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Implementation of an acceptance and commitment therapy skills group with incarcerated domestic violence offenders : a feasibility pilot study

Rosaura E. Orengo-Aguayo
University of Iowa

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IMPLEMENTATION OF AN ACCEPTANCE AND COMMITMENT THERAPY SKILLS
GROUP WITH INCARCERATED DOMESTIC VIOLENCE OFFENDERS: A FEASIBILITY
PILOT STUDY

by

Rosaura E. Orengo-Aguayo

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

August 2016

Thesis Supervisor: Associate Professor Teresa A. Treat

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Graduate College
The University of Iowa
Iowa City, Iowa

CERTIFICATE OF APPROVAL

PH.D. THESIS

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

Rosaura E. Orengo-Aguayo

has been approved by the Examining Committee for
the thesis requirement for the Doctor of Philosophy degree
in Psychology at the August 2016 graduation.

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To my mom, who molded me into the woman that I am today. Thank you for teaching me the importance of knowing who I am, searching for purpose and meaning, and the value of persevering even when it seems impossible. I write these words because of you.

For I know the plans I have for you, declares the Lord, plans to prosper you and not to harm you,
plans to give you hope and a future.

Jeremiah 29:11
New International Version

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ABSTRACT

Intimate partner violence (IPV) is a serious public health concern. Existing interventions for male IPV offenders (i.e., Duluth Model with CBT principles) have shown small-to-negligible effects in reducing future perpetration of violence and have high dropout rates. Offenders who fail to complete treatment, or are deemed to be at “high risk”, are sent to jail. Efficacious and acceptable interventions for incarcerated IPV offenders are needed. The objective of this dissertation study was to test the feasibility of implementing an Acceptance and Commitment Therapy (ACT) skills group with incarcerated IPV offers. The ultimate goal of ACT is to help individuals make behavioral choices in the service of their values, despite the presence of unwanted internal experiences, through the use of acceptance and mindfulness skills. The specific aims of the study were: 1) to examine post-treatment effects in the targeted ACT skills (i.e., present-moment awareness, acceptance, defusion, experiential avoidance), internalizing symptoms, and externalizing behaviors; and to test whether treatment effects were moderated by IPV-related criminal history severity (IPV-CHS); 2) to explore participants’ perceptions of the group; and 3) to examine whether pre-treatment IPV-CHS predicted worse ACT skills and greater symptom severity at pre-treatment.

A sample of 33 court-mandated IPV offenders who participated in the 1 month ACT skills group (12 sessions, delivered 3 times per week) and who completed self-report questionnaires at pre and post treatment was used to evaluate the first two aims. The sample used to evaluate aim three consisted of 58 participants who had completed either the ACT skills group or another treatment offered at the jail at the time (treatment-as-usual) and for whom pre-treatment data were available. Quantitative results revealed that ACT did not produce significant pre to post changes in any of the outcome measures (i.e., ACT skills, internalizing symptoms,

and externalizing behaviors), that IPV-CHS did not reliably moderate treatment effects, and that IPV-CHS did not predict worse ACT skills or greater symptom severity at pre-treatment. Qualitative results, however, revealed that participants viewed the ACT treatment favorably, found the material useful, and felt accepted and understood by the facilitators. The present study provides evidence for the feasibility of administering a standardized ACT-based protocol within a correctional setting. It further demonstrated that incarcerated IPV offenders perceived ACT to be an acceptable and useful treatment approach. The quantitative data, however, do not support the widespread dissemination of this ACT protocol with incarcerated IPV offenders at this time. Future research should follow-up on these discrepant findings by testing this ACT protocol with a larger sample, randomizing into ACT versus control group, including multiple follow-up time points, collecting one-year recidivism data, and exploring the effects of longer treatment and alternate forms of delivery (e.g., combination of individual and group sessions). Strengths and limitations of the study, as well as additional recommendations and directions for future research, are discussed.

PUBLIC ABSTRACT

Intimate partner violence (IPV) is a serious public health concern. Existing interventions for male IPV offenders are not effective in reducing future violence. Offenders who fail to complete treatment, or are deemed to be at “high risk”, are sent to jail. There is a need for effective treatments for this population. The purpose of this study was to test the feasibility and acceptability of implementing an Acceptance and Commitment Therapy (ACT) skills group with incarcerated IPV offenders. An additional objective was to assess post-treatment gains in the targeted ACT skills, and reductions in depression, anxiety, aggression and impulsivity. Participants (N=33) completed self-report pre and post treatment measures. Results revealed that ACT was not effective at producing significant post-treatment changes in any of the ACT skills, internalizing symptoms, and externalizing behaviors. IPV related Criminal History Severity (IPV-CHS) did not reliably impact these results, and IPV-CHS did not predict worse pre-treatment ACT skills or greater symptom severity. Participants, however, viewed the ACT treatment favorably, found the material useful, and felt accepted and understood by the facilitators. Although the ACT treatment was feasible to implement and acceptable to the participants, the quantitative data do not support the widespread dissemination of this ACT protocol with incarcerated IPV offenders at this time. Future research should follow-up on these discrepant findings by testing this ACT protocol with a larger sample, a control group, multiple follow-up time points, one-year recidivism data, and delivered over a longer period of time with a combination of individual and group sessions.

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CHAPTER 1: INTRODUCTION

Intimate partner violence (IPV) -- defined as physical, sexual, and/or psychological abuse or threat of abuse by a current or former partner or spouse -- is a major public health concern. Nearly 25% of women in the U.S. report having been physically assaulted by an intimate partner at some point during their lifetime (Tjaden & Thoennes, 2000). Women who experience physical abuse (e.g., punching, kicking) and/or psychological abuse (e.g., intimidation, denigration) are at increased risk of experiencing adverse mental and physical health outcomes, such as depression, anxiety, PTSD, and chronic health problems (Lawrence, Orengo-Aguayo, Langer, & Brock, 2012). Therefore, interventions aimed at preventing future aggression are urgently needed.

Current interventions (known as Batterers Education Programs, or BEPs) across the U.S. for male-perpetrated IPV are based on one or a combination of two models: feminist/patriarchal theory or cognitive-behavior theory. In practice, almost all states (including Iowa) have implemented programs that integrate these two theories and their respective approaches to intervention. Despite being court mandated, there is abundant evidence that these existing interventions do not result in significant reductions in intimate partner violence (Babcock, Green, & Robie, 2004). As a result, there are no empirically supported interventions for IPV. Furthermore, 40-75% of IPV offenders fail to complete court-mandated BEP out in the community (e.g., Bennett, Stoops, Call, & Flett, 2007; Buttel & Carney, 2002; Daly & Pelowski, 2000). Perpetrators who fail to complete these programs are significantly more likely than those who complete to re-assault the same victim (Babcock & Steiner, 1999; Gordon & Moriarty, 2003). Moreover, non-completers are more likely to have a prior history of domestic offenses and other criminal charges, higher levels of aggression, a history of substance abuse, and a mood (e.g., depression, anxiety) and/or personality disorder diagnosis (e.g., Borderline Personality

Disorder, Antisocial Personality Disorders; see Olver, Stockdale, & Wormith, 2011 for a comprehensive literature review). Because of the failure to complete treatment, this multi-problem population is not receiving the services that it needs (Rooney & Hanson, 2001). In the state of Iowa, offenders who fail to complete court-mandated BEP in the community are typically sentenced to a minimum of 30 days in jail. The result has been an influx of high-risk, multi-problem IPV offenders into jails and prisons who are not being effectively treated for their violence or for their broad range of comorbid problem behaviors and psychopathology.

Recent efforts spearheaded by the Iowa Department of Corrections and The University of Iowa have focused on the creation of a novel intervention to reduce domestic violence that employs Acceptance and Commitment Therapy (ACT) principles (Zarling, Bannon, & Orengo-Aguayo, under review). The results of this state-wide project adapting ACT for domestic violence offenders who are court ordered to complete BEP treatment in the community are promising, showing significant reductions in IPV and other types of criminal recidivism 1 year after ACT treatment, when compared to traditional BEP programming (Zarling, Bannon, & Orengo-Aguayo, under review). ACT has also been shown to be an effective treatment for a wide range of disorders and problems, including depression, anxiety, substance abuse, chronic pain, and self-harm (e.g., Ost, 2008; Powers, Vording, & Emmelkamp, 2009). Furthermore, recent evidence suggests that ACT is effective for treating comorbid disorders, lower-functioning clients, and multi-problem clients (e.g., Juarascio, Forman, & Herbert, 2010; Wolitzky-Taylor, Arch, Rosenfield, & Craske, 2012). Given (1) empirical support for ACT as a treatment for a broad range of psychological disorders, (2) the promising findings of reductions in recidivism 1 year after an ACT-based skills intervention with IPV perpetrators in the community, (3) the large number of high-risk, multi-problem offenders who fail to complete BEPs offered in the

community and are sentenced to jail, and (4) the need for empirically supported interventions aimed at preventing future aggression among incarcerated populations, the objective of this dissertation project is to test the feasibility of implementing an ACT-based skills group among a high-risk, multi-problem, sample of incarcerated domestic violence offenders. This will be the first study of its kind conducted in the United States.

SECTION I: BASIC RESEARCH ON INTIMATE PARTNER VIOLENCE

Definitions, Prevalence and Consequences of Intimate Partner Violence (IPV)

Intimate partner violence (IPV) is highly prevalent and has severe consequences for victims and families (Afifi et al., 2009; Garcia-Moreno, Jansen, Ellsberg, Heise, & Watts, 2006). Population-based studies across more than 35 countries yield lifetime prevalence rates of IPV-related physical and/or sexual abuse experienced by women from 15-70% (Garcia-Moreno et al., 2006; Heise, Ellsberg, Gottemoeller, 1999; Heise & Garcia-Moreno, 2002). In the United States, an estimated one in five women is physically assaulted by an intimate partner annually, with nearly half of these episodes resulting in severe injuries requiring medical attention (Tjaden & Thoennes, 2000). Nationally representative surveys reveal that, within marital relationships, an estimated 15% of women and 20% of men have experienced physical IPV in the history of their romantic relationship (Afifi et al., 2009). Further, about half of adolescents have been exposed to at least one episode of physical or psychological IPV within the past 5 years (e.g., Bourassa, 2007), and 5-20% of children have witnessed a parent being assaulted by an intimate partner (McCloskey & Walker, 2000).¹

Physical aggression is defined as the purposeful use of physical force that could potentially result in death, disability, injury, or physical harm to the victim (Centers for Disease Control and Prevention, 2010). Examples of physically violent behaviors include, but are not limited to, pushing, shoving, slapping, throwing, punching, kicking, scratching, burning, biting,

choking, shaking, and using a weapon or any object to inflict harm on the victim. These behaviors are often divided into mild/moderate tactics (e.g., pushing, shoving) and severe tactics (e.g., burning, choking). Physical aggression occurs in 25-57% of community (non-clinical) samples of dating, cohabitating, and newlywed couples (e.g., Langer, Lawrence, & Barry, 2008; Lawrence & Bradbury, 2007) and in 66% of treatment-seeking couples (i.e., couples seeking treatment for relationship distress; O'Leary, Vivian, & Malone, 1992). Nationally representative surveys and community samples suggest that men and women are equally likely to perpetrate physical aggression against their romantic partners (Langhinrichsen-Rohling, Misra, Selwyn, & Rohling, 2012). There is also evidence to suggest that women engage in physical aggression, even in relationships characterized by severe male-to-female physical aggression (Desmarais, Reeves, Nicholls, Telford, & Fiebert, 2012), and that these acts are not always in self-defense (Orengo-Aguayo & Lawrence, 2014). Nevertheless, female victims are more likely to sustain physical injuries after being assaulted by a male partner than are male victims of female-initiated IPV (Archer, 2000).

Physical aggression has been associated with poorer mental health outcomes for victims, including depression, anxiety, post-traumatic stress disorder (PTSD), alcohol and other substance use, higher rates of suicidal ideation, and more memory and cognitive impairments, when compared to non-physically victimized women (e.g., Coker et al., 2002; Lawrence et al., 2012). Physically victimized women also report poor overall physical health (e.g., chronic pain, compromised immunological functioning, gynecological and cardiovascular problems; e.g., Bonomi, Anderson, Rivara, & Thompson, 2007; Lawrence, et al., 2012), and more relationship distress (e.g., Lawrence & Bradbury, 2001; Lawrence & Bradbury, 2007). The costs of IPV-related injuries and loss in work productivity exceed \$5.8 billion each year (US Department of

Health and Human Services, 2003).

Children who witness parental physical aggression are at increased risk for externalizing behavior problems, chronic and acute physical health problems, and psychopathology compared to children who do not witness IPV (e.g., Bair-Merritt, Blackstone, & Feudtner, 2006; Carpenter & Stacks, 2009). Boys who witness aggression in their homes are three times more likely than boys who do not witness these events to perpetrate aggression in their own future intimate relationships (Straus, Gelles, & Steinmatz, 1980). Approximately 60% of partner-violent men report being victims of family violence (Delsol & Margolin, 2004), and about half have childhood trauma histories related to such exposure (Dutton & Corvo, 2007).

Psychological aggression (also referred to as emotional aggression in the literature) has been defined as behavior with the potential to cause emotional harm (Murphy & Cascardi, 1999; Saltzman, Fanslow, McMahon & Shelley, 1999). Psychologically abusive behaviors directly target the victim's sense of self, emotional well-being, and autonomy. The consequence is usually fear, a distorted self-image, and/or increased reliance on the abuser (Dutton, Goodman, & Bennett, 1999). Examples of psychologically/emotionally violent tactics include, but are not limited to, humiliating, embarrassing, denigrating, belittling, controlling the victim's behavior (e.g., not allowing her to see her family or friends), stalking, destroying property, and threatening physical violence (Saltzman, et al., 2002). Of note, psychological aggression is not exclusive to relationships characterized by physical aggression (e.g., O'Leary, 1999). National survey samples suggest that 75-80% of men and women report engaging in psychological aggression in the year prior to being assessed (Stets, 1991; Straus & Sweet, 1992), with equal rates of perpetration in men and women. Rates are also similar across treatment-seeking couples and community (non-clinic) couples (e.g., Barling, O'Leary, Jouriles, Vivian, & MacEwen, 1987).

Victims of psychological aggression are at an increased risk of experiencing depression, anxiety, PTSD, insomnia, and increased perceived stress (e.g., Coker, et al., 2002; Lawrence et al., 2012; Mouton, et al., 2004; Taft, O'Farrell, Torres, Monson, & Murphy, 2006).

Psychological victimization has also been associated with poor physical health outcomes (e.g., migraines, chronic pain and illness; Lawrence et al., 2012). Moreover, psychological aggression has detrimental effects on victims beyond the effects of physical aggression (e.g., Lawrence, Yoon, Langer, & Ro, 2009).

Perpetrator Characteristics: Much work has been done to understand the characteristics and risk factors related to male-initiated IPV perpetration. Researchers have typically compared abusive men to non-abusive men in terms of demographics, family of origin variables, personality traits, and psychopathology (Hamberger & Holtzworth-Munroe, 2009). In this section I review this literature to illustrate the multi-problem nature of IPV perpetrators.

Demographics: IPV perpetration is correlated with a number of demographic variables including age, race, and income. Ethnic minority men (i.e., White Hispanics and Black/African-Americans) are five times more likely to perpetrate violence than White non-Hispanic men (Caetano, Vaeth, & Ramisetty-Mikler, 2008; Klevens, Simon, & Chen, 2012; Reingle, Staras, Jennings, Branchini, & Maldonado-Molina, 2012). Age is also a significant predictor of IPV, with younger men being more likely to perpetrate aggression than older men (Caetano, et al., 2008). Finally, income is a significant predictor, such that men with lower incomes and/or who are on welfare perpetrate significantly more IPV than men with higher incomes (Herrenkohl, Kosterman, Mason, & Hawkins, 2007).

Family of Origin: IPV perpetration has been associated with experiencing abuse and maltreatment as a child (Capaldi & Clark, 1998; Hanson, Cadsky, Harris, & Lalonde, 1997),

witnessing a parent perpetrate violence against another partner (Ehrensaft et al., 2003; Hines & Saudino, 2004), growing up in a hostile family environment with negative communication patterns (Andrews, Foster, Capaldi, & Hops, 2000), and being deprived of maternal warmth and paternal involvement during childhood (Dutton, Starzomski, & Ryan, 1996). Approximately 40-60% of IPV perpetrators report being victims of childhood physical abuse (Black, Schumacher, Smith, & Heyman, 1999; Fang & Corso, 2008; Fowler & Westen, 2011), with evidence of a link between IPV and the severity of trauma symptoms (Orcutt, King, & King, 2003). A history of child maltreatment has been found to have direct effects on IPV perpetration that are mediated through adolescent and adult violent delinquency (Millet, Kohl, Jonhson-Reid, Drake, & Petra, 2013). Men with high levels of childhood adversity (e.g., witnessing or experiencing abuse) who also have experienced a significant stressor in the past year are at increased risk of perpetrating IPV compared to men with low-level adversity (Roberts, McLaughlin, Conron, & Koenen, 2011).

Alcohol and Other Substance Abuse: Alcohol abuse/dependence and other substance abuse/dependence are correlated with male IPV perpetration (Abramsky et al., 2011; Leonard & Quigley, 1999; Murphy, Winters, O'Farrell, Fals-Stewart, & Moore, 2005; Reingle, et al., 2012). Rates of co-occurrence between IPV and alcohol and other substances are 40-60% (Kraanen, Scholing, & Emmelkamp, 2012; Thomas, Bennett, & Stoops, 2013), and a meta-analytic review indicated moderate relationships between alcohol use/abuse and IPV perpetration (Foran & O'Leary, 2008). National population surveys have found the perpetration of physical aggression to be nearly three times higher for men reporting frequent binge drinking compared to men who do not report binge drinking (e.g., Stalans & Richie, 2008). Psychological aggression has also been found to be more prevalent among men who report being drunk in the previous year (Straus

& Sweetow, 1992). The odds of men perpetrating IPV are significantly higher on days when they drink than on non-drinking days, and violence tends to be more severe on days when men are drinking (Fals-Stewart, 2003; Field, Mogg, Zetteler, & Bradley, 2004). Alcohol problems in IPV perpetrators have been found to contribute directly to male physical IPV perpetration and indirectly via psychological aggression, even after controlling for perpetrator antisocial traits, trait anger, relationship discord, and partner IPV perpetration (Stuart, et al., 2006).

Meta-analyses have also demonstrated a significant relation between alcohol and IPV, particularly among clinical samples characterized by more severe alcohol problems (Foran & O'Leary, 2008; Stith, Smith, Penn, Ward, & Trit, 2004), suggesting that alcohol abuse increases the severity of the violence (Thomas et al., 2013), as well as the likelihood of physical injury to the partner (Brecklin, 2002; Graham, Bernards, Wilsnack, & Gmel, 2011). A number of studies have shown that IPV decreases after an alcohol abuse specific treatment intervention without an IPV component (O'Farrell & Murphy, 1995), suggesting the important role it plays in perpetration.

Similar relations have been found between IPV and use of other substances. In a nationally representative study, Afifi, Henriksen, Asmundson, and Sareen (2012) found that cocaine abuse/dependence in the year prior to assessment increased the odds of male IPV perpetration by more than 8 times. The relation between substance use disorders and IPV perpetration was attenuated when accounting for mental health disorders; nevertheless, alcohol abuse still remained a robust predictor of IPV, independently of sociodemographic variables, mood and anxiety disorders, and personality disorders. The study suggested that if men were not abusing alcohol, the prevalence of IPV perpetration in the general population might be reduced by approximately 8% among men. These findings highlight that the co-occurrence of substance

use disorders and mental health disorders is a robust predictor of male IPV perpetration.

Anger and Hostility: Violent relationships are typically characterized by anger, jealousy and hostility (Norlander & Eckhardt, 2005; Robertson & Murachver, 2009). IPV perpetrators have been found to score about 1.5 deviations above non-violent men on measures of anger experience and expression (Foran & O’Leary, 2008; Norlander & Eckhardt, 2005; Schumacher, Feldbau-Kohn, Slep, & Heyman, 2001), with those reporting higher levels of anger being more likely to engage in more frequent and more violent IPV perpetration in response to conflict (Holtzworth-Munroe & Smutzler, 1996; Thomas et al., 2013). Nearly one-third of partner-abusive men in IPV treatment report elevated trait anger, hostility, increased tendency to express anger outwardly, and decreased ability to control their anger expression (Eckhardt, Samper, & Murphy, 2008; Holtzworth-Munroe, Rehman, & Herron, 2000).

Daily diary studies demonstrate a clear temporal association between anger just prior to an interaction with one’s partner and subsequent partner violence. Accusations or suspicion of infidelity, conflicts over substance use, disagreements over finances, and/or alcohol use are associated with more severe IPV perpetration (Nemeth, Bonomi, Lee, & Ludwin, 2012). Men and women in dating relationships who experience severe anger are at increased odds of perpetrating all forms of IPV (psychological aggression, physical assault, sexual coercion), particularly among those couples who are younger and whose relationships are shorter in length (Elkins, Moore, McNulty, Kivisto, & Handsel, 2013). IPV perpetration is also more prevalent among men who, in addition to anger, evidence behaviors such as problems with substance abuse or gambling (Korman et al., 2008). Men with higher levels of anger are also significantly more likely to report engaging in psychologically aggressive behaviors toward their partners, such as denigration, hostile withdrawal, dominance/intimidation, and engulfment, when compared to

men reporting lower levels of anger. Men who score higher on indices of anger expression are also more likely to endorse problematic drinking and Axis II disorders (Eckhardt et al., 2008) and to report perpetrating more general forms of violence, when compared to men with lower levels of anger (Huss & Langhinrichsen-Rohling, 2006). The most common motives cited by men for perpetrating IPV are to retaliate for an emotional hurt, to express anger, to express feelings that they did know how to communicate, and to get their partner's attention (Langhinrichsen-Rohling, McCullars, & Mirsa, 2012; Shorey, Meltzer, & Cornelius, 2010).

Attachment: An association has been found between self-reported insecure attachment styles (i.e., anxious-ambivalent, avoidant) and perpetration of IPV, particularly when the perpetrator's partner is high on attachment avoidance (Babcock, Jacobson, Gottman, & Yerington, 2000; Dutton, Saunders, Starzomski, & Bartholomew, 1994). In a longitudinal study spanning from ages 3 to 21, insecure attachments to parents during childhood and adolescence that were characterized by low trust, warmth, or positive communication predicted IPV perpetration in adulthood (Magdol, Moffitt, Caspi, & Silva, 1998). Perpetrators are also more likely than non-violent men to report higher levels of dependency, greater preoccupation with their partner's behaviors and displays of emotions, and a lack of trust in their partners (Murphy, Meyer, & O'Leary, 1994). The link between insecure attachment and IPV has been conceptualized as a dysfunctional form of protest behavior designed to minimize or increase distance from one's partner, resulting from separation anxiety, partner distrust, or general discomfort with the partner's behavior or display of emotions (Buck, Leenaars, Emmelkamp, & van Marle, 2012; Holtzworth-Munroe, Stuart, & Hutchinson, 1997). Partners may begin with relatively benign behaviors, such as nagging or clinging, and progress to violence (e.g., slapping, punching, beating) when other attachment behaviors fail to achieve the desired level of proximity

to their partner (Allison, Bartholomew, Maysseless, & Dutton, 2008).

Attitudes: IPV perpetrators are more likely to endorse attitudes and beliefs supporting or condoning violent behavior, such as adversarial gender-role beliefs, more hostile views towards women, and a greater desire to control their female partners (Cunradi, Ames, & Moore, 2008; DeKeserdy, & Schwartz, 1998; Goldstein, Chesir-Teran, & McFaul, 2008). In a study comparing IPV perpetrators to nonviolent men, perpetrators showed more positive implicit attitudes regarding violence, and when shown stimuli of women, they associated these with stimuli depicting violence faster. These associations are thought to operate automatically and with little conscious awareness (Eckhardt, Samper, Suhr, & Holtzworth-Munroe, 2012).

Psychopathology and Personality: Numerous cross-sectional studies have demonstrated a link between IPV perpetration and mental health problems, including depressive symptomatology (Graham, Bernards, Flynn, Tremblay, & Wells, 2012; Herrenkohl et al., 2007; Reingle et al., 2012), anxiety-related disorders (Shorey, Febres, Bransfield, & Stuart, 2012), borderline and antisocial personality disorders (Boyle, O’Leary, Rosenbaum, & Hassett-Walker, 2008; Harris, Hilton, & Rice, 2011; Leistico, Salekin, DeCoster, & Rogers, 2008; Mauricio, Tein, & Lopez, 2007; Swogger, Walsh, & Kosson, 2007; Thomas et al., 2013), posttraumatic stress disorder (Bell & Orcutt, 2009; Shorey et al., 2012), and impulsivity (Caetano et al., 2008). In a nationally representative study, Kessler, Molnar, Feurer, and Appelbaum (2001) found that generalized anxiety, mood disorders, and personality disorders each predicted IPV perpetration among married and cohabiting men in the US. There is also a high comorbidity between personality disorders and Axis I disorders among IPV perpetrators (Huss & Langhinrichsen-Rohling, 2006; Loinaz, Ortiz-Tallo, & Ferragut, 2011).

Mental health problems are associated with an increased frequency and severity of

psychological, physical and sexual aggression (Ehrensaft, Cohen, & Johnson, 2006), with men who meet cutoff scores for a mental health diagnosis perpetrating significantly more aggression than their non-diagnosed counterparts (Shorey et al., 2012). Prevalence rates among male IPV perpetrators range from 20% for depression, 27% for Post-Traumatic Stress Disorder, and 19% for Generalized Anxiety Disorder (Shorey et al., 2012), to 50-60% for personality disorder traits (Dixon & Brown, 2003; Gondolf, 1999). These high rates stand in stark contrast with lifetime prevalence rates in the general population: 16% for depression, 12% for Generalized Anxiety Disorder, 3.5% for Post-Traumatic Stress Disorder, and 3% for personality disorders (Kessler et al., 2005). Despite these high prevalence rates, men who perpetrate IPV are more likely than non-perpetrators to perceive an unmet need for mental health treatment (Lipsky, Caetano, & Roy-Byrne, 2011; Wu, El-Bassel, Gilbert, Sarfo, & Seewald, 2010).

Cognitive Functioning: Researchers have demonstrated associations between IPV perpetration and various domains of cognitive functioning, including impulsivity and executive functioning. Impulsivity is characterized by difficulty regulating behaviors and has been identified as a risk factor for IPV perpetration in men (Korn, Plutchik & Van Praag, 1997). Men who score higher on measures of trait impulsivity are at an increased risk of perpetrating violence compared to men with lower scores (Caetano et al., 2008). Impulsive individuals have a diminished ability to focus on the tasks at hand and/or to persist at tasks when necessary. They also struggle with long-term planning and tend to act “in the spur of the moment” (Eysenck & Eysenck, 1985). Impulsive men struggle with delaying gratification and often choose immediate rewards despite the potential long-term negative consequences, thus being deemed as hyposensitive to punishment and hypersensitive to rewards (Gray, 1987). Finally, they struggle with an inability to regulate emotions and an urge to avoid situations passively that they expect

to result in emotional discomfort (Logan, 1994; Whiteside & Lynam, 2001). In a study using data from the National Comorbidity Survey-Replication, Finkel and colleagues (2011) found that individuals with poor executive control (e.g., difficulties with modulating behavior and emotions) who are exposed to situations where they are provoked by a partner are more likely to engage in physical and psychological aggression towards their partner than those with greater executive control. These findings have been replicated using experimental, cross-sectional, and longitudinal methods, and with dating and married participants (Finkel et al., 2011).

The incidence of IPV and head injury in perpetrators has also been examined. An estimated 40-62% of IPV perpetrators report sustaining a head injury at some point in their lifetime (Marsh & Martinovich, 2006). This percentage stands in stark contrast with a prevalence rate of 6% in the general population of men. The most common sites of lesions are in the orbitofrontal and anterior lobe regions (Lucas & Addeo, 2006), which are associated with the ability to make decisions based on the processing of rewards and punishments (Kringelbach & Rolls, 2004). IPV perpetrators with borderline personality features have also been shown to have reduced amygdala volumes compared to non-perpetrating controls without borderline personality disorder (Schmahl et al., 2003). Another study using functional imaging techniques with IPV perpetrators found a lack of cortical input to the amygdala, resulting in a hypersensitivity to environmental stimuli. This sensitivity was associated with a tendency for these men to attend selectively to threatening behaviors from their partners (e.g., threatening “looks” or “statements”) and an inability to recall adaptive conflict resolution strategies (George et al., 2004). Damage to the amygdala and the orbitofrontal regions of the brain has been associated with difficulties with social and emotional behavioral regulation, including difficulties with judgment and decision making, the ability to process affective information properly, and theory

of mind or the capacity to take the perspective of another person's thoughts or feelings (Howard, 2012). More recently, an association was found between a history of head injury and lower mean scores on measures of verbal memory and intelligence, processing speed, and attention (Babikian & Asarnow, 2009; Cohen, Rosenbaum, Kane, Warnken, & Benjamin, 1999; Walling, Meehan, Marshall, Holtzworth-Munroe, & Taft, 2012).

Typologies: In a classic study, Holtzworth-Munroe and Stuart (1994) concluded that violent men are a heterogeneous group. They proceeded to classify perpetrators into three major categories that vary based on the severity and frequency of aggression perpetrated, the generality of aggression (e.g., family-only vs. general aggression), and the perpetrator's mental health and personality traits. Perpetrators have thus been classified into the following three subtypes: (1) family-only perpetration; (2) dysphoric-borderline perpetrators; and (3) generally violent or antisocial perpetrators. Family-only perpetrators constitute approximately 50% of the IPV perpetrator samples and have been observed to perpetrate the least amount of aggression and to engage in less severe acts. They are also more likely to become aggressive only with their partners and exhibit little to no psychopathology and problematic personality traits (Mauricio et al., 2007). Dysphoric-borderline perpetrators comprise approximately 20-30% of the IPV perpetrator samples and engage in moderate to severe IPV. Their aggression is mostly restricted to their partners, but they also may engage in violence outside the home. Most evidence indicates considerable psychopathology, substance abuse and dependence, difficulty with emotional regulation, impulsivity and poor executive control, insecure attachment, and difficulties with jealousy and anger (Huss & Langhinrichsen-Rohling, 2006). These men comprise the majority of perpetrators who are court-mandated to community treatment for IPV perpetration. The final subtype of antisocial perpetrators comprises 10-20% of the research samples and is most likely to

perpetrate severe to extremely severe violence (Huss & Langhinrichsen-Rohling, 2006). They also have considerable difficulties with impulsivity and empathy (Fowler & Westen, 2011). Borderline dysphoric perpetrators and antisocial perpetrators are the most likely to drop out of BEP treatment in the community and end up incarcerated.

Summary

IPV perpetration is highly prevalent, has severe consequences, and is associated with a variety of behavioral and emotional deficits and individual traits. More specifically, these findings illustrate the complexity of IPV perpetrators and the potential role that multiple variables, such as attachment, executive functioning, psychopathology, family of origin experiences, and sociodemographic factors, play in the etiology and subsequent perpetration of IPV. Men who perpetrate the most severe violence have longer criminal histories, are more likely to engage in general aggression in addition to partner aggression, and are more likely to be incarcerated. In the next section, I proceed to discuss the various models, theoretical frameworks, and interventions for IPV perpetrators, as well as the available empirical evidence for these interventions.

SECTION II: EXISTING MODELS AND INTERVENTIONS FOR INTIMATE PARTNER VIOLENCE

Various theories and models of intimate partner violence (IPV) have been developed, some with more empirical support than others. Nevertheless, social learning theory and feminist theory serve as the foundations for most currently implemented IPV treatments. Other theoretical models have been proposed, but most lack empirical support (for a detailed review see Langer & Lawrence, 2010). A brief overview of the most widely used theories to conceptualize IPV and treatments for IPV are presented below.²

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

In an effort to eradicate IPV, women's activists and public health agencies began working together in the 1970s to develop shelters and promote policy reform (Sheehan, Sumaiya, & Stewart, 2012). Legislation mandating strict arrest policies was put into place in order to protect victims and their children. Partner violence became a crime sanctioned by law and resulted in an influx of perpetrators arrested and charged for domestic abuse (Buttel & Morhr-Carney, 2008). In an effort to offer rehabilitative options as an alternative to or in conjunction with incarceration for offenders, women's advocates partnered with community and criminal justice organizations to develop the first community-based treatment programs for this population (Daly & Pelowsky, 2000). As a result of its origins, treatment for IPV perpetrators has traditionally been a highly political issue, with women's advocates having a substantial national impact on the types of treatments that are considered appropriate for this population (Rathus, Cavuoto, & Passarelli, 2006).

The predominant model of treatment for IPV perpetrators has as its philosophical foundation the pro-feminist model and is known as the Duluth Model. The Duluth Model developed out of the Duluth Domestic Abuse Intervention Project in Minnesota in the 1980s (Pence & Paymar, 1993). Proponents of this model assert that IPV results from patriarchal power that is granted to men by a society that condones the use of power and control as an effective strategy for men to maintain their dominance over women (Cavanaugh & Gelles, 2005; Pence & Paymar, 1993). Women are seen as the primary, if not only, true victims of partner violence. Men are seen as solely responsible for the abuse and interventions are intended to hold these men accountable for their violent behavior (Price & Rosenbaum, 2009).

The goal of group programs based on the Duluth model is to educate male perpetrators on the detrimental effects of sexual stereotypes and patriarchal gender roles (Corvo, Dutton, & Chen, 2009). These foci are believed to result in reductions in men's aggressive behavior. Within this approach, group facilitators confront men about their violence, attempt to get the men to recognize the purported root cause of their violence (desire for power and control), and try to shift the men's belief systems toward a more egalitarian view of relationships. A central tool used to achieve these goals is the "Power and Control Wheel", which depicts violence as part of a pattern of behavior that includes the use of male privilege, isolation, intimidation, and emotional and economic abuse. Violence is not viewed as an isolated event or a result of built-up anger (Pence & Paymar, 1993). Men are encouraged to engage in patterns of behavior depicted in the "Equality Wheel," which are behaviors based on egalitarian gender roles. Individual therapy, couples therapy, anger management, and substance abuse treatment are prohibited as alternatives or adjuncts to the Duluth model of treatment because they are viewed as "excusing" the perpetrator's behavior (e.g., Smith-Stover, Meadows, & Kaufman, 2009).

Batterers Education Programs (BEPs)³ are regulated by state standards, which have been put in place to ensure that interventions across the nation adhere to specific approaches that hold the men accountable for their behavior and provide psycho-education on the role of stereotypical gender roles in the perpetration of violence (Corvo & Johnson, 2003; Maiuro & Eberle, 2008). Most state standards require that treatment be delivered in a group format under the rationale that men can learn to confront one another's denial and victim-blaming (Murphy & Baxter, 1997). Group facilitators receive training in domestic violence, although it is not typically required to have an advanced degree or mental health license. Couples therapy is deemed inappropriate within this framework, under the rationale that this would endanger the victim further or fail to

hold the perpetrator fully accountable. Treatment is psycho-educational in nature and utilizes group discussion, didactic components, and audio-visuals as the primary modes of interventions. Participants are required to describe the incident that got them mandated to group into detail, without the use of minimization, denial, or blaming. They are also required to admit complete responsibility for their actions by the end of treatment, and to frame their abuse as a result of their need to exert power and control over their partners. If this is not achieved, offenders are labeled as resistant. Homework completion and attendance to class are mandated, and any deviations from these requirements result in termination from group, which results in a violation of parole and possible incarceration. Facilitators are encouraged to use a confrontational approach with the objective of “holding the men accountable.” This includes confronting men when they say something deemed inappropriate or sexist in group (e.g., “women should listen to their man”), “calling them out” if necessary in front of the group (e.g., “If you curse again you will not be allowed to finish group”), and asking them to reframe their statements if the facilitator perceives the use of minimization, blame or denial. Treatment lasts anywhere from 24-52 weeks, depending on the state, and comprises weekly 1.5 – 2-hour group meetings with a male and female co-facilitating team. Groups typically consist of 10-20 group members and most employ an open-ended format in which participants can join the group at any time (Austin & Dankwort, 1999; Price & Rosenbaum, 2009). BEPs are coordinated under the umbrella of what is called a “coordinated community response approach.” Within this approach, BEPs work closely with the judicial-legal systems to make sure perpetrators attend treatment, and that victim advocates communicate with and provide services to victims to ensure their safety (e.g., victims typically are notified when the perpetrator drops out of BEP or is released from jail; Austin & Dankwort, 1999).

Social Learning Theory and Cognitive Behavioral Interventions

Programs based on social learning theory utilize a cognitive-behavioral (CBT) approach to treatment and contend that violence is a learned behavior that serves a functional purpose, such as reducing tension and anger, obtaining compliance, and giving the perpetrator a sense of control. CBT-based treatments for IPV focus on modifying faulty or problematic cognitions, beliefs, and emotions to prevent future violent behavior (Murphy & Scott, 1996). Treatment focuses on cost-benefit analyses of engaging in violence, and on providing the offenders with skills training in the form of effective communication, assertiveness, and social skills training. They also incorporate anger management strategies (e.g., timeout plans, cognitive restructuring, modifying negative attributions) as alternatives to violent behavior (Babcock et al., 2004; Rosenbaum & Leisring, 2002).

Most BEPs across the nation utilize either the Duluth Model curriculum (psychoeducation about power and control and the role it plays in male IPV perpetration; Pence & Paymar, 1993), or a combination of the Duluth Model and CBT principles in which patriarchal attitudes and power and control are addressed, while also focusing on proximal thoughts and emotions that might lead a person to engage in violent behavior. The latter approach (Duluth Model + CBT) also focuses on teaching individuals to challenge and modify thoughts, use “Time-outs”, and learn effective communication skills, in an effort to stop the violence (Dunford, 2000; Eckhardt, Murphy, Black, & Suhr, 2006). As discussed in a future section, Iowa is a notable exception in that it is the first state in which BEPs are using an ACT-based protocol.

Effectiveness of Existing Batterers Education Programs (BEPs)

A large and consistent body of evidence demonstrates the lack of effectiveness of IPV interventions utilized in BEPs with men in the community (Dutton & Corvo, 2007; Eckhardt et al., 2006; Labriola, Rempel, & Davis, 2005). Findings from cross-sectional studies, quasi-

randomized controlled trials, and randomized controlled trials consistently find that existing BEP interventions (Duluth Model only or Duluth Model + CBT principles) do not reduce future perpetration (Corvo et al., 2009). In one of the most comprehensive and rigorous meta-analyses to date, Babcock, Green, and Robie (2004) reviewed 22 quasi-randomized and randomized controlled studies examining the efficacy of Duluth Model treatments, cognitive-behavioral therapy infused with Duluth Model principles, and other types of treatments for IPV on subsequent violence recidivism. Effect sizes due to IPV intervention on domestic violence recidivism were small ($d_s = .09 - .12$). There were no significant differences in effects between exclusively Duluth Model-based programs and programs that integrated the Duluth Model and CBT components. Based on these results, treated offenders have a 60% chance of re-offending, whereas non-treated offenders have a 65% chance of re-offending. Worded another way, a woman is 5% less likely to be re-assaulted by a man who was arrested and completed a BEP than a man who was arrested and did not receive treatment. Feder and Wilson (2005) conducted another meta-analysis including only the most methodologically sound studies (Duluth Model or Duluth + CBT principles) ($N = 10$) and found a small effect based on police reports of recidivism ($d = .26$) and a null effect based on victim reports ($d = -.00$). Additionally, in a prospective longitudinal study spanning from 1995-2004, the criminal trajectories of over 300 domestic violence offenders who had been court-ordered to BEPs for treatment were examined. The study found that when looking 10 years after treatment, over 60% were arrested and three fourths of these were re-arrested for a domestic violence charge. This study provides some evidence of the ineffectiveness of current BEP programs and the short-lived cessation of violence after completing treatment (Klein & Tobin, 2008). However, caution should be taken when interpreting these findings given the lack of a control group. Studies have also found that

perpetrators often cite external reasons for their behavior change, such as criminal sanctions or a fear of losing their partner or contact with their children, rather than citing the material that they learned in BEP (Sheehan et al., 2012).

Despite the minimal empirical support for the philosophical and theoretical tenants of the BEP interventions currently used (Duluth Model or Duluth + CBT principles), these remain the treatments of choice in 45 states across the U.S. (Babcock et al., 2004). Some researchers have gone as far as to call into question the ethics of providing a non-empirically supported treatment to thousands of offenders across the nation (Corvo et al., 2009).⁴

SECTION III: NON-COMPLETION & RECIDIVISM

Predictors of Program Non-Completion

An estimated 40-75% of IPV perpetrators sentenced to BEP community-based treatment (Duluth Model or Duluth Model + CBT principles) prematurely drop out (Bennett et al., 2007; Buttel & Carney, 2002; Daly & Pelowski, 2000; Rondeau, Brodeur, Brochu, & Lemire, 2001), despite the fact that failure to comply with treatment results in incarceration. Treatment drop-out from court mandated community-based treatment for IPV can occur at three different time points: (1) after the court mandates treatment but the offender does not show up to his first intake appointment, (2) after the initial intake assessment, but before the first session of treatment, or (3) during treatment (Jewell & Wormith, 2010). Most studies focus exclusively on the third phase of in-treatment attrition, which suggests that the statistics presented above underestimate overall BEP attrition. Failure to complete treatment has been associated with an increased likelihood of offenders continuing to abuse their partners (Babcock & Steiner, 1999; Gordon & Moriarty, 2003), particularly because a great majority of women remain in contact with their partners after they are adjudicated on misdemeanor IPV charges (Gondolf, 1988). Some have found that completion of a program based only on the Duluth Model reduces the probability of

re-assault by 46% among court-ordered men at 15-month follow-up (Jones, D'Agostino, Gondolf, & Heckert, 2004). Nevertheless, high drop-out rates from BEPs in general (40-75%) represent a significant problem that needs to be addressed.

Several factors have been shown to predict premature treatment dropout from community-based BEP programs (regardless of whether they are Duluth Model only or Duluth + CBT principles). These include substance abuse (Kraanen, et al., 2012), personality disorder diagnosis (Chang & Saunders, 2002; Dutton, Bodnarchuk, Kropp, Hart, & Ogloff, 1997), anger (Eckhardt et al., 2008), prior criminal history (Maxwell, Davis, & Taylor, 2010), and severity of violence perpetration, with those offenders identified as generally violent aggressors (as opposed to family-only) more likely to dropout (Eckhardt, Holtzworth-Munroe, Norlander, Sibley, & Cahill, 2008). Demographic predictors cited in the literature include race, with African Americans being more than twice as likely to drop out as white Caucasian offenders (Eckhardt et al., 2008). Readiness to change also predicts dropout, with those in the pre-contemplative stage more likely to drop out relative to those in later stages of change (Levesque, Gelles, & Velicer, 2000; Scott & Wolfe, 2003).

Jewell and Wormith (2010) conducted a meta-analysis including a total of 30 studies that focused on predictors of BEP drop-out (from programs based on Duluth Model only or Duluth Model + CBT Principles) between 1985 and 2010. Overall, demographic variables better predicted dropout than violence-related and interpersonal variables. Men who were employed, older, had higher incomes, and did not belong to an ethnic minority group were more than 10-20% more likely to complete BEP groups than younger, unemployed, lower income, and African American or Hispanic men. In addition, offenders who had lower education, compared to men who had more education, were more likely to drop out of feminist psycho-educational programs

(Duluth Model only) than programs incorporating the Duluth Model with CBT principles. In terms of violence-related variables, men with a previous criminal history are more likely to drop prematurely out of treatment than first-time offenders. A history of abuse in the family of origin and witnessing IPV as a child were not significant predictors of treatment dropout. In terms of interpersonal variables, both alcohol use and substance abuse were associated with a 10-12% greater chance of dropping out of treatment. Other interpersonal variables, such as anger and depression, did not significantly distinguish between treatment dropouts and completers. Another recent meta-analysis by Olver, Stockdale, and Wormith (2011) reviewed 114 studies representing over 41,000 offenders from sex offender and domestic violence programs. Domestic violence programs had the highest attrition rates (~40%), which increased to 50% when pre-program non-completers were included in the analyses. The lowest attrition rates were observed in prison-based domestic violence programs (~19%), which is to be expected given that men are confined. Results confirmed Jewell and Wormith's (2010) findings. Ethnic minority status, younger age, unemployment, low income, and lower education each significantly predicted premature dropout from any type of treatment. In addition, antisocial personality disorder, psychopathy, and prior criminal histories also predicted dropout. Lower dropout rates were observed among the family-only perpetrators and those without prior criminal histories and with longer relationships. Psychological concerns such as depression, anxiety, anger, and childhood maltreatment were not associated with attrition, while substance abuse was. Both studies provide a pretty conclusive picture of what predicts treatment dropout from BEP programs, suggesting that low-income, ethnic minority clients with a significant criminal history and antisocial traits are not getting much needed treatment, which places many victims and children at an increased risk of future victimization.

Predictors of Recidivism

An estimated 20-40% of men reoffend (i.e., relapse into criminal behavior) after completing community-based BEPs (Olver et al., 2011). Olver and colleagues (2011) found that treatment non-completers have recidivism rates that are 10-23% higher than treatment completers, suggesting that correlates of whether someone drops out of treatment are associated with violent reoffending. Many of the same predictors of dropout are the same predictors of recidivism. Younger age, lower socioeconomic status, unemployment, lower educational achievement, and substance abuse have all been shown to be significant predictors of recidivism for IPV offenders (Babcock & Steiner, 1999). Yet the chronicity and severity of assaults perpetrated by offenders in the past, particularly those with multiple IPV charges and/or other criminal charges not related to IPV, are uniquely robust predictors of future recidivism and therefore, of treatment failure (Babcock & Steiner, 1999; Tellefson & Gross, 2006). In other words, those perpetrators who engage in “general violence,” as opposed to “family-only” violence (Holtzworth-Munroe & Stuart, 1994), are the most likely to perpetrate severe to extremely severe violence (Huss & Langhinrichsen-Rohling, 2006), to be repeat offenders, to have longer criminal histories, and to be incarcerated. As such, those who prematurely drop out of treatment and have the most severe criminal histories (i.e., more than one IPV charge, other criminal charges in addition to IPV charges) are more likely to be at high-risk of treatment failure and in most need of services (McMurrin & Theodosi, 2007).

The Judicial System: What Happens to Men Who Do Not Complete BEP?

Domestic violence offenders are initially court-mandated to attend BEPs in the community as a condition of their parole. In the state of Iowa, if an offender fails to attend more than 4 BEP group sessions, does not comply with the group rules, or fails any other condition of his parole, the offender is either given another opportunity to complete BEP in the community

(but he has to start group and pay fines all over again) or is sentenced to 30 days in jail.

Offenders can choose to complete BEP while in the jail if a group is being offered. Otherwise, they complete their time in jail, and upon release have to start treatment in the community again.

A jail (also called a detention center) serves as temporary housing (usually for a year or less) for inmates who are awaiting court proceedings (i.e., adjudication process; Ruddell, 2006). Inmates are referred to as “detainees” who have not yet been officially sentenced. As a result of deinstitutionalization and the high drop-out rates of offenders from community treatment programs, there are now three times as many men and women with mental disorders in US jails and prisons than in mental hospitals (James & Glaze, 2006). Jails are often the “front-door” first responders to persons with psychological problems, a role which most are not equipped to fill (Shafer, Arthur, & Franczak, 2004). In most jails, the costs of providing mental health services to inmates are prohibitive with already limited budgets (Bowker, 2002), leaving many high-risk, high-need inmates without appropriate access to treatment. Rehabilitation of inmates is often not a priority of these institutions (Morgan, Winterowd, & Ferrel, 1999). Pre-jail diversionary programs such as BEPs were developed with the intent of providing some type of educational or rehabilitative services to domestic violence offenders (as opposed to a bed in a jail with no opportunity for modification of behavior). Although a noble goal, the evidence reviewed suggests that offenders undergoing treatment in the community are no better off than those sentenced to jail.

Characteristics of Incarcerated Intimate Partner Violence Perpetrators

Incarcerated IPV perpetrators are more likely to report “lashing out” when angry (e.g., yelling, hitting), whereas men who do not perpetrate IPV are more likely to use prosocial conflict-resolution strategies (e.g., verbally communicating their concerns in a respectful way; Robertson & Murachver, 2009). Compared to non-violent controls, IPV perpetrators who have

been incarcerated have a faster anticipatory response to stress, which prepares them for a fight response and persists even after the stressor has passed (Romero-Martinez, Gonzalez-Bono, Lila, & Moya-Albiol, 2013). They also report more irrational beliefs about women and consider violence to be a legitimate strategy to cope with everyday difficulties (Fernandez-Montalvo, Echaury, Martinez, & Azcarate, 2012; Robertson & Murachver, 2009). They score higher on questionnaires assessing psychopathology (i.e., depression, anxiety, paranoia, OCD, impulsivity), abnormal personality traits (e.g., antisocial, borderline, psychopathy), and anger than non-incarcerated offenders (Echeburua & Fernandez-Montalvo, 2007; Fernandez-Montalvo et al., 2012; Fernandez-Montalvo & Echeburua, 2008; Loinaz et al., 2012; Swogger et al., 2007). They are more likely to be unemployed, uneducated, and struggling with substance abuse than non-incarcerated IPV offenders (Fernandez-Montalvo et al., 2012). Approximately 40-60% of incarcerated IPV perpetrators have prior histories of criminal activity and domestic violence charges (Klein & Tobin, 2008). In sum, this group is relatively high risk in that they are more likely to have significant psychopathology, difficulties with impulse control, comorbid personality and substance abuse disorders, and increased risk of re-offending. A call has been made to intervene with these types of IPV offenders, as treatments usually fail and they end up back in the system (Olver et al., 2011).

Existing Interventions for Incarcerated Offenders

There is a paucity of research examining the effectiveness of interventions for IPV with incarcerated offenders. The few studies that exist provide some evidence that CBT-only groups (i.e., not incorporating the Duluth Model) show promise, but the lack of control groups and small samples do not allow for definitive conclusions. One CBT group program, consisting of 20 weekly sessions delivered throughout 8 months, with imprisoned men charged with violent offenses, found a decrease in irrational beliefs about women and about violence as viable way to

cope with anger and everyday difficulties. They also found a significant decrease in psychopathological symptoms, anger, and impulsivity, as well as an increase in self-esteem. Nevertheless, the study lacked a control group, and when comparing those men who dropped out of treatment with those who persisted, both groups obtained similar results, calling into question the effectiveness of the intervention per se. Those with higher impulsivity and depression scores also fared worse (Echeburua & Fernandez-Montalvo, 2009). Another small pilot study evaluated the program START NOW, which focuses on behavioral change through cognitive change and skills training. This program incorporated a “recognition of social and emotional cues” component that taught participants how to notice cues, behaviors, and consequences. The correctional facilities database was reviewed to examine disciplinary action taken against any of the participants as a proxy for behavior change. No significant changes were found from pre-treatment to post treatment (3 months after). Nevertheless, a majority of participants were satisfied with the program and cited the focusing module as the most helpful (Shelton & Wakai, 2011).

Another program utilized with incarcerated perpetrators of IPV is the High Intensity Family Violence Prevention Program (HIFVPP), which is typically 75 group sessions and 10 individual sessions amounting to more than 300 hours of treatment. Different from the previously mentioned CBT-only protocols, this program is a blend of feminist principles of IPV (Duluth Model), cognitive restructuring and skills training, and motivational interviewing. Only one study has empirically tested the effectiveness of this program with an incarcerated population of domestic violence offenders. Using vignettes of violent situations, the authors evaluated the participant’s responses to potentially risky situations to evaluate their risk for IPV perpetration. They found marginally significant decreases in the use of violence in these

hypothetical situations from pre to post treatment, but no other compelling data were provided and no control group was included in the study (Connors, Mills, & Gray, 2012). Furthermore, the overwhelming number of hours required for this treatment makes widespread dissemination difficult to achieve given the already limited resources of most correctional institutions.

SECTION IV: OVERVIEW OF ACCEPTANCE AND COMMITMENT THERAPY

Historical Background & Role of Experiential Avoidance

Acceptance and Commitment Therapy (ACT) emerges from a rich and influential tradition of behavioral and cognitive principles, as well as accumulating evidence suggesting the potential role that experiential avoidance (explained in detail below) plays in the development and maintenance of psychopathology. Behavior therapy emerged as a “first wave” of therapies focused on operant conditioning and classical learning principles. These behavior principles guided the creation of very useful strategies for modifying behavior, but did not allow for an adequate integration of human cognition and its role in behavior (Ost, 2008). The “second wave” of therapies attempted to bring cognition to a more central role and was largely influenced by the cognitive revolution and therapy movement spearheaded by Aaron Beck. In the late 1980s-early 1990’s cognitive and behavior therapy merged into what is now the most widely used empirically supported treatment, Cognitive-Behavioral Therapy (CBT; Roth & Fonagy, 2005). Over the past three decades however, evidence has accumulated suggesting that pathological behaviors can also be understood as an inability to respond effectively in the context of certain thoughts, emotions, bodily sensations, memories, and urges (Chawla & Ostafin, 2007). This phenomenon has been referred to as experiential avoidance (Hayes, Strosahl, & Wilson, 1999). Experiential avoidance refers to the use of escape strategies to forget, escape from, or avoid uncomfortable emotions (e.g., anger, fear), memories, images, thoughts, and bodily sensations (Kelley & Lambert, 2012). It is the taking of active steps to alter the shape, form, or frequency of

these internal experiences and the contexts in which they are likely to occur (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996).

Experiential avoidance has been positively related with depression and substance abuse (Biglan, Hayes, & Pistorello, 2008; Hayes et al., 1996; Forsyth, Parker, & Finlay, 2003), anxiety (Feldner, Zvolensky, Eifert, & Spira, 2003; Levitt, Brown, Orsillo, & Barlow, 2004), trauma and PTSD symptoms (Marx & Sloan, 2005), anger and aggression following a perceived threat (Feldner et al., 2003; Tull, Gratz, Salters, & Roemer, 2004), chronic pain (McCraken, Vowles, & Eccleston, 2004), and poor functioning and well-being (Bond & Bunce, 2000; Hayes et al., 2004). In a meta-analysis examining the relationship between experiential avoidance (as measured by the Acceptance and Action Questionnaire-AAQ) and both psychological and quality of life outcomes, Hayes and colleagues (2006) found this measure to be positively correlated with a variety of measures of psychopathology, quality of life, well-being, and job performance, with a weighted effect size of 0.42 (95% CI:0.40-0.44). This relationship makes intuitive sense, given that psychopathology and low quality of life in of themselves are often defined in part by the presence of avoidant behaviors and loss of contact with sources of reinforcement. Findings suggest that low levels of experiential avoidance, in the form of greater acceptance and willingness to let unwanted mental experiences and bodily sensations be, might actually increase resiliency and quality of life (Bonanno, Field, Kovacevic, & Kaltman, 2002; Butler & Ciarrochi, 2007).

In response to these findings, a Contextual Behavioral Science (CBS) approach has emerged in an attempt to develop a comprehensive model of psychological problems, and to identify common processes that underlie most forms of psychopathology and maladaptive behaviors (e.g., experiential avoidance; Hayes, Levin, Plumb-Villardaga, Villatte, & Pistorello,

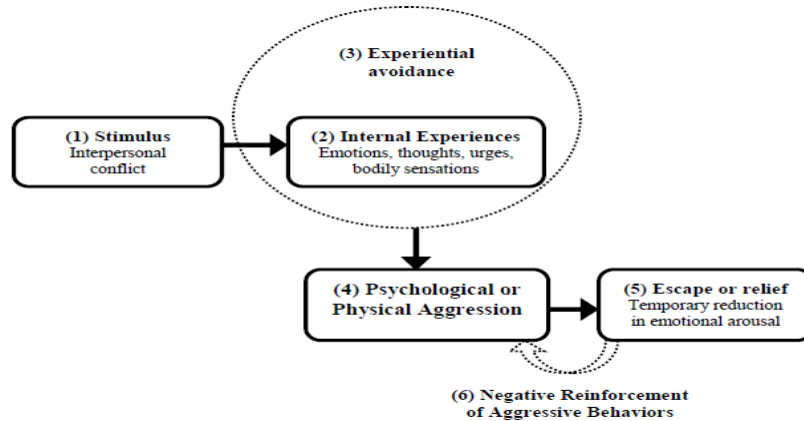
2013). From this perspective, the ultimate goal is not to eliminate or reduce symptoms (e.g., anger), but rather to help people move towards what they value most in life despite the presence of unwanted thoughts, feelings, and symptoms. Acceptance and Commitment Therapy (Hayes et al., 1999) is part of this CBS approach, which aims to target the *function* as opposed to the *content* of private psychological events (Hayes et al., 2006). Treatments based on CBS, such as ACT (also called “third-wave therapies”), aim to broaden the behavioral repertoires that individuals use to deal with unwanted thoughts and feelings, rather than to encourage individuals to challenge or alter their cognitions (Hayes et al., 2004). Most third-wave therapies focus on experiential, as opposed to didactic, methods; and they incorporate mindfulness, acceptance, and values-based behavior strategies. Examples of third-wave interventions include Acceptance and Commitment Therapy (ACT; Hayes, Strosahl, & Wilson, 1999), Dialectical Behavior Therapy (DBT; Linehan, 1993), Mindfulness-Based Cognitive Therapy (MBCT; Segal, Williams, & Teasdale, 2002), Functional Analytic Psychotherapy (FAP; Kohlenberg, Hayes, & Tsai, 1993), and Integrative Behavioral Couple Therapy (IBCT; Jacobson & Christensen, 1996). To summarize, the focus of third-wave interventions is to shift away from changing the content of psychological events, and to move toward changing the relationship of the individual to such events through the use of mindfulness, acceptance, and/or defusion strategies that are explained in detail below (Teasdale, Segal, & Williams, 2003).

Experiential Avoidance & Partner Aggression

Langer (2012) has proposed a functional model of partner aggression based on the premise that aggression serves the function of reducing or terminating unwanted emotional arousal in the context of experiential avoidance. Despite the negative consequences for the individual and the victim, aggressive behavior can be viewed as functional within this theoretical framework, in that it achieves its desired outcome: the immediate reduction of unpleasant

emotional and physical experiences. The immediate negative reinforcement that follows increases the likelihood of future aggressive behavior as a viable strategy within a relationship (Langer, 2012).

Figure 1. A Functional Model of Partner Aggression



According to the model, an emotionally evocative interpersonal event occurs (e.g., real or perceived threat by a partner) (1), and based on the current context and the individual’s unique learning history, an emotional response in the form of bodily sensations and thoughts is triggered (2). Fear of, distaste for, or sensitivity to internal experiences is strongly linked to an urge to escape from the aversive state of arousal, and such escape behavior is further enhanced in a psychological context that already promoted experiential avoidance (3). Engaging in aggression or in other maladaptive strategies in this context, such as substance use, detachment, suppression, or rumination (4), may result in temporary distraction from, or a reduction in, this aversive physiological and psychological arousal (5). Even though this escape is only temporary, it becomes negatively reinforced (6), by reducing the immediate uncomfortable experience and shaping the partner’s behavior (e.g., she pulls away or becomes quiet). Decades of behavioral research show that repeated negative reinforcement trials make the association between

unpleasant emotional arousal and the behavior (in this case aggression) stronger, such that it becomes more automatic, and less amenable to change.

Empirical evidence has accumulated that supports some of the paths suggested in this model of aggression (see below). I argue that targeting experiential avoidance and other detrimental psychological processes (explained in detail in the next sections), through several key ACT strategies, could be a useful treatment alternative with high-risk incarcerated domestic violence offenders.

Evidence from the Partner Aggression Literature

Evidence provides some support that partner aggression is associated with experiential avoidance in that it is difficult for these individuals to accept and deal with negative emotions (Robertson & Murachver, 2006; Tull, Jakupack, Paulson, & Gratz, 2007). For instance, partner aggressors subjectively report higher levels of aversive internal arousal in general, and exhibit significantly more arousal before and during arguments than do non-aggressive partners (e.g., Margolin, John, & Gleberman, 1998). Perpetrators also report having initiated the aggression during a time when they were experiencing fear, jealousy, or anger (e.g., Babcock et al., 2004) and tend to report experiencing frustration and panic symptoms (e.g., increase heart rate, flushing, sweating, “black outs”) before engaging in aggression (George, Anderson, Nutt, & Linnoila, 1989). They are also less skilled at noticing their emotions than non-violent controls. For instance, IPV perpetrators are less aware of internal states and have greater difficulty identifying their emotions, particularly sadness and dysphoria (e.g., Costa & Babcock, 2008; Umberson, Anderson, Williams, & Chen, 2003). Individuals show a greater tendency to withdraw or disengage from interpersonal interactions when arguments become heated (e.g., Umberson, Williams, & Anderson, 2002). In addition, partner aggression is associated with

suppression or restriction of emotions, such as by attempting to withhold emotional expression or inhibit arousal (e.g., Tull et al., 2007), as well as suppressing thoughts. In a study investigating the relationship between thought suppression and aggression, intrusive thoughts and thought suppression were significantly related to most measures of aggression. The experience of intrusive thoughts was associated with more frequent use of punishment as a way of controlling the negative mental experiences. The use of punishment as a control strategy in turn was associated with greater psychopathology (Nagtegaal & Rassin, 2004). Thought suppression has also been found to be positively correlated with aggressive behavior (using the Aggression Questionnaire) and to be a significant negative predictor of total aggression scores (Nagtegaal, Rassin, & Muris, 2006). Finally, many of the comorbid psychological conditions that many partner aggressive individuals present with (e.g., Borderline Personality Disorder, PTSD, substance abuse, mood disorders) are characterized by the presence of experiential avoidance, low distress tolerance, and a lack of adaptive behaviors in the presence of aversive emotional and physiological stimuli (Marx & Sloan, 2005; Tull & Gratz, 2008). This body of evidence provides some support for the notion that avoiding unwanted thoughts and feelings is a maladaptive strategy commonly used by aggressive individuals in order to deal with aversive stimuli.

Partner-aggressive individuals also experience heightened levels of arousal compared to non-violent controls, particularly in response to interpersonal triggers. Creswell, Way, Eisenberger, and Lieberman (2007) examined amygdala activation to threatening emotional visual stimuli in individuals who had scored high and low in mindfulness (proxy for high and low experiential avoidance). They found that those with lower mindfulness scores were more reactive to the threatening stimuli and showed greater bilateral amygdala activation and less prefrontal cortical activation when compared to higher-scoring mindfulness individuals. Similar

studies have found that IPV perpetrators demonstrate more reactive emotional responses than non-violent controls to situations involving real or perceived abandonment, rejection, interpersonal dependency, and jealousy (Holtzworth-Munroe & Anglin, 1991; Murphy, Meyer, & O'Leary, 1994). Arch and Craske (2006) have found that, relative to experimental controls, those undergoing a mindfulness intervention (used to decrease experiential avoidance) showed less negative affective reactivity and emotional volatility in response to affectively valenced picture slides. They also displayed a greater willingness to maintain visual contact with the aversive slides and recovered more quickly from the emotionally provocative event. This finding suggests the potential role that mindfulness might play in facilitating more flexible and adaptive responses to aversive or threatening stimuli (Ryan & Deci, 2004), as opposed to habitual, automatic or impulsive responses.

Partner-aggressive individuals also evidence a low tolerance of emotional arousal. In other words, they tend to label emotional arousal as unpleasant, aversive, or dangerous. There is evidence that partner-aggressive men report fear of both their negative and positive emotions (Jakupcak, Salters, Gratz, & Roemer, 2003). This makes it difficult for these individuals to allow their feelings to be present without doing something to immediately decrease their emotional arousal (be it adaptive or maladaptive). An inability to experience aversive mood states is correlated with proneness to use aggressive strategies in order to reduce negative affect (e.g., Auerbach, Abela, & Ringo Hoa, 2007). The evidence summarized provides preliminary support for the Langer (2012) model and suggests that targeting experiential avoidance might prove useful in the treatment of partner aggression.

ACT Processes and the Psychological Flexibility Model

The goal of Acceptance and Commitment Therapy (ACT) is to increase the ability to be in the present moment and to choose behavior that is consistent with one's values and goals, which also is known as psychological flexibility. In ACT, psychological flexibility is promoted through six core processes (Levin, Hildebrandt, Lillis, & Hayes, 2012). The processes of change are conceptualized as the development of positive psychological skills, and not necessarily the reduction of symptoms, although this is a common byproduct. The six core processes are (1) cognitive defusion; (2) acceptance; (3) present-moment awareness; (4) self-as-context; (5) chosen values; and (6) committed action. I will describe each of these processes of change, the maladaptive process that they target, and how they could be potentially applied to incarcerated IPV offenders.⁵

Cognitive defusion is taught as an alternative to cognitive fusion. This skill is meant to alter the undesired qualities of thoughts and emotions by helping the individual view them from a different and detached perspective. In other words, ACT teaches clients to interact with their thoughts or to relate to them by creating contexts in which their unhelpful functions are diminished (Hayes et al., 2006). Examples of such strategies include repeating a thought out loud until only its sound remains and it loses its meaning, writing a thought on a piece of paper and noticing it as a separate entity, saying a thought out loud and then acting in a way that directly content (Hayes et al., 1996).

In several community-based studies, defusion techniques, such as stepping back and noticing thoughts and feelings as separate entities that are free-flowing and that are a potential source of information, were taught to low-income community members, police, teachers, and social service personnel. These communities, including South Central Los Angeles, South Bronx, Oakland, and San Francisco, were riddled with a high incidence of drug use, gang

violence, and crime. Each of these projects found significant decreases in crime and delinquency in the community, as well as improvements in the relationships between community members and the police (Kelley & Stack, 2000; Kelley, 2003; Mills & Spittle, 2002). For instance, in a public housing unit in Oakland, California, which had the highest rates of homicide and violent crime rates in the state, after the second year of the “Thought Recognition” Project, crime decreased 45% (Kelley, 2003). Defusion is therefore a potentially useful skill in reducing the use of aggression as a behavioral response to aversive stimuli among violent offenders.

Acceptance is taught as an alternative to experiential avoidance. It is the conscious decision to embrace unwanted feelings and thoughts in an open way without making attempts to alter their shape, content, or form, especially when doing so results in psychological harm. Acceptance is not a submissive resignation to one’s pain. It is also not giving up or suffering as a last resort. It is a way of letting these thoughts and feelings “be” as they are, without defense, in the service of increasing psychological flexibility that will ultimately result in a richer and more meaningful life (Fletcher & Hayes, 2005). Exercises include practice sitting with, leaning into, or observing thoughts and feelings in an open and non-judgmental way; noticing experientially avoidant strategies and practicing letting go of them; and encouraging individuals to engage in actions independent of their thoughts and feelings. Acceptance has been described as the “experiencing of events fully and without defense, as they are” (Hayes, 1994, p. 30). Acceptance of unwanted private experiences has been associated with a number of beneficial psychological and physical outcomes in the form of improved mental health, quality of life, overall well-being, and increased vitality and fulfillment (Ciarrochi & Robb, 2005). It may prove particularly useful for incarcerated IPV perpetrators who report higher than average avoidance of both positive and negative emotions (Jakupcak et al., 2003).

Present-moment awareness is taught as an alternative to the loss of contact with the here and now. It refers to the intentional practice of bringing one's attention to moment-to-moment experiences, which can include thoughts, feelings, sensations, etc., in an open and non-judgmental way (Baer, 2003). Put in another way, present-moment awareness, also known as mindfulness, is the "non-judgmental observation of the ongoing stream of internal and external stimuli as they arise" (Baer, 2003, pg. 125). Individuals come to realize that most of these emotions, thoughts and bodily sensations are transient instead of fixed. Mindfulness interventions that incorporate present-moment awareness have been shown to result in significant reductions in pain, stress, anxiety, and depressive symptoms thought to result from an ability to experience adverse experiences for what they are, without relying on escape or avoidance behavior (Teasdale et al., 2000). Given the high prevalence of impulsivity and executive functioning deficits among incarcerated IPV offenders (Caetano et al., 2008; Korn et al., 1997), present-moment awareness skills might prove to be particularly useful in reducing future perpetration of aggression.

Self-as-context is taught as the alternative to the attachment to a conceptualized or rigid self. Exercises include guiding individuals to contact a sense of self that is distinct from their thoughts and feelings (often referred to as the "observer self"), helping them to notice their thoughts as separate entities from themselves through the use of mindfulness exercises, and practicing perspective taking through experiential exercises. This is possible by allowing a distinction between the person observing a thought or a feeling and the person noticing that he/she can in fact notice (Fletcher & Hayes, 2005). A self-as-context perspective allows the person to view the ongoing flow of thoughts and feelings, and to be able to shift from a conceptualized self ("I am bad"), to a perspective from which this thought can be observed ("I

am having the thought, ‘I am bad’’). It also allows the person to notice that just as he/she has thoughts and feelings, others too have their own thoughts and feelings (i.e., perspective taking). Incarcerated IPV offenders struggle with theory of mind tasks and the ability to take the perspective of another person (McDonald, 2007). Self-as-context skills can prove to be a valuable skill to increase the ability to empathize with their partners, take the perspective of their partners, and to consider another person’s feelings before choosing their actions.

Values are chosen life directions that are pursued by purposeful ongoing action on a moment by moment basis (Hayes et al., 1999). Values can never be fully obtained; rather, they provide a direction in which the client can move continually by setting concrete and small goals. ACT helps the client through various exercises to identify these valued domains (e.g., family, relationships, health) while undermining verbal processes that are prone to result in fusion (e.g., “I should value X”). Values carve the path towards a more vital, rich, and meaningful life for the individual. ACT aims to replace short-term avoidance as a negative reinforcer with values as both a long-term and short-term positive reinforcer of behaviors. Behavior in service of values shifts from being under aversive control (“I have to do this”) to being under appetitive control (“I want to do this”; Fletcher & Hayes, 2005). Exercises include helping participants identify what matters to them in life and what they value. A recent study with IPV perpetrators found that most mentioned their children, family, partners, or freedom as important reasons for completing the program (Sheehan et al., 2012). This suggests that this population holds values similar to non-violent individuals and views them as strong motivators for behavior change.

Committed Action is the alternative to inaction, impulsivity, and/or avoidant behavior. It involves behavioral changes that move the client toward value-consistent goals (Fletcher & Hayes, 2005). Exercises might include discussing specific short and long-term goals that might

bring the individual closer to their values, guiding participants to make commitments in service of these values, and skills building to enhance these commitments (e.g., communication skills).

In sum, ACT is a “psychological intervention based on modern behavior psychology... that applies mindfulness and acceptance processes, and commitment and behavior change processes, to the creation of psychological flexibility” (Hayes, et al., 2006, pg. 10). Rather than directly attempting to change the frequency or intensity of unwanted and distressing psychological events (i.e., thoughts, memories, feelings, bodily sensations), the psychological flexibility model upon which ACT is based aims to change how individuals *relate* to these unwanted private experiences, and to help them engage in behavior that is consistent with their values and unattached to their distressing internal experiences (Levin et al., 2012). It makes use of experiential exercises and metaphors that transcend the limitations of language. Clients are taught to cultivate an awareness of the present moment by confronting previously avoided private events in the form of thoughts, feelings and bodily sensations. Language is used to label emotions and thoughts, but from an “observer” perspective that is detached from the content of this private event (Fletcher & Hayes, 2005), which increases psychological flexibility.

Outcome Research on ACT

Multiple meta-analyses published on ACT outcomes provide evidence that ACT is effective for treating a wide variety of problem areas, with generally medium effect sizes compared to treatment as usual, and large effect sizes compared to wait-list controls (Hayes et al., 2006; Ost, 2008; Powers, Vording, & Emmelkamp, 2009). ACT-based interventions have shown positive results in treating epilepsy (Arias, Steinberg, Banga, & Trestman, 2006; Lundgren et al., 2006), substance abuse (Hayes et al., 2004; Twohig, Schoenberger, & Hayes, 2007), smoking cessation (Gifford et al., 2004), psychosis (Bach & Hayes, 2002; Gaudiano & Herbert, 2006), Borderline Personality Disorder (Gratz & Gunderson, 2006), anxiety (Sharp,

2012), PTSD (Thompson, Arnkoff, & Glass, 2011), chronic illness (Branstetter, Cushing, & Dogleh, 2009), chronic pain (Kratz, Davis, & Zautra, 2007; McCracken et al., 2004), math anxiety (Zettle, 2003), helping parents cope with their children with Autism (Blackledge & Hayes 2006), reducing therapist burnout (Krasner et al., 2009), diabetes management (Gregg et al., 2007), and suicidal ideation (Luoma & Villatte, 2012). It has also been found to increase relationship satisfaction (Blevins, Roca, & Spencer, 2011; Peterson, Eifert, Feingold, & Davidson, 2009; Saavedra, Chapman, & Rogge, 2010), capacity to respond constructively to one's partner during a stressful argument (Barnes et al., 2007), job satisfaction and efficiency (Bond & Bunce, 2000), emotional intelligence and perspective taking skills (Schutte et al., 2001), a sense of relatedness and interpersonal closeness (Brown & Kasser, 2005), empathy (Shapiro et al., 1998), and life satisfaction, self-esteem, vitality, positive affect, and self-actualization (Brown & Ryan, 2003).

Ost's (2008) meta-analysis yielded post-treatment effect sizes of 1.04 for ACT and 1.13 at follow-up compared to wait-list controls. When compared to active treatments (CBT, DBT), effect sizes post-treatment declined (0.96) but remained large. In another meta-analysis, Powers and colleagues (2009) found a clear overall advantage for ACT compared to control conditions (ES=0.42). The average ACT-treated participant was more improved than 66% of individuals in the control conditions. ACT was superior to waitlist and psychological placebos (ES=0.68) and treatment as usual (ES=0.42). However, ACT was not superior to established CBT treatments for anxiety and depression. Short-term one time ACT workshops have shown similar effect sizes to long-term therapy (Powers, et al., 2009). A more recent meta-analysis compared ACT versus CBT interventions for a variety of disorders (Ruiz, 2012) and showed that mean effect sizes on primary outcomes significantly favored ACT (Hedges's $g=0.40$). Mean effect sizes, however,

were not significant for anxiety symptoms, whereas a positive trend for ACT was obtained for depression ($g=0.27$) and quality of life ($g=0.25$) at post treatment. ACT showed a greater impact based on its proposed processes of change ($g=0.38$), whereas the CBT proposed mechanism of change did not predict outcome ($g=0.05$). One study found that CBT seemed to work through cognitive defusion as opposed to cognitive restructuring (Wetherell et al., 2011). Two moderation analyses have been conducted to determine which type of client would respond better to ACT vs. CBT. Preliminary findings suggest that ACT might be better suited for individuals suffering from comorbid conditions (e.g., anxiety and depression), whereas CBT might be better suited for anxious individuals without comorbid conditions (Juarascio et al., 2010).

Outcome Research on ACT and Aggression

In a randomized controlled trial testing the feasibility and efficacy of ACT, compared to a supportive control group condition, among an adult community sample (endorsing at least 2 acts of partner aggression), researchers found significant reductions post treatment and at 3 and 6 month follow-up on psychological aggression, physical aggression, experiential avoidance, and emotional dysregulation (Zarling, Lawrence & Marchman, 2015). Treatment effects on physical and psychological aggression were partially mediated by reductions in experiential avoidance and emotional dysregulation post treatment. These results suggest that ACT may be a potentially efficacious treatment for aggression in a community sample and provide initial evidence that an ACT approach to aggression may be a viable alternative to traditional IPV treatments. The results from a single case-study with an IPV perpetrator are consistent with these findings (Mañas-Mañas & Sanchez-Sanchez, 2009). Another recent study examined the effectiveness of a 24 session ACT-based protocol (ACTV), delivered over the course of 6 months, across the entire state of Iowa with domestic violence offenders court-ordered to complete treatment in the

community, rather than in jail. Results from this large scale, non-randomized study are very encouraging, showing that treatment completers in ACTV (n=516), compared to those in TAU (n=2040; Duluth + CBT principles) had significantly fewer domestic assault charges (5.4% vs. 14.1%), general violence charges (8.2% and 23%), and violations of no contact orders (0.4% vs. 3.6%) one year post-treatment completion (Zarling, Bannon, & Orengo-Aguayo, under review).

ACT has also recently been used with a small sample of adolescents with externalizing behavior and severe conduct problems, showing promising results. One study utilized a defusion and values-based protocol in which adolescents struggling with impulsivity, aggression, and conduct problems practiced noticing their thoughts, taking the perspective of the observer, clarifying their values, and noticing if their behavior was consistent with their thoughts or their values. The study found significant reductions in a number of problematic behaviors (both self and teacher report), and four out of the five high-risk participants desisted problematic behaviors and maintained these gains at a four-month follow up. Psychological flexibility scores significantly increased pre to post treatment as well (Luciano et al., 2011). Similar findings have been reported by a group conducting a preliminary study of an ACT protocol with 5 adolescents with a history of antisocial behavior and current legal issues. Participants showed less impulsivity, higher self-control, and more valued-oriented actions post-treatment. These treatment gains were maintained at one-year follow up (Gomez, et al., 2014). These studies, however, are limited by their small sample sizes and lack of control groups.

Recently, Sahagun-Flores and Salgado-Pascual (2013) conducted a pilot ACT intervention with 18 incarcerated domestic violence offenders in Spain. This is the only intervention to my knowledge that has applied ACT with an incarcerated domestic violence sample. The intervention consisted of two individual sessions in which the therapist helped

participants explore their values, followed by 12 group sessions in which functional analyses, experiential exercises and mindfulness work targeted experiential avoidance and impulsive behaviors (e.g., drug use, aggression), with the goal of increasing committed action in the service of values. Eight out of the 12 participants undergoing the ACT intervention completed all 14 sessions of treatment, with the most common reason for absences being medical illness and court proceedings. Results showed significant changes pre to post compared to a no-treatment control group, on experiential avoidance, impulsivity, and valued-based behavior, all in the expected directions (effect sizes ranged from .31-3.89 with an average effect size of 1.66). Pre to post change effect sizes for the ACT group were moderate for experiential avoidance (AAQ-II scores; $d=.66$), large for impulsivity ($d=1.06$), and very large for willingness to let unwanted feelings and thoughts be instead of trying to change them ($d=2.67$). Increases in the number of positive activities engaged in ($d=.29$) and changes in behavior ($d=.25$) were small. Despite the encouraging results, it is important to note that post-scores on most measures were still within a clinically elevated range for some of the measures, data were not collected on psychological symptoms or recidivism, and there was no random assignment to group. This study lends preliminary support for the effectiveness of an ACT-based intervention with incarcerated domestic violence offenders and the potential efficacy of acceptance, mindfulness, defusion, and values-based interventions in reducing experiential avoidance

CHAPTER 2: OVERVIEW AND SPECIFIC AIMS OF THE CURRENT STUDY

The literature reviewed provides evidence that IPV perpetration is a complex phenomenon. Incarcerated IPV perpetrators in particular, are more impulsive, have difficulties with perspective taking, are more likely to be diagnosed with an Axis I and Axis II disorder, are more likely to be experientially avoidant than non-violent individuals, have complex criminal backgrounds, and are less likely to obtain treatment. Langer (2012) has proposed a functional model of partner aggression based on the premise that aggression serves the function of reducing or terminating unwanted emotional arousal in the context of experiential avoidance. This avoidance results in behavior that is rigid and non-responsive to natural contingencies in the environment. That is, the person's sole focus is to reduce the unwanted mental experiences (e.g., anger, anxiety), even if it means using maladaptive behaviors such as aggression. This maladaptive pattern results in a gradual loss of contact with valued domains of living (e.g., meaningful and satisfying relationships), and in decreased attention to the present moment. This, in turn, has been associated with greater use of impulsive and maladaptive behaviors.

Acceptance and Commitment Therapy (ACT) attempts to reduce experiential avoidance by promoting behavior that is freely chosen (as opposed to automatic), contextually controlled (as opposed to rule-governed), and value-based (as opposed to avoidance-based). Recent evidence suggests that ACT might be a potentially efficacious treatment for partner aggression among a community sample (Zarling, Lawrence & Marchman, 2015), among IPV perpetrators sentenced to mandated community BEP treatment (Zarling, Bannon, & Orengo-Aguayo, under review), and among incarcerated IPV perpetrators (Sahagun-Flores & Salgado-Pascual, 2013).

The overall objective of the present study was to extend this body of work by conducting a pilot study testing the feasibility of implementing an ACT skills group with a sample of

incarcerated domestic violence offenders. Specifically, I wanted to determine the feasibility of implementing such a group in a jail setting by examining potential post-treatment gains in ACT skills, and reductions in depression and anxiety symptoms, as well as in aggressive and impulsive behavioral tendencies. The literature suggests that the chronicity and severity of past criminal history charges of the perpetrator, particularly previous domestic violence (i.e., IPV) related charges, are uniquely robust predictors of future recidivism and therefore, of treatment failure (Babcock & Steiner, 1999; Tellefson & Gross, 2006). In other words, perpetrators who have the most severe criminal histories (i.e., more than one IPV charge, other criminal charges in addition to IPV charges) are less likely to benefit from treatment in that they are more at risk for recidivism (McMurrin & Theodosi, 2007). I therefore wanted to examine whether these pre to post treatment changes were moderated by criminal history severity related to IPV. Additionally, I wanted to examine the perceived acceptability of the treatment by the participants. Finally, according to Langer's (2012) functional model of partner aggression, greater experiential avoidance (i.e., deficits in awareness of, detachment from, and acceptance of emotions) is hypothesized to result in greater perpetration of aggression. It could stand to reason that the converse would be true such that greater perpetration of aggression related to IPV (i.e., IPV related criminal history severity, IPV-CHS) would be associated with more severe deficits in the ACT skills (i.e., acceptance, present-moment awareness, and defusion), internalizing symptoms, and externalizing behaviors at pre-treatment. Therefore, I was interested in examining whether there was a pre-treatment negative association of IPV-CHS and ACT skills (i.e., acceptance, present-moment awareness, defusion), and a positive association of IPV-CHS and experiential avoidance, internalizing symptoms, externalizing behaviors. The following three aims, therefore, guided this study:

Aim #1: To test the ability of the ACT intervention to impact pre-to-post treatment change in the ACT skills (i.e., present-moment awareness, acceptance, and defusion), internalizing symptoms (i.e., depression and anxiety), and externalizing behaviors (i.e., aggression and impulsivity), and to examine whether IPV-related criminal history severity moderates any changes. I hypothesized that participants at post-treatment would show (a) significant increases in present-moment awareness, acceptance, and defusion, and conversely, (b) significant reductions in experiential avoidance. I additionally hypothesized that significant reductions would be observed post treatment in (a) anxious and depressive symptoms, and (b) self-reported aggressive and impulsive behavioral tendencies. Finally, I hypothesized that IPV criminal history severity would moderate pre-to-post changes in the ACT skills and other outcome variables. Given that perpetrators with more severe criminal histories are at greater risk for recidivism post treatment, I hypothesized that perpetrators with less severe IPV-related criminal histories would show larger changes in the desired direction than those with more severe IPV-related criminal histories.

Aim #2: To examine participants' perceptions of the ACT treatment, as well as suggestions for improvement. To my knowledge, there are no published studies systematically documenting participants' views of ACT as a treatment. Based on my prior work with this population, I hypothesized that participants' would find this treatment acceptable and beneficial. Given that these men are seldom asked about their opinions or views, I additionally hypothesized that they would welcome the opportunity to offer suggestions that could improve the contents and the treatment delivery of the intervention.

Aim #3: To examine whether IPV-related criminal history severity predicts pre-treatment ACT skills, internalizing symptoms, and externalizing behaviors. Given the literature suggesting that perpetrators with more severe IPV-related criminal histories are at an increased risk of treatment dropout and recidivism, one would expect more chronicity of symptoms and less skills at pre-treatment. I hypothesized that more severe IPV-related criminal history would negatively predict pre-treatment ACT skills and positively predict worse pre-treatment functioning than those with less severe IPV- related criminal histories.

CHAPTER 3: RESEARCH DESIGN AND METHODS

Participant Eligibility

Potential participants were IPV perpetrators who were court-mandated by a judge to complete BEP in the Linn County Jail in Cedar Rapids, Iowa when at least one of the following criteria were met: 1) they had failed to complete BEP in the community at least one time; or 2) they were deemed to be “high-risk” due to the severity and/or chronicity of their past criminal charges (i.e., had other criminal charges in addition to IPV, multiple IPV charges, or multiple violations of no contact orders). Additionally, they had to be over the age of 18 and speak English. Twenty five participants out of the thirty-seven who were assigned to the ACT group (68% of the sample) had failed to complete BEP community treatment at least one or more times ($M=2.44$, $SD=1.53$, $Range=1-7$). Twelve participants (32%) had not previously failed to complete community treatment, but were deemed by judges to be “high-risk” due to their criminal charges and therefore were sentenced to complete group in jail, instead of in the community. The study did not require that participants meet criteria for a specific mental health diagnosis. Rather, all participants shared a common history of perpetration of IPV and were deemed “high-risk” for non-completion and recidivism if sentenced to community treatment. Given that participants in the group already met the necessary inclusion criteria once they were mandated to attend group, a formal eligibility screening process was not conducted as part of this study.

Enrollment & Treatment Procedures

A partnership was established with the 6th Judicial District to offer ACT groups in the Linn County Jail in Cedar Rapids, Iowa from January 2014 to February 2015. Throughout part of this year an already existing jail group based on the Duluth Model continued to be offered by a Department of Corrections employee during some of the months when the ACT group was not

offered. Throughout the year, judges in the 6th district mandated IPV offenders who met the above mentioned criteria to complete BEP treatment in the jail. Judges were not aware of which type of group would be offered in the jail at the time when they assigned offenders to treatment. Rather, they mandated offenders to complete treatment based on when the offender was due for sentencing and when the next available group would start. Although offenders were mandated to complete whichever group was being offered at the time, the ACT group or the Duluth-based group, they were not obligated to participate in the research portion of this study, which consisted of completing the pre- and post-treatment questionnaires. The original goal was to collect both pre and post data from both the ACT groups and Duluth-based groups. A number of participants in the Duluth-based groups, however, made comments on the *Experiences in Group Survey* at post-treatment that suggested that they were motivated to present themselves in an overly positive light. Thus, we discarded the post-treatment questionnaires due to their questionable validity. For this reason, the Duluth-based groups were not included as a control condition in the study. Nevertheless, given that these groups' pre-treatment questionnaires were still usable, the data from Duluth-based groups are included in the analysis for Aim #3.

ACT groups were offered approximately every 2-3 months over the course of the study year. A few days before a group began, group members received a letter that described the study, what their participation would entail, and the next steps in which a research assistant would be visiting them within a few days with more information. Before the beginning of the first group session, a research assistant visited the group members in a private room; facilitators and guards were not present. She reviewed a letter of consent that described the purpose of the study and reminded potential participants that their participation in the study (i.e., completing the questionnaires) was completely voluntary and would have no impact on their parole or court

case. Participants were also reminded that judges, parole officers, jail staff, etc., neither would know if they participated in this study nor would have access to their answers. The consent also detailed that the Department of Corrections would provide de-identified, criminal history data for participants. We assured the participants that this information would not be linked to their names or any other identifying information. In some instances, a group member checked himself in at the jail after the first session had occurred. In these cases, the research assistant returned before the beginning of the second session to consent the participant and ask him to fill out the questionnaires.

Those interested in participating were handed a questionnaire packet to fill out (pre-treatment assessment) that was labeled with a study ID. The questionnaire packet contained several demographic questions, primary outcome measures (ACT skills) and secondary outcome measures (internalizing symptoms and externalizing behaviors), as well as a brief survey with open-ended questions assessing participants' views of treatment and suggestions for improvement (only given at post; please see measures section below). The research assistant read the questions out loud to assist those with reading difficulties. Completion of the questionnaires took approximately 30-45 minutes and was considered to be providing consent to participate, as a waiver of documentation of written consent was obtained to protect the confidentiality of the participants. Participants were instructed to place their questionnaires back into the manila envelope, seal it, and return it to the research assistant. They were informed that the research assistant would return after the last group session was completed (at the end of the 12th session) and would invite them to complete another similar questionnaire packet (post-treatment assessment) once the facilitators left the room (to ensure that no coercion occurred). Participants were informed that they could choose not to complete the measures and still be allowed to

participate in the group without any penalty. Facilitators were blind to who completed the questionnaires. Participants did not receive any compensation for their completion of the questionnaires, in compliance with prisoner IRB regulations. The first session of group (ACT of Duluth-based) began immediately after the research assistant completed collecting the questionnaires and left the room. The facilitators were then allowed inside the room.

The entire study received Institutional Review Board approval from The University of Iowa and internal approval from the Department of Corrections, Sixth Judicial District Research Committee.

Group Structure

All group sessions took place within the same conference room inside the Linn County Jail. Each group met 3 times per week for 4 weeks, for a total of 12 sessions delivered over the course of one month. The length of treatment was designed based on the typical sentence length that most offenders were mandated to complete (i.e., 30 days), in order to ensure that all offenders could have an equal opportunity to complete the full course of treatment. Groups were comprised of anywhere from 4 to 10 participants. Each session lasted approximately 2 hours, for a total of approximately 24 contact hours. A total of 7 ACT groups took place over the course of one year.

Group Facilitators and Treatment Adherence

Each group was co-facilitated by me and another master's-level graduate student with comprehensive training and experience in using ACT. All co-facilitators (N=6) received additional training in IPV, working with IPV perpetrators, conducting group therapy, and working with incarcerated clients. Audio and video recording inside the jail were prohibited. For this reason, it was not possible to optimally assess treatment adherence and facilitator competency. Alternatively, ACT facilitators met before and after each session to discuss the

treatment protocol and to ensure that each session's objectives were covered. Post-session discussions always concluded that the session's objectives were fully met. I provided peer supervision to co-facilitators, in consultation with Dr. James Marchman and Dr. Teresa Treat, as well as updated my supervisors about the progress of the study and the group sessions. Facilitators met on an as-needed basis with Dr. James Marchman to receive supervision. Additionally, Dr. Marchman observed one session in the jail and judged the content of the session and the facilitation to be consistent with the planned objectives.

ACT Treatment Protocol

The ACT treatment protocol was developed (Orengo-Aguayo, Zarling, Rolffs, Traeger, & Marchman, 2013). Several components were adapted from the curriculum currently used in an ACT-based community BEP curriculum (Lawrence, Langer, & Orengo-Aguayo, 2012). Additional content and exercises were added to fit the unique circumstances and needs of this incarcerated population. An initial draft of this curriculum was piloted in the Johnson County Jail in February of 2013 by myself and Lori Traeger, a Community Corrections employee and the Director of the BEP program in 6th District of Iowa. Modifications based on the feedback received and the facilitators' observations were made; the revised curriculum was piloted again in the Linn County Correctional Center in September of 2013 by Lori Traeger. Feedback from this group resulted in the final version of the manual.

Core ACT exercises were chosen and adapted to address the issues faced by this population, emphasizing the development of psychological flexibility, perspective-taking skills, mindfulness, and values-based behavior. The group modules utilized a combination of didactic and experiential activities, as well as behavioral practice. Throughout the treatment, the Matrix (Polk, 2014) was used as a tool to help participants distinguish among their thoughts, feelings, and behaviors. The modules focused on the development of each skill in the group context and

skill generalization outside of group with the aid of homework assignments. Participants also completed daily monitoring forms on the cognitive and emotional precipitants of their use of problematic interpersonal behaviors, including aggression, as well as the consequences of their behavioral choices.

During the first group session, facilitators reviewed the group guidelines for conduct and participation (e.g., respecting each other, maintaining confidentiality, the limits of confidentiality, and the importance of active participation and homework completion). All sessions followed a common format: (a) ice-breaker exercise designed to foster psychological flexibility, (b) review of prior session material and between-session assignments, (c) topic presentation, (d) experiential exercises in a variety of formats to facilitate group discussion and application of session skills and material, and (e) homework assignment. ACT facilitators adopted a compassionate, non-judgmental, and open stance towards their clients. Problem-solving and advice-giving were discouraged. Rather, facilitators worked with clients to help them identify mental barriers that get in the way of values-consistent behavior, and to identify behaviors that are consistent with such values. (See Table 1 for a description of each session. Complete manual available upon request.)

Sample Size

The minimum number of participants to achieve adequate power for the analyses was estimated using G*Power software with procedures outlined by Cohen (1988) on the basis of 0.8 power to detect significant pre-post differences ($p=.05$, 1-tailed). The only prior intervention pilot study examining ACT with a sample of incarcerated domestic violence offenders reported significant pre to post changes among the ACT condition on experiential avoidance, impulsivity, and acceptance/willingness (Cohen's d effect sizes ranged from 0.66-2.67; Sahagun-Flores & Salgado-Pascual, 2013). The effect sizes from this study were utilized as the basis for power

calculations. Given that these effect sizes ranged from moderate to large in magnitude, a moderate-magnitude effect was utilized as the benchmark. Therefore, the number of participants required to find a moderate effect with 80% power was determined to be 34 participants. The final N resulted in 37 participants who completed at least a pre or a post questionnaire packet, and 33 participants who completed both pre and post measures. This sample (N=33) was utilized to conduct Aim #1 and Aim #2 analyses. A sample of 58 participants (including the 37 participants who completed the ACT group and the 21 participants who completed a Duluth-based group and had usable pre-treatment questionnaires) was utilized for Aim #3 analyses.

Measures (see Table 2 for a list of all measures and constructs assessed)

Acceptance and Action Questionnaire-II (AAQ-II; Bond, Hayes, Baer, Carpenter et al., 2011): The AAQ-II is a one-factor, 7-item measure of psychological inflexibility, or the tendency to avoid unwanted internal experiences, even if this results in behaviors that interfere with one's values and goals (e.g., "My painful experiences and memories make it difficult for me to live a life that I would value."). Participants were asked to rate how true each statement had been for them in the past month on a 7-point Likert scale (1 = never true to 7 = always true). Items are scored so that high scores are indicative of greater levels of psychological inflexibility (i.e., experiential avoidance) and low scores are indicative of greater psychological flexibility (possible range: 7-49). The AAQ-II has adequate internal consistency ($\alpha=.84$), and the 3 and 12 month test-retest reliabilities are .81 and .79 respectively (Bond et al., 2011). The AAQ-II has adequate convergent, discriminant and concurrent validity, and it predicts a range of outcomes from mental health (e.g., depression, anxiety) to work absence rates (Bond et al., 2011). The Spanish version of the AAQ-II (Ruiz & Luciano, 2009) was recently used with a sample of Spanish inmates convicted of domestic violence and showed significant changes in

psychological flexibility pre-to-post intervention, suggesting that this measure is sensitive to change with this population (Sahagún-Flores & Salgado-Pascual, 2013). The alpha coefficient for this measure in the current study was .88.

Philadelphia Mindfulness Scale (PHLMS; Cardaciotto, Herbert, Forman, Moitra, & Farrow, 2008): The PHLMS is a 20-item two-dimensional measure of mindfulness that assesses two key concepts: present moment awareness (“I am aware of the thoughts passing through my mind”) and acceptance (“I tell myself that I shouldn’t feel sad,” which is reverse coded). Participants were asked to rate how frequently they had each experience in the past month on a 5-point Likert scale (1 = never to 5 = very often). Items are scored so that high scores on this measure indicate greater present-moment awareness and acceptance (possible range: 20-100). The instrument has been evaluated using non-clinical and clinical populations and demonstrates good psychometric properties, with internal consistencies of .86 for awareness and .91 for acceptance (Cardaciotto et al., 2008). The acceptance subscale moderately correlates with depression and anxiety, demonstrating good convergent validity (Cardaciotto et al., 2008). The alpha coefficient for this measure in the current study was .80.

Cognitive Fusion Questionnaire (CFQ; Gillanders, Bolderston, Bond, et al., 2014): The CFQ measures the ability to create psychological distance between a person and his/her thoughts, beliefs, memories, and self-stories. In ACT terms, defusion is the skill of “unhooking” oneself from a mental experience and not getting caught up in it. The measure contains 7 items rated on a 7-point Likert scale ranging from “never true” to “always true” (possible range: 7-49). Higher scores reflect greater fusion and lower scores greater defusion. The CFQ has excellent internal consistency and good test-retest reliability across diverse samples (Gillanders et al., 2014). It also shows good predictive validity and sensitivity to skills interventions over time (Gillanders et al.,

2014). The alpha coefficient for this measure in the current study was .93.

Patient Health Questionnaire (PHQ; Spitzer, Williams, Kroenke, et al., 1999): The PHQ consists of nine questions designed to correspond to the nine diagnostic criteria for major depressive disorder covered in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM–IV). Items are rated from 0 to 3 according to increased frequency of experiencing difficulties in each area covered. Scores are summed and can range from 0 to 27. The score can then be interpreted as indicating no depression (0), minimal (1-4), mild (5-9), moderate (10-14), moderately severe (15-19), or severe depression (20-27). This measure is one the most widely used in research studies and practice to evaluate the presence of depression symptoms. The alpha coefficient for this measure in the current study was .85.

Generalized Anxiety Disorder Scale (GAD; Spitzer, Kroenke, Williams, & Lowe, 2006): The GAD is a 7-item anxiety scale used to assess general symptoms of generalized anxiety in clinical and research populations. It has excellent internal consistency ($\alpha=.92$) and good test-retest reliability ($r=.83$; Spitzer et al., 2007). The scale also has good convergent and construct validity for the diagnosis of GAD (Kroenke, Spitzer, Williams, et al., 2007). Participants are asked to rate on a 4-point Likert scale how often in the past month (0=not at all to 3=nearly every day) have they been bothered by the symptoms listed in the items. Items (e.g., “feeling nervous, anxious, or on the edge”) are scored so that high scores indicate greater anxiety (possible range: 0-21). Scores of 5, 10, and 15 can be interpreted as representing mild, moderate, and severe levels of anxiety, respectively. The alpha coefficient for this measure in the current study was .93.

Aggression Questionnaire (AQ; Buss & Perry, 1992): The AQ is a well validated and widely used measure of dispositional aggression containing 29 items across four subscales: (1) Physical Aggression (e.g. “Once in a while I can’t control the urge to strike another person”); (2) Verbal Aggression (e.g., “I can’t help getting into arguments when people disagree with me”); (3) Anger (e.g., “Sometimes I fly off the handle for no good reason”); and (4) Hostility (e.g., “I am sometimes eaten up with jealousy”). Participants rate on a 7 point Likert scale how characteristic these statements have been of them in the past month (1=extremely uncharacteristic of me to 7=extremely characteristic of me). Items are summed for each sub-scale and for a total aggressiveness score, with higher totals indicating greater aggressive tendencies (possible range: 29-203). The AQ has good internal consistency ($\alpha=.85$) and test-retest reliability (Buss & Perry, 1992; Keller, Hurst, & Uskul, 2008). The alpha coefficient for this measure in the current study was .94.

UPPS-S Impulsive Behavior Scale-Short (UPPS-S; Billieux, Rochat, Ceschi, Carré et al., 2012): The UPPS-S is a 20-item measure that assesses five impulsivity-related traits including: (1) Negative Urgency (e.g., “When I am upset I often act without thinking”); (2) Lack of Premeditation (e.g., “I usually think carefully before doing anything”); (3) Sensation Seeking (e.g., “I quite enjoy taking risks”); (3) Lack of Perseverance (e.g., “I finish what I start”); and (4) Positive Urgency (e.g., “When I am really excited, I tend not to think on the consequences of my actions”). Participants were asked to rate on a 4 point Likert scale how true each statement has been for them during the past month (1=never or very rarely true to 4=very often true). Items are scored so that higher scores indicate greater impulsivity (possible range: 20-80). The UPPS-S demonstrates good internal consistency (subscale α s range from .70 to .84), good test-retest reliability (r s=.84 to .92), and excellent predictive validity, with higher impulsivity scores found

among those with psychopathology and alcohol abuse (Derefinko, DeWall, Metzke, et al., 2011). Furthermore, the UPPS predicts general violence, as well as future intimate partner violence perpetration (Derefinko, et al., 2011). The alpha coefficient for this measure in the current study was .79.

Experience in Group Survey (EGS): The EGS was developed for the purposes of this study in order to: 1) assess the types of skills acquired throughout the intervention, and 2) capture participants' views of the ACT group intervention. In the first part, participants were asked to rate on a 5 point Likert scale how strongly they agreed with statements (1=strongly disagree to 5= strongly agree) related to the ACT skills learned (items #1, 2, 3, 5, 6), the perceived helpfulness of group (items # 4, 7, 9, 10), and their perceptions of the facilitators (item #8). The survey additionally included 6 open-ended questions assessing: 1) the most valuable skills learned as a result of group; 2) plans after being released from jail; 3) views on facilitators' strengths and what they could improve; and 4) suggestions for improving group.

Data Analytic Strategy

Aim #1- Preliminary analyses were conducted to ensure that there were no violations of assumptions (i.e., that the data were normally distributed) and that missing data were within acceptable standards and missing at random. For the primary analyses, a series of mixed General Linear Models (GLMs) were conducted to assess the effects of time and criminal severity on ACT Skills, internalizing symptoms, and externalizing behaviors. A continuous IPV-related criminal history severity (IPV-CHS) variable was created based on Iowa's Criminal Code, in which criminal charges range from the least severe to the most severe as follows (See Table 3 for a complete list of IPV-related crimes that fall into each category): 1) Simple misdemeanor (e.g., assault, disorderly conduct), 2) Serious misdemeanor (i.e., domestic abuse assault second offense), 3) Aggravated misdemeanor (e.g., domestic abuse assault with intent to inflict serious

injury), and 4) Felony charge (e.g., domestic abuse assault third or subsequent offense). An employee from the Iowa Department of Corrections provided me with the number of times each participant in the study had been charged with crimes in each of the categories listed on Table 3 as an adult (18 years or older). Please note that only domestic abuse/IPV related charges were used to create the IPV-CHS variable, as I did not receive complete criminal history information for other types of crimes, such as aggression towards other persons (non-intimate partners), possession of illegal substances, etc. It also is important to note that some IPV-related charges could have been “plead down” to a lower offense, in which case they were usually labeled as ‘disorderly conduct’ or ‘assault’; regardless, these charges were still related to an IPV incident and were included in the analyses. Each participant was assigned a number 1 through 4 based on the most severe charge listed. For example, a participant charged with three simple misdemeanors and one felony would be coded as ‘4’. Participants were always assigned the highest possible criminal severity category based on the data provided. This categorization resulted in the creation of an IPV criminal history severity (IPV-CHS) variable that was treated as a continuous predictor in primary analyses. To follow up reliable and trend-level interactions between time and criminal history, the effect of time was evaluated separately for those whose criminal history was low or high in severity (1 or 2 vs 3 or 4)

Aim #2- Means and standard deviations were calculated for the 10 items on the Experiences in Group Survey, where participants rated how strongly they agreed (on a scale of 1-5) with each of the statements assessing the skills acquired in group and their views of the facilitators and the material covered (see Table 8 for the items). Additionally, a qualitative content analysis (Bryman & Burgess, 1994; Corbin & Strauss, 1998) was conducted to describe themes that emerged from participants’ responses to the six open-ended questions on this survey, which assessed their

views of the ACT group, the facilitators, and areas for improvement. This analytic approach is ideal for the identification of themes that naturally emerge from the data and the systematic classification of these themes into codes, thus highlighting participants' unique perspectives on a given topic (Elo & Kyngäs, 2008; Rubin & Rubin, 2012). This content analysis was conducted using a two-step inductive approach, described in detail below, which is consistent with a “goal-free” evaluation (Scriven, 1991), in which participants' genuine views about the acceptability and helpfulness of the ACT group were assessed.

Step #1: Developing a coding manual. I met with a research assistant majoring in psychology and we first read all of the participants' responses to the six open-ended questions and independently generated a list of themes that emerged from the data. We then met and compared our themes and definitions for each of the six questions asked on the questionnaire. Themes for which we had complete agreement were added to the codebook. Where there was disagreement, we independently read the participant's responses again and met at a later time to establish consensus. This refinement process continued until both coders agreed that the manual was comprehensive, such that the set of codes for each question captured all of the themes that emerged from the participants' responses. The end product was a comprehensive set of question-specific codes, each with their own definition. These procedures align with the recommendations for creating a data-driven codebook by DeCuir-Gunby and colleagues (2011), in which the responses to the open-ended questions (i.e., raw data) are thoroughly examined in order to develop a comprehensive codebook that captures all possible themes that emerge from the data.

Step #2: Coding responses. The unit of analysis was the entire response that a participant wrote down under the specific question being coded. The research assistant and I coded the responses independently using the created codebook. Once consensus was established

between the two of us, a graduate student not involved in the original codebook development, and naïve to the participant's responses, was asked to join the coding team. This graduate student independently coded each participants' response to the six questions. The consensus codes arrived at originally by myself and the research assistant were compared to the codes of the naïve graduate student. The graduate student's codes were in complete agreement with the consensus codes 70-94% of the time depending on the question (Q1=76%, Q2=81%, Q3=93%, Q4=94%, Q5=70%, and Q6=90%). The consensus codes were selected as the final codes for responses to each question (Thomas, 2006).

Aim #3. – A regression analysis was used to determine whether the IPV-related criminal history severity of the participants predicted pre-treatment ACT skills, internalizing symptoms, and externalizing behaviors.

CHAPTER 4: RESULTS

Enrollment and Treatment Attrition

Sixty-four potential participants were mandated to complete BEP group treatment in the Linn County Jail during the course of the study (see participant flow chart in Figure 2). Forty-three participants were assigned by judges to complete group during months when ACT groups were being offered. As stated previously, judges did not know what type of group was running each month. Rather, they assigned men to group based on the timing of the sentence and the next available jail group, regardless of treatment modality. Twenty-one participants were assigned by judges to complete groups during months when a Duluth-based (TAU) group was offered instead. All potential subjects were approached to participate in the study. Of the 43 participants who were assigned to ACT groups, 6 participants declined to complete any of the surveys (complete refusal to participate rate=14.0%), 2 refused to complete the questionnaires at pre, but asked to complete the post questionnaires, 1 completed the questionnaires at pre but did not complete the group and therefore no post questionnaires were obtained, and 1 subject completed the pre questionnaires but did not wish to complete the post questionnaires. Thus, 33 out of the 43 ACT group members agreed to participate in the study at both pre-and post-treatment (77% retention rate). Due to the circumstances mentioned previously, only the pre questionnaires are available for the 21 participants who were assigned to the Duluth-based group.

Of the 37 participants assigned to complete ACT group and who completed at least pre or post assessment, 70% (n=26) completed the full 12 sessions of group. Eight participants (22%) missed only one session (completed 11 sessions), 2 participants (5%) missed two sessions (completed 10 sessions), and 1 completed only 8 sessions. Sessions could be missed for a number of reasons, including needing to attend a court hearing, checking themselves into the jail a day or two after group began, being ill, or being sent to isolation for misbehavior (only one

participant missed a session for the latter reason). One way analyses of variance and chi-squared analyses revealed that the participants who completed the full 12 sessions (n=26) did not significantly differ from those who did not complete all of the sessions (n=11) on any of the demographic variables ($ps>.05$). Responses to less than 1% of items on the measures were found to be missing and these were missing at random. Missing values were replaced using the mean score of the items on the scale.

Baseline Characteristics

Table 4 presents baseline demographic characteristics for the ACT group study participants (N=37) and for participants in the ACT and Duluth groups (N=58; 37 ACT group plus 21 Duluth-based group). For the ACT group sample, the mean age of participants was 38.06 years (SD=9.51), with ages ranging from 22 to 55 years. Representative of the criminal justice population in the nation, the majority of the sample was comprised of African Americans (56.8%), followed by White, Non-Hispanics (32.4%). A smaller portion of the sample was comprised of Hispanics (2.7%), and biracial participants (5.4%). Approximately one third of the sample had less than a high-school diploma (29.7%), although 35.1% did have some college education. About half of the sample (48.6%) was single, separated, or divorced, but 13.5% endorsed still being married. The majority of the sample was low-income (78.4%). The sample including both ACT and Duluth group participants (N=58) was descriptively similar to the ACT group sample. As seen on Table 3, 89% of the ACT sample (n=37) had a serious misdemeanor, aggravated misdemeanor, or felony charge as their highest criminal severity charge, suggesting that this was a severe forensic sample with prior involvement with the law with regards to IPV/domestic violence.

Psychometric Data

Distributions for each of the variables were examined to determine whether important violations of assumptions were present. Skewness and kurtosis were within acceptable ranges (skew <2 and kurtosis <5) for all variables. Means and standard deviations of scores for all of the measures can be found in Table 5. With regards to the ACT skills, experiential avoidance scores on the AAQ-II at pre-treatment ($M=20.11$) were slightly below the cut-off range (24-28) found to be the most predictive of concurrent anxiety, depression, and substance use symptoms (Bond et al., 2011). Mindfulness scores at pre-treatment, as measured by the PHLMS, were in the moderate to high range (higher scores indicate more mindfulness), with average present-moment awareness ($M=36.97$) comparable to those reported by a sample of college students ($M=36.65$), and slightly higher than those reported by an ethnically diverse clinical sample with mixed psychiatric patients ($M=35.11$; Cardaciotto et al., 2008). Acceptance scores (higher scores indicate more acceptance) were also in the moderate range ($M=28.49$), but lower than those reported by a college sample ($M=30.19$), and higher than those reported by a clinical sample ($M=24.62$; Cardaciotto et al., 2008). Participants reported low to moderate levels of defusion at pre-treatment (lower scores indicate greater defusion; $M=22.63$). These scores are comparable to those reported by a student and community sample ($M=22.28$), and considerably lower than those reported by a mixed mental health clinical sample ($M=34.31$; Gillanders et al., 2013). With regards to internalizing symptoms, participants' anxiety symptoms at pre-treatment, as measured by the GAD, fell within the mild range ($M=8.86$; Spitzer et al., 2006) and depressive symptoms at pre-treatment, as measured by the PHQ, were within the mild to moderate range ($M=9.47$; Spitzer et al., 1999). With regards to self-reported externalizing behavioral tendencies, impulsivity scores on the UPPS-S at pre-treatment (greater scores indicate more impulsivity; $M=47.03$) were within the moderate range and comparable to those reported by a large sample of

undergraduate students (Billieux et al., 2012). Moderate to high levels of aggressive tendencies, as measured by the AQ, were reported (higher scores indicate greater aggressive tendencies; $M=96.74$; Buss & Perry, 1992), consistent with scores reported by a sample of prisoners (Palmer & Thakordas, 2005). To summarize, overall ACT skills, internalizing symptoms, and impulsivity were not within problematic ranges in this sample. Only aggression was in the expected high range.

Primary Analyses

Aim 1: Does the ACT treatment significantly impact pre to post change in the ACT skills, internalizing symptoms, and externalizing behaviors? Are pre to post changes moderated by IPV criminal history severity?

A series of mixed General Linear Models (GLMs) were conducted to assess the effects of time and IPV criminal severity on ACT processes, depression and anxiety symptoms, and aggressive and impulsive behaviors. IPV criminal severity was treated as a 4-point continuous predictor. Table 6 presents results bearing on the statistical and practical significance of the two main effects for time and IPV criminal severity, and the interaction, for all outcome variables. Only significant and marginally significant effects are presented in the text below. Significant and trend-level interactions are followed up by examining the effect of time on the relevant dependent variable separately for those with “low” IPV criminal severity (i.e., those assigned the severity category 1= simple misdemeanor, or 2= serious misdemeanor) and those with “high” IPV criminal severity (i.e., those assigned the severity category 3= aggravated misdemeanor, or 4= felony charge).

ACT Skills: There was a marginally significant, moderate-magnitude main effect of time on AAQ-II scores (measure of experiential avoidance), $F(1, 31) = 3.39, p = .076, \eta^2_p = .102$. This main effect is qualified by a marginally significant, moderate-magnitude time by severity interaction, $F(1, 31) = 3.768, p = .062, \eta^2_p = .112$. As seen in Figure 3, the simple main effect of time at lower versus higher levels of criminal history severity revealed that descriptively, but not statistically significantly, experiential avoidance among those with higher criminal history severity decreased at post ($M_{pre} = 21.62, M_{post} = 19.31$) with a small magnitude effect, $F(1, 12) = .601, p = .453, \eta^2_p = .048$. Experiential avoidance descriptively, but not statistically significantly, increased at post for those with lower criminal history severity ($M_{pre} = 18.58, M_{post} = 20.42$) with a small magnitude effect, $F(1, 18) = .562, p = .463, \eta^2_p = .030$.

A marginally significant, moderate-magnitude interaction between time and criminal severity emerged on the PHLMS-Acceptance sub-scale, $F(1, 32) = 2.994, p = .094, \eta^2_p = .088$. As shown on Figure 4, post hoc simple main effects analyses revealed that Acceptance scores descriptively, but not statistically significantly, decreased at post for those with lower criminal severity ($M_{pre} = 29.32, M_{post} = 28.68$) with a very small effect size, $F(1, 18) = .133, p = .719, \eta^2_p = .007$. Acceptance scores descriptively, but not statistically significantly, increased at post for those with higher criminal severity ($M_{pre} = 28.43, M_{post} = 32.21$), with a moderate-magnitude effect size, $F(1, 13) = 2.044, p = .176, \eta^2_p = .136$.

Depression and Anxiety Symptoms: There was a significant main effect of time with a moderate-magnitude effect size on GAD scores (measure of anxiety symptoms), $F(1, 32) = 4.547, p = .041, \eta^2_p = .128$, whereby anxiety symptoms declined during treatment. This main effect was qualified by a significant, moderate-magnitude time by severity interaction, $F(1, 32) = 6.272, p = .018, \eta^2_p = .168$. As shown in Figure 5, post-hoc simple main effects analyses revealed

that descriptively, but not statistically significantly, anxiety symptoms slightly increased at post for those with low criminal severity ($M_{pre}= 7.58$, $M_{post}= 8.37$), with a small effect size, $F(1, 18) = .481$, $p=.497$, $\eta^2_p = .026$. Anxiety symptoms descriptively, but not statistically significantly decreased at post for those with high criminal severity ($M_{pre}= 10.86$, $M_{post}= 8.50$), with a moderate effect size, $F(1, 13) = 1.855$, $p=.196$, $\eta^2_p = .125$.

Aggressive and Impulsive Behaviors: No marginally or statistically significant main effects or interactions emerged for self-reported aggressive behaviors on the AQ, or for impulsive behaviors on the UPPS-S.

Aim 2: What were participants' views of the ACT treatment? What suggestions for improvement did they propose?

Table 7 presents the means and standard deviations for the 10 items on the *Experiences in Group Survey* where participants rated items from 1 (strongly disagree) to 5 (strongly agree). Overall participants indicated that they agreed to strongly agreed (Ms ranged from 3.58-4.33) with items related to having learned and put into practice the ACT skills (e.g., thinking about values, noticing five senses and mental experiences, making choices in service of their values). The lowest average rating ($M=3.58$) was given to the item assessing defusion (item #3). Participants' ratings of the perceived helpfulness of the group (e.g., how hopeful they feel about their life, how confident they feel in their ability to achieve their goals, how helpful they find this group to be) were also high (Ms ranged from 4.19-4.37). Overall, participants did not think that the group was a "waste of their time" ($M=1.73$, $SD=1.46$). Finally, the item with the highest mean rating ($M=4.64$, $SD=.93$), indicating strong agreement, assessed participants' views on whether they felt understood and accepted by the facilitators.

To further assess participants' views about the most helpful components of the treatment, future goals as a result of treatment, helpful qualities of the facilitators, and suggestions for improvement, participants were asked to write down their answers to six open-ended questions. A quantitative summary (i.e., number and percentage) of the participants' coded responses, reflecting how many participants endorsed a specific theme, is presented in Table 8. Representative quotes from different participants are provided for illustrative purposes.

Q1: Through this group I learned the following things: Participants' written comments were captured by twelve themes that emerged from the data (Table 8). The most frequently mentioned theme (30%) was learning to recognize, focus on, or connect with their values. The next set of most frequently mentioned themes were noticing the difference between their five senses experiences (i.e., what they see, hear, etc.) and mental experiences (i.e., thoughts, memories, emotions; 18%); recognizing that there is more than one way to behave in a given situation (18%); willingness to talk about what they are feeling and thinking with others (18%); and stopping to think through a situation before acting (18%). Finally, some participants reported noticing when they were making moves 'towards' their values versus when their behavior was a means to move 'away' from unwanted mental experiences (12%); improvement in their interpersonal skills (e.g., letting others make their own decisions, showing care for others, choosing to be honest, empathizing; 12%); recognizing that life inevitably brings challenges and unwanted thoughts and feelings (9%); wanting to improve their behavior in relationships and wanting to be a role model for others (6%); and mentioning specific ACT exercises that helped them, such as the Matrix, in which participants get to sort on the board their five senses, mental experiences, toward, and away moves during a specific situation. One participant reported acquiring a newfound appreciation for life and the importance of not taking it for granted, and

another reported having a better understanding of what others were thinking and feeling. These learned skills are illustrated in the following sample quotes (quotes represent different participants' responses to each question):

To respect my values, as an individual, [and] don't take life for granted.

Recommend this format for the classes on the street!!! My toward moves help me move towards my value[s]. Unwanted events or situations will arise and connecting with my values will produce a positive outcome. Useful use of the Matrix is the cure for one's success.

That everyone has some sort of pain or anger and that it's up to you to choose how you act or react to them.

Q2: After I get out of jail I want my life to be about: About half of the participants (48%) reported qualities that they desired in their life moving forward such as stability, patience health, peace, freedom, happiness, normality, improvement, and lack of stress, worry, or anger. A third of participants (39%) mentioned wanting to focus on their relationships with children, family, and loved ones and to engage in behavior that signaled that these relationships were a priority (e.g., being a better father, communicating more effectively with partner or child's mother, being more loving towards others). Other themes that emerged from the data included focusing on their values and moving towards them (15%); staying sober (12%); teaching the learned skills to others in their community (12%); securing and maintaining employment (9%); applying these skills in everyday life (e.g., noticing, making toward moves, listening to partner, exercising self-control; 9%); and making better choices in the future (e.g., staying out of jail, not acting out on emotions; 9%). These themes are illustrated by the following sample quotes by different participants:

I want to live a pure and clean life. I want to be a positive role model for my kids and whoever will let me. I want to work hard and love harder.

Being a productive individual in the community. Using better skills and techniques learned in the class to better my life in the near future.

Stress free. Stay out of jail. [That] I can listen to my partner, as well think before [my] reactions.

I want my life to be about my moving toward my values and my goals and my family.

Q3: I thought the facilitators did a good job of: Approximately half of the participants (45%) thought that the facilitators did a good job of teaching the skills effectively, of understanding the questions that participants' had, and answering them clearly. They were pleased with the facilitators' ability to explain the concepts in an easy to understand and accessible way, often using layman's terms. Participants additionally reported feeling understood, respected, and supported by their facilitators (21%). Mainly, they appreciated the non-judgmental stance adopted by the facilitators, which in turn helped them feel accepted and treated as human beings. Some participants liked that facilitators helped them to focus on their values and to align their behaviors with them (12%), that they encouraged them to grow personally and to become a better person (12%), that they did a good job of teaching the specific ACT skills (e.g., noticing, toward vs away moves) and the communication/interpersonal skills (9%), and that they offered group members with direction and feedback whenever challenges came up (9%). Finally, a few participants (6%) appreciated that the facilitators listened to what they had to say in group, that they actively participated in group activities and self-disclosed when appropriate, and that they did a good job of facilitating group in general (e.g., stayed on track, maintained group control, personalized the sessions). The following are sample quotes from different participants:

Teaching us how to notice things. [H]ow to communicate better. [H]ow to work towards our values. [H]ow to be a better [person] in the environment.

Speaking in layman's terms and making sure [that] I understood things.

Helping me line up my values in my life to help me grow as a person.

Being supportive; [A]lso giving good feedback, on top of tell[ing] us we were not bad men we just didn't use our 5 senses and mental experiencing to move towards what matters.

Listening and not judging me. And [accepting] me for who I am.

Q4: I think the facilitators could improve on the following: Over half of the participants (61%) reported having an overall positive experience with the facilitators and provided no suggestions for improvement. Two participants (6%) felt that some of the material covered was too basic or elementary (i.e., communication skills) and suggested that facilitators present more challenging content instead, but did not offer suggestions as to what this content should be. One participant felt that the language facilitators used at times was too technical or advanced. Another participant would have preferred that classes be scheduled at different times than they were scheduled. Another suggested that facilitators cover more material and continue working with the group until adequate understanding of the material was achieved. Finally, one participant suggested that BEP programs in the community be changed to reflect the facilitator stance, length/structure of the program (i.e., one month with 3 sessions per week), and material in the jail groups. The following are sample quotes from different participants:

Nothing they did a dam good job. One time I did BEP in prison [and] I didn't listen or do the home work because they talked down on me; [A]lso I did it for parole. This class that [facilitator's name] and [facilitator's name] did this time made me feel comfortable. I wanted to be in this class.

Couldn't ask for better knowledge of this subject, BEP. Learned more in 26 days [than] I did in a 4 month class previously taken. They should focus on a better class regiment on the streets [referring to BEP classes in the community, not in jail]. The way the classes are spread out [referring to BEP classes in the community] i[s] hard to absorb the knowledge because [of] the extended time period consisting of one class per week.

Keep working with us [un]til we learn what's best to keep us safe & show us how to take care of ourselves with our mind, body languages, and how to face a real relationship with people into our everyday lives.

Seeing how the class was [12] sessions I'm sure some material is being left out. Judging if the class is more advanced probably include some deeper sessions towards the end but overall nothing really [referring to no more suggestions other than this one].

Quit with all the big words.

Q5: These are the things that I did not find helpful about group: Almost half of the participants (45%) responded that there was nothing that they found unhelpful about group and some offered positive comments instead. Over one third of participants either left this question blank or wrote 'no comment' or 'N/A'. One participant mentioned that the group was very helpful and followed it up with a comment stating that he did not like the repetitiveness or 'elementary' nature of the material, particularly towards the end of the group (communication skills were discussed towards the end of the curriculum). One participant did not like the 'kiddie' nature of the material, but did not specify which part he found childlike, and one participant did not like that facilitators asked for participants to come up with multiple examples of what they were thinking or feeling. One participant did not like the fact that other group members were being disrespectful towards others and distracting the rest of the group members. Finally, one participant felt that the whole group was unhelpful (this participant felt that he was unjustly incarcerated, that he was the victim and not the perpetrator, and that the Department of Corrections and BEP were not doing their job correctly). The following are sample quotes from different participants:

How we talk about kiddy shit.

Some of the over thinking they mentioned [referring to facilitators asking participants to notice thoughts or feelings showing up for them]. Asking for different words that mean the same shit over [and] over [referring to facilitators asking for different emotions that show up for people].

Every second every minute of the class was helpful. We take our hat off to our facilitators. Thanks for everything.

Not proud of how many classes I've attended in my life, but this BEP was by far the best class I've taken. The facilitators were really in tune to each of our characters; [A]s for the material, towards the end [it] became somewhat elementary [and] repetitive.

Q6: What suggestions do you have for improving this group? Almost half of the participants (45%) did not have any suggestions for improving the group or provided examples of positive aspects of the group. Some participants (12%) suggested that future groups incorporate facilitators with the same positive qualities that they valued in their current facilitators. Two participants would have liked group members to share more of their personal stories, feelings, and/or details about the specific domestic violence incidents that got them into group. Two participants would have preferred that the room in which the group took place had better chairs and that the schedule be changed (i.e., no morning classes). Another participant would have liked that other group members behave better because their behaviors were distracting. Another suggested that group facilitators continue to motivate and encourage others just as they did with him. Finally, one participant would have liked more information on how to communicate and share his feelings with others effectively, and another would have preferred that the homework sheets have simpler instructions because they were confusing at times. The following are sample quotes from different participants:

No suggestions from me. I learned so much that I can't wait to use my new skills.

Right on target. I couldn't have [asked] for better facilitators and their knowledge and steps used to better ourselves in the near future is above par. Thanks [facilitator's name] and [facilitator's name].

Better understanding of [the] challenges [referring to the homework assignments]. The directions were kind of confusing.

That it should talk a little more about the reason we were here in the first place [referring to the domestic violence incident(s) that got him sent to group].

Aim 3: Do pre-treatment scores vary as a function of IPV criminal history severity?

Simple linear regression models were used to predict pre-treatment ACT skills, internalizing symptoms (i.e., depression, anxiety), and externalizing behaviors (i.e., aggression, impulsivity) from IPV related Criminal History Severity. Results are presented in Table 9. IPV Criminal History Severity predicted only two measures at pre-treatment, both at a trend level: GAD (anxiety symptoms), $t(57) = 1.72, p = .091$, and the physical aggression scale of the AQ, $t(57) = 1.79, p = .079$. Both GAD and physical aggression were positively related to IPV-CHS, such that greater IPV criminal history severity predicted greater anxiety and physical aggression.

CHAPTER 5: DISCUSSION

Intimate partner violence (IPV) is a serious public health concern resulting in a host of negative consequences for victims, children, and society (Afifi et al., 2009). Existing interventions for IPV offenders are based primarily on the Duluth Model, in which IPV is conceptualized as an issue of male power and control but also sometimes incorporate CBT principles. These treatments have shown small-to-limited effects in reducing future perpetration of violence (Babcock, et al., 2004). Furthermore, approximately 40-75% of perpetrators drop out of court-mandated treatment (Bennett et al., 2007; Buttel & Carney, 2002). In the state of Iowa, IPV perpetrators who fail to complete court-ordered community-based treatment, or are deemed to be at “high risk” due to their criminal history, are sentenced to serve time in jail (approximately 30 days). Thus, there is a need for effective treatment alternatives aimed at preventing future violence among incarcerated IPV offenders.

Acceptance and Commitment Therapy (ACT) is a third-wave cognitive behavioral therapy that targets experiential avoidance (i.e., the use of maladaptive strategies to forget, escape from, or avoid uncomfortable internal experiences such as emotions, thoughts, memories, and bodily sensations). The ultimate goal of ACT is to help individuals make behavioral choices in the service of their values, despite the presence of unwanted internal experiences, through the use of acceptance and mindfulness skills. ACT has shown success in reducing physical and psychological aggression among a community sample of individuals endorsing at least 2 acts of partner aggression (Zarling, Lawrence, & Marchman, 2015). An ACT-based program (ACTV) has also been implemented across the state of Iowa with a large sample of court-mandated domestic violence offenders who completed community-based treatment for IPV. ACTV significantly reduced domestic violence assault charges by half and general violence charges by

two-thirds one year post treatment, when compared to treatment-as-usual (Duluth Model + CBT principles; Zarling, Bannon, & Orenco-Aguayo, under review). Furthermore, ACT significantly reduced experiential avoidance among a group of incarcerated domestic violence offenders in Spain (Sahagún-Flores & Salgado-Pascual, 2013). These studies provide preliminary support for the potential utility of an ACT treatment with incarcerated IPV perpetrators.

The current study extends this prior work by testing the feasibility of implementing an ACT skills group with incarcerated domestic violence offenders who either have failed to complete court-mandated community-based treatment for IPV one or more times, or were deemed to be at high-risk by a judge due to their past criminal history. The study aimed to: 1) examine the potential post-treatment gains in ACT skills, reductions in self-reported internalizing symptoms (depression and anxiety) and externalizing behaviors (aggression and impulsivity); and test whether pre-to-post treatment effects were moderated by IPV related criminal history severity (i.e., simple misdemeanor, serious misdemeanor, aggravated misdemeanor, and felony charge); 2) explore the perceived acceptability of the ACT skills group by participants and their suggestions for improvement; and 3) examine whether pre-treatment IPV criminal history severity predicted worse ACT skills and greater symptom severity at pre-treatment. The final sample used to evaluate the first two aims consisted of 33 court-mandated domestic violence offenders who participated in the ACT skills group and completed self-report questionnaires assessing ACT skills, internalizing symptoms, and externalizing behaviors both at pre-treatment and post-treatment. The sample used to evaluate aim three consisted of 58 participants who had completed either the ACT skills group or another treatment offered at the jail at the time (treatment-as-usual) and for whom usable pre-treatment data were available.

Summary and Interpretation of Results

Contrary to the primary hypothesis, incarcerated offenders who completed the ACT treatment did not show reliable improvement in any of the ACT skills (i.e., present-moment awareness, acceptance, and defusion) at post-treatment. IPV related criminal history moderated the magnitude of the time effect on experiential avoidance (AAQ-II) and acceptance (PHLMS) at a trend level, but post-hoc evaluations of the time effect for those higher and lower in criminal history were not reliable. Thus, we cannot conclude with confidence that ACT was associated with improvement among a subset of the participants. In terms of internalizing symptoms, anxiety symptoms (GAD) significantly decreased from pre to post treatment with a moderate-magnitude effect size. This main effect was qualified by an interaction with criminal history severity, however. Follow-up analyses did not reveal reliable time effects for those with either more or less IPV related severe criminal histories, making it difficult to interpret the anxiety-related findings with confidence. There also were no significant changes in depression (PHQ) at post treatment. In terms of externalizing behaviors, there were no significant reductions in self-reported aggressive or impulsive behaviors post ACT treatment. According to a qualitative assessment, however, participants reported learning and putting into practice the ACT skills, as well as finding the group helpful. Additionally, they felt understood and accepted by the facilitators. Finally, greater IPV criminal history severity at pre-treatment did not significantly predict any of the ACT skills and only marginally predicted greater anxiety symptoms and physical aggression.

These findings stand in contrast with those from prior research using ACT with domestic violence offenders. Sahagún-Flores and Salgado-Pascual (2013) implemented an ACT protocol with a sample of 18 men who were incarcerated due to a domestic violence offense in Spain. Results were compared to those for a no-treatment control group, although participants were not

randomly assigned to group. The researchers in this study (referred below as the ‘Spain study’) found a moderate effect size ($d=.66$) on the pre-to-post change in experiential avoidance (AAQ-II) and a large effect size ($d=1.06$) on pre-to-post change in impulsivity. Participants also reported large reductions in how much they were bothered by an unwanted emotion ($d=.93$), and very large reduction in an item assessing their own efforts to eliminate unwanted feelings ($d=2.67$). The control group either did not evidence pre-to-post changes on any of the measures, or reported changes in the undesired direction.

An obvious question that arises is: Why would the Spain study find these effects and not the present study, despite both targeting the same population? A few methodological differences between the studies provide potential hypothesis for future research to explore. The Spain study employed a different ACT treatment protocol than that of the current study. For instance, participants completed two individual sessions where the facilitator helped them explore their values and conduct a functional analysis of the short vs. long term consequences of their behavior. These two individual sessions were followed by 12 weekly group sessions where they worked on mindfulness, committed action, and acceptance of thoughts and feelings associated with violence. Hence, relative to the present study, the Spain Study protocol was longer in length (3.5 months total vs. 1 month in the current study) and included individual sessions with each participant that allowed for tailoring of the material to each individual. Although it is not possible to conclude that the observed pre to post changes in the Spain study are due to these methodological differences, it is possible that in order for ACT to be effective with this particular population, it needs to be delivered over a longer period of time, with sessions that are more spaced out, as opposed to 3 times per week over 1 month in the present study.

In another relevant study, a 24 session ACT-based protocol (ACTV) delivered over the course of 6 months was used across the state of Iowa with domestic violence offenders court-ordered to complete treatment in the community, rather than in jail. Results from this large scale, quasi randomized study showed that treatment completers in ACTV (n=516), compared to those in TAU (n=2040; Duluth + CBT principles) had significantly fewer domestic assault charges (5.4% vs. 14.1%), general violence charges (8.2% and 23%), and violations of no contact orders (0.4% vs. 3.6%) one year post-treatment completion (Zarling, Bannon, & Orengo-Aguayo, under review). This study also suggests the potential need for longer treatment in order for meaningful behavioral changes to occur. It should be noted, however, that it was not possible to evaluate whether these encouraging decreases in recidivism could be attributed to improvement in the purported mechanism of action in ACT (i.e., experiential avoidance), or increases in the ACT skills (i.e., acceptance, present-moment awareness, defusion). This will be an important issue to pursue in future research.

It is also possible that the individual sessions provided in the Spain study may have addressed participants' specific needs in a way that was not possible in a group format (e.g., allowing for time to conduct an individual functional analysis of behavior). This individual session format has been used successfully in a case study with a domestic violence offender who received 23 one-on-one ACT sessions (Mañas & Sánchez, 2009). The researchers found that experiential avoidance and impulsivity decreased by half and mindfulness doubled by the end of treatment, thus suggesting the potential positive effects that individualized sessions could have on domestic violence offenders. Additionally, although the Spain study and the present study were similar in that the participants were incarcerated males with domestic violence charges, they were also different in some important ways. For instance, experiential avoidance scores on

the AAQ-II were twice as high among Spain study participants compared to those of the current study. This raises the possibility that the current sample was not as experientially avoidant as expected, thus calling into question whether a treatment such as ACT, which targets this specific process, would be as effective. Additionally, participants in the Spain study volunteered to participate in treatment, whereas participants in the present study were mandated by a judge to complete treatment, raising the possibility that the latter were less “ready to change.” A meta-analysis comparing the effectiveness of mandated versus voluntary treatment in reducing recidivism among forensic samples found that voluntary treatment produced significant effects both in correctional and community settings, whereas mandated treatment had no effect on recidivism, particularly when the program was administered within a correctional setting (Parhar, Wormith, Derkzen, & Beauregard, 2008). Nevertheless, given that an ACT-based treatment has been shown to be effective at reducing recidivism one year post-treatment among *court-mandated* domestic violence offenders in the community (Zarling, Bannon, & Orengo-Aguayo, under review), it is unlikely that being mandated to participate in this particular ACT treatment explains the contradictory findings of the present study.

The current findings also stand in contrast with evidence from a randomized controlled trial comparing the effectiveness of an ACT skills group to a general support group among a community sample of individuals endorsing at least 2 prior acts of aggressive behavior towards a romantic partner (Zarling, Lawrence & Marchman, 2015). The researchers found significant reductions at post-treatment (12 weeks), 3 month, and 6 month follow-up in psychological aggression, physical aggression, experiential avoidance, and emotional dysregulation. Treatment was also, as in the Spain study, delivered over a longer period of time (3 months) with weekly sessions (12 in total). Interestingly, in this study there was a slight increase in AAQ-II scores

from pre to the 4 week assessment ($M_{pre}=46.22$, $M_{4week}=48.58$), which began to decrease significantly starting at 8 weeks into treatment ($M_{8week}=40.52$), and continued to significantly decline across post-treatment and follow-up ($M_{12week}=38.02$, $M_{3monFU}=32.89$, $M_{6moFU}=29.72$). This pattern of findings suggests that it might take longer than 4 weeks (the time point at which the present study assessed post-treatment effects) to see the effects of the ACT treatment on experiential avoidance among aggressive populations. The ACT developers have noted that there is the possibility of an immediate worsening effect when inviting participants to come into contact with previously aversive and avoided thoughts and feelings (Hayes & Strosahl, 2004). In fact, there are some ACT studies reporting small changes in the targeted outcomes at post-treatment, with significant improvement observed at longer term follow up (e.g., Hayes, Wilson, Gifford, Bissett, et al., 2004; Luoma, Kohlenberg, Hayes, & Fletcher, 2012). Nevertheless, meta-analyses show that overall, ACT still results in moderate effect sizes in targeted outcomes at post-treatment, and in moderate-to-large effect sizes at longer-term follow up (Hayes et al., 2006; Powers et al., 2009; Ost, 2008). The present study did not include a follow-up assessment, making it impossible to examine whether any of the hypothesized effects would have been observed after participants would have had more time to put into practice these skills, particularly out in the “real-world” upon being released from jail. It will be important for future studies with this population to collect follow-up data.

Despite the lack of significant changes in self-reported ACT skills and externalizing behaviors at post-treatment, there was a significant decrease in anxiety symptoms with a moderate-magnitude effect. Nevertheless, this change was qualified by a significant interaction with IPV related criminal history severity with unreliable follow-up analyses. Caution should therefore be taken when interpreting this result. Furthermore, given the large number of

conducted analyses, any reliable or trend-level findings in this study should be interpreted with caution as they may actually be false positives. In the event that reductions in anxiety symptoms at post-treatment in fact reflect true change, the results are surprising in light of the lack of change in the purported mechanism of action (i.e., experiential avoidance). Targeting experiential avoidance through acceptance and mindfulness skills, whereby individuals learn to notice and accept these difficult emotions without trying to change them or act on them, should in theory increase acceptance, present-moment awareness, and defusion, and decrease experiential avoidance, aggression, and impulsivity. We would not necessarily expect reductions in anxiety symptoms in isolation. Although the goal of ACT is not to decrease symptoms, such reductions are often observed as a result of treatment (Hayes, Strosahl & Wilson, 1999). It is not clear, however, why only anxiety symptoms would decrease, but not depressive symptoms. It is also surprising that IPV related criminal history severity (IPV-CHS) did not reliably moderate changes in anxiety symptoms, or in any other outcomes. Prior literature suggests that a more severe IPV related and general criminal history predicts future recidivism and treatment drop-out (Babcock & Steiner, 1999; Tellefson & Gross, 2006). As such, one would expect worse treatment outcomes for those with more severe IPV-CHS. The variation in IPV-CHS in the current sample rules out the potential for this to be a problem of restricted range, although low power is a potential explanation if the “true” effects are small in magnitude. It is possible that other unmeasured variables (e.g., personality traits) could better account for any potential differences in treatment effects. This, however, remains a question for future research to explore.

A plausible explanation for the overall discrepant results could be that this sample was simply less impaired than expected on the basis of the literature. Pre-treatment scores on all of the outcomes, except on aggressive tendencies (AQ), support this hypothesis. For example,

experiential avoidance scores on the AAQ-II at pre-treatment were below the cut-off range found to be the most predictive of concurrent anxiety, depression, and substance use symptoms (Bond et al., 2011). Present-moment awareness (PHLMS), acceptance (PHLMS), and defusion (CFQ) scores at pre-treatment were comparable to those of college students or community samples (Cardaciotto et al., 2008), and considerably lower than those reported by clinical samples (Gillanders et al., 2014). Similarly, anxiety symptoms (GAD) and depressive symptoms (PHQ) were mostly within the mild range (Spitzer et al., 1999), and impulsivity (UPPS-S) was comparable to those reported by a sample of undergraduate students (Billieux et al., 2012). Only aggressive tendencies (AQ) were in the moderate-to-high range, consistent with scores reported by a sample of prisoners (Palmer & Thakordas, 2005). As can be observed, this sample was not as impaired at pre-treatment as previously thought based on the extant literature, potentially leaving limited room for improvement at post-treatment.

It is also plausible that low pre-treatment severity on the outcome measures could result from underreporting. That is, participants might have been minimizing their symptoms, and overreporting skills so as to present themselves in a socially desirable manner (Crowne & Marlowe, 1960). A body of literature documents the prevalence of socially desirable responding, particularly among forensic samples asked to complete self-report measures (Paulhus, 2002). Perpetrators of IPV might be particularly susceptible to underreporting symptoms and behaviors given the particularly negative views that society in general has about violence, particularly towards women. In fact, most jails and prisons keep IPV perpetrators in isolated cells to keep them safe from other inmates who might call them names or attempt to attack and injure them. However, participants in the Spain study did endorse high levels of experiential avoidance and impulsivity at pre-treatment, calling into question this hypothesis. In other words, why would

this particular sample underreport and not those in the Spain study who were also incarcerated? The present study did not include a measure of socially desirable responding to examine this question directly. It is therefore impossible to assess whether pre-treatment scores reflect underreporting due to social desirable responding, the less severe nature of this sample, or both.

Although scarce, there is some documentation in the literature of the potential shift in meaning of some items in the ACT measures across treatment, or the potential for misunderstanding what the items actually mean before treatment occurs. In a recent pilot study, nine school-aged children (11-15 years of age) with comorbid attention-deficit/hyperactivity disorder, learning disorders, and behavior problems, Murrell and colleagues (2015) found that most of the participants had difficulty understanding the concept of experiential avoidance. The participants reported that although they could read the items on the child version of the AAQ-II (AFQ-Y), they had no idea what the items actually meant. The authors report that the confusion with the items did not become apparent until the post-treatment assessment when several participants commented how the items made sense to them after they had gone through the actual ACT intervention. The authors propose that “a new understanding of EA (experiential avoidance), given a treatment emphasis on acceptance as opposed to avoidance, may also make it likely that participants notice their own EA for the first time during the course of treatment. Eight weeks may or may not, then, be enough time for scores to show decreases” (p.2179). The authors further propose that follow-up assessments should be included to allow for the de-escalation of symptoms that appear as a result of noticing acceptance and avoidance for the first time. Although this study was conducted with children and not adults, it is possible that a similar phenomenon occurred for the current study participants in that the meaning of the items changed, or that they were able to better report on their avoidance after they participated in the ACT

treatment. Unfortunately, it is not possible to evaluate this hypothesis in the present study. Future research should explore this phenomenon further with adult forensic populations.

It is also possible that ACT is simply not effective at reducing internalizing symptoms and externalizing behaviors among incarcerated IPV offenders. Of the few prior treatment effectiveness studies that have been conducted with incarcerated offenders, one provides some evidence that a CBT-based group treatment showing promise. In this study (Echeburua & Fernandez-Montalvo, 2009), a CBT-based group program delivering 20 weekly sessions over 8 months resulted in decreases in irrational beliefs about women and about violence as viable way to cope with anger and everyday difficulties, and in significant decreases in psychopathological symptoms, anger, and impulsivity, as well as increases in self-esteem. Although promising, participants with higher impulsivity and depression scores fared worse, and both men who dropped out of treatment and those who persisted obtained similar results. Therefore, these findings need to be interpreted with caution. The results of another pilot study evaluating a program that focused on behavioral change through cognitive change and skills training found no significant pre to post treatment changes in disciplinary action taken against any of the participants, which was used as a proxy for behavior change. Despite the non-significant findings, just like in the present study, the majority of participants were satisfied with the program (Shelton & Wakai, 2011). More research is needed, however, to rule out competing hypotheses before definitive conclusions about CBT treatments can be drawn (e.g., Are the non-significant findings related to underpowered samples? Might treatment impact be related to length of treatment or other unknown variables?). It is also important to note that to date, treatments for IPV perpetrators across the nation have incorporated CBT principles, but almost

always in combination with the Duluth Model. As such, the treatment effect of CBT only should be investigated further with IPV perpetrators.

The qualitative results of the present study are interesting in light of the overall non-significant quantitative findings. Overall, the ACT participants perceived the group to be helpful and the examples that they provided suggest that they in fact acquired the targeted ACT skills. For example, the learned skills most commonly mentioned were identifying and connecting with values, noticing 5 senses vs. mental experiences, recognizing behavioral options, willingness to talk with others about thoughts and feelings, stopping to think before acting, and noticing the difference between toward and away moves. These responses are consistent with the intended goals of the treatment protocol. Additionally, about half of participants reported wanting their life to be about moving towards a value once they left jail (family, children, relationships, health, stability, sobriety etc.). These were all prosocial values and behaviors. In particular, a third of participants mentioned wanting to focus on their relationship with their children, family, and loved ones and to engage in behavior that demonstrated that these relationships were a priority in their lives. The positive qualitative findings provide evidence for the feasibility of implementing an ACT protocol with incarcerated IPV offenders and for the acceptability of this treatment approach by this population. It is surprising that participants would have such positive views of treatment, but not evidence change in most of the self-report outcome measures. As mentioned previously, it is plausible that unobserved changes in self-report measures might have resulted from the meaning of the items changing as a result of treatment, insufficient treatment length to see behavioral change, treatment effects that would have been captured at follow-up, or a less severe sample than previously hypothesized.

The Transtheoretical Model of Change (TTM; Prochaska, Diclemente, & Norcross, 1992) proposes that individuals go through several stages on their way to making actual behavioral change. The first is the precontemplation stage in which individuals deny or minimize their need to change and are not actively engaging in any change behaviors. The second is the contemplation stage in which individuals begin to consider change, but are not yet making different behavioral choices. Then comes the action stage in which there is engagement in change behaviors; and finally, in the maintenance stage, individuals are focused on continuing to put into practice these new behaviors. Scott and Wolfe (2003) applied this model to IPV perpetrators receiving court-mandated community-based treatment and found that men who were in the contemplation and action stages at the beginning of treatment showed significantly greater changes across an array of outcome measures (e.g., self-and-partner-reported abusive behavior, perspective taking, conflict management) than those in the precontemplation stage of change. These effects were observed during the initial 10 weeks of treatment, after which participants progressed at a more similar rate. Based on the positive qualitative feedback, and the mostly non-significant findings in self-report measures, it is possible that the ACT treatment served to move participants from a precontemplation to a contemplation stage of change, but that the study ended before participants were able to enter into the action and maintenance stages. It is also interesting to note that participants noted that they valued the facilitators' non-judgmental and accepting stance, and that they felt respected and understood. There is vast evidence in the therapy literature speaking to the importance of common factors such as an empathic, supportive, and warm therapeutic relationship, in promoting therapeutic gains (Lambert & Barley, 2001). There is also evidence suggesting that a two session intake with court-ordered IPV perpetrators containing motivational interviewing principles (which emphasize the use of a non-judgmental

and empathic stance) can lower defensiveness and promote subsequent engagement in treatment (Musser & Murphy, 2009). It is therefore possible that participants' positive experience with the facilitators helped them move from a precontemplative towards a contemplative stage in which they began to consider making different behavioral choices once they leave jail. This highlights once again the importance of future studies obtaining longer term follow up self-report data, as well as at least one year recidivism data.

According to Langer's (2012) functional model of partner aggression, aggressive behaviors are maladaptive yet highly effective means of reducing unpleasant emotional experiences via the immediate negative reinforcement that results from the momentary reduction in the aversive emotion. Deficits in awareness of, detachment from, and acceptance of emotions are hypothesized to result in greater perpetration of aggression according to this model. Thus, we would expect that greater perpetration (i.e., criminal history severity) would be associated with more severe deficits in the ACT skills (i.e., acceptance, present-moment awareness, and defusion), internalizing symptoms, and externalizing behaviors at pre-treatment. This was not the case, however, even though the IPV related criminal history of the sample was substantial. Greater IPV criminal history severity at pre-treatment did not significantly predict any of the ACT skills and only marginally predicted greater anxiety symptoms and physical aggression. These data suggest that at least in this particular sample of incarcerated IPV offenders, severity of prior offenses may not be associated with deficits in the ACT skills or other outcomes. Nevertheless, this finding needs to be interpreted in light of the previously mentioned alternative explanations such as the sample being potentially less impaired than previously hypothesized or potential underreporting of symptoms and overreporting of ACT skills at pre-treatment. The literature does suggest that IPV perpetrators struggle with emotion regulation (Gratz, Paulson,

Jakupcak, & Tull, 2009), as well as noticing and managing escalating emotions (Robertson, Daffern, & Bucks, 2015). To my knowledge, however, there have been no systematic studies examining whether there are deficits in the ACT skills amongst this population, and whether differences are observed based on perpetration severity. This is an important question for future research to address as it can inform targets for intervention.

Strengths and Limitations of the Present Study

The present study provides evidence for the feasibility of administering a standardized ACT-based protocol within a correctional setting. It further demonstrated that ACT was perceived as an acceptable and useful treatment approach by a group of incarcerated domestic violence offenders. In light of the high prevalence of treatment resistance and disengagement among forensic populations, these are encouraging findings. Several methodological strengths additionally characterize this study. Caution was taken to reduce demand characteristics as much as possible by having a research assistant collect pre and post treatment questionnaires. Data collection was done without the presence of facilitators or prison staff, in a private room, and the research assistant thoroughly explained to the participants that their responses would not be identified with their names and would not be shared with judges, attorneys, parole officers, or DOC employees. It is possible, however, that participants still did not fully trust that their answers would be kept confidential and therefore felt compelled to respond in a socially desirable way or to underreport. Care was also taken to ensure that all participants understood the items on the questionnaires, regardless of their ability to read, by having the research assistant read each item out loud to the group. It is possible, however, that some participants still did not understand some items and did not feel comfortable asking the research assistant for help. The ACT treatment followed a manualized protocol with specific objectives and activities for each session, to which the facilitators adhered. This ensured that all participants, regardless of

which ACT group they were in, received the same treatment. Nevertheless, the qualitative data suggest that disruptions by group members may have made it difficult for some group members to fully engage in the material. This comment was made by only two participants out of the 33 who completed both pre and post measures, however, so it seems plausible that the majority of participants were able to immerse themselves fully in the entire ACT treatment. Moreover, the lead ACT facilitator had over four years of experience delivering this treatment with domestic violence offenders, and all co-facilitators had been through multiple ACT trainings and received close supervision throughout the study, increasing confidence in the quality of the treatment offered.

The study also had several significant limitations. Unfortunately, the study did not have a control group. The initial intent was to compare the ACT group to treatment-as-usual (a psychoeducation group based on the Duluth Model + CBT principles), which was concurrently being offered in the jail during the time of the study by a DOC employee. At post-treatment, however, a number of participants in the Duluth-based group made comments on the *Experiences in Group Survey* that suggested that they were motivated to present themselves in an overly positive light. Thus, we discarded the post-treatment questionnaires due to their questionable validity. The study also did not assess socially desirability, and therefore there is no way of knowing if underreporting of symptoms/behaviors or overreporting of the ACT skills occurred. Although the research assistant tried to minimize this by assuring participants that their data would remain confidential, participants were still inside a jail where they were constantly receiving the opposite message. This could have influenced their reporting. It is also possible that the sample was not underreporting, but rather was less severe than previously hypothesized in ACT skills and psychopathology, thus limiting the amount of change that could be observed after

undergoing treatment. Additionally, no objective behavioral outcomes (i.e., recidivism) were obtained in order to determine whether the ACT program had any impact on whether these men returned to the system or committed future acts of violence. As informative as self-report questionnaires might be, the ultimate outcome of interest is whether treatment deters IPV perpetrators from committing additional IPV-related crimes. Based on the ACT literature, longer term follow ups (e.g., 3 month and 6 month) would have been useful in order to ascertain whether gains in ACT skills and reductions in symptoms emerged after the participants have had some time to “sit” with the material and ventured into the “real-world” where these can be put into practice. The prior large-scale ACT study with IPV offenders receiving treatment in the community, not in jail, also point to the importance of collecting long-term recidivism data (Zarling, Bannon, & Orengo-Aguayo, under review). Power calculations were conducted based on the extant ACT literature showing moderate-to-large effects at post-treatment. The sample was therefore underpowered to detect the descriptive small-to-moderate effects in experiential avoidance, acceptance, and anxiety symptoms.

Future Directions & Recommendations for Future Research

The current study raises several important questions and directions for future research to examine. These results indicate that future studies should examine the effectiveness of an ACT-based protocol with a larger and more adequately powered sample of incarcerated IPV offenders. Differences in the way the ACT protocol was delivered in this study, compared to prior ACT studies with domestic violence offenders, raise the question of whether an ACT protocol delivered over a longer period of time, with a combination of individual sessions and group sessions, would be more effective with this population. It would also be important to explore the potential utility of adding booster sessions after participants are released from the jail.

Additionally it will be important to assess outcomes over a longer period of time (i.e., include 3 month and 6 month follow-up assessments), as well as to collect recidivism data at least one year post-treatment. In an ongoing collaboration with the Iowa Sixth District Residential Treatment Program, we are currently testing a similar ACT protocol with offenders who have been released from jail and are living in a residential treatment facility before being fully released into the community. We are collecting one-year post-treatment recidivism data which could better ascertain the long-term behavioral effects of the ACT protocol. These post-treatment assessments would provide a more accurate depiction of participant change over time, particularly once they are released from jail, which is where real change matters the most. It would also be useful to incorporate behavioral observations by jail staff and by collaterals once participants leave the jail, in order to complement self-report measures. Recidivism data in particular would offer a more objective behavioral outcome measure that could shed light on the effects of ACT on future criminal behavior among incarcerated offenders. Additionally, the inclusion of a multiple baseline design to track changes occurring during the actual treatment would help illustrate when change occurs during treatment (e.g., after a specific ACT process is introduced), which could assist with protocol refinement.

Given the relatively low levels of experiential avoidance reported by this sample, it will be imperative to conduct a large scale, representative study assessing the prevalence of experiential avoidance and ACT skills with forensic samples, and IPV perpetrators in particular. Such a study could elucidate whether there are specific deficits in the ACT skills amongst this population. The low rates of symptoms endorsed suggest that it might also be worthwhile to formally assess, using structured clinical interviews, the presence of psychological symptoms and disorders within this population, prior to choosing which symptoms to track over time. A

recent meta-analysis found that compared to CBT and DBT studies, ACT studies were less likely to use a systemic assessment to formally make diagnoses in the study sample (Ost, 2008). ACT has claimed to be a transdiagnostic approach to treatment (Hayes et al., 2006), not targeting specific disorders or symptoms, but rather improving movement towards valued-living. However, the pre-treatment scores of this study provide some evidence for the need to formally assess impairment in the targeted outcomes in order to assure that these are in fact areas where improvement is needed. Since underreporting or overreporting could alternatively explain these findings, future studies should assess social desirability to control for this potential phenomenon. It is additionally important to note that to date, ACT measures have not been empirically validated with forensic populations. Future studies should validate these measures with this population and additionally examine whether the meaning of some of these ACT constructs, in particular experiential avoidance, actually changes over the course of treatment. Based on the literature suggesting that perpetrators' stage of change is predictive of treatment outcomes, future studies should also include a measure that assesses this theoretical construct. Future studies should additionally compare ACT to a standardized treatment already being offered to incarcerated IPV offenders in order to draw more definitive conclusions of what works and what doesn't with this population. Of note, CBT alone has not been adequately tested with IPV perpetrators as treatments usually incorporate a combination of the Duluth Model and CBT principles. It would be important to test CBT alone with incarcerated IPV perpetrators.

From a dissemination and implementation standpoint, it is especially recommended that researchers have open and collaborative conversations with community treatment providers (who are administering treatment-as-usual, for example) and with the agencies allowing the research study to occur. These conversations should include frank exchanges about the nature of the

research and the rationale for the data collection procedures, for example, while making sure that community collaborators can share their concerns, ask questions, and provide input on the study procedures. These conversations should occur throughout the duration of the study, not just at the beginning. They should also continue once the study is concluded, with the research team sharing the results and providing the agency with concrete recommendations for next steps based on the empirical findings. I cannot emphasize enough how valuable my partnership with DOC employees and jail staff was in making this project a reality. This constant communication proved to be key to the completion of this study. This collaborative approach not only strengthens the ties between academics and community partners, but also ensures that treatments offered to this population are empirically validated before widespread dissemination occurs.

Conclusion

The present study tested the feasibility of implementing an ACT group treatment with incarcerated IPV offenders. Quantitative self-report results indicate that ACT was not effective at producing significant pre to post changes in any of the outcome measures (i.e., ACT skills, internalizing symptoms, and externalizing behaviors). Qualitative findings showed that overall participants viewed the ACT treatment in a positive light, reported learning about and putting into practice the ACT skills, and found the material useful. Furthermore, they reported feeling accepted and understood by the facilitators. Based on these results, it can be concluded that although it was feasible to implement an ACT group with incarcerated IPV offenders, and treatment was found to be acceptable by participants, at this time the quantitative data do not support the widespread dissemination of this ACT protocol with this particular population. It would be important to examine whether there are meaningful reductions in one-year post treatment recidivism rates, compared to participants who underwent the Duluth-based group, before definitive conclusions can be drawn.

The qualitative data and the descriptive, trend-level quantitative results suggest that future studies should address the limitations of this study and test the ACT protocol with a larger sample size, randomization into ACT versus control group, multiple follow-up time points, one-year recidivism data, and a protocol that is delivered over a longer period of time with a few individual sessions in addition to the group sessions. Additionally, it is important for researchers to collaborate closely with community partners and capitalize on the wealth of knowledge that people “in the trenches” have. The quality of the care provided to offenders, as well as the well-being of our society, depend on these valuable partnerships.

FOOTNOTES

¹ For the remainder of this document, I will focus on IPV that occurs within the context of heterosexual romantic relationships.

² There are other theories that have been proposed in the literature to explain IPV. I provide a brief description of each:

Attachment Theory: Timmerman and Emmelkamp (2005) propose that insecure attachment may result in subsequent IPV perpetration. In their model, they propose that insecure attachment is the product of an array of personality characteristics, such as dependency, jealousy, lack of trust, low self-esteem, poor empathy, and impulsivity (Feeney & Collins, 2001; Scott, Levy, & Pincus, 2009). These individuals are highly sensitive to approval, criticism, and distrust. From an attachment theory perspective, individuals with these personality characteristics are in turn thought to utilize maladaptive coping skills as a way of dealing with their insecurities and strong emotions, such as aggression and substance abuse.

Emotional Dysregulation Theory: Heightened reactivity to stress has been proposed as a potential mechanism through which experiences of childhood abuse and adversity result in future IPV perpetration. Studies have found that childhood adversity increases vulnerability to subsequent sensitivity to stress, making the child hyperaware of potential threats and of potentially threatening emotions that might cause increased distress. This has been found to result from a dysregulation of the hypothalamic-pituitary-adrenal axis (HPA Axis) and irregularities in development of the prefrontal cortex and amygdala, particularly in identifying threats (Roberts, McLaughlin, Conron, & Koenen, 2011; Zhang, Kerich, Schwandt, et al., 2013). These children are at an increased risk of difficulties with emotion regulation (Campbell-Sills & Barlow, 2007), which can develop into mood and anxiety disorders, borderline traits, hypersensitivity to daily life stressors, and substance abuse disorders (Gratz et al., 2009), which continue into adulthood and can result in IPV perpetration (Shorey, Febres, Bransfield, & Stuart, 2012).

I3 Theory: According to Finkel's (2011) I3 theory, all risk factors contribute to IPV perpetration through one or more of three basic processes: instigation, impellance, and inhibition. Instigation refers to when a partner is exposed to a behavior by their partner that results in an aversive feeling or state (i.e., provocation), which normatively triggers an urge to retaliate or engage in aggressive behavior (be it psychological and/or physical). Impellance refers to "urge-readiness," or the predisposition to experience an urge to aggress in response to a particular instigator in a specific context. Inhibition refers to disposition or situational factors that increase the probability that individuals will stop this urge to aggress (e.g., executive control) when the presence of the instigator and impellance interact. When the strength of inhibition is greater than the urge to aggress in a particularly conducive context, the individual is likely to behave in a non-violent matter, whereas aggression is the most common form of reaction to the instigator when inhibition is low. Within I3 theory, inhibitory processes are key to explaining and predicting IPV perpetration in a wide array of contexts. As the developer describes it, when

strong instigation, strong impellance, and poor inhibition interact, they create a “perfect storm” in which IPV perpetration is more likely (Finkel, 2007; Slotter & Finkel, 2011). Only one study has examined I3 theory and yielded strong support for it (Slotter & Finkel, 2011). Participants displayed more aggression towards their romantic partner when they had been provoked (strong instigation), they scored high on traits such as dispositional aggression (high impellance), and they endorsed low commitment to the relationship (weak inhibition) than when one of these risk factors trended in the opposite direction (e.g., weak provocation, weak retaliatory tendencies, and/or strong commitment).

³ Some states also refer to these programs as Batterer Intervention Programs (BIPs). Throughout the rest of this document, I refer to these programs as Batterer Education Programs (BEPs) in accordance with the term used in the state of Iowa up until 2014 when this project was running. Please note that in 2015, the state of Iowa voted to change the BEP name to the Iowa Domestic Abuse Program (IDAP).

⁴ A number of alternative therapies and interventions for IPV have been proposed as well. I present a brief description of each with empirical evidence of their efficacy when available.

Couple Therapy: Intervening with couples to address IPV has been a controversial issue. Some have advocated for including partners in the group intervention (e.g., O’Leary, Heyman, & Neidig, 1999) given evidence of the role that poor communication and verbal conflict play in the majority of partner violence situations (Cascardi & Vivian, 1995) and the evidence suggests that physical partner violence is often mutual in nature, with both partners engaging in reciprocal or bidirectional violence (Archer, 2000). Couples therapy has been proposed as a viable treatment option for IPV as this allows the couple to work through their issue conjointly and to learn better communication and relationship skills. However, most state standards prohibit, discourage, or prohibit funding of any program that offers couples or family counseling as the primary mode of intervention for IPV (Lipchik, Sirles, & Kubicki, 1997), as this is seen as blaming women for the abuse and/or putting them at risk for retaliation by the perpetrator. Couples therapy for IPV is based on a systems perspective, in which each partner’s behavior is seen as both a response to their partner’s behavior and a stimulus for the partner’s subsequent response. The ultimate goal is to decrease and stop aggression within the relationship by teaching the couple behavioral and communication skills for dealing with conflict before it escalates into violence (Smith-Stover, Meadows, & Kaufman, 2009). Couples therapy for IPV is currently recommended only for couples in which there is mutual violence and neither partner fears for their safety. It is not recommended for couples in which the perpetrator is systematically using violence as a method of control and dominance over the other partner (Heyman & Schlee, 2003).

In a study of 800 couples from the navy refereed for male perpetrated IPV, results showed no differences among the four conditions of couples treatment, group treatment for offenders, rigorous monitoring, and no intervention control group at 1 year follow up, but men in all four groups greatly reduced their IPV perpetration, with re-arrest rates at 4% (Dunford, 2000).

Stith and colleagues (2004) found that both group couples therapy and individual couples therapy resulted in lower recidivism rates (43% and 25% respectively), compared to a no-treatment control group (67%). Two other studies have compared couples counseling with gender-specific group treatments, and both found no significant differences in reductions in IPV over time between treatment modalities (Brannen & Rubin, 1996; O'Leary et al., 1999). The findings are mixed regarding the efficacy of couple-based interventions for IPV.

Substance Abuse Treatment: The co-occurrence of substance abuse and IPV is substantial and several studies have examined IPV rates among men seeking treatment for substance abuse. Results suggest that this might be a promising intervention for ameliorating IPV perpetration. One study treated alcoholic men with behavioral marital therapy and found that physical aggression reduced by about half at 1-year post treatment and to less than 1/3 2-years post treatment. Those who abstained from alcohol use had lower rates of IPV that were no higher than matched nonalcoholic controls (O'Farrell & Murphy, 1995; O'Farrell, Van Hutton, & Murphy, 1999; O'Farrell, Murphy, Stephan, Fals-Stewart, & Murphy, 2004). Another study looked at 301 alcoholic men undergoing treatment for alcoholism and not IPV and found that IPV perpetration decreased by half at 1 year post treatment (Fals-Stewart, Kashdan, O'Farrell, & Birchler, 2002). These studies suggest that targeting alcohol and substance abuse significantly reduces future IPV perpetration.

Motivational Interviewing: Some have argued that rather than the content of BEP, the often confrontational approach might be driving the negative outcomes (Lambert & Bergin, 1994). To this end, Motivational Interviewing techniques have been applied in a few small studies in order to examine their effectiveness with IPV perpetration. The MI stance promotes acceptance and respect of the client, and makes use of open-ended questions to explore the pros and cons of a problem or behavior, reflections to explore the meaning behind the client's emotions and thoughts, affirmation of the client's efforts, and summaries to help the client explore his own ambivalence about change (Miller & Rollnick, 2002). When comparing an MI-based intervention with a CBT/Duluth intervention for IPV offenders, the authors found that men who were initially less ready to change their behavior benefited more from the MI approach, and men who were more ready to change benefited more from the CBT/Duluth approach (Alexander, Morris, Tracy, & Frye, 2010). Another study examined the effectiveness of one session of MI before regular BEP treatment in session attendance and treatment compliance and found that those who attended the MI session were more likely to attend and complete treatment compared to those who did not have this session. There were no significant differences, however, on recidivism rates between both groups (Crane & Eckhardt, 2013). Other studies have yielded similar results, finding greater homework compliance, session attendance, increased readiness to change, and greater group participation among men who complete a brief MI intervention before treatment-as-usual (Kistenmacher & Weiss, 2008; Musser, Semiatin, Taft, & Murphy, 2008). Recidivism rates, however, largely remain unchanged, suggesting that such change is not very lasting (Crane & Eckhardt, 2013; Musser et al., 2008).

⁵ ACT is also grounded in a basic theory of human language and cognition, Relational Frame Theory (RFT; Hayes, Barnes-Holmes, & Roche, 2001). Relational Frame Theory proposes that a language and cognition interact and often lead to behavior that is in service of experiential avoidance instead of in the service of long-term valued ends (Hayes et al., 2006). For example, a person might be ready to give a public speech as an assignment for a class. This person values her education and part of it is giving this speech. However, as anxiety and the thoughts of “I will choke”, “I can’t do this” naturally come up (as they normally would during an anxiety provoking situation such as public speaking), she instead decides to run out of the auditorium and forgo the speech (even when doing so will have a negative impact on her value- education). This is an example of language, in the form of thoughts, and natural emotions (anxiety), governing a person’s behavior (running out of the auditorium) as a way to avoid what has been labelled as a negative internal experience. One mechanism through which language and cognition interact is through a process coined as cognitive fusion. Cognitive fusion refers to an excessive or maladaptive regulation of behavior by verbal processes (i.e., thoughts) in the form of rules (e.g., “I can’t give a speech if I am nervous”) and derived relational networks (e.g., “I am nervous, then it must mean that I can’t give a speech”; Hayes et al., 1999). In other words, it is the process by which language in the form of thoughts is more powerful in dictating our behavior than direct contact with naturally occurring contingencies in our environment. For example, you might walk into a classroom to teach a class and have the thought “I am a bad teacher.” The students are ready to take notes and are making eye contact with you (environmental contingencies indicating readiness to learn), but rather the thought or verbal rule “I am a bad teacher” drives you to leave the room and not teach that day out of fear of disappointing your students. From an ACT/RFT perspective, the content of the thought is not the problem, rather the rigid control that this verbal rule has over one’s behavior is problematic, often resulting in negative consequences for the individual (not living out the value of teaching/educating). Cognitive fusion is pervasive in that it results in decreased contact with moment-to-moment experiences and an increased focus on what ACT calls the conceptualized past, future, and self (i.e., living in the past or in the future; having a narrow view of who you are and what you can do). The result is a decrease in psychological flexibility (i.e., the ability to contact the present moment in an open and fully conscious way, and to change or persist in behavior when doing so leads to more value-based action) and an increase in the experiential avoidance, which spirals into a neglect of long-term desired qualities of life (i.e., values; Hayes et al., 2006).

RFT conceptualizes language (non-verbal and verbal) as behavior that is learned and maintained through differential reinforcement (operant behavior). RFT considers language to consist of derivations of the relations between various stimuli that humans come in contact with on a daily basis, which RFT calls “relational frames.” For example, a relational frame can be one of opposition (bad is the opposite of good) or difference (a boy is different than a girl). All relational frames consist of three defining features: mutual and combinatorial entailment, and the transformation of functions:

Mutual entailment- relations between stimuli are bidirectional. For example, if you are told that A is the same as B, you would derive that B is also the same as A (A=B, B=A).

Combinatorial entailment- relations between two or more stimuli in which the relation between two stimuli is derived from the relations that the stimuli have with other stimuli. For example, given that A is the same as B, if I told you that A is the same as C, you may also surmise that B is the same as C. In a given context, if A is related to B and B is related to C, then in that context one relation is derived between A and C and another is derived between C and A (A=B, B=C, A=C, C=A).

Transformation of stimulus function- A transformation of stimulus functions applies when the function of one event in a relational network is altered based on the function of another event in the network and the derived relation between them. For example, imagine that A acquires anger-eliciting functions. Then by virtue of a comparative relation, B will acquire anger-eliciting functions, relative to A. In other words, the functions possessed by A and B are determined by the nature of the relation that exists between them (Dougher, Hamilton, Fink, & Harrington, 2003).

At the core of Relational Frame Theory is the principle that stimuli (cognitive, emotional, physiological, or overt environmental stimuli), can be related to one another in nearly any way imaginable and in the absence of a direct learning history. The derived relations also allow for the functions of one stimulus to be taken on by another stimulus that has no direct relation with the prior one. This often results in rule-governed behavior, which results when relations between stimuli serve as a source of control over behavior (Barnes-Holmes, Hayes, Dymond, & O'Hora, 2001).

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TABLES

Table 1. ACT Protocol Session Topics

Session	Topic	Description
1	Introductions and Values Exploration	This session will focus on establishing rapport with group members, eliciting and establishing group goals and guidelines, and providing an overview of this program. Facilitators will focus on getting to know the group members and setting the tone for a collaborative and positive working relationship that is ACT-consistent. Values will be introduced briefly as a means to elicit intrinsic motivation to change from the onset of the program.
2	Overview of the Matrix	In this session participants will learn to differentiate between information from the environment, as perceived by their 5 senses, and their thoughts or feelings about that information (mental experiences). They will also learn the difference between behaviors that move them TOWARD their values and behaviors that help them avoid unwanted mental experiences (AWAY moves). Finally, we will focus on noticing that thoughts, feelings and urges (mental experiences) are different from behaviors that are responses to the thoughts and feelings.
3	Away Moves	This session focuses on participants' AWAY moves—the ways they attempt to control, manage, or get rid of unwanted mental experiences. The focus is on the long-term consequences of AWAY moves and the possibility that AWAY moves do not permanently get rid of these unwanted experiences (although the short-term consequences of AWAY moves are typically positive).
4	When Away Moves Become a Problem	This session builds on the last session's focus on AWAY moves. Participants will continue to learn from their own experiences that many of the ways they have used to control other people, solve problems, and respond to thoughts and emotions are AWAY moves that have not worked in the long-term.
5	Willingness as an Alternative	This session introduces willingness (i.e., acceptance) as an alternative to AWAY moves. Willingness is presented as openness to mental experiences and “sitting with them” without unnecessary attempts to change them or struggle against them. Willingness helps facilitate TOWARD moves (i.e., committed action).
6	Understanding Emotions	This session increases participants' basic understanding of emotions, which will help them allow feelings to “just be,” without struggle or judgment. Whenever relevant in the discussions, facilitators point out the consequences of AWAY moves and the opportunities to practice willingness.

Table 1- Continued

Session	Topic	Description
7	Understanding Thoughts	In this session participants will continue to clarify what they value through various experiential exercises. Participants will also learn more about the nature of the mind and the helpful and unhelpful aspects of thinking and of language. These ideas will help participants learn another important skill: creating distance from thoughts that often lead them to ineffective behavior (i.e., cognitive defusion).
8	Responding to Thoughts and Emotions (Part I)	This session gives participants a better understanding of how mental experiences work and how their thoughts do not control their behavior. The metaphors, activities, and discussion are meant to illustrate how our mind is constantly trying to solve problems, evaluate our life, plan for the future, etc., and that listening to our minds can be helpful. But if we listen to everything it tells us, it can stop us from moving TOWARD what is important. The key is for participants to notice their thoughts, identify when they are hooked by them, and create some distance from them, in order to have a choice in how to behave (i.e., cognitive defusion).
9	Responding to Thoughts and Emotions (Part II)	This purpose of this session is to continue to practice the skill of noticing thoughts and getting unhooked from them (defusion). The goal is for participants to relate to their troublesome thoughts differently by being aware of and creating distance from them. Then participants will have more opportunities to choose behaviors in line with their values rather than AWAY moves. As with every skill, this requires practice. This is why we continue covering this specific skill in this session.
10	Committed Action (Part I)	The next two sessions challenge participants to apply the skills they have learned so far to their relationships. Specifically, this session focuses on committed action in the service of romantic relationships. We practice perspective-taking skills, continue building on defusion and acceptance skills, and begin to put into practice these skills in the context of their romantic relationships.
11	Committed Action (Part II)	This session continues exploring actual skills that can move participants closer to honoring their values of relationship with their partners, and transition into exploring how the defusion, acceptance, and noticing skills can be applied to other types of relationships as well (e.g., with their children).
12	Putting it All Together	This last session is intended review the initial goals for group, celebrate the participants' accomplishments, and do some relapse-prevention work. Finally, it is a time for facilitators and participants to exchange their thoughts on how group went, what they found useful, gather some feedback on how it can be improved and say their final goodbyes.

Table 2. Measures

Measure	Construct	Type of Variable
Acceptance and Action Questionnaire (AAQ-II)	Experiential avoidance/Psychological Flexibility	Outcome Skills-ACT Skills
Philadelphia Mindfulness Scale (PHLMS)	Present-Moment Awareness and Acceptance	Outcome Skills-ACT Skills
Cognitive Fusion Questionnaire (CFQ)	Defusion	Outcome Skills- ACT Skills
Patient Health Questionnaire (PHQ-9)	Depression	Outcome- Internalizing Symptoms
General Anxiety Disorder Scale (GAD-7)	Anxiety	Outcome- Internalizing Symptoms
Aggression Questionnaire (AQ)	Aggressive behavioral tendencies	Outcome- Externalizing behaviors
UPSS-P Impulsive Behavior Scale-Short (UPPS-S)	Impulsivity	Outcome- Externalizing behaviors

Table 3. IPV-Criminal History Severity Description of Categories and Percentages

Criminal History Severity Category (1-4)	Criminal Charge	%, (N) (N=37)*	%, (N) (N=58)**
1= Simple Misdemeanor	Assault	37.8 (14)	29.3 (17)
	Disorderly conduct	32.4 (12)	31.0 (18)
	Domestic abuse assault	45.9 (17)	51.7 (30)
	% (N) Assigned this Severity Category		
		10.8 (4)	15.5 (9)
2= Serious Misdemeanor	Domestic abuse assault without intent, causing injury	40.5 (15)	29.3 (17)
	Domestic abuse assault causing injury/mental illness	40.5 (15)	37.9 (22)
	Domestic abuse assault- 2nd offense	40.5 (15)	37.9 (22)
	Assault causing bodily injury	32.4 (12)	25.9 (15)
	False imprisonment	2.7 (1)	3.4 (2)
		% (N) Assigned this Severity Category	
		40.5 (15)	41.4 (24)
3= Aggravated Misdemeanor	Domestic abuse assault with intent to inflict serious injury	0.0 (0)	1.7 (1)
	Domestic abuse assault with display of a weapon	8.1 (3)	5.2 (3)
	Assault with display of weapon	10.8 (4)	8.6 (5)
	% (N) Assigned this Severity Category		
		21.6 (8)	25.9 (15)
4= Felony Charge	Domestic abuse assault- 3rd or subsequent offense	5.4 (2)	3.4 (2)
	Willful injury causing bodily injury or causing serious injury	2.7 (1)	1.7 (1)
	Domestic abuse impeding flow of blood or air and causing injury	13.5 (5)	6.9 (4)
	Assault-Felony Charge	5.4 (2)	5.2 (3)
	% (N) Assigned this Severity Category		
		27.0 (10)	17.2 (10)

Note. %=percentage. N= Number of participants. * This sample (N=37) participated in the ACT group and there are pre and post data available for 33 participants; ** This sample (N=58) is comprised of the 37 ACT group participants and 21 additional participants who did not complete ACT group (i.e., completed other treatment offered in the jail for BEP perpetrators at the time of the study), but for whom only pre questionnaire data is available. A participant could have multiple types of charges under the different severity categories and thus percentages do not add up to 100. All charges shown are IPV/domestic abuse related. The final assigned severity category was chosen based on the most severe type of charge obtained in the past.

Table 4. Participant Demographic Characteristics at Pre Intervention

Variable	ACT (N=37)*	Full (N=58)**
Age (M, SD)	38.06 (9.51) Range: 22-55	36.43 (9.71) Range: 22-58
Race/Ethnicity (% ,N)		
White Non-Hispanic	32.4 (12)	39.7 (23)
African American	56.8 (21)	43.1 (25)
White Hispanic/Latino	2.7 (1)	8.6 (5)
Biracial	5.4 (2)	6.9 (4)
American Indian or Alaska Native	2.7 (1)	1.7 (1)
Education (% , N)		
Less than HS	29.7 (11)	29.3 (17)
HS Diploma or GED	35.1 (13)	41.4 (24)
Some College	35.1 (13)	29.3 (17)
Relationship Status (% , N)		
Married	13.5 (5)	17.2 (10)
In a relationship (but not married)	37.8 (14)	36.2 (21)
Single, Separated, Divorced	48.6 (18)	41.4 (24)
Individual Annual Income		
Less than 21K	78.4 (29)	72.4 (42)
More than 21K	21.6 (8)	27.6 (16)
Mean Number of Sessions Completed (M, SD)	11.57 (.835) Range: 8-12	11.52 (1.35) Range: 3-12

Note. M=Mean, SD=Standard Deviation, HS=High School, GED= General Education Development Test, K=Thousand. * This sample (N=37) participated in the ACT group and there are pre and post data available for 33 participants. This sample was utilized Aims 1 and 2. ** This sample (N=58) is comprised of the 37 ACT group participants and 21 additional participants who did not complete ACT group (i.e., completed other treatment offered in the jail for BEP perpetrators at the time of the study), but for whom only pre questionnaire data is available. This sample was utilized for Aim 3.

Table 5. Means and Standard Deviations for Outcome Measures

Outcome Measures (Range of Scores)	ACT (N=33) M (SD)		TAU (N=21) M (SD)	ACT vs TAU P value	Full (N=58) M (SD)
	Pre	Post	Pre	Pre-Tx Comparison	Pre
AAQ (7-49)	20.11 (10.31)	19.97 (10.27)	17.52 (7.88)	.327	19.14 (9.48)
PHLMS Total (20-100)	65.46 (11.01)	66.67 (8.84)	68.95 (9.97)	.239	66.77 (10.68)
Present Moment Awareness (1-50)	36.97 (7.42)	36.48 (7.17)	40.09 (6.48)	.116	38.14 (7.19)
Acceptance (1-50)	28.49 (8.91)	30.18 (7.37)	28.86 (7.61)	.874	28.63 (8.38)
CFQ (7-49)	22.63 (11.32)	22.39 (8.99)	21.43 (8.71)	.678	22.18 (10.35)
PHQ (0-27)	9.47 (6.53)	8.15 (7.14)	8.19 (7.12)	.498	8.98 (6.72)
GAD (0-21)	8.86 (6.83)	8.42 (6.76)	7.29 (6.04)	.388	8.27 (6.53)
AQ Total (29-203)	96.74 (36.57)	96.81 (38.22)	91.62 (31.19)	.595	94.82 (34.45)
Physical Aggression (9-63)	31.86 (12.20)	30.94 (12.15)	29.71 (12.97)	.537	31.05 (12.41)
Verbal Aggression (5-35)	17.11 (7.12)	18.00 (7.50)	16.09 (6.85)	.601	16.73 (6.98)
Anger (7-49)	22.43 (9.15)	22.81 (9.41)	21.86 (9.32)	.823	22.21 (9.14)
Hostility (8-56)	25.34 (11.96)	25.06 (12.55)	23.95 (7.81)	.637	24.82 (10.53)
UPPS-S Total (20-80)	47.03 (9.16)	45.30 (8.13)	43.38 (10.29)	.177	45.63 (9.68)
Negative Urgency (4-16)	10.06 (3.29)	8.67 (3.71)	9.33 (3.44)	.439	9.78 (3.34)
Positive Urgency (4-16)	9.85 (2.70)	8.88 (2.78)	8.61 (2.87)	.114	9.38 (2.81)
Lack Premeditation (4-16)	8.79 (2.95)	10.15 (2.91)	8.90 (3.19)	.896	8.84 (3.02)
Lack Perseverance (4-16)	7.94 (3.05)	8.51 (3.71)	6.67 (2.90)	.132	7.45 (3.04)
Sensation Seeking (4-16)	10.38 (2.86)	9.09 (3.01)	9.86 (3.14)	.526	10.18 (2.95)

Note. N=33 (both pre and post usable data for ACT); TAU= Duluth control group for which only pre data (N=21) is usable data; N=58 (pre data from ACT and TAU is usable data); AAQ= Acceptance and Action Questionnaire, PHLMS= Philadelphia Mindfulness Scale, CFQ= Cognitive Fusion Questionnaire, PHQ= Patient Health Questionnaire, GAD=Generalized Anxiety Disorder Scale, AQ= Aggression Questionnaire, UPPS=UPPS Impulsive Behavior Scale Short; † $p < .10$, * $p < .05$.

Table 6. Main Effects and Interaction of Time and IPV-Criminal Severity on Outcome Measures

Measure	Effect	Test statistic	Sig	Effect Size
AAQ	Time	F(1,31)=3.39	p=.076†	$\eta^2_p = .102$
	Severity	F(1,31)=.004	p=.953	$\eta^2_p = .000$
	Time x Severity	F(1,31)=3.768	p=.062†	$\eta^2_p = .112$
PHLMS Total Scale	Time	F(1,32)=.973	p=.332	$\eta^2_p = .030$
	Severity	F(1,32)=.961	p=.335	$\eta^2_p = .030$
	Time x Severity	F(1,32)=1.618	p=.213	$\eta^2_p = .050$
PHLMS_Present Moment Awareness	Time	F(1,31)=.05	p=.825	$\eta^2_p = .002$
	Severity	F(1,31)=.557	p=.461	$\eta^2_p = .018$
	Time x Severity	F(1,31)=.105	p=.748	$\eta^2_p = .003$
PHLMS_Acceptance	Time	F(1,32)=1.738	p=.197	$\eta^2_p = .053$
	Severity	F(1,32)=.300	p=.588	$\eta^2_p = .010$
	Time x Severity	F(1,32)=2.994	p=.094†	$\eta^2_p = .088$
CFQ	Time	F(1,32)=1.178	p=.286	$\eta^2_p = .037$
	Severity	F(1,32)=.099	p=.756	$\eta^2_p = .003$
	Time x Severity	F(1,32)=1.330	p=.258	$\eta^2_p = .041$
PHQ	Time	F(1,32)=.284	p=.598	$\eta^2_p = .009$
	Severity	F(1,32)=.034	p=.856	$\eta^2_p = .001$
	Time x Severity	F(1,32)=1.085	p=.306	$\eta^2_p = .035$
GAD	Time	F(1,32)=4.547	p=.041*	$\eta^2_p = .128$
	Severity	F(1,32)=.116	p=.736	$\eta^2_p = .004$
	Time x Severity	F(1,32)=6.272	p=.018*	$\eta^2_p = .168$
AQ_Total Scale	Time	F(1,31)=.597	p=.446	$\eta^2_p = .020$
	Severity	F(1,31)=.059	p=.809	$\eta^2_p = .002$
	Time x Severity	F(1,31)=.755	p=.392	$\eta^2_p = .025$
AQ_Physical Aggression	Time	F(1,31)=.409	p=.527	$\eta^2_p = .013$
	Severity	F(1,31)=.032	p=.859	$\eta^2_p = .001$
	Time x Severity	F(1,31)=.749	p=.394	$\eta^2_p = .024$
AQ_Verbal Aggression	Time	F(1,31)=.952	p=.337	$\eta^2_p = .031$
	Severity	F(1,31)=.194	p=.663	$\eta^2_p = .006$
	Time x Severity	F(1,31)=.707	p=.407	$\eta^2_p = .023$
AQ_Anger	Time	F(1,31)=.147	p=.704	$\eta^2_p = .005$
	Severity	F(1,31)=.210	p=.650	$\eta^2_p = .007$
	Time x Severity	F(1,31)=.140	p=.711	$\eta^2_p = .005$
AQ_Hostility	Time	F(1,31)=.498	p=.486	$\eta^2_p = .016$
	Severity	F(1,31)=.000	p=.985	$\eta^2_p = .000$
	Time x Severity	F(1,31)=.740	p=.396	$\eta^2_p = .024$
UPPS-S_Total Scale	Time	F(1,31)=.587	p=.450	$\eta^2_p = .019$
	Severity	F(1,31)=.065	p=.800	$\eta^2_p = .002$

Table 6- Continued

	Time x Severity	F(1,31)=1.802	p=.190	$\eta^2_p = .057$
UPPS-S_Negative Urgency	Time	F(1,31)=.430	p=.517	$\eta^2_p = .014$
	Severity	F(1,31)=.234	p=.632	$\eta^2_p = .008$
	Time x Severity	F(1,31)=2.265	p=.143	$\eta^2_p = .070$
UPPS-S_Positive Urgency	Time	F(1,31)=.097	p=.758	$\eta^2_p = .003$
	Severity	F(1,31)=.004	p=.950	$\eta^2_p = .000$
	Time x Severity	F(1,31)=1.091	p=.305	$\eta^2_p = .035$
UPPS-S_Lack of Premeditation	Time	F(1,31)=1.976	p=.170	$\eta^2_p = .062$
	Severity	F(1,31)=.300	p=.588	$\eta^2_p = .010$
	Time x Severity	F(1,31)=.600	p=.445	$\eta^2_p = .020$
UPPS-S_Lack of Perseverance	Time	F(1,31)=.009	p=.923	$\eta^2_p = .000$
	Severity	F(1,31)=1.033	p=.318	$\eta^2_p = .033$
	Time x Severity	F(1,31)=0.076	p=.784	$\eta^2_p = .003$
UPPS-S_Sensation Seeking	Time	F(1,31)=.335	p=.567	$\eta^2_p = .011$
	Severity	F(1,31)=.601	p=.444	$\eta^2_p = .020$
	Time x Severity	F(1,31)=.007	p=.933	$\eta^2_p = .000$

Note. † $p < .10$, * $p < .05$, η^2_p = partial eta squared. AAQ=Acceptance and Action Questionnaire, PHLMS= Philadelphia Mindfulness Scale, CFQ= Cognitive Fusion Questionnaire, PHQ= Patient Health Questionnaire, GAD=Generalized Anxiety Disorder Scale, AQ= Aggression Questionnaire, UPPS=UPPS Impulsive Behavior Scale Short

Table 7. Experiences in Group Survey Results (N=33)

Items	Mean (SD)
1. This group helped me to think about my values.	4.33 (1.08)
2. I can step back and notice my five senses and mental experiences as a result of this group.	4.28 (1.05)
3. This group helped me notice that trying to change what I think or feel often gets me more stuck.	3.58 (1.48)
4. I am confident in my abilities to achieve my goals as a result of this group.	4.22 (1.04)
5. I have made choices in service of my values as a result of this group.	4.18 (1.21)
6. This group helped me notice that I get to choose how I behave in a given situation.	4.30 (1.05)
7. I feel hopeful about my life as a result of this group.	4.19 (1.20)
8. I felt understood and accepted by my group facilitators.	4.64 (.93)
9. This group seemed like a waste of my time.	1.73 (1.46)
10. Overall, how helpful did you find this group to be in helping you live a life that is consistent with your values?	4.37 (1.19)

Note. SD=standard deviation; Scale ranged from 1(strongly disagree) to 5 (strongly agree).

Table 8. Participant's Views and Suggestions (N=33)*

Through this group I learned the following things...	Number (%)**
Focus on my values	10 (30)
Noticing five senses and mental experiences	6 (18)
Awareness of behavioral choices	6 (18)
Communication skills	6 (18)
Self-control	6 (18)
Noticing when I make 'toward' and 'away' moves	4 (12)
Interpersonal skills	4 (12)
Ubiquity of human suffering	3 (9)
Self-improvement	2 (6)
Helpful ACT exercises	2 (6)
Emotional intelligence skills	1 (3)
Appreciation for life	1 (3)
Unspecified skills (i.e., learned skill but did not specify which one)	1 (3)
Unable to code***	2 (6)
Left blank	4 (12)
After I get out of jail I want my life to be about...	Number (%)
Desired qualities in life	16 (48)
Relationships	13 (39)
My values	5 (15)
Sobriety	4 (12)
Paying it forward/contribution	4 (12)
Employment	3 (9)
Application of skills learned in group	3 (9)
Making better choices	3 (9)
Unable to code	4 (12)
Left blank	4 (12)
I thought the facilitators did a good job of...	Number (%)
Teaching effectively and understandably	15 (45)
Being understanding, respectful and accepting	7 (21)
Complete endorsement of facilitators with no specific example(s)	5 (15)
Fostering participants' connection with values	4 (12)
Fostering participants' personal growth	4 (12)
Teaching specific skills (e.g., noticing, toward vs. away moves)	3 (9)
Offering help, direction, and feedback	3 (9)
General positive comment followed by example(s)	3 (9)
Listening	2 (6)
Facilitating group	2 (6)

Table 8- Continued

Self-disclosing and participating	2 (6)
Offering hope	1 (3)
Unable to code	1 (3)
Wrote 'N/A' or 'No comment'	1 (3)
Left blank	4 (12)
I think the facilitators could improve on the following...	Number (%)
No suggestions for improvement (positive experience)	20 (61)
Content of the material	2 (6)
Language level	1 (3)
Class-schedule	1 (3)
Lengthier program/continued work	1 (3)
Suggestions for BEP in general	1 (3)
Unable to code	2 (6)
Wrote 'N/A' or 'No comment'	4 (12)
Left blank	7 (21)
These are the things that I did not find helpful about group...	Number (%)
Completely helpful	15 (45)
Content/Material	2 (6)
Group participants	1 (3)
Repetitiveness	1 (3)
Completely unhelpful	1 (3)
Helpful with suggestion	1 (3)
Unable to code	4 (12)
Wrote 'N/A' or 'No comment'	3 (9)
Left blank	10 (30)
What suggestions do you have for improving this group?	Number (%)
No suggestions/Positive comments	15 (45)
Same facilitator qualities in future groups	4 (12)
More sharing	2 (6)
Improved facilities and scheduling	2 (5)
Fellow participant's behaviors in group	1 (3)
Continued motivation	1 (3)
Simple instructions	1 (3)
More information on communication/interpersonal skills	1 (3)
Unable to code	5 (15)
Left blank	6 (18)

Table 8- Continued

Note: *Thirty three participants completed the Experiences in Group Survey assessing their views of treatment and suggestions for improvement. ** Participants could mention more than one theme under any of the questions, thus the total of percentages may not add up to 100%. Themes are listed in order from most endorsed to least endorsed. *** Some participants wrote a response that was illegible or ambiguous (e.g., two words that were difficult to understand by the coders) and therefore were coded as “unable to code.” Some participants left some questions blank or unanswered, or wrote ‘no comment’ or ‘N/A’ for not applicable. These were coded as such under every question.

Table 9. Regressions between IPV-Criminal History Severity and Pre-treatment ACT Skills and Outcome Measures (N=58)

Measure	b	Std. Error	t	Sig. (p)	η^2_p
AAQ-II	1.940	1.366	1.420	.161	.036
PHLMS Total	-.040	1.566	-.026	.980	.000
Present-Moment	1.306	1.039	1.257	.214	.028
Acceptance	-1.346	1.215	-1.108	.273	.022
CFQ	1.522	1.504	1.012	.316	.019
PHQ-9					
GAD-7	1.607	.933	1.723	.091†	.052
AQ Total	7.284	4.954	1.470	.147	.038
Physical Agg.	3.164	1.769	1.788	.079†	.056
Verbal Agg.	.969	1.015	.955	.344	.017
Anger	1.083	1.332	.813	.420	.012
Hostility	2.068	1.519	1.361	.179	.033
UPPS Total	1.144	1.413	.810	.422	.012
Negative Urgency	.737	.480	1.537	.130	.043
Positive Urgency	.394	.409	.964	.339	.017
Lack Premeditation	.182	.443	.412	.682	.003
Lack Perseverance	-.254	.445	-.572	.570	.006
Sensation Seeking	.085	.433	.196	.846	.001

Note: † $p < .10$.

FIGURES

Figure 1. A Functional Model of Partner Aggression

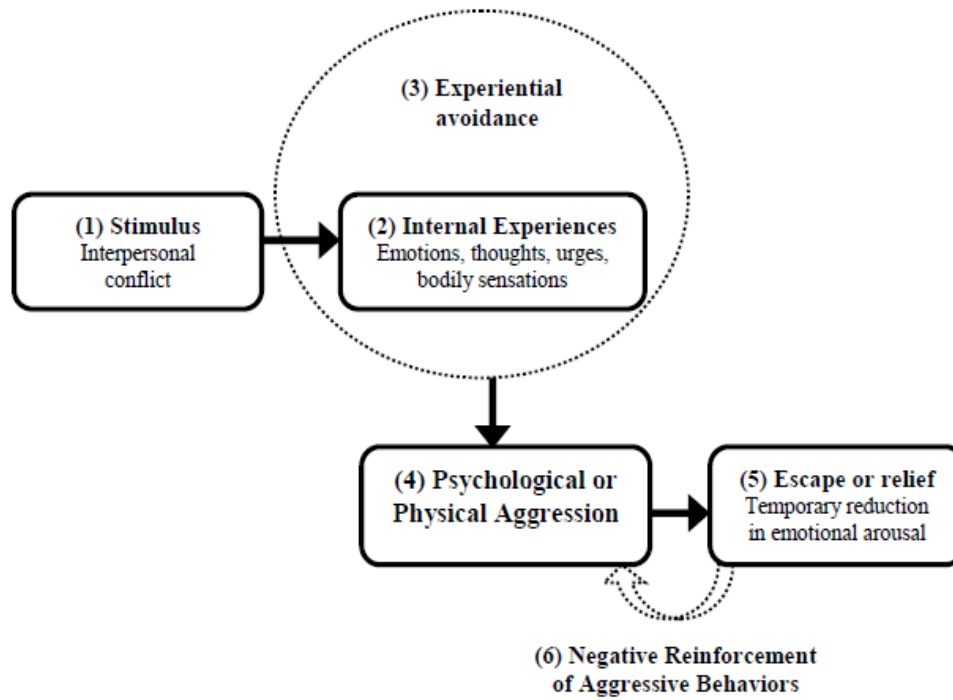


Figure 2. Participant Flow Chart

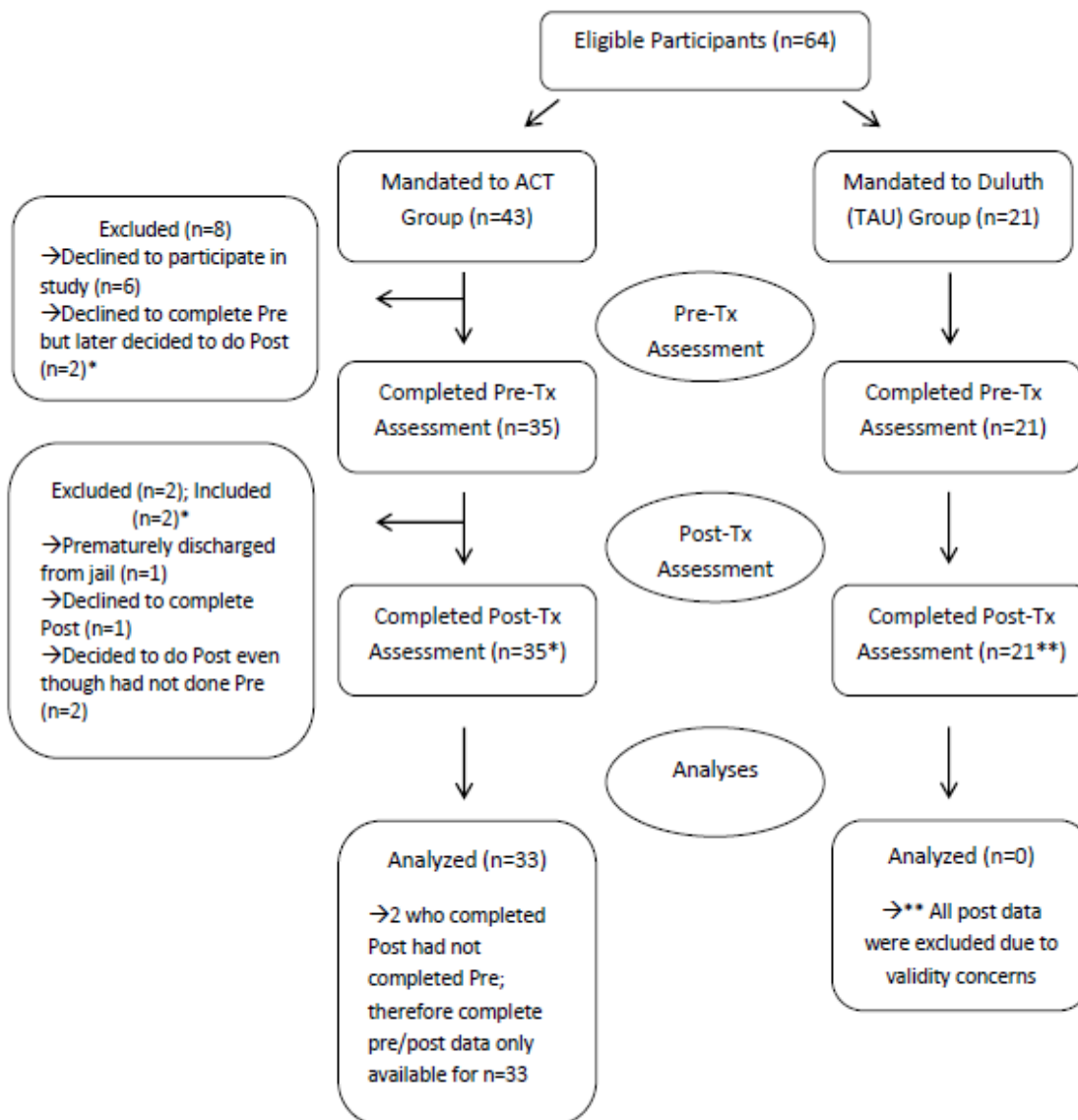
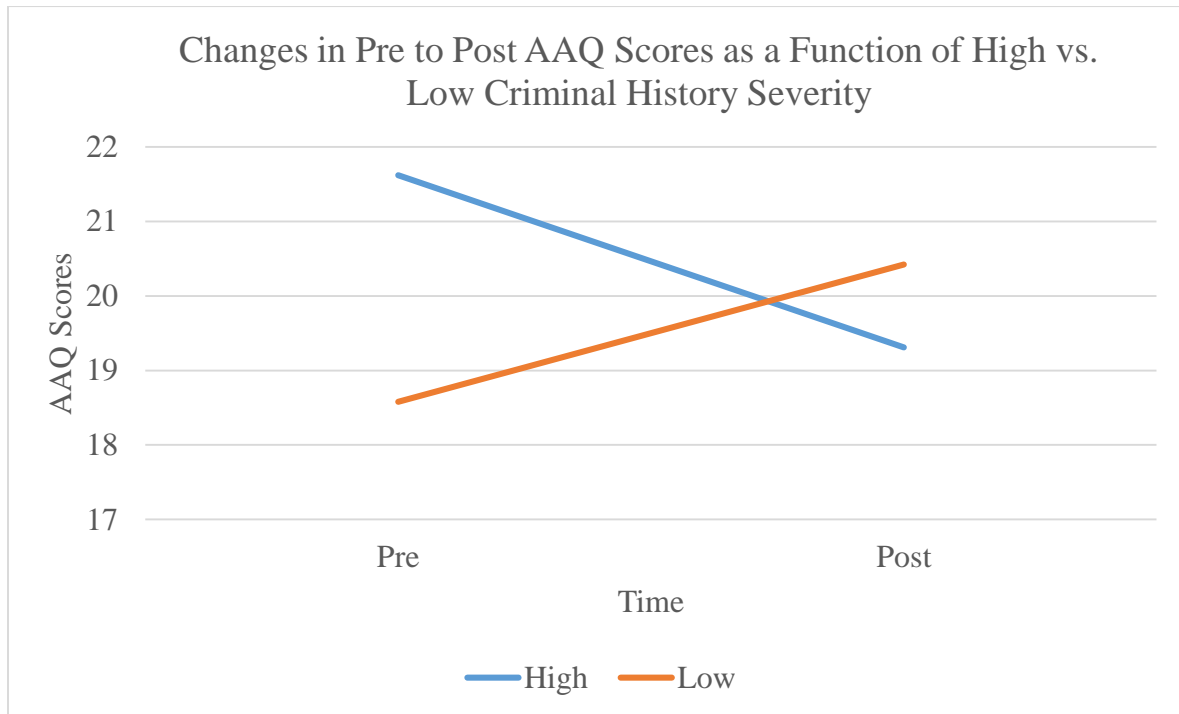
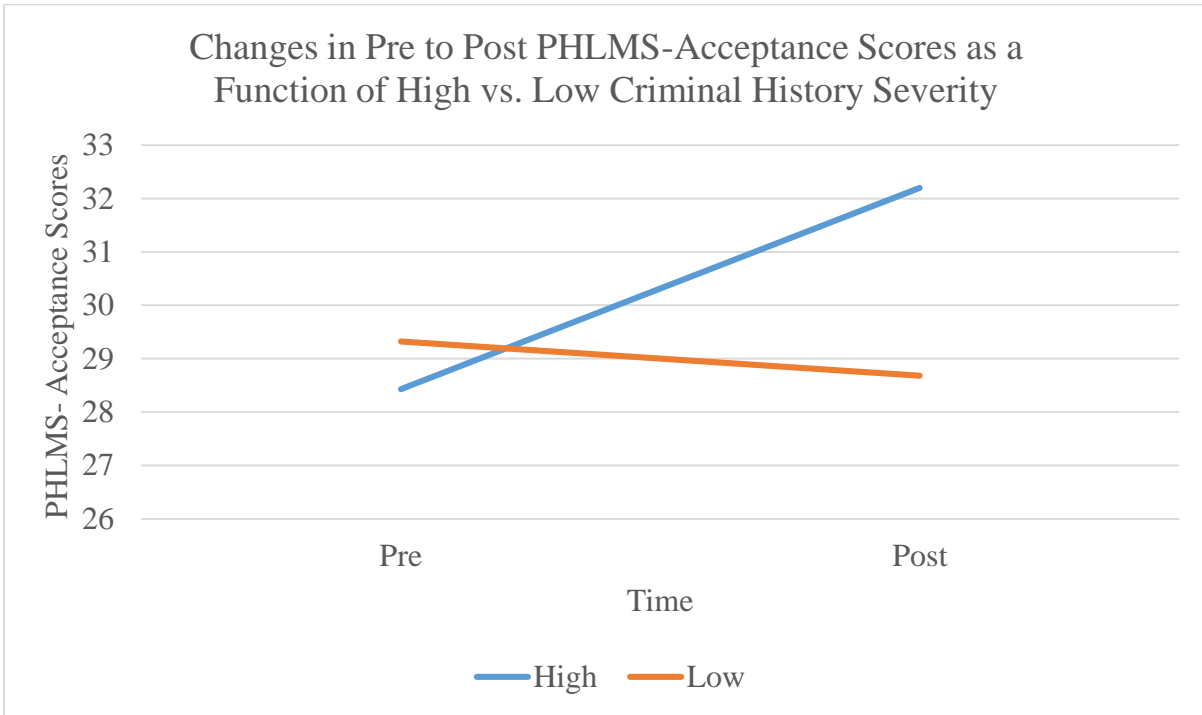


Figure 3. Changes in Pre to Post AAQ Scores as a Function of IPV-Criminal History Severity.



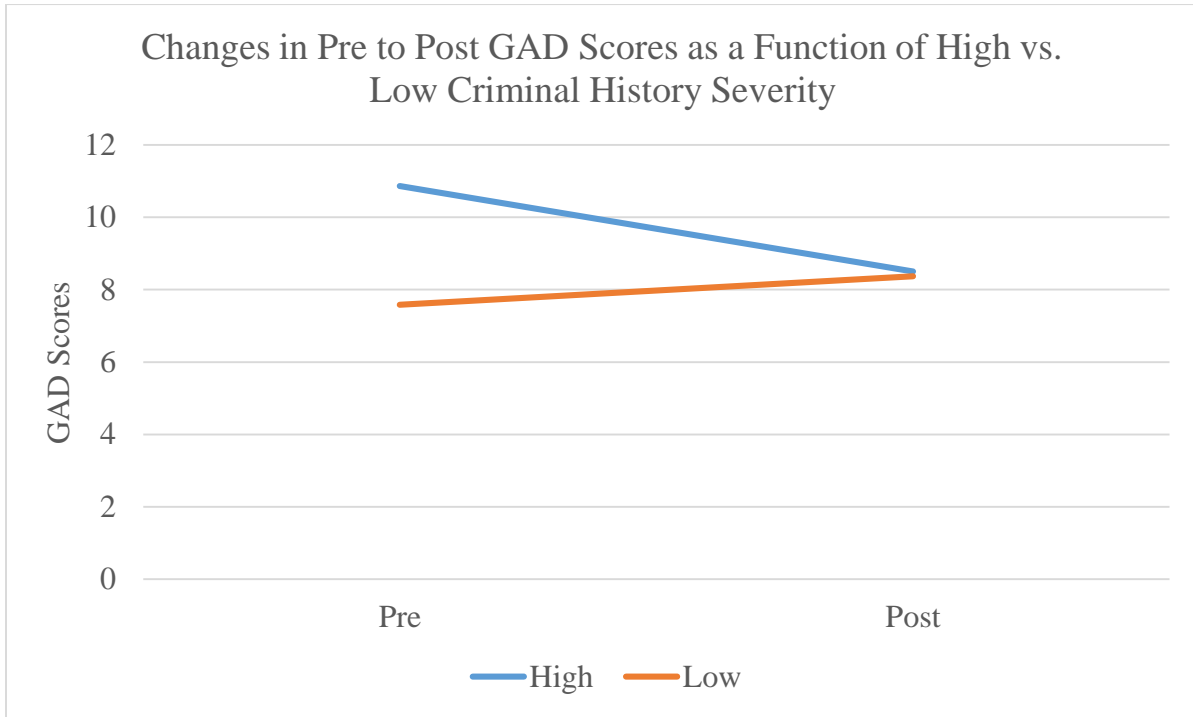
Note: AAQ= Acceptance and Action Questionnaire-II (Measure of Experiential Avoidance); Pre= Pre Treatment; Post= Post Treatment. Figure presents changes in pre to post AAQ scores as a function of high versus low criminal history severity. Higher scores in AAQ indicate greater experiential avoidance.

Figure 4. Changes in Pre to Post PHLMS-Acceptance Scores as a Function of IPV-Criminal History Severity.



Note: PHLMS= Philadelphia Mindfulness Scale (Measure of Present Moment Awareness and Acceptance; only Acceptance Scale results presented in this graph); Pre= Pre Treatment; Post= Post Treatment. Figure presents changes in pre to post PHLMS-Acceptance scores as a function of high versus low criminal history severity. Higher scores in PHLMS-Acceptance indicate greater emotional acceptance.

Figure 5. Changes in Pre to Post GAD Scores as a Function of IPV-Criminal History Severity.



Note: GAD= Generalized Anxiety Disorder Scale (Measure of anxiety symptoms); Pre= Pre Treatment; Post= Post Treatment. Figure presents changes in pre to post GAD scores as a function of high versus low criminal history severity. Lower GAD scores indicate less anxiety symptoms.