensurate with those reported by Gratz and Tull (2011) in a sample of women

Table 4

*Participant Characteristics at Pretreatment*

Variable	Total (n = 101)	ACT (n = 50)	Control (n = 51)
Age (years), <i>M</i> ( <i>SD</i> )	31.45 (7.39)	31.63 (6.94)	31.27 (7.78)
Female (%)	68	69	67
Relationship Status (%)			
Engaged or married	42	41	43
Cohabiting	20	22	18
Dating	27	28	26
Single	11	9	13
Race/ethnicity (%)			
African American	10	12	8
Asian	4	3	5
Hispanic	2	2	2
Other	2	3	1
White	82	80	84
Current Disorder (%)			
Any mood disorder	85	86	84
Any SUD	19	17	21
Social phobia	46	44	48
GAD	64	66	62
BPD	71	73	69
ASPD	2	2	2

*Note.* SUD = Substance Use Disorder, GAD = Generalized Anxiety Disorder, BPD = Borderline Personality Disorder, ASPD = Antisocial Personality Disorder

diagnosed with BPD. Levels of experiential avoidance at pre-treatment (mean = ~46) as measured by the AAQ were comparable to those previously reported in a sample of outpatients seeking psychological treatment for substance misuse (Bond et al., 2011). The developers of the AAQ found mean norms for nonclinical populations ranged from 30 to 34 (*SD* = 7.38) and a mean of 44 as an upper-quartile score for clinical populations. In addition, scores on both the AAQ and the DERS at pre-treatment were similar to those obtained from a clinical sample in a study evaluating a group treatment for self-harm (Gratz & Gunderson, 2006). Scores from the CTS Physical Assault Scale at pre-treatment were higher than those reported in a sample of community couples (Rauer & El-Sheikh, 2012). Similarly, scores on the MMEA were higher than those obtained from a

Table 5

*Means (and Standard Deviations) for Process and Outcome Variables across Assessment Points*

Measures	Condition	Pretreatment (n = 94)	4 week (n = 81)	8 week (n = 79)	12 week (n = 73)	3 mo follow-up (n = 70)	6 mo follow-up (n = 68)
Experiential Avoidance (AAQ-II)	ACT	46.22 (8.14)	48.58 (7.79)	40.52 (7.43)	38.02 (7.63)	32.89 (7.25)	29.72 (6.54)
	AP	45.63 (7.02)	44.57 (8.65)	46.78 (8.03)	45.32 (7.99)	43.67 (6.84)	43.26 (7.16)
Emotion Dysregulation (DERS)	ACT	126.99 (18.90)	123.65 (19.78)	108.46 (20.42)	94.39 (21.65)	80.79 (19.54)	82.73 (21.49)
	AP	128.65 (19.21)	129.43 (18.32)	122.68 (17.91)	120.82 (18.38)	118.93 (20.28)	114.45 (19.88)
Hostile Cognitions (HAT)	ACT	64.85 (20.80)	62.68 (19.45)	59.71 (21.97)	56.45 (20.74)	55.92 (19.83)	52.18 (18.55)
	AP	61.79 (19.65)	62.26 (21.83)	60.87 (20.59)	59.40 (21.54)	57.46 (20.36)	56.99 (19.76)
Psychological Aggression (MMEA)	ACT	45.46 (27.44)	40.30 (26.32)	37.64 (28.92)	30.07 (26.11)	24.99 (21.56)	18.13 (19.45)
	AP	44.23 (30.01)	42.95 (27.87)	42.53 (25.00)	40.62 (27.73)	38.00 (26.41)	38.24 (22.23)
Physical Aggression (CTS-2)	ACT	6.89 (5.34)	5.04 (6.12)	4.87 (5.83)	3.82 (4.97)	2.76 (5.80)	2.20 (5.61)
	AP	6.01 (6.22)	5.93 (6.84)	5.55 (6.25)	5.27 (6.44)	5.58 (6.04)	5.69 (5.32)
Interpersonal Problems (IIP)	ACT	51.24 (21.89)	54.70 (22.61)	49.69 (22.04)	44.48 (19.65)	40.02 (21.71)	37.47 (19.43)
	AP	52.11 (20.38)	54.22 (20.43)	52.56 (21.90)	49.70 (22.76)	44.67 (20.83)	42.59 (18.42)
Depression (IDAS)	ACT	57.14 (14.62)	54.23 (13.27)	53.79 (14.31)	45.47 (14.92)	44.00 (15.52)	40.98 (13.45)
	AP	56.57 (15.98)	55.89 (14.54)	54.07 (15.80)	52.63 (16.83)	49.33 (14.64)	49.26 (11.78)
Social Functioning (SAS)	ACT	2.82 (.39)	2.57 (.45)	2.49 (.40)	2.33 (.38)	2.17 (.54)	2.03 (.70)
	AP	2.78 (.43)	2.79 (.52)	2.73 (.61)	2.60 (.44)	2.53 (.67)	2.52 (.72)

community sample of couples (Lawrence, et al, 2009). CTS, MMEA, and HAT scores at pre-treatment were lower than those previously reported in a sample of male domestic violence offenders (Eckhardt, Holtzworth-Munroe, Norlander, Sibley, & Cahill, 2008). These data indicate that the levels of physical and psychological aggression in the current sample represent what we would expect in a clinical sample. The rates are greater than rates found in community samples but lower than rates found in forensic populations.

Average scores on the IIP at pre-treatment (mean = ~51) were in the clinical range, according to a cutoff score of 48 previously reported by Barkham et al. (1996) in a sample of depressed patients. Participants' mean scores on the IDAS Depression subscale at the outset of the study were commensurate with those reported in a psychiatric sample (Watson et al., 2007). On the SAS, participants in the present study reported moderate functional impairment on average; however, there was quite a range in functional status, with participant reports ranging from mild impairment to severe disability. The average score on the SAS at pre-treatment (mean = ~2.80) was similar to that of psychiatric patients diagnosed with major depressive disorder (Gameroff, Wickramaratne, & Weissman, 2012).

Correlations among variables at pre-treatment can be found in Table 6. One-way analyses of variance and chi-squared analyses revealed that demographic variables did not show any significant relations with process or outcome measures. Furthermore, the ACT and control groups did not significantly differ on any demographic characteristic or diagnoses, and no significant pretreatment differences emerged on the process or outcome measures ( $F_s < .77$ ,  $ps > .46$ ). Thus, covariates were not included in the primary analyses. Moreover, there were no differences between groups on the Working Alliance Inventory (WAI; Hatcher, 2006) or the Group Climate Questionnaire (GCQ; MacKenzie, 1983). On average, participants across both groups reported strong working alliance and high group cohesion; the mean WAI rating provided by participants was 52.15 (max = 84;  $SD = 4.89$ ) and the mean rating for group cohesion was 44.91 (max = 72;  $SD = 3.65$ ).

Table 6

*Correlations between Raw Scores at Pretreatment*

	AAQ	DERS	HAT	MMEA	CTS	IIP	IDAS	SAS
AAQ	—	.58**	.37**	.47**	.52**	.41**	.43**	.51**
DERS		—	.51*	.42**	.46**	.44**	.44**	.45**
HAT			—	.34*	.37*	.26*.	.35**	.27*
MMEA				—	.59**	.44**	.51**	.43**
CTS					—	.56**	.61**	.58**
IIP						—	.82**	.62**
IDAS							—	.65**
SAS								—

Note. N = 101. \*p < .05; \*\*p < .01. AAQ = Acceptance and Action Questionnaire, DERS = Difficulties in Emotion Regulation Scale, HAT = Hostile Automatics Thoughts Scale, MMEA = Multidimensional Measure of Emotional Abuse, CTS = Conflict Tactics Scale, IIP = Inventory of Interpersonal Problems, IDAS = Inventory of Depression and Anxiety Symptoms, Depression Subscale, SAS = Social Adjustment Scale.

### **Treatment Attrition and Missing Data**

Of the ITT sample (the 101 participants randomized to treatment), 62% completed the full 12 sessions of therapy, including 64% (32/50) in the ACT condition and 59% (30/51) in the control condition. The additional 39 participants received a partial dose of therapy; 32 participants attended 2-11 therapy sessions, including 16 in each condition (32% of ACT condition and 31% of control condition), and 7 participants attended 0 or 1 session and then discontinued participation in the study, comprising 4 participants in the ACT condition (8%) and 3 participants in the control condition (6%). As indicated in Figure 3, reasons for discontinuing included time/schedule conflicts, no longer needing or wanting the group therapy, and a lack of transportation. One-way analyses of variance and chi-squared analyses revealed that the portion of participants who did not complete the full 12 sessions did not differ by treatment condition, demographics, or on process or outcome measures ( $Fs < .64$ ,  $ps > .53$ ). The total number of sessions attended did not differ by treatment condition (ACT  $M = 9.72$ , control  $M = 9.51$ ). Of the 7 assessment points, the majority of participants (89%) had 2 or fewer sessions of missing data. Finally, the presence of missing data did not predict any of the process or outcome measures ( $Fs < .83$ ,  $ps > .25$ ).

### **Treatment Integrity**

All group sessions were audio recorded. Treatment integrity was evaluated using the rating scales mentioned above (*see Appendix B*), which include criteria rated on a 1 (non-adhering) to 5 (excellent adherence) scale. The checklists for both groups showed good internal consistency (coefficient alphas: ACT = .82, control = .85). A team of three raters trained to reliability (mean intraclass correlation coefficients = .73). In the present study, the average rating for the ACT scale was 3.87 and the average rating for the control group scale was 4.02. Studies vary on cutoff scores used to establish adherence; using 4.0 as a cutoff score, facilitators were rated as adherent on 92% percent of the ACT tapes and 94% of the control tapes. Overall, this pattern of results shows that the ACT

and control conditions were distinct and implemented in accord with their respective treatment protocols.

### **Use of Additional Psychotherapy**

The groups did not differ in frequency of outside therapy use at either post-treatment or at the 3-month follow-up ( $p < .27$ ). At the 6-month follow-up, however, participants in the ACT condition reported greater use of psychotherapy than participants in the control group ( $B = 1.39$ ,  $p = .05$ ). Among participants who utilized outpatient treatment, the average number of sessions was 14 ( $SD = 10.90$ ) in the control group and 18 ( $SD = 12.87$ ) in the ACT group. Therefore, psychotherapy use (i.e., number of individual therapy sessions attended) was covaried in all subsequent analyses. Furthermore, the Therapy Checklist revealed no significant differences between groups on the nature of outside therapy received; participants across groups reported similar types and amount of therapist behaviors and therapy activities. For example, the most common items endorsed included “My therapist encourages me to express my thoughts and feelings in our therapy sessions” and “My therapist focuses on direct ways to reduce symptoms of distress.”

### **Baseline Models**

Linear and quadratic models for each variable were estimated and compared to determine the best fitting models for the data. For psychological aggression, a chi-square comparison test between the deviance fit statistics for the linear and quadratic models indicated that the linear model was a significantly better fit to the data than the quadratic model,  $\chi^2(97) = 238.05$ ,  $p < .001$ . The same procedure was then repeated for the physical aggression data. Similarly, a linear model was a significantly better fit to the data than the quadratic model,  $\chi^2(97) = 176.61$ ,  $p < .001$ . For both linear models (for psychological aggression scores and for physical aggression scores), the significant chi-square tests indicated that there was significant variance in all parameters to support linear models of change in both psychological and physical aggression. Thus, linear models were used as

the baseline models for all subsequent analyses with psychological aggression (MMEA) or physical aggression (CTS) as the outcome.

Next, linear models examining the slopes of psychological and physical aggression were tested (see Table 7). These models were estimated successfully, providing reliable estimates of all of the model parameters. Reliability is defined as the proportion of variance in each parameter that can be treated as meaningful variance. The reliability coefficients of the intercepts (aggression at post-treatment) were .93 for psychological aggression and .81 for physical aggression. The reliability estimates of the slope parameters (rate of change over time) were .85 for psychological aggression and .79 for physical aggression. Growth curve analyses use only the reliable variance in the parameters for coefficient estimation. Descriptive statistics for each parameter of the linear models are also presented in Table 7. The hypotheses that the mean of each parameter differs significantly from zero were tested using *t* tests, as recommended by Raudenbush and Bryk (2001). The *t* tests indicated that the slopes significantly differed from zero and were negative, demonstrating there were significant linear declines in psychological aggression,  $\beta = -4.56$ ,  $SE = 1.79$ , ( $t(97) = -6.25$ ,  $p < .001$ ) and physical aggression,  $\beta = -5.24$ ,  $SE = 2.51$ , ( $t(97) = -5.90$ ,  $p < .001$ ) from pre-treatment to post-treatment. The same held true for pre-treatment to 6-month follow-up for both psychological aggression,  $\beta = -5.63$ ,  $SE = 1.82$ , ( $t(97) = -6.41$ ,  $p < .001$ ) and physical aggression,  $\beta = -5.71$ ,  $SE = 2.34$ , ( $t(97) = -7.35$ ,  $p < .001$ ). Finally, the chi-square statistic in the rightmost column represents a test of whether the residual variance of the parameter is significantly different from zero. The significant chi-square statistics for psychological and physical aggression indicate that there is significant variance in all of the parameters to support a linear model of change from pre-treatment to 6-month follow-up for both psychological and physical aggression.

Table 7

*Baseline Linear Models of Psychological and Physical Aggression*

Measure	<i>M</i>	<i>SD</i>	Reliability	<i>t</i> (97)	$\chi^2$ (97)
Intercepts					
Psychological aggression	2.37	6.56	.93		726.38*
Physical aggression	1.26	3.01	.81		962.30*
Slopes					
Psychological aggression	-.12	.15	.85	-6.41*	427.91*
Physical aggression	-.09	.11	.79	-7.35*	523.86*

*Note.* Intercepts represent scores at post-treatment. Slopes represent rates of change from pre-treatment to 6-month follow-up.

\* $p < .001$ .

### Primary Analyses

#### **Aim 1: Does the Active Group Treatment Significantly Affect Aggressive Behaviors?**

Two models were used to examine changes in aggressive behaviors between the ACT and control group over the course of the study: one to examine pre- to post-treatment and a second to examine pre-treatment to follow-up. Although it was hypothesized that treatment gains would be maintained post-treatment, any changes during follow-up period were examined via exploratory analyses. These Level 1 parameters were predicted by group membership in the Level 2 equations, to determine whether significant differences exist between groups on levels or changes in aggressive behaviors. The Level 1 equations for the outcome variables stayed the same as in the preliminary analyses above, and the following Level 2 equation was added:

$$\text{Level 1: } Y_{i+1,j} \text{ (Outcome Variable)} = \beta_{0j} \text{ (Intercept)} + \beta_{1j} \text{ (Time)} + r_{ij}$$

$$\text{Level 2: } \beta_{0j} \text{ (Intercept)} = \gamma_{00} + \gamma_{01} \text{ (Treatment Condition)} + u_{0j}$$

$$\beta_{1j} \text{ (Slope)} = \gamma_{10} + \gamma_{11} \text{ (Treatment Condition)} + u_{1j}$$

When comparing ACT to the control condition, analyses revealed a significant interaction between time and treatment condition in predicting both psychological and

physical aggression. Specifically, participants in ACT reported significantly less psychological aggression,  $\beta = 1.15$ ,  $SE = 0.68$ , ( $t(97) = 7.43$ ,  $p < .001$ ) and physical aggression,  $\beta = 1.45$ ,  $SE = 0.59$ , ( $t(97) = 7.11$ ,  $p < .001$ ) at post-treatment than participants in the control group. The ACT participants also reported significantly less psychological aggression,  $\beta = 2.05$ ,  $SE = 0.71$ , ( $t(97) = 8.33$ ,  $p < .001$ ) and physical aggression,  $\beta = 2.21$ ,  $SE = 0.65$ , ( $t(97) = 8.19$ ,  $p < .001$ ) at the 6-month follow-up assessment. (See Table 8 for all group comparisons of intercepts at post-treatment and 6-month follow-up). Furthermore, rates of change differed between groups from pre-treatment to the 6-month follow-up. Participants in the ACT condition reported greater declines in psychological and physical aggression from pre-treatment to 6-month follow-up, with steeper slope declines on the MMEA,  $\beta = 2.21$ ,  $SE = 0.74$ , ( $t(97) = 3.59$ ,  $p < .01$ ) and the CTS,  $\beta = 2.35$ ,  $SE = 0.89$ , ( $t(97) = 6.22$ ,  $p < .01$ ). (See Table 9 for all group comparisons of slopes from post-treatment to 6-month follow-up).

### **Aim 2: Does the Active Group Treatment Affect the Theoretically-Relevant Process Variables?**

Two models were used to examine changes in experiential avoidance over the course of the study: one to examine pre- to post-treatment and a second to examine pre-treatment to follow-up. The Level 1 process variables were first examined for changes from pre- to post-treatment and from pre-treatment to follow-up. Level 1 parameters were then predicted by group membership in the Level 2 equation to determine whether significant differences exist between groups on levels or changes in process variables.

$$\text{Level 1: } Y_{i+1j} \text{ (Process Variable)} = \beta_{0j} \text{ (Intercept)} + \beta_{1j} \text{ (Time)} + r_{ij}$$

$$\text{Level 2: } \beta_{0j} \text{ (Intercept)} = \gamma_{00} + \gamma_{01} \text{ (Treatment Condition)} + u_{0j}$$

$$\beta_{1j} \text{ (Slope)} = \gamma_{10} + \gamma_{11} \text{ (Treatment Condition)} + u_{1j}$$

Table 8

*Linear Regression Statistics of Group Comparisons: Intercepts at Posttreatment and 6-Month Follow-Up*

	$\beta$	SE	<i>t</i>
ACT vs. control (posttreatment)			
Psychological aggression	1.15	0.68	7.43**
Physical aggression	1.45	0.59	7.11**
Depression	2.36	1.51	3.82*
Interpersonal problems	0.91	0.37	1.60
Social adjustment	3.58	1.63	4.36**
ACT vs. control (6-month follow-up)			
Psychological aggression	2.05	0.71	8.33**
Physical aggression	2.21	0.65	8.19**
Depression	3.22	1.78	2.98*
Interpersonal problems	1.03	0.45	1.73
Social adjustment	4.31	1.87	4.32**

\**p* < .01. \*\**p* < .001.

Table 9

*Linear Regression Statistics of Group Comparisons: Slopes from Pretreatment to 6-month Follow-Up*

	$\beta$	SE	<i>t</i>
ACT vs. control			
Psychological aggression	2.21	0.74	3.59*
Physical aggression	2.35	0.89	6.22*
Experiential avoidance	3.85	0.72	3.54**
Emotion dysregulation	3.53	1.26	2.91*
Hostile automatic thoughts	0.95	0.15	1.39
Depression	2.29	1.73	3.67**
Interpersonal problems	0.49	0.42	1.89
Social adjustment	2.74	1.68	3.95*

\**p* < .01. \*\**p* < .001.

First, these analyses were conducted examining experiential avoidance (AAQ) as the process variable. AAQ scores significantly declined from pre-treatment to 6-month follow-up among participants in the ACT condition,  $\beta = -2.16$ ,  $SE = 1.23$ ,  $(t(46) = -5.16$ ,  $p < .001$ ) but not in the control group,  $\beta = -0.08$ ,  $SE = 0.12$ ,  $(t(48) = -.48$ ,  $ns$ ). When comparing ACT to the control condition, there was a significant interaction between time and treatment condition in predicting experiential avoidance such that participants in ACT reported significantly less experiential avoidance at post-treatment than participants in the control group,  $\beta = 3.68$ ,  $SE = 1.62$ ,  $(t(97) = 7.46$ ,  $p < .001$ . These gains continued to the 6 month follow-up, with ACT participants reporting significantly less experiential avoidance,  $\beta = 4.08$ ,  $SE = 1.96$ ,  $(t(97) = 9.52$ ,  $p < .001$ . Furthermore, participants in the ACT condition showed steeper declines in experiential avoidance from pre-treatment to post-treatment,  $\beta = 3.36$ ,  $SE = 0.54$ ,  $(t(97) = 2.80$ ,  $p < .01$ ) and from pre-treatment to the 6-month follow-up,  $\beta = 3.85$ ,  $SE = 0.72$ ,  $(t(97) = 3.54$ ,  $p < .001$ ).

These analyses were then repeated with the other process variables: the emotion dysregulation measure (DERS) and the hostile automatic thoughts measure (HAT). Results for the DERS indicated that emotion dysregulation scores declined from pre-treatment to 6-month follow-up among participants in the ACT condition,  $\beta = -1.54$ ,  $SE = 0.61$ ,  $(t(46) = -3.21$ ,  $p < .05$ ) but not among participants in the control condition,  $\beta = -0.25$ ,  $SE = 0.16$ ,  $(t(48) = -1.02$ ,  $ns$ ). When comparing ACT to the control treatment, there was a significant interaction between time and treatment condition in predicting emotion dysregulation,  $\beta = 1.01$ ,  $SE = 0.49$ ,  $(t(97) = 4.34$ ,  $p < .01$ ), such that participants in the ACT condition had significantly lower emotion dysregulation scores than participants in the control condition at post-treatment. Similarly, these results were maintained at 6-month follow-up, such that ACT participants continued to report significantly lower emotion dysregulation scores than participants in the control condition,  $\beta = 2.14$ ,  $SE = 0.86$ ,  $(t(97) = 5.03$ ,  $p < .001$ ). Furthermore, rates of change did not differ between groups from pre-treatment to post-treatment,  $\beta = 1.96$ ,  $SE = 0.23$ ,  $(t(97) = 1.67$ ,  $ns$ ) but

participants in the ACT condition showed steeper declines in emotion dysregulation from pre-treatment to the 6-month follow-up,  $\beta = 3.53$ ,  $SE = 1.26$ , ( $t(97) = 2.91$ ,  $p < .01$ ).

Finally, results for the HAT indicated that scores on this measure did not significantly change over the course of the study for participants in the ACT condition,  $\beta = -1.12$ ,  $SE = 0.83$ , ( $t(46) = -.58$ ,  $ns$ ) or control condition,  $\beta = -1.08$ ,  $SE = 0.72$ , ( $t(48) = -.46$ ,  $ns$ ). There was also no difference between groups on this measure at post-treatment,  $\beta = 0.76$   $SE = 0.34$ , ( $t(97) = 1.97$ ,  $ns$ ), at the 6-month follow-up,  $\beta = 1.21$ ,  $SE = 0.82$ , ( $t(97) = 2.46$ ,  $ns$ ), or on rates of change from pre-treatment to follow-up,  $\beta = 0.95$ ,  $SE = 0.15$ , ( $t(97) = 1.39$ ,  $ns$ ).

### **Aim 3: Do the Process Variables Account for Changes in Aggressive Behaviors?**

The following conditions must be met to establish the process variables as partial mediators of treatment effects: First, the predictor variable (treatment condition) must be associated with the outcome variable (Aim 1); second, the predictor variable must be associated with the mediator (Aim 2); third, the mediator must be associated with the outcome variable, after controlling for the relation between the predictor and outcome; and fourth, the addition of the mediator variable must significantly decrease the association between the predictor and the outcome variable (Kenny, Kashy, & Bolger, 1998). The data are consistent with complete mediation when the relation between the predictor and the outcome is not significantly different from zero when the mediator is added to the model. Partial mediation occurs when there is a significant reduction in the relation between the predictor and the outcome when the mediator is added but that relation is still significantly different from zero.

Statistical methods exist for formal tests of mediation in single-level designs (e.g., Baron & Kenny, 1986; MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002) and two-level (i.e., nested cross-sectional) designs (e.g., Bauer, Preacher, & Gil, 2006; Kenny, Korchmaros, & Bolger, 2003; Krull & MacKinnon, 2001). Less work, however,

has been completed on tests of indirect effects for two-level longitudinal models. Thus, the methods for testing multilevel mediation detailed by Krull and MacKinnon (2001) as well as Sobel's (1982) mediation test, which follow Kenny et al.'s (1998) procedures described above, were extended to this two-level longitudinal case.

Because mediation conditions 1 and 2 were met – based on the results of Aim 1 and Aim 2 – a latent-growth mediation model was run to determine whether the proposed mediator (AAQ) was associated with aggressive behaviors after controlling for the relation between group membership and aggressive behaviors (condition 3) and if the addition of the mediator (AAQ) significantly decreased the association between group membership and aggressive behaviors (condition 4). Specifically, I am examining whether an initial Level 2 group variable ( $X_j$ ), representing treatment condition, affects a Level 1 individual level process variable (e.g., experiential avoidance) ( $M_{ij}$ ) which, in turn, affects a Level 1 individual level outcome variable (e.g., physical aggression) ( $Y_{ij}$ ). The single subscript  $j$  on the  $X$  variable indicates that this variable may take on a unique value for each group  $j$ .

$$\text{Equation 1: } Y_{ij} = \beta_0 + \beta_c X_j + r_{ij}$$

$$\text{Level 1: } Y_{ij} = \beta_{0j} + r_{ij}$$

$$\text{Level 2: } \beta_{0j} = \beta_{00} + \beta_c X_j + u_{0j}$$

$$\text{Equation 2: } Y_{ij} = \beta_0 + \beta_c X_j + \beta_b M_{ij} + r_{ij}$$

$$\text{Level 1: } Y_{ij} = \beta_{0j} + \beta_b M_{ij} + r_{ij}$$

$$\text{Level 2: } \beta_{0j} = \beta_{00} + \beta_c X_j + u_{0j}$$

$$\text{Equation 3: } M_{ij} = \beta_0 + \beta_a X_j + r_{ij}$$

$$\text{Level 1: } M_{ij} = \beta_{0j} + r_{ij}$$

$$\text{Level 2: } \beta_{0j} = \beta_{00} + \beta_a X_j + u_{0j}$$

For the mediation model, lower levels of experiential avoidance (AAQ scores) were associated with significantly greater linear reductions in both psychological  $\beta = -1.51$ ,  $SE = 0.65$ ,  $(t(97) = -2.57, p < .05)$  and physical aggression  $\beta = -1.78$ ,  $SE = 0.86$ ,  $(t(97) = -3.11, p < .01)$ . Moreover, the Sobel test revealed a significant mediation effect for the AAQ for both psychological and physical aggression,  $\beta = 1.92$ ,  $SE = 1.23$ ,  $(t(97) = 3.57, p < .05)$  and  $\beta = 2.01$ ,  $SE = 1.64$ ,  $(t(97) = 3.82, p < .05)$ , respectively.

An identical model was run with the DERS as the mediator. (Analyses with HAT scores were not conducted because mediation condition 2 was not met). Lower levels of emotion dysregulation (DERS scores) were associated with significantly greater linear reductions in physical aggression,  $\beta = -1.97$ ,  $SE = 1.36$ ,  $(t(97) = -3.75, p < .01)$ , but not psychological aggression,  $\beta = -0.51$ ,  $SE = 0.25$ ,  $(t(97) = -1.07, ns)$ . Finally, the Sobel test offered further evidence of a significant mediation effect for physical aggression,  $\beta = 2.02$ ,  $SE = 1.85$ ,  $(t(97) = 2.94, p < .05)$ , and approached significance for psychological aggression,  $\beta = 1.15$ ,  $SE = 0.95$ ,  $(t(97) = 1.76, p = .07)$

#### **Aim 4: Does the Active Group Treatment Significantly Affect Depression, Interpersonal Problems, and Social Functioning?**

The analyses for Aim 1 were repeated with all other outcome variables, including depression, interpersonal problems, and social functioning.

**Depression.** The 20-item General Depression scale of the IDAS was used to assess levels and changes in depression over time. First, chi-square tests indicated there was significant variability in depression over the course of the study,  $\chi^2 (97) = 213.15, p < .01$ . Second, there were significant linear declines in IDAS scores from pre-treatment to post-treatment,  $\beta = -2.31$ ,  $SE = 1.44$ ,  $(t(97) = -3.25, p < .01)$  and from pre-treatment to 6-month follow-up,  $\beta = -2.48$ ,  $SE = 1.69$ ,  $(t(97) = -4.62, p < .01)$ . Results revealed that participants in the ACT condition had lower levels of depression at post-treatment,  $\beta = 2.36$ ,  $SE = 1.51$ ,  $(t(97) = 3.82, p < .01)$  and at 6-month follow-up,  $\beta = 3.22$ ,  $SE = 1.78$ ,  $(t(97) = 2.98, p < .01)$  than participants in the control condition. Furthermore, rates of change did not differ significantly between groups from pre-treatment to post-treatment,  $\beta = 1.02$ ,  $SE = 0.53$ ,  $(t(97) = 1.59, ns)$  but participants in the ACT condition demonstrated greater declines from pre-treatment to the 6-month follow-up,  $\beta = 2.29$ ,  $SE = 1.73$ ,  $(t(97) = 3.67, p < .001)$ .

**Interpersonal problems.** The IIP-32 was used to assess levels and changes in interpersonal problems over time. There was significant variability in interpersonal

problems over the course of the study,  $\chi^2(97) = 301.94, p < .01$ . On average, there were systematic linear declines in IIP-32 scores for the participants from pre-treatment to post-treatment,  $\beta = -1.59, SE = 0.98, (t(97) = -2.25, p < .001)$  and from pre-treatment to 6-month follow-up,  $\beta = -2.41, SE = 1.34, (t(97) = -2.05, p < .01)$ . There was a significant reduction in interpersonal problems from pre-treatment to 6-month follow-up for both the ACT group  $\beta = -3.63, SE = 1.28, (t(46) = 2.98, p < .05)$  and the control group  $\beta = -3.14, SE = 1.39, (t(48) = 2.43, p < .05)$ . However, the groups did not differ significantly at post-treatment,  $\beta = 0.91, SE = 0.37, (t(97) = 1.60, ns)$ , at the 6-month follow-up,  $\beta = 1.03, SE = 0.45, (t(97) = 1.73, ns)$ , or rates of change over time on this measure  $\beta = 0.49, SE = 0.42, (t(97) = 1.89, ns)$ .

**Social functioning.** The SAS was used to assess levels and changes in social adjustment over time. There was significant variability in social functioning over the course of the study,  $\chi^2(97) = 301.94, p < .01$ . On average, participants demonstrated linear decline in SAS scores from pre-treatment to post-treatment,  $\beta = -2.28, SE = 1.85, (t(97) = -3.38, p < .001)$ , and from pre-treatment to 6-month follow-up,  $\beta = -2.73, SE = 1.98, (t(97) = -4.44, p < .001)$ , indicating overall increases in social adjustment. Participants in the ACT condition had significantly better social functioning at post-treatment,  $\beta = 3.58, SE = 1.63, (t(97) = 4.36, p < .001)$  and at 6-month follow-up,  $\beta = 4.31, SE = 1.87, (t(97) = 4.32, p < .001)$  than participants in the control condition. Furthermore, participants in the ACT condition reported greater slope decline from pre-treatment to post-treatment  $\beta = 2.01, SE = 1.52, (t(97) = 3.34, p < .01)$  and from pre-treatment to 6-month follow-up  $\beta = 2.74, SE = 1.68, (t(97) = 3.95, p < .01)$ .

## CHAPTER 9

### DISCUSSION

The purpose of the current research was to ascertain whether an ACT treatment group, compared to an attention placebo control group, provides beneficial and significant gains for individuals who engage in partner aggression and, if so, to test the processes responsible for treatment effects. One hundred and one adults drawn from a treatment-seeking population were randomized to receive either ACT or an attention placebo control for 12 weeks. Process and outcome data were collected at pre-treatment, at 4 weeks of treatment, at 8 weeks of treatment, at post-treatment, at a 3-month follow-up, and at a 6-month follow-up.

#### **Summary and Interpretation of Results**

Overall, the results indicated that ACT led to significant reductions in psychological and physical aggression, and improved other outcomes such as depression, interpersonal problems, and social functioning for these participants. The results of the mediation analyses provide support for the central hypothesis that the beneficial effects of the ACT intervention appear to be mediated by decreased experiential avoidance. Furthermore, the gains achieved at post-treatment were retained (or continued to improve) over the 6-month follow-up period for psychological aggression, physical aggression, experiential avoidance, emotion dysregulation, depression, and social functioning. Based on criteria defined by Hollon, Stewart, and Stunk (2006), these findings suggest that ACT did not simply produce palliative effects (i.e., effects that “suppress the expression of the disorder so long as they are applied”; p. 287). Rather, its effects were enduring and curative (i.e., they “reverse(d) processes that would otherwise lead to the continuation of the disorder”; p. 287). From an ACT perspective, one’s ability to accept unwanted internal experiences and engage in valued behavior may become more effective as time passes and such skills are repeatedly practiced. This is consistent with previous ACT research suggesting that it exerts and/or maintains treatment effects

during a follow-up period (e.g., Gifford et al., 2004; Luoma, Kohlenberg, Hayes, & Fletcher, 2012). This study also adds to the limited research on treatments for relationship conflict and aggression that incorporate mindfulness and acceptance, for both men and women (e.g., Wupperman et al., 2012).

### **Experiential Avoidance**

As hypothesized, ACT reduced experiential avoidance and changes in this process had a role in the outcomes obtained. Specifically, participants in the study reported clinical levels of EA at pre-treatment and, for participants in the ACT group, reductions in EA across the course of the study partially accounted for reductions in both physical and psychological aggression. Moreover, for participants in the ACT group, EA (as measured by scores on the AAQ) decreased to nonclinical levels by the 6-month follow-up. These results are consistent with other studies that have shown that the AAQ tends to improve significantly as a result of an ACT intervention and mediates ACT outcomes. For example, trials of ACT for test anxiety (Zettle, 2003), worksite stress (Bond & Bunce, 2000), chronic pain (McCracken, et al., 2005), and nicotine addiction (Gifford et al., 2004) have all concluded that decreases in EA partially mediated the observed treatment effects of ACT.

Many lines of research have identified one of the most prominent clinical factors in aggression is difficulty coping with negative affect (Anestis et al., 2010), to the extent that several researchers conceptualize aggression as attempts to regulate or avoid negative emotions (e.g., Baker, Piper, McCarthy, Majeskie, & Fiore, 2004). Moreover, there is growing evidence linking experiential avoidance and related emotional skill deficits to aggressive behavior (e.g., Tull, et al., 2007). Informed by this research, the model of aggression guiding the current research posits that EA leads to the continuation and escalation of distress and increases the potential for aggressive behaviors. Given that aggression tends to provide short-term relief, it is negatively reinforced and has an

increased likelihood of recurring, until it might eventually become an automatic reaction to any signs of discomfort.

Therefore, to the extent that EA contributes to aggressive behavior, an ACT intervention is particularly well-suited for individuals who engage in partner aggression. The theory underlying ACT is fairly well-elaborated yet can be stated simply: “ACT therapists try to help clients make room for...life’s difficulties and to move in the direction of their chosen values. Experiential avoidance is a barrier to doing this, which prevents a behavioral commitment to a valued life” (Hayes, Strohslal, & Wilson, 1999, p. 81). ACT thus seeks to increase clients’ willingness to be exposed to unpleasant internal experiences if necessary to complete valued activities. The goal is to change participants’ relationships to their thoughts and emotions by helping them become less entangled with their thoughts and emotions and more focused on effective behavior. The overall pattern of results fit these predictions. In sum, the current study provides support both for ACT as an intervention that can help ameliorate aggressive behavior, and for the model of aggression proposed in the current study.

### **Emotion Dysregulation and Hostile Automatic Thoughts**

Emotion dysregulation – a phenomenon conceptually related to experiential avoidance – was also linked to decreases in partner aggression. As reviewed in Section IV above, difficulties managing emotions effectively may contribute to the use of maladaptive coping strategies and result in failures in self-regulation and impulse control. Optimal self-regulation relies on being able to focus on long-term goals in the presence of emotional distress that tends to shift attention to the immediate present (Tice et al., 2001). In addition, struggling with one’s emotions may deplete coping resources and lead to decreased self-control (Baumeister, Muraven, & Tice, 2000), leading to increased risk of disinhibited or impulsive behavior. Recent research utilizing the DERS has revealed

emotion dysregulation is a risk factor for substance use (Adams, Tull, & Gratz, 2012) and self-harm (Gratz & Roemer, 2008), as well as aggression (Gratz et al., 2009).

Results of the current study indicated that the ACT group had a positive effect on emotion dysregulation, and that decreases in emotion dysregulation partially accounted for reductions in physical (but not psychological) aggression. This is consistent with research by Gratz and colleagues who have investigated the effects of an acceptance-focused group treatment for individuals with BPD and self-harm; they found that the group had positive effects on both EA and emotion dysregulation, as measured by the AAQ and the DERS, respectively (Gratz & Gunderson, 2006; Gratz & Tull, 2011). Because the DERS has several subscales that measure nonacceptance of emotional responses, which is conceptually linked to experiential avoidance and the AAQ, it makes sense that interventions targeting emotional avoidance would affect scores on both measures. However, to my knowledge, this is the first study to use the DERS to investigate emotion dysregulation as a mediator of treatment outcome.

The one domain that was clearly not supported as a potential mediator of treatment gains—hostile cognitions—is notable in that Duluth/CBT models point to this domain as specifically relevant to aggressive behavior. As expected, and consistent with the ACT model, this finding indicates that ACT does not exert its treatment effects via reducing the frequency of hostile or angry thoughts; the ACT group was based on the theory that changes in aggression are the result of decreases in emotional avoidance and increases in emotional acceptance.

### **Depression, Interpersonal Problems, and Social Functioning**

Considering that traditional treatments for aggression have not had unique effects on depression, or studies of those treatments have not assessed depression, the observed treatment effect of the ACT group on depressive symptoms is notable. However, this finding is understandable within the context of related research in other areas. First, given

its emphasis on engaging in actions consistent with valued directions, the ACT group may contain elements of, and actively promote, behavioral activation, which is thought to be the active ingredient in cognitive-behavioral therapies for depression (Jacobson, Gottman, Gortner, Berns, & Shortt, 1996). Behavioral activation has been shown to decrease depression in a relatively short time period (Jacobson, Martell, & Dimidjian, 2001) and to be a potentially useful adjunctive intervention for other disorders (e.g., BPD; Hopko, Sanchez, Hopko, Dvir, & Lejuez, 2003). Second, the decrease in depressive symptoms may be secondary to a decrease in aggression and other relationship problems, given that improvements in depression have been found to follow improvements in intimate relationship quality (e.g., Davila, Karney, Hall, & Bradbury, 2003). Finally, these results are consistent with research that has supported the effectiveness of ACT for the treatment of depression (e.g., Zettle & Rains, 1989).

No between-group effects were found on the IIP, which assesses subjective impressions of a range of interpersonal problems (e.g., "I open up to others too much"), although participants in both groups did evidence significant linear declines on the IIP over the course of the study. The lack of distinction between the treatments on the IIP was unexpected given that the control group did not directly target changes in interpersonal problems, whereas ACT focused on improving relationships via values-based behavior change. However, improved interpersonal relationships may reasonably be expected following a positive experience in group treatment, as participants develop the skills needed in dyadic relationships through interpersonal experiences (Shechtman, Vurembrand, & Hertz-Lazarowitz, 1994). They learn from their own disclosures, as well as from those of others and from feedback provided by others (Yalom & Leszcz, 2005). Both groups may have provided participants with more adaptive, approach-oriented affective and interpersonal experiences than their previous maladaptive interactional patterns and then led to the participants applying their new experiences outside of group. Previous research has suggested that decreases in aggression are associated with

improving specific interpersonal skills (e.g., increasing closeness with others; Holtzworth-Munroe, Stuart, & Hutchinson, 1997), and future research will be necessary to empirically examine whether improvements in interpersonal behaviors may precede reductions in aggression.

Finally, results indicated that participants in the ACT condition also showed improvements in social functioning, as measured by the SAS, and that these improvements were significantly greater than those reported by participants in the control condition. Moreover, these gains were maintained through the 6-month follow-up assessment. The SAS is a measure of general functioning, including work, social and leisure activities, family relationships, and roles within marriage and family. Previous research has documented the beneficial effects of acceptance processes on domains related to better social functioning, including greater self-observation, self-awareness, and emotional regulation, less emotional reactivity, and self-care (Brown, Ryan, & Creswell, 2007; Peterson, Eifert, Feingold, & Davidson, 2009; Wachs & Cordova, 2007), and the current findings are consistent with the growing body of evidence that ACT has a positive effect on social and occupational functioning (e.g., Stafford-Brown & Pakenham, 2012).

### **Strengths and Limitations of the Present Research**

The current investigation of ACT as a treatment for aggression has several important strengths. First, this study represents the first treatment outcome study comparing ACT to a control group for aggression, and assessing processes or mediators of treatment outcome. Importantly, this investigation addresses the need for empirically-based investigation of how behavioral treatments work in general -- as called for by the NIMH (National Institutes of Mental Health, 2003) and by leaders in the field of clinical psychology (e.g., Kazdin & Nock, 2003) -- as well as investigations of how treatments for aggression work specifically. Previous studies of traditional treatments for aggression that have assessed processes or mediators have not been successful, and identifying

mechanisms of change is essential to developing and refining effective behavioral interventions (Lynch et al., 2006). Thus, the current study is an important first step in developing more effective interventions for aggression. Second, mediation was assessed with frequent outcome and process measures, and the use of the AAQ in the current study adds to the growing body of mediation literature using the AAQ. Therefore, the present findings offer additional empirical support for the broad applicability and effectiveness of ACT, as well as the evidence that targeting a general risk factor (EA) can lead to improvements in a broad spectrum of psychological and behavior problems (Biglan, Hayes, & Pistorello, 2008; Hayes et al., 2006). Third, the findings of this study suggest that ACT can feasibly be delivered in a group format to clients with diverse psychological problems; the present sample was diagnostically diverse and included both men and women reporting a wide range of psychological symptoms in addition to aggressive behavior. Improvements were observed across a variety of relevant outcomes despite the group not being paired with a particular form of individual therapy. That the utility of this group therapy does not depend upon it being matched with a theoretically similar individual therapy provides additional support for its transportability. A strength of this intervention, therefore, is that it is both practical and cost-effective. This trial provides the preliminary data that are required before embarking on more expensive and elaborate controlled evaluations of group-based ACT interventions for aggression.

Several limitations of the current study should also be noted. First, all outcome and process measures were limited to self-report questionnaires. Because questionnaires rely on often-limited conscious awareness, future studies would benefit from integrating behavioral, psychophysiological, and brain-based measurements of mediators and outcomes. Similarly, obtaining reports of aggressive behavior from partners is recommended to gather more information about behaviors that may be under-reported. Second, diagnoses were not assessed at post-treatment or during follow-up, so it is unknown whether the ACT or control conditions had an affect on diagnostic status, or

how group condition might have differentially affected diagnostic status. Third, participants were not asked to specify whether they were referring to a current or past relationship when they completed questionnaires about their own aggression toward a romantic partner. Therefore, it is unknown whether the findings are specific to one relationship only. Fourth, “allegiance bias” has been hypothesized to compromise the findings of randomized controlled trials and therapist allegiance was not assessed in this study. Fifth, the therapists’ lack of experience could have affected the overall effectiveness of both treatments. All therapists were advanced clinical psychology graduate students with approximately 4 years of experience when the study took place. Sixth, the sample for the current study was largely Caucasian. Although this sample was representative of the local population, it is not representative of the diversity of the nation as a whole. In addition, the majority of participants were female and educated, which also limits the generalizability of the findings. Although previous studies have demonstrated that ACT has a positive impact on diverse groups, the current findings would be strengthened by replication in a more diverse sample. Furthermore, it is unknown whether these results are generalizable to all types of violence, such as “intimate terrorism” (i.e., patterns of severe violence and control; Johnson & Leone, 2005) and high-risk offenders. For example, the rate of antisocial personality disorder was very low in the current study (2%). Finally, there are other aspects of the ACT model that were not directly tested in the present study, including processes such as mindfulness, a transcendent sense of self, and commitment to valued action. Thus, the present results confirm the utility of only parts of an ACT model.

### **Significance and Implications of the Present Research**

The current research is an advance over prior work in several ways. First, the proposed model represents an improvement upon existing theories of partner aggression that do not link proposed change processes to intervention targets. The present study identifies EA as a psychological process that contributes to aggressive behavior *and* may

be involved in positive therapeutic change. Built on basic research available in the literature, the model specifies how EA influences aggression and also provides a direct link to treatment components designed to target EA. Specifically, the model indicates an ACT intervention that targets the reduction of EA will decrease aggressive behavior.

Second, the design of the current research allowed for the direct test of this model and the proposed mechanisms of therapeutic improvement. A focus on testing specific intervention strategies and mechanisms will ultimately allow researchers to move more quickly to clinically meaningful questions and allow clinicians to integrate effective treatment components. To understand how a treatment works, one must first demonstrate that the treatment has an impact on the proposed change process and then demonstrate that there is an association between treatment changes in the change process and treatment changes in the outcome (Kazdin, 2007). Accordingly, the current study examined the ACT intervention's impact on EA in order to determine if the treatment results are attributable to changes in EA. Results indicated that ACT led to decreases in EA and that those decreases predicted lower aggression at post-treatment and follow-up, providing preliminary evidence that the ACT intervention operated in a way that is consistent with the underlying model and that this model is applicable to decreasing partner aggression.

Third, this is the first study to utilize an ACT approach to the treatment of partner aggression and to compare this intervention with a control treatment. As indicated by the model, acceptance and values-based treatment components were used to target experiential avoidance. Similar therapeutic approaches have demonstrated success with a broad range of psychopathology (e.g., depression, anxiety, and Borderline Personality Disorder) and behaviors theoretically and functionally similar to aggression (e.g., substance use and self-harm); however, to date, this new avenue has not been explored with partner aggression in the published literature. The present study provides preliminary evidence that ACT may be an effective and viable alternative to Duluth/CBT.

### Conclusion

Aggression is highly prevalent in U.S. families (NIH, 2003), and has physical, psychological, social, and financial negative consequences for victims, relationships, and children raised in these homes (e.g., Coker et al., 2002; Umberson, et al., 1998). Unfortunately, existing interventions have only modest empirical support and employ therapeutic techniques that do not bring about clinically significant change in aggressive behavior (e.g., Babcock, et al., 2004). Furthermore, treatment effects for partner aggression are well below the medium-to-large effects produced with other clinical populations as a result of psychotherapy (Lambert & Ogles, 2004) and dropout rates for these treatments range from 30% to 60% (e.g., Taft, et al., 2001), whereas recidivism rates are near 50% in many studies (Gondolf, 1997). Therefore, the current study provides preliminary evidence that continued efforts toward developing efficacious treatments should include empirical tests of ACT as a treatment for aggressive behavior. Furthermore, the next step should include comparing ACT to traditional treatments such as CBT and/or Duluth. Similarly, it would also be useful to replicate the current methodology with a sample of individuals engaging in severe domestic violence, such as an offender population in a forensic setting. Finally, further mediation research is required to test the apparently contrasting theories of change underpinning CBT, Duluth, and ACT. In sum, recognizing that partner aggression may be brought about, in part, by EA, and applying ACT (or other interventions that target EA) to the treatment of aggression is a promising strategy. This work has the potential to prompt more tests of theoretically-relevant processes, refine a theoretical framework for aggressive interpersonal behaviors, and lead to the development of empirically-supported treatments.

## APPENDIX A

### GROUP TREATMENT FOR EMOTIONAL AND BEHAVIORAL DYSREGULATION: GROUP LEADER TRAINING PROTOCOL

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The following document outlines the procedure of training the group leaders for both the attention placebo control condition and the active treatment condition. Each group leader will co-lead an equal number of groups of each treatment condition.

The following eligibility criteria were used in choosing the three (3) individuals who will lead groups as part of this research study:

- Doctoral candidate in the University of Iowa Clinical Psychology program
- Master's in Clinical Psychology and at least two years experience conducting therapy under the supervision of licensed psychologists
- Experience leading cognitive-behavior therapy (CBT) group therapy; specifically, the group leaders have experience leading CBT groups for BPD, behavior therapy groups for health conditions, CBT groups for eating disorders, and CBT groups for adolescent girls.
- Training in Acceptance and Commitment Therapy (ACT) and Dialectical Behavior Therapy (DBT) and attended two or more ACT or DBT training workshops
- Participated in the active group treatment first as a group member, and then as a group co-leader
- Ability to convey empathy and compassion and to set firm boundaries when necessary
- Familiarity with the principles of group dynamics and the fostering of group cohesion

In addition to the prerequisites listed above, the individuals chosen to lead groups will undergo the following training procedures before study commencement:

1. **Read the following article:** Safer, D.L., & Hugo, E.M. (2006). Designing a control for a behavioral group therapy. *Behavior Therapy*, 37, 120–130.
  - The purpose of reading this article is to give the group leaders a basic understanding of how and why the comparison control must omit the unique ingredients of the active treatment while possessing the common factors in equal measure
  - After reading this article, the group leaders will be more familiar with the procedures and rationale for the comparison control group treatment
2. **Read the following book chapter:** Walser, R., & Pistorello, J. (2004). ACT in Group Format. In Hayes, S. C., & Strosahl, K. D. (Eds.). *A practical guide to Acceptance and Commitment Therapy*. New York: Springer-Verlag.

- The purpose of reading this book chapter is to expose the group leaders to the unique treatment issues that arise when conducting ACT in a group format
  - After reading the chapter, the group leaders will have gained additional knowledge about how the principles and techniques of ACT are adapted for group work
3. **Review study protocols.** All group leaders (including the Principal Investigator) will review protocols for both treatments on their own and then meet as a group for two hours to discuss any questions or concerns about the protocols.

**APPENDIX B**  
**THERAPIST ADHERENCE CHECKLISTS**

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Below are listed a number of statements that contain therapist behaviors for the active treatment. Please identify and rate the presence or absence of the specific therapist behaviors in the audio-taped group session. Use the scale below to make your choice.

1	2	3	4	5	?
No evidence	Little evidence	Moderate evidence	Reasonable evidence	Definite evidence	<i>don't know</i>

<b>Values (Session 1):</b>		
1.	Therapists introduce the concept of “values” and help clients connect with the qualities of a vital and meaningful life.	<input type="checkbox"/>
2.	Therapists help clients clarify their personal valued life directions and encourage them to “go on record” as wanting to stand for valued life ends.	<input type="checkbox"/>
3.	Therapists convey the difference between feeling good and <i>living</i> good.	<input type="checkbox"/>
4.	Therapists teach clients to distinguish between values and goals, outcomes and processes.	<input type="checkbox"/>
5.	Therapists actively use concept of “workability” to refer to behavior that facilitates values-consistent living.	<input type="checkbox"/>
6.	Therapists respect clients’ values, and if unable to support them, finds referral or other alternatives. Therapists put their own therapy relevant values in the room and model their importance.	<input type="checkbox"/>
<b>Mindfulness (Session 2):</b>		
1.	Therapists introduce “mindfulness” and how it provides a foundation for therapeutic work.	<input type="checkbox"/>
2.	Therapists use exercises to expand the clients’ sense of experience as an ongoing process.	<input type="checkbox"/>

3.	Therapists step back from client content and direct attention to the moment.	<input type="checkbox"/>
4.	Therapists track content at multiple levels and emphasize the present when it is useful.	<input type="checkbox"/>
5.	Therapists model coming back to the present moment and teach the clients to do likewise.	<input type="checkbox"/>
6.	Therapists identify when discussion drifts into past/future orientation and bring it to present.	<input type="checkbox"/>

#### **Emotional Intelligence (Session 3-4):**

1.	Therapists introduce emotional intelligence and outline several important emotional skills.	<input type="checkbox"/>
2.	Therapists use exercises to help clients identify different emotions and experiences (e.g., thoughts, physical sensations, urges) associated with each.	<input type="checkbox"/>
3.	Therapists teach clients about the evolutionary advantage of emotions, and the inevitability of experiencing a certain amount of emotion as human beings.	<input type="checkbox"/>
4.	Therapists help clients to distinguish “helpful” and “unhelpful” emotions based on their behavioral responses to emotions.	<input type="checkbox"/>
5.	Therapists assist clients in learning the difference between primary and secondary emotions.	<input type="checkbox"/>

#### **Acceptance (Session 5-6):**

1.	Therapists help clients notice their emotional responses and detect emotional control strategies.	<input type="checkbox"/>
2.	Therapists help clients make direct contact with the paradoxical effect of emotional control strategies.	<input type="checkbox"/>
3.	Therapists actively encourage clients to experiment with stopping the struggle for emotional control and suggest acceptance as an alternative.	<input type="checkbox"/>

4.	Therapists help clients experience the qualities of acceptance (a choice, a behavior, not wanting, same act regardless of how big the stakes).	<input type="checkbox"/>
5.	Therapists use shifts between control and acceptance as an opportunity for the clients to directly experience the contrast in vitality between the two strategies.	<input type="checkbox"/>
6.	Therapists help clients investigate relationship between levels of acceptance and sense of suffering.	<input type="checkbox"/>
7.	Therapists help clients make experiential contact with the cost of struggle relative to valued life ends.	<input type="checkbox"/>
8.	Therapists use exercises and metaphors to help clients contact acceptance the action in the presence of difficult material.	<input type="checkbox"/>
9.	Therapists detect nonacceptance/struggle in session and teach clients to do so as well.	<input type="checkbox"/>

#### Defusion (Sessions 7-8):

1.	Therapists help identify clients' emotional and cognitive barriers to acceptance, and suggest that "attachment" to the literal meaning of these experiences makes acceptance difficult to sustain.	<input type="checkbox"/>
2.	Therapists actively contrast what the client's "mind" says will work versus what the client's experience says is working.	<input type="checkbox"/>
3.	Therapists use language tools and experiential exercises to create a separation between the client and client's conceptualized experience.	<input type="checkbox"/>
4.	Therapists use various interventions to both reveal the flow of private experience and such experience is not "toxic."	<input type="checkbox"/>
5.	Therapists work to get clients to experiment with "having" these experiences, using willingness as a stance.	<input type="checkbox"/>
6.	Therapists use various exercises, metaphors and behavioral tasks to reveal the "hidden" properties of language.	<input type="checkbox"/>

8.	The therapists employ behavioral tasks to help clients practice distinguishing private events from self.	<input type="checkbox"/>
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#### Behavioral Change (Sessions 9-10):

1.	Therapists help clients further identify valued life goals and build an action plan.	<input type="checkbox"/>
2.	Therapists encourages client to “have” barriers and make and keep commitments.	<input type="checkbox"/>
3.	Therapists use exercises and non traditional uses of language to reveal hidden sources of interference to committed actions.	<input type="checkbox"/>
4.	Therapists encourage clients to take small steps and to look at the quality of committed action.	<input type="checkbox"/>
5.	Therapists keep clients focused on larger and larger patterns of action.	<input type="checkbox"/>
6.	Therapists integrate slips or relapses into the experiential base for future effective action.	<input type="checkbox"/>

#### Control Treatment Group Rating Form

Below are listed a number of statements that contain therapist behaviors for the control treatment. Please identify and rate the presence or absence of the specific behaviors in the audio-taped group session. Use the scale below to make your choice.

1	2	3	4	5	?
No evidence	Little evidence	Moderate evidence	Reasonable evidence	Definite evidence	<i>don't know</i>

#### All Sessions:

1.	Therapists did not actively teach skills or concepts.	<input type="checkbox"/>
2.	Therapists presented a discussion topic for the session.	<input type="checkbox"/>

3.	Therapists encouraged participants to discuss, reflect, and express feelings about issues and experiences related to the topic.	<input type="checkbox"/>
4.	Therapists raised discussion questions if needed.	<input type="checkbox"/>
5.	Therapists intervened if discussion was inappropriate or off-topic.	<input type="checkbox"/>

APPENDIX C  
SKILLS GROUP AGREEMENT

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I understand and agree to the following:

1. The skills training group is not a substitute for therapy; it is about learning and practicing skills for effective functioning in the world. *All participants have to be in individual therapy* with someone.
2. The leaders of the skills group will *not* be able to deal with emergencies or crises, so participants must have other resources for dealing with individual problems.
3. Participants are expected to *attend regularly*. The material and skills covered in a particular session build on skills learned in previous sessions so missing sessions makes it hard to use the training effectively.
4. Participants agree to *participate fully*, engaging in the group exercises and discussions and practicing the skills outside of sessions. Participants will bring the binder provided for them with handouts and materials to each group session.
5. Participants agree not to come to sessions under the influence of drugs or alcohol.
6. If a participant is going to be late or miss a session, he or she will notify the group leaders as soon as possible by calling the clinic (319-335-2467) or e-mailing the group leaders ([skillsgroup09@gmail.com](mailto:skillsgroup09@gmail.com)).
7. Information obtained in the group about other participants, including their names, must remain confidential. *Please respect the need for confidentiality*.
8. You may experience strong feelings as you participate in group discussions. It is important to express these feelings in a way that is not verbally or physically threatening to other members of the group. If needed, you may take a short “time out” and leave the room until you are ready to join us. If there are repeated instances of verbal threats, you will be asked to drop out of the group and other resources will be offered. Physical threats to a member of the group will result in immediate dismissal from the group.
9. All cell phones are to be turned off during group. If you must answer a call, please leave the room to talk.

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Signature

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Date

## APPENDIX D

### TELEPHONE SCRIPT FOR SCREENING POTENTIAL PARTICIPANTS

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*If a caller states that he/she is calling about potentially participating in the study or if you are returning the call of an interested person, begin with section A below.*

#### **A. Study Introduction**

Before we begin, I would first like to let you know that information that you disclose concerning potential sexual or physical abuse of children, dependent adults or the elderly, or disclosures about imminent threat of harm to yourself or others are subjected to being reported to the proper authorities.

Let me tell you a little bit about the study and then answer any questions you may have, so that you can better decide whether or not you wish to participate. If you are eligible, you may schedule a 45-minute in-person session which will be scheduled at your convenience at the Seashore Psychology Clinic. When you begin that appointment, we would read to you an Informed Consent Document and allow you the time you need to make the decision about participation in this study. If you agree to enroll in the study during this appointment, you will be asked to stay and talk with a member of our research team about yourself for approximately half an hour. After this appointment, we will notify you when the next part of the study - the group treatment - is starting as soon as enough participants are available. We will then ask you to attend 12 weekly, 2-hour sessions. The goal of the research is to help us better understand how to help people who are experiencing emotional or behavioral difficulties that are impacting their interpersonal relationships. Do you have any questions at this point?

Let me tell you a little bit about how we keep your information confidential. The data are kept in a locked room in Spence Laboratories of Psychology, and your names will never be disclosed to anyone not working under Dr. Lawrence's direct supervision. Any forms that include your name or other identifying information will be stored in a locked file cabinet in her personal office, separate from all of your other data. The rest of the data will be stored on computer and identified only by an assigned ID#. Your names will not be entered into the computer.

The sessions will be audio or videotaped. However, these tapes are for research purposes only and are used to evaluate the group leaders. These tapes will be marked with code numbers only and will also be kept in a locked file cabinet and will only be accessible to researchers working under Dr. Lawrence's direct supervision. Do you have any questions at this point that I can answer? (*Answer any questions.*)

**Are you interested in participating?**



*(If no)* Thank you for your interest in our study and have a good day. *(End call)*

*(If yes)* Wonderful. I would like to ask a few questions to determine if you are eligible for our study. It will take about 15 minutes. Do you have time now?

- *(If no)* When would be a good time for us to call back? *(Get their phone #s or they can choose to call us back instead)*
- *(If yes, go to the screening questions under section B below)*

## **B. Screening Questions**

### **1. How old are you?**

- *(If 18 or over, continue with next screening question)*
- *(If under the age of 18, go to C below)*

### **2. Are you currently in treatment with a mental health professional, such as a psychologist, social worker, or psychiatrist?**

- *(If no): We require participants to have an individual mental health professional to be in the study. If you would like, you may call the Seashore Psychology Clinic for individual therapy. The phone number is 319-335-2467. Or you have the option of setting up individual therapy somewhere else and calling us back when you have done so. (Then go to E below)*
- *(If yes, continue with next screening question)*

### **3. Have you been experiencing any psychological symptoms that have made it difficult to understand what is going on around you? For example, have you recently experienced any delusions or hallucinations, such as hearing things that other people cannot hear or seeing things that other people cannot see?**

- *(If yes): Have these symptoms occurred when you were not dreaming, not half-asleep, and not under the influence of alcohol or drugs?*
  - *(If yes, go to C below)*
  - *(If no, continue with next screening question)*
- *(If no, continue with next screening question)*

4. As you know, there are many different ways that people settle their differences and we all say and do a lot of things when we're upset. So next I am going to read a list of things that some people do during arguments or when they are upset with their partner. **Please listen to the entire list before responding. I will let you know when I am ready for you to respond. Then, please just say either “YES” or “NO.”** Please do not tell me which specific behaviors you have done or plan to do. For right now, I am only interested in finding out very general information. I realize that these instructions may seem a little strange, but by doing it this way, I am protecting your privacy and taking up as little of your time as necessary. If you do join the therapy group, you will obviously be able to talk about anything you want. Do you understand? (*Wait for response. Make sure instructions are clear.*)

OK, now I will read a list of things that you may or may not have done when arguing with your partner in the last 6 months. When I'm done reading the list, please just answer "Yes, I have done one or more of those things" or "No I have never done any of those things."

**LIST I**

- insulted or sworn at him or her
- acted cold or distant
- did or said something spiteful
- sulked or refused to talk about an issue
- stomped out of the room, house, or yard
- tried to make him or her feel guilty about something
- became so angry that you were unable or unwilling to talk
- got angry because he or she went somewhere without telling you
- changed the subject on purpose when he or she was trying to discuss a problem
- asked where he or she had been or who he or she was with in a suspicious manner

Please answer “YES” if you have engaged in any of these behaviors in the past 6 months and please answer “NO” if you have not. I can read the list again if needed

(*circle their answer*): **YES    NO**

(*If yes*) Approximately how many times? (*circle answer that corresponds with their spontaneous response*):

**once or twice      between 3 and 8 times      more than 8 times**

Please continue on to LIST II...

**LIST II**

- belittled him or her in front of other people
- secretly searched through his or her belongings
- said or implied that he or she is stupid
- criticized his or her appearance or called him or her ugly
- called him or her a loser, failure, worthless, or similar term
- stood or hovered over him or her during a conflict or disagreement
- drove recklessly to frighten him or her
- became angry enough to frighten him or her
- checked up on him or her by asking friends what they were doing, who they were with
- put your face right in front of his or her face to make a point more forcefully
- threatened to hit or throw something at him or her
- thrown, smashed, hit or kicked something

Please answer “YES” if you have engaged in any of these behaviors in the past 6 months and please answer “NO” if you have not. I can read the list again if needed (*circle their answer*): **YES    NO**

(*If yes*) Approximately how many times? (*circle answer that corresponds with their spontaneous response*):

**once or twice      between 3 and 8 times      more than 8 times**

Please continue on to LIST III...

**LIST III**

- hit or tried to hit him or her with something
- thrown something at him or her
- pushed him or her
- grabbed him or her
- shoved him or her
- pulled or twisted his or her hair
- slapped him or her
- kicked him or her
- bit him or her
- punched him or her

Please answer “YES” if you have engaged in any of these behaviors in the past 6 months and please answer “NO” if you have not. I can read the list again if needed  
*(circle their answer): YES    NO*

*(If yes) Approximately how many times? (circle answer that corresponds with their spontaneous response):*

**once or twice      between 3 and 8 times      more than 8 times**

If caller has endorsed at least four (4) behaviors from LIST I and LIST II and/or two (2) behaviors from LIST III, he or she is eligible (*continue to section D*). If not, he or she is ineligible (*continue to section C*).

### **C. Caller IS NOT Eligible**

Unfortunately, you are not eligible for the study because (*state reason based on above questions*). If you are still interested in participating in a group treatment, we can provide you with a list of other treatments available. The information you have given us will not be used in our study and we will not keep a record of your name or any identifying information about you. (*Go to section E below*)

### **D. Caller IS Eligible**

Based on this information, you are eligible to participate in the study. May I take down your name, mailing address and phone number? (*Write down information*) Would you like to schedule the 1 hour lab appointment at this time? (*Go to section E below*)

(*If don't want to schedule appointment now*): When would be a good time to contact you to schedule that appointment? (*Get phone #s and good days and times to call back. Alternatively, the subject can choose to call us back instead.*)

Do you have any other questions or concerns at this time that I can help you with?

(*If yes, answer questions. If no, go to F below*)

(*If want to schedule appointment now*): We are running sessions days and evenings, weekdays and weekends, so that we may best accommodate your schedule. When would you like to come in? (*Schedule appointment*) I will send you a letter confirming your appointment day and time, and a map and directions so that you are able to find us. Do you have any other questions or concerns at this time that I can help you with? (*If yes, answer questions. If no, go to E below*)

### **E. End of Call**

Thank you again for your interest in this project and for taking the time to speak with me. If you have any questions, our phone number is 335-2467. You may also e-mail us at [skillsgroup09@gmail.com](mailto:skillsgroup09@gmail.com). Goodbye and have a good day.

**APPENDIX E**  
**INFORMED CONSENT DOCUMENT**

**Project Title:** **Group Treatment for Emotional and Behavioral Dysregulation**

**Principal Investigator:** Amie Langer, M.A.

**Research Team Contact:** Amie Langer at (319) 335-2837 or Dr. Erika Lawrence at (319) 335-2417

This consent form describes the research study to help you decide if you want to participate. This form provides important information about what you will be asked to do during the study, about the risks and benefits of the study, and about your rights as a research subject.

- If you have any questions about or do not understand something in this form, you should ask the research team for more information.
- You should discuss your participation with anyone you choose such as family or friends.
- Do not agree to participate in this study unless the research team has answered your questions and you decide that you want to be part of this study.

**WHAT IS THE PURPOSE OF THIS STUDY?**

This is a research study. We are inviting you to participate in this research study because you are an adult experiencing difficulties with emotional and/or behavioral functioning.

The purpose of this research study is to determine the effectiveness of two different group treatments for increasing emotional and behavioral functioning, as well as the problems associated with these difficulties. For example, both study treatment groups will aim to help participants develop the skills needed to build and maintain better interpersonal relationships in different ways. Determining the effectiveness of these group study treatments, and comparing them to one another, may allow researchers to identify how to best help individuals with these difficulties in the future.

**HOW MANY PEOPLE WILL PARTICIPATE?**

Approximately 150 people will take part in this study conducted by investigators at the University of Iowa.

**HOW LONG WILL I BE IN THIS STUDY?**

If you agree to take part in this study, your involvement will last for approximately 9 months. First, you will be randomly assigned to participate in one of two group study treatments, both of which will entail 2-hour sessions weekly for 12 weeks. Second, after the 12-week study treatment phase has ended, you will be contacted to obtain follow-up

information 3 months after study treatment and again 6 months after study treatment. At each follow-up, you will be asked to complete questionnaires that will require approximately 45 minutes.

### **WHAT WILL HAPPEN DURING THIS STUDY?**

If you agree to take part in this study, you can expect the following to occur:

1. You will be randomly assigned to receive one of two study treatments. This means that whichever study treatment you receive will be determined purely by chance, like flipping a coin. You will have a 50/50 chance of receiving either of the study treatments. Upon enrollment in the study, your group study treatment will begin as soon as enough participants are enrolled, which may be 1 to 4 weeks. The study treatments will be comprised of weekly group sessions with 6-8 other participants, each lasting 2 hours for 12 consecutive weeks. All group sessions will be held in Spence Laboratories of Psychology on the University of Iowa campus.
2. The group leaders will be advanced master's level clinical psychologists who are trained and have experience providing these study treatments. They will be supervised by clinicians who have Ph.Ds in clinical psychology. Group sessions may include presentation of material by the group leaders, discussion among the participants, worksheets or handouts for participants to complete during group sessions or at home, or individual or group skills practice.
3. During the first, fifth, ninth, and twelfth sessions of study treatment, you will be asked to complete a set of questionnaires regarding your emotions, thoughts, and behaviors, as well as other important areas of life such as your relationships. These questionnaires should take approximately 30 minutes to complete. Additionally, you will be asked to complete a similar set of questionnaires 3 and 6 months after you have finished the study treatment. Completing these questionnaires will require approximately 45 minutes. You are free to skip any questions that you would prefer not to answer.
4. You will be asked to provide contact information before beginning study treatment so that the group leaders may contact you for the following reasons: (a) to alert you of weather-related cancellations, (b) to check in with you if you have not attended group and did not inform one of the group leaders of your absence, and (c) to remind you to complete the follow-up questionnaires mentioned above. You may also choose to have a member of the research team call or e-mail you a reminder to attend the weekly group sessions.

#### **Audio Recording/Video Recording**

One aspect of this study involves making audio recordings / video recordings of you. The recordings will be used for research purposes only and are used to evaluate the group

leaders. The tapes are kept in locked filing cabinets and will be identified using a research code. Only members of the research team will have access to the tapes and they will be destroyed within one year of the end of the project.

### **WHAT ARE THE RISKS OF THIS STUDY?**

You may experience one or more of the risks indicated below from being in this study. In addition to these, there may be other unknown risks, or risks that we did not anticipate, associated with being in this study.

Because some of the information you will be asked to provide may be considered emotionally sensitive, there is the possibility that conflicting feelings or emotional distress may arise as a result of the questions. You are free to leave any of the questionnaire items unanswered if you are uncomfortable answering them. Extreme care will be taken to ensure respect and confidentiality among group members. However, it is possible that information disclosed in a group atmosphere may not be kept confidential. Finally, the group discussions or exercises may be distressing or embarrassing for some individuals. You are not required to participate in any exercises or disclose personal information, and you may leave the group session at any time. Finally, information that you disclose concerning potential sexual or physical abuse of children, dependent adults or the elderly, or disclosures about imminent threat of harm to yourself or others are subjected to being reported to the proper authorities. However, circumstances leading to a breach of confidentiality will be explicitly discussed with you should this situation arise.

You are encouraged to contact the principal investigator or Dr. Lawrence to discuss any concerns regarding your involvement in the research.

### **WHAT ARE THE BENEFITS OF THIS STUDY?**

We do not know if you will benefit from being in this study.

### **WHAT OTHER TREATMENT OPTIONS ARE THERE?**

As part of your participation in this research, you will be expected to continue your individual mental health treatment. Before you decide whether or not to be in this study, you are encouraged to discuss other treatment options with your mental health care provider. Instead of participating in this group treatment, you could participate in other group treatments available in the Iowa City area. For example, Mindfulness-Based Stress Reduction (MBSR) and Systems Training for Emotional Predictability and Problem-Solving (STEPS) are two group treatments offered at the University of Iowa Hospitals and Clinics.

### **WILL IT COST ME ANYTHING TO BE IN THIS STUDY?**

You will not have any costs for being in this research study. You and/or your medical/hospital insurance carrier will remain responsible for your regular medical care expenses.

### **WILL I BE PAID FOR PARTICIPATING?**

You will not be paid during the 12-week treatment phase of the study. You will be paid \$25 for completing each set of follow-up questionnaires, one at 3 months post-treatment and one at 6 months post-treatment, for a total of \$50 if you complete both sets of questionnaires.

### **WHO IS FUNDING THIS STUDY?**

The National Institute of Mental Health (NIMH) is funding this research study. This means that the University of Iowa is receiving payments from NIMH to support the activities that are required to conduct the study.

### **WHAT IF I AM INJURED AS A RESULT OF THIS STUDY?**

- If you are injured or become ill from taking part in this study, medical treatment is available at the University of Iowa Hospitals and Clinics.
- The University of Iowa does not plan to provide free medical care or payment for treatment of any illness or injury resulting from this study unless it is the direct result of proven negligence by a University employee.
- If you experience a research-related illness or injury, you and/or your medical or hospital insurance carrier will be responsible for the cost of treatment.

### **WHAT ABOUT CONFIDENTIALITY?**

We will keep your participation in this research study confidential to the extent permitted by law. However, it is possible that other people such as those indicated below may become aware of your participation in this study and may inspect and copy records pertaining to this research. Some of these records could contain information that personally identifies you.

- federal government regulatory agencies,
- auditing departments of the University of Iowa, and
- the University of Iowa Institutional Review Board (a committee that reviews and approves research studies)

To help protect your confidentiality, we will use a code number, rather than your name, on all questionnaires and interview materials. Only the contact information page and consent form pages will have your name on them. These pages will be kept separate from your questionnaire data in a locked filing cabinet in Dr. Lawrence's personal office and

will only be accessible to the research team. All data and audio/videotapes will be identified only by code numbers, and will be kept in locked filing cabinets in Dr. Lawrence's lab. Only the research team specifically hired to work on this project will have access to the data and recordings. Electronic data will be stored in password protected computer files on computers in Dr. Lawrence's lab, and only members of the research team will have the passwords. If we write a report or article about this study or share the study data set with others, we will do so in such a way that you cannot be directly identified.

Every effort will be made to ensure that what is discussed in group sessions remains confidential. For example, a large portion of the first group session will be devoted to discussing the importance of keeping group members' names private. However, while confidentiality is encouraged, there is no guarantee that all information shared during sessions will remain there.

The privilege of confidentiality does not extend to information concerning potential homicide or suicide: in instances where a client threatens homicide, a member of the research team will notify the intended victim and the police. Likewise, if a client is deemed a serious suicide risk, family or authorities may need to be notified in order to protect the client. Information regarding known or potential sexual or physical abuse of children, dependent adults, or the elderly, or imminent threat of harm to yourself or others is also subject to be reported to authorities. If you disclose such information, you will be interviewed by one of the group leaders to determine if it is necessary for us to contact the proper authorities in order to protect you or someone else. In the case that information must be reported, you will be notified. The specific circumstances that may necessitate disclosure to authorities include the following:

**Child abuse** includes physical or sexual abuse, neglect, the presence of illegal drugs, and other behaviors that may be traumatizing to a child currently under the age of 18. Child abuse may be reported to the Department of Human Services who will investigate the abuse allegations. Abuse that happened in your childhood prior to becoming an adult is not reportable.

**Dependent adult/elder abuse** includes physical abuse, sexual abuse, neglect, abduction, financial abuse, self-neglect, isolating the adult and not providing proper care, including medical and mental health needs.

**Intent to harm others** includes the intention or plan to take harmful, dangerous, or criminal action against another human being. The research team may need to take precautions to keep that person safe and report this information to legal authorities if necessary.

**Intent to harm yourself** includes the intention or plan to harm yourself. The research team may need to take precautions to keep you safe, which includes contacting a family member or friend to watch over you for a specified amount of time, a referral to a psychiatric hospital, or calling for police intervention if necessary.

### **IS BEING IN THIS STUDY VOLUNTARY?**

Taking part in this research study is completely voluntary. You may choose not to take part at all. If you decide to be in this study, you may stop participating at any time. If you decide not to be in this study, or if you stop participating at any time, you won't be penalized or lose any benefits for which you otherwise qualify.

### **What if I Decide to Drop Out of the Study?**

If you decide to leave the study early, we will ask you to alert one of your group leaders that you have decided not to participate. At the first group session, you will be given several methods to contact the group leaders throughout the course of the study. We also ask that you contact one of your group leaders if you are going to be absent from one or more group sessions, but plan to remain in the study.

### **Can Someone Else End my Participation in this Study?**

Under certain circumstances, the researchers might decide to end your participation in this study earlier than planned. Because the group leaders are not able to attend to individual crises, you will be expected to have access to individual mental health care and will be encouraged to utilize these services for all personal mental health care needs. If your involvement in, or access to, individual mental health care is terminated during the treatment phase of the study, you will be encouraged to seek out individual care at the Seashore Psychology Clinic, and it will be provided for you. If you are unable or unwilling to seek out an individual mental health care provider at the Seashore Psychology Clinic or elsewhere, you may be asked to end your participation in the study.

### **WHAT IF I HAVE QUESTIONS?**

We encourage you to ask questions. If you have any questions about the research study itself, please contact: Amie Langer at (319) 335-2837 or Dr. Erika Lawrence at (319) 335-2417. If you experience a research-related injury, please contact: **Dr. Lawrence at (319) 335-2467 or Dr. James Marchman at (319) 335-2468.** If at any time during the study you are unable to participate in individual therapy when needed, you may call the investigators listed above, or the Seashore Psychology Clinic at (319) 335-2467 to schedule an appointment.

If you have questions, concerns, or complaints about your rights as a research subject or about research related injury, please contact the Human Subjects Office, 105 Hardin Library for the Health Sciences,  
600 Newton Rd, Iowa City, IA 52242-1098 (319) 335-6564, or e-mail [irb@uiowa.edu](mailto:irb@uiowa.edu).

General information about being a research subject can be found by clicking "Info for Public" on the Human Subjects Office web site, <http://research.uiowa.edu/hso>. To offer input about your experiences as a research subject or to speak to someone other than the research staff, call the Human Subjects Office at the number above.

This Informed Consent Document is not a contract. It is a written explanation of what will happen during the study if you decide to participate. You are not waiving any legal rights by signing this Informed Consent Document. Your signature indicates that this research study has been explained to you, that your questions have been answered, and that you agree to take part in this study. You will receive a copy of this form.

Subject's Name (printed):

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**Do not sign this form if today's date is on or after EXPIRATION DATE: 12/09/11.**

(Signature of Person who Obtained Consent)

(Date)

#### **Statement of Person Who Obtained Consent**

I have discussed the above points with the subject or, where appropriate, with the subject's legally authorized representative. It is my opinion that the subject understands the risks, benefits, and procedures involved with participation in this research study.

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(Signature of Person who Obtained Consent)

---

(Date)

**APPENDIX F**  
**MEASURES**

1. Therapy Checklist
2. Working Alliance Inventory (WAI)
3. Group Climate Questionnaire (GCQ)
4. Acceptance and Action Questionnaire-II (AAQ-II)
5. Difficulties in Emotion Regulation Scale (DERS)
6. Hostile Automatic Thoughts Scale (HAT)
7. Multidimensional Measure Emotional Abuse Scale (MMEA)
8. Conflict Tactics Scales- 2: Physical Assault Scale (CTS-2)
9. Inventory of Depression and Anxiety Symptoms (IDAS)
10. Short Form of the Inventory of Interpersonal Problems (IIP-32)
11. Social Adjustment Scale-Self-Report (SAS-SR)

### Therapy Checklist

Below are listed a number of statements that contain therapy activities or therapist behaviors. Please identify and rate how often the **treatment you receive outside of this group** contains these activities or behaviors. Use the scale below to make your choice.

1	2	3	4	5	?
Not at all	Seldom	Sometimes	Often	Always	<i>don't know</i>

Statement		Rating
1.	My therapist explores my personal background to help me understand problems I am having.	
2.	My therapist encourages me to express my thoughts and feelings in our therapy sessions.	
3.	My therapist helps me identify cognitive distortions.	
4.	My therapist helps me to correct my thinking in order to think about my problems in better ways.	
5.	My therapist's priority of focus is on my presenting problems and concerns.	
6.	My therapist focuses on direct ways to reduce symptoms of distress.	
7.	My therapist encourages me to think about what is important in my life.	
8.	My therapist helps me notice and understand how my feelings and thoughts influence my behaviors.	
9.	My therapist helps me understand how my feelings, thoughts, or behaviors help or hinder my interpersonal relationships.	

10.	My therapist assists me in developing interpersonal skills to improve my relationships.	
11.	My therapist helps me learn better ways to deal with my feeling and thoughts.	
12.	My therapist encourages me to face my fears.	
13.	My therapist gives me advice if needed or asked for.	
14.	My therapist gives me homework or asks me to do things between sessions.	
15.	My therapist discusses the nature of my problems and rationale for treatment.	
16.	My therapist establishes treatment in collaboration with me and structures it to achieve clear and explicit goals.	
17.	My therapist encourages me to change with empathic support.	

### Group Climate Questionnaire (GCQ)

Read each statement carefully and as you answer the questions think of the group as a whole. For each statement fill in the box under the MOST APPROPRIATE heading that best describes the group sessions. Please mark only ONE box for each statement.

<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Not at All	A Little Bit	Somewhat	Moderately	Quite a bit	A Great Deal	Extremely

1. The members liked and cared about each other.      0    1    2    3    4    5    6
2. The members tried to understand why they do the things they do, tried to reason it out.      0    1    2    3    4    5    6
3. The members avoided looking at important issues going on between themselves.      0    1    2    3    4    5    6
4. The members felt what was happening was important and there was a sense of participation.      0    1    2    3    4    5    6
5. The members depended upon the group leader(s) for direction.      0    1    2    3    4    5    6
6. There was friction and anger between the members.      0    1    2    3    4    5    6
7. The members were distant and withdrawn from each other.      0    1    2    3    4    5    6
8. The members challenged and confronted each other in their efforts to sort things out.      0    1    2    3    4    5    6
9. The members appeared to do things the way they thought would be acceptable to the group.      0    1    2    3    4    5    6
10. The members rejected and distrusted each other.      0    1    2    3    4    5    6
11. The members revealed sensitive personal information or feelings.      0    1    2    3    4    5    6
12. The members appeared tense and anxious.      0    1    2    3    4    5    6

### Working Alliance Inventory (WAI)

Below you will find a list of statements. Please rate how true each statement has been for you by circling a number next to it. Use the scale below to make your choice.

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
Never	Very Seldom	Seldom	Sometimes	Frequently	Almost Always	Always

1. The group leaders and I are working towards mutually agreed upon goals.      1    2    3    4    5    6    7
2. The group leaders and I collaborate on setting goals for my therapy.      1    2    3    4    5    6    7
3. We have established a good understanding of the kind of changes that would be good for me.      1    2                3    4                5    6    7
4. What I am doing in therapy gives me new ways of looking at my problem.      1    2                3    4                5    6    7
5. I feel that the things I do in therapy will help me to accomplish the changes that I want.      1    2                3    4                5    6    7
6. As a result of these sessions I am clearer as to how I might be able to change.      1    2                3    4    5    6                7
7. I believe the way we are working with my problem is correct.      1    2                3    4    5    6                7
8. I believe the group leaders like me.      1    2    3    4    5    6    7
9. We agree on what is important for me to work on.      1    2    3    4    5    6    7
10. The group leaders and I respect each other.      1    2    3    4    5    6    7
11. I feel that the group leaders appreciate me.      1    2    3    4    5    6    7
12. I feel the group leaders care about me even when I do things that he/she does not approve of.      1    2    3    4    5    6    7

### Acceptance and Action Questionnaire-II (AAQ-II)

Below you will find a list of statements. Please rate how true each statement has been for you during the past month by circling a number next to it. Use the scale below to make your choice.

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
Never	Very Seldom	Seldom	Sometimes	Frequently	Almost Always	Always

- |  |                                 |
|--|---------------------------------|
| 1. It's OK if I remember something unpleasant.   | 1    2    3    4    5    6    7 |
| 2. My painful experiences and memories make it difficult for me to live a life that I would value. | 1    2    3    4    5    6    7 |
| 3. I'm afraid of my feelings.  | 1    2    3    4    5    6    7 |
| 4. I worry about not being able to control my worries and feelings.                                | 1    2    3    4    5    6    7 |
| 5. My painful memories prevent me from having a fulfilling life.                                   | 1    2    3    4    5    6    7 |
| 6. I am in control of my life.   | 1    2    3    4    5    6    7 |
| 7. Emotions cause problems in my life.   | 1    2    3    4    5    6    7 |
| 8. It seems like most people are handling their lives better than I am.                            | 1    2    3    4    5    6    7 |
| 9. Worries get in the way of my success.   | 1    2    3    4    5    6    7 |
| 10. My thoughts and feelings do not get in the way of how I want to live my life.                  | 1    2    3    4    5    6    7 |

### **Difficulties in Emotion Regulation Scale (DERS)**

Please indicate how often the items have applied to you in the past month, using the scale below.

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Almost never	Sometimes	About half the time	Most of the time	Almost always

- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1) I am clear about my feelings.  | 1 | 2 | 3 | 4 | 5 |
| 2) I pay attention to how I feel.                                       | 1 | 2 | 3 | 4 | 5 |
| 3) I experience my emotions as overwhelming and out of control.         | 1 | 2 | 3 | 4 | 5 |
| 4) I have no idea how I am feeling.                                     | 1 | 2 | 3 | 4 | 5 |
| 5) I have difficulty making sense out of my feelings.                   | 1 | 2 | 3 | 4 | 5 |
| 6) I am attentive to my feelings.                                       | 1 | 2 | 3 | 4 | 5 |
| 7) I know exactly how I am feeling.                                     | 1 | 2 | 3 | 4 | 5 |
| 8) I care about what I am feeling.                                      | 1 | 2 | 3 | 4 | 5 |
| 9) I am confused about how I feel.                                      | 1 | 2 | 3 | 4 | 5 |
| 10) When I'm upset, I acknowledge my emotions.                          | 1 | 2 | 3 | 4 | 5 |
| 11) When I'm upset, I become angry with myself for feeling that way.    | 1 | 2 | 3 | 4 | 5 |
| 12) When I'm upset, I become embarrassed for feeling that way.          | 1 | 2 | 3 | 4 | 5 |
| 13) When I'm upset, I have difficulty getting work done.                | 1 | 2 | 3 | 4 | 5 |
| 14) When I'm upset, I become out of control.                            | 1 | 2 | 3 | 4 | 5 |
| 15) When I'm upset, I believe that I will be that way for a long time.  | 1 | 2 | 3 | 4 | 5 |
| 16) When I'm upset, I believe that I'll end up feeling very depressed.  | 1 | 2 | 3 | 4 | 5 |
| 17) When I'm upset, I believe that my feelings are valid and important. | 1 | 2 | 3 | 4 | 5 |
| 18) When I'm upset, I have difficulty focusing on other things.         | 1 | 2 | 3 | 4 | 5 |
| 19) When I'm upset, I feel out of control.                              | 1 | 2 | 3 | 4 | 5 |

20) When I'm upset, I can still get things done.	1	2	3	4	5
21) When I'm upset, I feel ashamed with myself for feeling that way.	1	2	3	4	5
22) When I'm upset, I know that I can find a way to feel better.	1	2	3	4	5
23) When I'm upset, I feel like I am weak.	1	2	3	4	5
24) When I'm upset, I feel like I can remain in control of my behaviors.	1	2	3	4	5
25) When I'm upset, I feel guilty for feeling that way.	1	2	3	4	5
26) When I'm upset, I have difficulty concentrating.	1	2	3	4	5
27) When I'm upset, I have difficulty controlling my behaviors.	1	2	3	4	5
28) When I'm upset, I believe nothing will make me feel better.	1	2	3	4	5
29) When I'm upset, I become irritated with myself.	1	2	3	4	5
30) When I'm upset, I start to feel very bad about myself.	1	2	3	4	5
31) When I'm upset, I believe that wallowing in it is all I can do.	1	2	3	4	5
32) When I'm upset, I lose control over my behaviors.	1	2	3	4	5
33) When I'm upset, I have difficulty thinking about anything else.	1	2	3	4	5
34) When I'm upset, I take time to figure out what I'm really feeling.	1	2	3	4	5
35) When I'm upset, it takes me a long time to feel better.	1	2	3	4	5
36) When I'm upset, my emotions feel overwhelming.	1	2	3	4	5

### Hostile Automatic Thoughts Scale (HAT)

Please indicate how often the thought (or one similar to it) has occurred when interacting with your partner during the past month, using the scale below.

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Not at all	Sometimes	Moderately often	Often	All the time

- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1. I hate this person so much I could kill him/her!                               | 1 | 2 | 3 | 4 | 5 |
| 2. I want to kill this person!  | 1 | 2 | 3 | 4 | 5 |
| 3. I wish this person was dead.   | 1 | 2 | 3 | 4 | 5 |
| 4. If I could get away with it, I'd kill this person!                             | 1 | 2 | 3 | 4 | 5 |
| 5. I want to beat the hell out of this person!                                    | 1 | 2 | 3 | 4 | 5 |
| 6. I'd like to knock his/her teeth out.   | 1 | 2 | 3 | 4 | 5 |
| 7. I can think of a lot of terrible things I'd like to see happen to that person. | 1 | 2 | 3 | 4 | 5 |
| 8. I want to smack this person!   | 1 | 2 | 3 | 4 | 5 |
| 9. I want to hit this person.   | 1 | 2 | 3 | 4 | 5 |
| 10. I want to destroy something right now!  | 1 | 2 | 3 | 4 | 5 |
| 11. If someone really wants to mess with me, then they deserve to get hurt.       | 1 | 2 | 3 | 4 | 5 |
| 12. What an idiot!  | 1 | 2 | 3 | 4 | 5 |
| 13. This person is a loser.   | 1 | 2 | 3 | 4 | 5 |
| 14. I hate stupid people.   | 1 | 2 | 3 | 4 | 5 |
| 15. What a jerk!  | 1 | 2 | 3 | 4 | 5 |

16. S/he is so annoying.	1	2	3	4	5
17. What the hell is this person doing?	1	2	3	4	5
18. I think this person is rude.	1	2	3	4	5
19. Why doesn't this person just shut up?	1	2	3	4	5
20. I wish they would just shut up and go away.	1	2	3	4	5
21. This person makes me feel angry.	1	2	3	4	5
22. I have to get this person back.	1	2	3	4	5
23. I want to get back at this person.	1	2	3	4	5
24. I just want to hurt this person as bad as s/he hurt me.	1	2	3	4	5
25. I want to get revenge.	1	2	3	4	5
26. I want to treat this person like s/he treated me.	1	2	3	4	5
27. I'll show this person!	1	2	3	4	5
28. I should do something to this person.	1	2	3	4	5
29. When someone attacks me like this person did, I attack them back.	1	2	3	4	5
30. This person needs to be taught a lesson.	1	2	3	4	5

MMEA & CTS-2

**INSTRUCTIONS:** There are times when we disagree, get annoyed with another person, want different things from each other, or just have spats or fights because we are in bad moods, are tired, or for some other reason. We also have many different ways of handling these situations. This is a list of things that might happen when you are distressed or disagree with someone. Please blacken the circle corresponding to how many times **YOU** did them in the **past month**. If you did not do one of these things in the past 3 months, but it happened BEFORE THAT, blacken the circle marked “Not in past six months, but has happened in the past.” Please mark your answers according to the following scale:

<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
Never	Once	Twice	3-5 times	6-10 times	11-20 times	More than 20 times	Not in past 3 mos. but happened in the past

**When upset or in a disagreement with someone you care about, have you:**

- |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| 1. sulked or refused to talk about an issue?                  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. secretly searched through their belongings?                | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. tried to stop them from seeing friends or family members?  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4. complained that they doesn't spend enough time with you?   | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5. got angry because they went somewhere without telling you? | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6. tried to make them feel guilty?                            | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7. stood or hovered them during a conflict or disagreement?   | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8. said or implied that they are stupid?                      | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9. called them worthless?                                     | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

10. called them ugly?	0	1	2	3	4	5	6	7
11. criticized their appearance?	0	1	2	3	4	5	6	7
12. called them a loser, failure or similar term?	0	1	2	3	4	5	6	7
13. belittled them in front of other people?	0	1	2	3	4	5	6	7
14. said that someone else would be a better friend/partner/person?	0	1	2	3	4	5	6	7
15. became so angry that you were unable or unwilling to talk?	0	1	2	3	4	5	6	7
16. acted cold or distant when angry?	0	1	2	3	4	5	6	7
17. refused to have any discussion of a problem?	0	1	2	3	4	5	6	7
18. drove recklessly enough to frighten them?	0	1	2	3	4	5	6	7
19. refused to acknowledge a problem that they felt was important?	0	1	2	3	4	5	6	7
20. intentionally avoided them?	0	1	2	3	4	5	6	7

0	1	2	3	4	5	6	7
Never	Once	Twice	3-5 times	6-10 times	11-20 times	More than 20 times	Not in past 3 mos. but happened in the past

#### **When upset or in a disagreement with someone you care about, have you:**

21. became angry enough to frighten your partner?	0	1	2	3	4	5	6	7
22. threatened to hit them?	0	1	2	3	4	5	6	7
23. threatened to throw something at them?	0	1	2	3	4	5	6	7
24. threw, smashed, hit, or kicked something in front of them?	0	1	2	3	4	5	6	7

25. asked them where he/she had been or who she/he was with in a suspicious manner?	0    1    2    3    4    5    6    7
26. put your face right in front of their face to make a point more forcefully?	0    1    2    3    4    5    6    7
27. changed the subject on purpose when they were trying to discuss a problem?	0    1    2    3    4    5    6    7
28. checked up on them by asking friends where she/he was or whom he/she was with?	0    1    2    3    4    5    6    7
29. thrown something at them that could hurt?	0    1    2    3    4    5    6    7
30. twisted their arm or hair?	0    1    2    3    4    5    6    7
31. pushed or shoved them?	0    1    2    3    4    5    6    7
32. grabbed them?	0    1    2    3    4    5    6    7
33. punched or hit them with something that could hurt?	0    1    2    3    4    5    6    7
34. slapped them?	0    1    2    3    4    5    6    7
35. slammed them against a wall?	0    1    2    3    4    5    6    7
36. kicked them?	0    1    2    3    4    5    6    7
37. beat them up?	0    1    2    3    4    5    6    7
38. choked them?	0    1    2    3    4    5    6    7
39. burned or scalded them on purpose?	0    1    2    3    4    5    6    7
40. used a weapon on them?	0    1    2    3    4    5    6    7

## IDAS

Below is a list of feelings, sensations, problems, and experiences that people sometimes have. Read each item to determine how well it describes your recent feelings and experiences. Then select the option that best describes how much you have felt or experienced things this way **during the past two (2) weeks, including today**. Use this scale when answering:

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Not at all	A little bit	Moderately	Quite a bit	Extremely

- \_\_\_\_\_ 1. I was proud of myself
- \_\_\_\_\_ 2. I felt exhausted
- \_\_\_\_\_ 3. I felt depressed
- \_\_\_\_\_ 4. I felt inadequate
- \_\_\_\_\_ 5. I slept less than usual
- \_\_\_\_\_ 6. I felt fidgety, restless
- \_\_\_\_\_ 7. I had thoughts of suicide
- \_\_\_\_\_ 8. I slept more than usual
- \_\_\_\_\_ 9. I hurt myself purposely
- \_\_\_\_\_ 10. I slept very poorly
- \_\_\_\_\_ 11. I blamed myself for things
- \_\_\_\_\_ 12. I had trouble falling asleep
- \_\_\_\_\_ 13. I felt discouraged about things
- \_\_\_\_\_ 14. I thought about my own death
- \_\_\_\_\_ 15. I thought about hurting myself
- \_\_\_\_\_ 16. I did not have much of an appetite

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Not at all	A little bit	Moderately	Quite a bit	Extremely

- \_\_\_\_\_ 17. I felt like eating less than usual
- \_\_\_\_\_ 18. I thought a lot about food
- \_\_\_\_\_ 19. I did not feel much like eating
- \_\_\_\_\_ 20. I ate when I wasn't hungry
- \_\_\_\_\_ 21. I felt optimistic
- \_\_\_\_\_ 22. I ate more than usual
- \_\_\_\_\_ 23. I felt that I had accomplished a lot
- \_\_\_\_\_ 24. I looked forward to things with enjoyment
- \_\_\_\_\_ 25. I was furious
- \_\_\_\_\_ 26. I felt hopeful about the future
- \_\_\_\_\_ 27. I felt that I had a lot to look forward to
- \_\_\_\_\_ 28. I felt like breaking things
- \_\_\_\_\_ 29. I had disturbing thoughts of something bad that happened to me
- \_\_\_\_\_ 30. Little things made me mad
- \_\_\_\_\_ 31. I felt enraged
- \_\_\_\_\_ 32. I had nightmares that reminded me of something bad that happened
- \_\_\_\_\_ 33. I lost my temper and yelled at people
- \_\_\_\_\_ 34. I felt like I had a lot of interesting things to do.
- \_\_\_\_\_ 35. I felt like I had a lot of energy
- \_\_\_\_\_ 36. I had memories of something scary that happened

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Not at all	A little bit	Moderately	Quite a bit	Extremely

- \_\_\_\_\_ 37. I felt self-conscious knowing that others were watching me
- \_\_\_\_\_ 38. I felt a pain in my chest
- \_\_\_\_\_ 39. I was worried about embarrassing myself socially
- \_\_\_\_\_ 40. I felt dizzy or light headed
- \_\_\_\_\_ 41. I cut or burned myself on purpose
- \_\_\_\_\_ 42. I had little interest in my usual hobbies or activities
- \_\_\_\_\_ 43. I thought that the world would be better off without me
- \_\_\_\_\_ 44. I felt much worse in the morning than later in the day
- \_\_\_\_\_ 45. I felt drowsy, sleepy
- \_\_\_\_\_ 46. I woke up early and could not get back to sleep
- \_\_\_\_\_ 47. I had trouble concentrating
- \_\_\_\_\_ 48. I had trouble making up my mind
- \_\_\_\_\_ 49. I talked more slowly than usual
- \_\_\_\_\_ 50. I had trouble waking up in the morning
- \_\_\_\_\_ 51. I found myself worrying all the time
- \_\_\_\_\_ 52. I woke up frequently during the night
- \_\_\_\_\_ 53. It took a lot of effort for me to get going
- \_\_\_\_\_ 54. I woke up much earlier than usual
- \_\_\_\_\_ 55. I was trembling or shaking
- \_\_\_\_\_ 56. I became anxious in a crowded public setting

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Not at all	A little bit	Moderately	Quite a bit	Extremely

- \_\_\_\_\_ 57. I felt faint
- \_\_\_\_\_ 58. I found it difficult to make eye contact with people
- \_\_\_\_\_ 59. My heart was racing or pounding
- \_\_\_\_\_ 60. I got upset thinking about something bad that happened
- \_\_\_\_\_ 61. I found it difficult to talk with people I did not know well
- \_\_\_\_\_ 62. I had a very dry mouth
- \_\_\_\_\_ 63. I was short of breath
- \_\_\_\_\_ 64. I felt like I was choking

**IIP-32**

People have reported having the following problems in relating to other people. Please read the list below, and for each item, consider whether it has been a problem for you with respect to any significant person in your life **in the past month**. Then fill in the numbered circle that describes how distressing that problem has been.

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Almost Never	Sometimes	Half of the Time	Most of the Time	Almost Always

1. I am too aggressive toward other people.      1      2      3      4      5
2. I try to control other people too much.      1      2      3      4      5
3. I manipulate other people too much to get what I want.      1      2      3      4      5
4. I argue with other people too much.      1      2      3      4      5
5. I am supportive of another person's goals in life.      1      2      3      4      5
6. I really care about other people's problems.      1      2      3      4      5
7. I put somebody else's needs before my own.      1      2      3      4      5
8. I feel good about another person's happiness.      1      2      3      4      5
9. I show affection to people.      1      2      3      4      5
10. I get along with people.      1      2      3      4      5
11. I experience a feeling of love for another person.      1      2      3      4      5
12. I feel close to other people.      1      2      3      4      5
13. I join in on groups.      1      2      3      4      5

14. I introduce myself to new people.	1	2	3	4	5
15. I socialize with other people.	1	2	3	4	5
16. I ask other people to get together socially with me.	1	2	3	4	5
17. I tell a person to stop bothering me.	1	2	3	4	5
18. I am assertive with another person.	1	2	3	4	5
19. I am firm when I need to be.	1	2	3	4	5
20. I say “no” to other people.	1	2	3	4	5
21. I let other people know when I am angry.	1	2	3	4	5
22. I am assertive without worrying about hurting the other person’s feelings.	1	2	3	4	5
23. I let other people take advantage of me too much.	1	2	3	4	5
24. I try to please other people too much.	1	2	3	4	5
25. I put other people’s needs before my own too much.	1	2	3	4	5
26. I am overly generous to other people.	1	2	3	4	5
27. I am affected by another person’s misery too much.	1	2	3	4	5
28. I keep things private from other people.	1	2	3	4	5
29. I open up to people too much.	1	2	3	4	5
30. I want to be noticed too much.	1	2	3	4	5
31. I tell personal things to other people too much.	1	2	3	4	5
32. I confront people with problems that come up.	1	2	3	4	5

### **Social Adjustment Scale**

We are interested in finding out how you have been doing in the last two weeks. We would like you to answer some questions about your work, spare time and your family life. There are no right or wrong answers to these questions. Circle the number corresponding to the answers that best describes how you have been in the last two weeks.

#### **WORK OUTSIDE THE HOME**

**If you do not work for pay or work less than 15 hours each week, please go on to Question 7. If you do work 15 hours or more for pay each week, please answer Questions 1-6 about your work.**

1. How many days did you miss from work in the last two weeks?
  - 1 - No days missed
  - 2 - One day
  - 3 - I missed about half the time
  - 4 - Missed more than half the time but did make at least one day
  - 5 - I did not work any days

If you have not worked any days in the last two weeks, go on to Question 7.

2. Have you been able to do your work in the last 2 weeks?
  - 1 - I did my work very well.
  - 2 - I did my work well but had some minor problems.
  - 3 - I needed help with my work and did not do well about half the time.
  - 4 - I did my work poorly most of the time.
  - 5 - I did my work poorly all the time.
3. Have you been ashamed of how you do your work in the last two weeks?
  - 1 - I never felt ashamed.
  - 2 - Once or twice I felt a little ashamed.
  - 3 - About half the time I felt ashamed.
  - 4 - I felt ashamed most of the time.
  - 5 - I felt ashamed all the time.
4. Have you had any arguments with people at work in the last two weeks?
  - 1 - I had no arguments and got along very well.
  - 2 - I usually got along well but had minor arguments.
  - 3 - I had more than one argument.
  - 4 - I had many arguments.
  - 5 - I was constantly in arguments.

5. Have you felt upset, worried, or uncomfortable while doing your work during the last two weeks?
  - 1 - I never felt upset.
  - 2 - Once or twice I felt upset.
  - 3 - Half the time I felt upset.
  - 4 - I felt upset most of the time.
  - 5 - I felt upset all of the time.
  
6. Have you found your work interesting these last two weeks?
  - 1 - My work was almost always interesting.
  - 2 - Once or twice my work was not interesting.
  - 3 - Half the time my work was uninteresting.
  - 4 - Most of the time my work was uninteresting.
  - 5 - My work was always uninteresting.

### **WORK AT HOME - ALL WOMEN**

7. How many days did you do some housework during the last two weeks?
  - 1 - Every day
  - 2 - I did the housework almost every day.
  - 3 - I did the housework about half the time.
  - 4 - I usually did not do the housework.
  - 5 - I was completely unable to do housework.
  
8. During the last two weeks, have you kept up with your housework? This includes cooking, cleaning, laundry, grocery shopping, and errands.
  - 1 - I did my work very well.
  - 2 - I did my work well but had some minor problems.
  - 3 - I needed help with my work and did not do it well about half the time
  - 4 - I did my work poorly most of the time.
  - 5 - I did my work poorly all of the time.
  
9. Have you been ashamed of how you did your housework during the last two weeks?
  - 1 - I never felt ashamed.
  - 2 - Once or twice I felt a little ashamed.
  - 3 - About half the time I felt ashamed.
  - 4 - I felt ashamed most of the time.
  - 5 - I felt ashamed all of the time.
  
10. Have you had any arguments with sales people, tradesmen or neighbors in the last two weeks?
  - 1 - I had no arguments and got along very well.
  - 2 - I usually got along well, but had minor arguments.

- 3 - I had more than one argument.
- 4 - I had many arguments.
- 5 - I was constantly in arguments.

11. Have you felt upset while doing your housework during the last two weeks?
  - 1 - I never felt upset.
  - 2 - Once or twice I felt upset.
  - 3 - Half the time I felt upset.
  - 4 - I felt upset most of the time.
  - 5 - I felt upset all of the time.
  
12. Have you found your housework interesting these last two weeks?
  - 1 - My work was almost always interesting.
  - 2 - Once or twice my work was not interesting.
  - 3 - Half the time my work was uninteresting.
  - 4 - Most of the time my work was uninteresting.
  - 5 - My work was always uninteresting.

**FOR STUDENTS - Answer Questions 13-18 if you go to school half time or more. Otherwise, go on to Question 19.**

13. How many days of classes did you miss in the last two weeks?
  - 1 - No days missed
  - 2 - A few days missed.
  - 3 - I missed about half the time.
  - 4 - Missed more than half time but did make at least one day
  - 5 - I did not go to classes at all.
  
14. Have you been able to keep up with your class work in the last two weeks?
  - 1 - I did my work very well.
  - 2 - I did my work well but had minor problems.
  - 3 - I needed help with my work and did not do well about half the time.
  - 4 - I did my work poorly most of the time.
  - 5 - I did my work poorly all the time.
  
15. During the last two weeks, have you been ashamed of how you do your school work?
  - 1 - I never felt ashamed.
  - 2 - Once or twice I felt ashamed.
  - 3 - About half the time I felt ashamed.
  - 4 - I felt ashamed most of the time.
  - 5 - I felt ashamed all of the time.
  
16. Have you had any arguments with people at school in the last two weeks?
  - 1 - I had no arguments and got along very well.

- 2 - I usually got along well, but had minor arguments.  
 3 - I had more than one argument.  
 4 - I had many arguments.  
 5 - I was constantly in arguments.  
 8 - Not applicable; I did not attend school.

17. Have you felt upset at school during the last two weeks?  
 1 - I never felt upset.  
 2 - Once or twice I felt upset.  
 3 - Half the time I felt upset.  
 4 - I felt upset most of the time.  
 5 - I felt upset all of the time.  
 8 - Not applicable; I did not attend school.
18. Have you found your school work interesting these last two weeks?  
 1 - My work was almost always interesting.  
 2 - Once or twice my work was not interesting.  
 3 - Half the time my work was uninteresting.  
 4 - Most of the time my work was uninteresting.  
 5 - My work was always uninteresting.

**SPARE TIME - EVERYONE ANSWER QUESTIONS 19-27.**

19. How many friends have you seen or spoken to on the telephone the last two weeks?  
 1 - Nine or more friends  
 2 - Five to eight friends  
 3 - Two to four friends  
 4 - One friend  
 5 - No friends
20. Have you been able to talk about your feelings and problems with at least one friend during the last two weeks?  
 1 - I can always talk about my innermost feelings.  
 2 - I usually can talk about my feelings.  
 3 - About half the time I felt able to talk about my feelings.  
 4 - I usually was not able to talk about my feelings.  
 5 - I was never able to talk about my feelings.  
 8 - Not applicable; I have no friends
21. How many times in the last two weeks have you gone out socially with other people? For example, visited friends, gone to movies, bowling, church, restaurants, invited friends to your home?  
 1 - More than three times  
 2 - Three times

- 3 - Twice
- 4 - Once
- 5 - None

22. How much time have you spent on hobbies or spare time interests during the last two weeks? For example, bowling, sewing, gardening, sports, reading, etc.?
- 1 - I spent most of my spare time on hobbies almost every day.
  - 2 - I spent some time on hobbies some of the days.
  - 3 - I spent a little spare time on hobbies
  - 4 - I usually did not spend any time on hobbies but did watch TV.
  - 5 - I did not spend any spare time on hobbies or watching TV.
23. Have you had open arguments with your friends in the last two weeks?
- 1 - I had no arguments and got along very well.
  - 2 - I usually got along well but had minor arguments.
  - 3 - I had more than one argument.
  - 4 - I had many arguments.
  - 5 - I was constantly in arguments.
  - 8 - Not applicable; I have no friends.
24. If your feelings were hurt or offended by a friend during the last two weeks, how badly did you take it?
- 1 - It did not affect me or it did not happen.
  - 2 - I got over it in a few hours.
  - 3 - I got over it in a few days.
  - 4 - I got over it in a week.
  - 5 - It will take me months to recover.
  - 8 - Not applicable; I was never with people.
25. Have you felt shy or uncomfortable with people in the last two weeks?
- 1 - I always felt comfortable.
  - 2 - Sometimes I felt uncomfortable but could relax after a while.
  - 3 - About half the time I felt uncomfortable.
  - 4 - I usually felt uncomfortable.
  - 5 - I always felt uncomfortable.
  - 8 - Not applicable; I was never with people.
26. Have you felt lonely and wished for more friends during the last two weeks?
- 1 - I have not felt lonely.
  - 2 - I have felt lonely a few times.
  - 3 - About half the time I felt lonely.
  - 4 - I usually felt lonely.
  - 5 - I always felt lonely and wished for more friends.

27. Have you felt bored in your spare time during the last two weeks?
- 1- I never felt bored.
  - 2 - I usually did not feel bored.
  - 3 - About half the time I felt bored.
  - 4 - Most of the time I felt bored.
  - 5 - I was constantly bored.

**SINGLE, SEPARATED OR DIVORCED PERSONS NOT LIVING WITH A PARTNER - Please answer Questions 28 and 29. Otherwise, go on to Question 30.**

28. How many times have you been with a date these last two weeks?
- 1 - More than three times
  - 2 - Three times
  - 3 - Twice
  - 4 - Once
  - 5 - Never
29. Have you been interested in dating during the last two weeks?  
If you have not dated, would you have liked to?
- 1 - I was always interested in dating.
  - 2 - Most of the time I was interested.
  - 3 - About half of the time I was interested.
  - 4 - Most of the time I was not interested.
  - 5 - I was completely uninterested.

**FAMILY- Answer Questions 30-37 about your parents, brothers, sisters, in-laws, and children not living at home. If none of these relatives are living, go on to Question 36.**

30. Have you had open arguments with your relatives in the last two weeks?
  - 1 - We always got along very well.
  - 2 - We usually got along very well but had some minor arguments.
  - 3 - I had more than one argument with at least one relative.
  - 4 - I had many arguments.
  - 5 - I was constantly in arguments.
  
31. Have you been able to talk about your feelings and problems with at least one of your relatives in the last two weeks?
  - 1 - I can always talk about my feelings with at least one relative.
  - 2 - I usually can talk about my feelings.
  - 3 - About half the time I felt able to talk about my feelings.
  - 4 - I usually was not able to talk about my feelings.
  - 5 - I was never able to talk about my feelings.
  - 8 - Not applicable; No contact with any relatives in the last two weeks.
  
32. Have you avoided contacts with your relatives these last two weeks?
  - 1 - I have contacted relatives regularly.
  - 2 - I have contacted a relative at least once.
  - 3 - I have waited for my relatives to contact me.
  - 4 - I avoided my relatives, but they contacted me.
  - 5 - I have had no contacts with any relatives.
  
33. Did you depend on your relatives for help, advice, money or friendship during the last two weeks?
  - 1 - I never need to depend on them.
  - 2 - I usually did not need to depend on them.
  - 3 - About half the time I needed to depend on them.
  - 4 - Most of the time I depend on them.
  - 5 - I depend completely on them.
  
34. Have you wanted to do the opposite of what your relatives wanted in order to make them angry during the last two weeks?
  - 1 - I never wanted to oppose them.
  - 2 - Once or twice I wanted to oppose them.
  - 3 - About half the time I wanted to oppose them.
  - 4 - Most of the time I wanted to oppose them.
  - 5 - I always opposed them.

35. Have you been worried about things happening to your relatives without good reason in the last two weeks?
- 1 - I have not worried without reason.
  - 2 - Once or twice I worried.
  - 3 - About half the time I worried.
  - 4 - Most of the time I worried.
  - 5 - I have worried the entire time.

**EVERYONE - Answer Questions 36 and 37, even if your relatives are not living.**

36. During the last two weeks, have you been thinking that you have let any of your relatives down or have been unfair to them at any time?
- 1 - I did not feel that I let them down at all.
  - 2 - I usually did not feel that I let them down.
  - 3 - About half the time I felt that I let them down.
  - 4 - Most of the time I have felt that I let them down.
  - 5 - I always felt that I let them down.
37. During the last two weeks, have you been thinking that any of your relatives have let you down or have been unfair to you at any time?
- 1 - I never felt that they let me down.
  - 2 - I felt that they usually did not let me down.
  - 3 - About half the time I felt they let me down.
  - 4 - I usually have felt that they let me down.
  - 5 - I am very bitter that they let me down.

**Please answer Questions 38-46 if you are LIVING WITH YOUR SPOUSE OR PARTNER. Otherwise, go on to Question 47.**

38. Have you had open arguments with your partner in the last two weeks?
- 1 - We had no arguments and we got along very well.
  - 2 - We usually got along very well but had minor arguments.
  - 3 - We had more than one argument.
  - 4 - We had many arguments.
  - 5 - We were constantly in arguments.
39. Have you been able to talk about your feelings and problems with your partner during the last two weeks?
- 1 - I could always talk freely about my feelings.
  - 2 - I usually could talk about my feelings.
  - 3 - About half the time I felt able to talk about my feelings.
  - 4 - I usually was not able to talk about my feelings.

- 5 - I was never able to talk about my feelings.
40. Have you been demanding to have your own way at home during the last two weeks?
- 1 - I have not insisted on always having my own way.
  - 2 - I usually have not insisted on having my own way.
  - 3 - About half the time I insisted on having my own way.
  - 4 - I usually insisted on having my own way.
  - 5 - I always insisted on having my own way.
41. Have you been bossed around by your partner these last two weeks?
- 1 - Almost never.
  - 2 - Once in a while.
  - 3 - About half the time.
  - 4 - Most of the time.
  - 5 - Always.
42. How much have you felt dependent on your partner these last two weeks?
- 1 - I was independent.
  - 2 - I was usually independent.
  - 3 - I was somewhat dependent.
  - 4 - I was usually dependent.
  - 5 - I depended on my partner for everything.
43. How have you felt about your partner during the last two weeks?
- 1 - I always felt affection.
  - 2 - I usually felt affection.
  - 3 - About half the time I felt dislike and half the time affection.
  - 4 - I usually felt dislike.
  - 5 - I always felt dislike.
44. How many times have you and your partner had intercourse?
- 1 - More than twice a week.
  - 2 - Once or twice a week.
  - 3 - Once every two weeks.
  - 4 - Less than once every two weeks but at least once in the last month.
  - 5 - Not at all in a month or longer.
45. Have you had any problems during intercourse, such as pain these last two weeks?
- 1 - None.
  - 2 - Once or twice.

- 3 - About half the time.  
 4 - Most of the time.  
 5 - Always.  
 8 - Not applicable; No intercourse in the last month.
46. How have you felt about intercourse during the last two weeks?  
 1 - I always enjoyed it.  
 2 - I usually enjoyed it.  
 3 - About half the time I did and half the time I did not enjoy it.  
 4 - I usually did not enjoy it.  
 5 - I never enjoyed it.  
 8 - Not applicable; No intercourse in the last month.

**CHILDREN - Answer Questions 47-50 only if you had children over the age of 2 living at home during the last two weeks. Otherwise, go on to Question 51.**

47. Have you been interested in what your children are doing (school, play, or hobbies) during the last two weeks?  
 1 - I was always interested and actively involved.  
 2 - I usually was interested and involved.  
 3 - About half the time I was interested and half the time I was not interested.  
 4 - I usually was disinterested.  
 5 - I was always disinterested.
48. Have you been able to talk and listen to your children during the last two weeks? Include only children over the age of 2.  
 1 - I was always able to communicate with them.  
 2 - I usually was able to communicate with them.  
 3 - About half the time I could communicate.  
 4 - I usually was not able to communicate.  
 5 - I was completely unable to communicate.
49. How have you been getting along with the children during the last two weeks?  
 1 - I had no arguments and got along very well.  
 2 - I usually got along well but had minor arguments.  
 3 - I had more than one argument.  
 4 - I had many arguments.  
 5 - I was constantly in arguments.
50. How have you felt toward your children these last two weeks?  
 1 - I always felt affection.  
 2 - I mostly felt affection.  
 3 - About half the time I felt affection.  
 4 - Most of the time I did not feel affection.

5 - I never felt affection toward them.

**FAMILY UNIT - Everyone please answer Questions 51-53.**

51. Have you worried about your partner or any of your children without any reason the last two weeks, even if you are not living together now?
- 1 - I never worried.
  - 2 - Once or twice I worried.
  - 3 - About half the time I worried.
  - 4 - Most of the time I worried.
  - 5 - I always worried.
52. During the last two weeks have you been thinking that you have let down your partner or any of your children at any time?
- 1 - I did not feel I let them down at all.
  - 2 - I usually did not feel that I let them down.
  - 3 - About half the time I felt I let them down.
  - 4 - Most of the time I felt that I let them down.
  - 5 - I let them down completely.
53. During the last two weeks, have you been thinking that your partner or any of your children have let you down at any time?
- 1 - I never felt that they let me down.
  - 2 - I felt they usually did not let me down.
  - 3 - About half the time I felt they let me down.
  - 4 - I usually felt they let me down.
  - 5 - I feel bitter that they let me down.

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