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The Role of Offender Perception in Treatment Outcome for Male Perpetrators of Intimate Partner Violence with Co-occurring Substance Dependency

by

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Abstract

Background. This study was designed to address a possible interaction of distorted cognitive processes associated with substance dependency and intimate partner violence (IPV), and the affects on subsequent behavior. Objectives. The primary focus was to investigate the relationship between offender perception (i.e., perception of family problems [FP] and perception of need for treatment for family problems [FPTx]) and treatment outcome (i.e., substance use and violence), among a unique sample of substance dependent male offenders of intimate partner violence. Additional investigations included: (1) the change in perception from baseline to the end of treatment, and (2) treatment modality in relation to treatment success.

Methods. The data was drawn from a larger randomized treatment evaluation study (Easton, 2012). Sixty-three participants were randomly assigned to one of two manually-guided treatment conditions (Substance Abuse Domestic Violence Therapy or Independent Drug Counseling) and were assessed across 12 weeks of treatment. Results. There was no significant difference for participants in the FP+ condition (i.e., those who perceived family problems at baseline) versus participants in the FP- condition (i.e., those who did not perceive family problems at baseline) in number of days abstinent from any substance use, across 84 days in treatment (e.g., 90 days of abstinence across 12 week of treatment). Participants in the FPTx+ condition (i.e., those who perceived a need for treatment for family problems at baseline) did not significantly differ from participants in the FPTx- condition (i.e., participants who perceived no need for treatment at baseline) in number of days abstinent from substance use. However, participants in the FP+ and FPTx+ conditions reported a significantly greater change in the number of days of violence from baseline to the end of treatment, compared to participants in the FP- and FPTx- conditions. FP+
and FPTx+ participants had significant decreases in any violent behavior from pre to post treatment (e.g., measured by the change in the number of days of any violent behavior).

**Implications.** The results of this study highlight the importance of techniques aimed at improving clients’ ability to recognize and admit to problem behaviors in an effort to increase their motivation for treatment, which will hopefully lead to greater treatment success.

*Keywords:* intimate partner violence, substance abuse, offender perception, cognitive impairment, intervention
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Intimate Partner Violence

Once considered a private family matter, intimate partner violence (IPV) is recognized as a global public health concern (World Health Organization [WHO], 2013). Approximately 1 in 3 women across the world have experienced physical and/or sexual violence. Furthermore, approximately 38% of female homicide victims worldwide were murdered by intimate partners. Partner violence affects a significant number of families in the United States (U.S.), with over 12 million victims each year (Center for Disease Control [CDC], 2014).

IPV can be defined as physical, sexual, psychological harm or stalking by a current or former partner, which can range in frequency and severity (CDC, 2014; WHO, 2013). An estimated 31.5% of U.S. women report physical violence by an intimate partner in their lifetimes, and 22.3% report at least one act of severe physical violence. An estimated 24.6% of women experience sexual violence by an intimate partner and 47.1% of women report at least one act of psychological aggression by an intimate partner during their lifetimes (CDC, 2014). Results from the National Crime Victim Survey (NCVS) indicated that nearly 1 million women are victims of IPV each year (Bureau of Justice Statistics, 2013).

The term intimate partner violence tends to be used interchangeably with domestic violence (DV) in the literature, with both terms representative of male-to-female partner violence. The majority of IPV literature focuses on male-to-female partner violence (Dixon & Graham-Kevan, 2011) because the effects of domestic violence, including frequency and severity are shown to be more detrimental to women (Flynn & Graham, 2010). However, it is important
to acknowledge that men also report being victims of IPV. Consequences of IPV include mental illness, substance use, physical injuries from the abuse, poor acute health, chronic disease, depressive symptoms, post-traumatic stress disorder, increased HIV risk, suicide, and spousal homicide (WHO, 2012), which affect victims and society as a whole. Given its high prevalence and devastating effects, much effort has been directed at determining the risk factors of IPV and enhancing prevention and intervention programs.

**Substance Abuse as a Risk Factor of IPV**

Substance abuse is the most common risk factor for domestic violence (Easton, Swan, & Sinha, 2000a). There is extensive theoretical and empirical evidence of a strong relationship between intimate partner violence and substance abuse (Stith, Smith, Penn, Ward, & Tritt, 2004). Meta-analytic results from 22 studies identify alcohol as an important risk factor for IPV (Foran & O'Leary, 2008). Alcohol abuse disorders are the most prevalent among IPV offenses (Easton, 2012) and are involved in 40-60% of IPV instances (Easton, Mandel, Babuscio, Rounsaville, & Carroll, 2007a). Substantial evidence has shown that heavy or problematic drinking is positively associated with partner violence (e.g., Foran & O'Leary, 2008; Leonard, 2005). Results of a meta-analytic review discuss the link between alcohol and IPV as a significant, but moderate association (e.g., Foran & O'Leary, 2008). Further research has identified alcohol as a predictor (Quigley & Leonard, 2000), facilitator (Stuart, O'Farrell, & Temple 2009), and causal factor (Leonard, 2005) of IPV. Daily report studies provide evidence that alcohol consumption increases the odds of intimate partner violence. For instance, Stuart et al. (2009) found that episodes of drinking, as compared to days of no drinking, increased the odds of physical aggression occurring the same day. A daily diary study by Testa and Derrick (2013) demonstrated
a temporal relationship between alcohol consumption and partner violence, such that the likelihood of perpetrating verbal and physical aggression increased significantly following recent (i.e. within the previous four hours) alcohol consumption. Additionally, research suggests that alcohol consumption increases the severity of partner violence relative to domestic violence episodes not including alcohol use (e.g., Testa, Quigley, & Leonard, 2003). Finally, treatment outcome studies have demonstrated lower martial violence following alcohol treatment (O'Farrell & Murphy, 1995; Stuart et al., 2003b), further demonstrating a link between alcohol and IPV.

Research has also identified an individual relationship between drug abuse and intimate partner violence (Moore et al., 2008; Moore & Stuart, 2004). Moore and Stuart (2004) examined the effects of illicit drug use on the occurrence of male-to-female physical aggression, after controlling for alcohol use, and found that illicit substance users scored higher on perpetration measures of intimate partner violence. The data suggested that illicit substance use is an independent predictor of male-to-female partner violence (Buchanan, Nich, Douglas, Babuscio, & Easton, 2013). The two illicit drugs documented as most strongly linked to IPV perpetration are cocaine and marijuana (Moore et al., 2008). Cocaine use is associated with severe IPV perpetration, while cannabis withdrawal may facilitate partner violence (Buchanan et al., 2013; Stuart et al., 2009).

In addition to studying the independent associations between IPV and specific substances of abuse, research has looked at the effects of comorbid substance use. Miller (1990) reported that men who batter often use both alcohol and drugs. In a sample of 75 domestic violence offenders entering substance abuse treatment, 43% of offenders who denied drug use at treatment
entry, had in fact tested positive for illicit drug use (Easton et al., 2007a). Longitudinal studies that examined the relationship between IPV and specific substance use diagnoses found that alcohol and cocaine were directly associated with IPV perpetration, such that IPV perpetrators with concurrent alcohol and cocaine use disorders were more likely to be violent than perpetrators with alcohol use disorders alone (Crane, Oberleitner, Devine, & Easton, 2014; Smith, Homish, Leonard, & Cornelius, 2012). Furthermore, Easton et al. (2007a) found that alcohol dependent offenders of IPV with concurrent illicit drugs displayed greater impairments at baseline, attended fewer treatment sessions, had more positive breathalyzer results, and poorer treatment outcomes relative to alcohol dependent offenders of IPV without concurrent illicit drug use.

The preponderance of evidence clearly reveals substance misuse as a main risk factor of intimate partner violence. Results from the MacArthur Violence Risk Assessment Study (Steadman et al., 1998) identified addiction as the greatest predictor of violence in the home. More importantly, the literature shows high rates of co-occurrence between substance abuse and intimate partner violence, with rates between 40-60% across studies (Easton, Mandel, Hunkele, Nich, Roundsaville, & Carroll, 2007b). Men who engage in partner violence are often intoxicated or have problems with alcohol or drug abuse (Foran & O'Leary, 2008) and are considerably more likely to abuse alcohol than a variety of comparison samples (Stuart, Moore, Kahler, & Ramsey, 2003a; Quigley & Leonard, 2000). Furthermore, IPV perpetrators with substance abuse disorders are more likely to be under the influence of substances at the time of the offense, relative to IPV perpetrators without substance abuse disorders (Kraanen, Scholing, & Emmelkamp, 2010).
The strong relationship between substance use and IPV has been found in various health care settings (e.g., family practice clinics, prenatal clinics, and rural health clinics) and among various populations, including individuals entering treatment (Kraanen et al., 2010; Stuart et al., 2009). Approximately 50% of patients seeking treatment for substance abuse report a recent history of IPV perpetration (Easton et al., 2000a). O'Farrell and Murphy (1995) reported that marital violence was five to six times more prevalent in their alcoholic treatment sample than a demographically matched representative sample. Likewise, substance abuse is overrepresented in samples seeking treatment for IPV (e.g., Moore & Stuart, 2004; Stuart et al., 2003a). In a sample of 150 IPV perpetrators, 50% of the sample qualified for one or more substance abuse disorders (Kraanen et al., 2010). Stuart et al. (2003a) reported that 50% of men participating in an IPV program had alcohol use disorders and 30% of the sample had drug related diagnoses. Lastly, research suggests that patients entering treatment are a high-risk group for IPV perpetration. The prevalence of male-to-female IPV in male samples seeking substance abuse treatment ranged from 54%-85% (for review see, Stuart et al., 2009) in the year prior to treatment, relative to 5.2%-13.6% in the U.S. married and cohabiting population (Schumacher, Coffey, Leonard, O'Jile, & Landy, 2007).

Substance abuse is considered a main correlate of partner violence, with increased risk of partner violence as substance use increases. However, the literature also indicates that substance use alone is neither a necessary nor sufficient predictor of violence (Clements & Schumacher, 2010). This highlights the need for studies examining the interactions between addiction and other predictive factors, such as distorted cognitive processes, which result in a greater risk for IPV.
Treatment Practices

Despite the high rates of co-occurring substance use and intimate partner violence, these maladaptive behaviors are often treated separately. The dominant current practice is to refer men convicted of IPV to specialty batterer programs (e.g. the Duluth Model). “Duluth Models” or “Duluth Derivatives” of care are most widely used among the criminal justice system (Easton, 2012). Batterer programs, such as these, exercise a 'one size fits all' approach, are highly confrontational, and extremely costly. There is very little empirical evidence supporting the effectiveness of batterer programs in reducing recidivism or substance use (e.g., Babcock & LaTaillade, 2000; Babcock, Green, & Robie, 2004). Meta-analytic reviews of treatment outcomes for these approaches consistently found them to be of very limited effectiveness, with effect sizes near zero on recidivism of domestic violence, suggesting that offenders are likely to repeat the cycle of violence. More importantly, batterer programs fail to address problems that are prevalent in subgroups of batterers, including substance use and cognitive functioning. Individuals are referred to a separate facility for substance abuse treatment, although research suggests that cross-referrals are ineffective (Easton et al., 2000a).

Several studies suggest that substance abuse treatment in and of itself has been shown to reduce the risk of future partner violence (e.g., Bennett, 2008; O'Farrell & Murphy, 1995; Stuart et al., 2003b). Much of that same research, however, recognizes that treating substance use alone is unlikely to effectively address interpersonal violence (Stuart et al., 2003b). Moreover, research emphasizes both the importance of assessing and treating substance use among domestic violence offenders (Bennett, 2008; Easton et al., 2000a; Stuart et al., 2003b) as well as, the benefit of providing substance abusing men with domestic violence intervention to further reduce
aggression via interventions designed to improve cognitive processing (e.g., cognitive behavioral therapy).

A number of studies attempt to improve the treatment outcome among male offenders of IPV by targeting their co-occurring addiction. Evidence suggests better treatment outcomes when substance use and domestic violence are addressed in an integrated way (Easton et al., 2000a). One avenue to improve treatment outcome is to target offenders who are in substance abuse treatment. Substance abuse treatment facilities offer a potential venue to reach a large number of individuals and improve treatment outcomes among this population (Easton et al., 2007b). Given the literature's report of substance use as a risk factor for IPV, focusing on IPV in the context of substance abuse would target both maladaptive behaviors in an integrated way at one setting while offering healthier cognitive behavioral coping skills.

Substance Abuse-Domestic Violence (SADV) therapy, was developed in response to the need for an integrated treatment, and was designed to address substance use, interpersonal violence, and interactions between the two (Easton et al., 2007b). SADV is rooted in evidence based cognitive behavioral therapy (CBT), which focuses on the use of effective coping skills for recognizing, avoiding and more effectively handling situations that may lead to substance use and aggressive behaviors. CBT approaches to IPV treatment maintain that IPV is associated with cognitive distortions, faulty attitudes, impaired beliefs, and unhealthy learned behaviors. CBT techniques attempt to modify behavior through exposure and disputation of distorted cognitions, and pro-social attitude change (Eckhardt et al., 2013). CBT is one of comparatively few empirically supported therapies that have shown to be effective in treating a range of substance use disorders (e.g., alcohol, marijuana, and cocaine dependencies; NIDA, 2000), and behavioral
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Health disorders (e.g., anxiety, depression, eating disorders; Wilfley et al., 2002). Moreover, cognitive behavioral approaches have also demonstrated to be effective in the treatment of co-occurring addiction and IPV (Easton et al., 2007b). SADV also incorporates Motivational Enhancement Therapy (MET; Miller, Zweben, DiClemente, & Rychtarik, 1992) techniques, also shown to be efficacious in: substance use treatment (Burke, Arkowitz, & Menchola, 2003), enhancing treatment engagement (Carroll et al., 2006) and increasing readiness to change substance use among DV offenders (Easton, Swan, Sinha, 2000b). A key aspect of SADV is a personalized feedback report (PRF), which reviews the client's cognitive distortions and the negative consequences of their behavior, highlighting reasons to change the behavior, thus strengthening the motivation to change.

Studies evaluating the efficacy of SADV, show a pattern of increased abstinence and reduced aggression among substance-abusing male offenders of intimate partner violence (Easton et al., 2007a; Oberleitner, Mandel, & Easton, 2013). Easton et al. (2007a) found a significant decrease in alcohol use across twelve weeks of SADV treatment (focusing on both alcohol use and aggressive behavior in an integrated way), as compared to a Twelve Step Facilitation (TSF) treatment (focusing only on alcohol use alone). Moreover, the participants that received SADV treatment had significantly less aggression from pre- to post-treatment compared to the participants that received TSF treatment. A subsequent study (Easton, 2012) found that participants in the SADV condition had significantly less aggression compared to individuals in a Drug Counseling condition across 84 days of treatment. Moreover, on a day of a drinking episode, participants in the control condition were almost two times more likely to become aggressive, compared to participants in the SADV condition. A three-month follow-up after the
cessation of treatment demonstrated a mean of ten aggressive episodes following treatment for the control condition, compared to a near zero for the SADV condition. Both studies were well-controlled, randomized trials (i.e. random selection, random assignment) and utilized comprehensive assessment battery measures that are reliable, valid, and widely used. SADV, as an integrated therapy approach, focuses on maladaptive behaviors and motivation to change specific problem behaviors. What is less clear in this treatment approach and other treatment modalities in the field, is how clients' perceptions are linked to unhealthy behaviors and behavior change in positive treatment outcomes.

Cognitive Distortions of IPV Perpetrators

Perception is a multi-dimensional term commonly described as the awareness and understanding of sensory information based on personal experiences (McDonald, 2011). The current study focuses on perception as measured by cognitive distortions, which are often defined as “inaccurate ways of attending to or conferring meaning on experience” (Barriga, Landau, Stinson, Liau, & Gibbs, 2000, p. 37). In the current study, cognitive distortions are specified as denial, minimization, and external attributions of blame for the abuse. In this manner, offender perception represents a unique construct defined by the offender's cognitive distortions, and is influenced by motivation to change.

Our perceptions of the environment around us are shaped by our cognitions. In order to fully understand human aggression and domestic violence, we must understand how it functions at the level of cognition (Sestir & Bartholow, 2007). Aggression is generally defined as behavior intended to harm another individual without provocation (see Anderson & Bushman, 2001). Aggression is described as “violence” when it changes from a thought pattern to an actual violent
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episode. The instinct to aggress has been identified as a part of human character (Sestir & Bartholow, 2007). Our cognitions serve as a mediator between our aggressive instincts and our behavior (Sestir & Bartholow, 2007). As discussed, our cognitions shape our perceptions of our environment, but they can also shape the behaviors we see as appropriate responses.

Several studies have examined cognitive variables of offenders (Eckhardt & Dye, 2000) and the role that cognitive factors play in intimate partner violence (Eckhardt, Samper, Suhr, & Holtzworth-Munroe, 2012). Research has identified the use of cognitive distortions as one of the distinguishing features of partner violent men (Whiting, Parker, & Houghtaling, 2014). Perpetrators of partner violence tend to attribute violence to external factors (e.g. blaming partner characteristics or situational stress) rather than accepting responsibility (Eckhardt & Dye, 2000). IPV perpetrators demonstrate hostile attribution bias in that they are more likely to perceive ambiguous cues as indicative of hostile intent, resulting in violent responding (Collie Vess, & Murdoch, 2007; Gilchrist, 2007). Additionally, domestic violence offenders endorse positive attitudes towards violence and view violence as an appropriate problem solving strategy in intimate relationships (Eckhardt & Dye, 2000). Similarly, DV offenders exhibit more negative thinking, and have poor conflict resolution skills. Finally, evidence suggests that some partner violent men commonly deny incidents of abuse, minimize the severity of their violence, and normalize abusive behavior (Henning, Jones, & Holdford, 2005). The literature is unclear as to whether cognitive patterns differentiate domestically violent men from non-violent men (Gilchrist, 2007), but it appears that men who are violent have different types of thinking patterns than men who are not (Whiting et al., 2014). Some of the literature suggests that it is the cognitive processing, interpretation and perceptions of events, which differentiates abusive men
from non-abusive men (Gilchrist, 2007). Research has identified a number of cognitive distortions associated with IPV perpetrators. The current study will focus on their tendency to deny incidents of abuse, minimize the severity of their offense, and avoid accepting responsibility for their violence, as they have been linked to poor treatment outcomes (Kropp, Hart, Webster, & Eaves, 1995) and a greater likelihood of further partner violence (Eckhardt & Crane, 2014; Gilchrist, 2007).

A study by Henning, Jones, and Holdford (2005) assessed domestic violence offenders' use of denial, minimization and external attributes of blame for recent offending. A review of 1,426 convicted IPV offenders resulted in high levels of cognitive distortions. They found that one in five (21.0%) offenders denied any type of altercation prior to their arrest and approximately 83% of offenders minimized the offense, suggesting that the situation was blown out of proportion. A similar study by Henning and Holdford (2006) assessed whether partner violent offender's tendency to minimize, deny, and external attribute of blame was associated with increased recidivism. Their sample consisted of convicted male domestic violence offenders. Consistent with the prior study, they found that 59% of the offenders denied any physical conflict, despite their recent arrest and conviction for domestic violence. Additionally, 54% of the offenders claimed that the victims lied in their reports of the incident, while 59% of the offenders claimed that the police lied. Both studies provide strong support that self-reports made by male IPV perpetrators are significantly influenced by minimization, denial, and external attributions of blame for the abuse.

Further evidence of minimization and external blame for violence among male perpetrators of IPV was found in a study by Whiting et al. (2014). Thirteen IPV offenders were
asked about their relationship aggression, attributions and explanations for their violent behaviors in intimate relationships. Researchers found minimization of abuse and shifting responsibility of abuse to their partner to be consistent distortions used by IPV offenders. Interestingly, Whiting et al. (2014) found that when given the opportunity to reflect on their violence: (1) most of the men recognized and admitted to using distortions, and (2) remorse was a common response of offenders, thus illustrating the complexity of offenders' perceptions. This study highlights that, while violence is never excusable, examining perceptions and explanations of abusive men lead to better treatment outcomes. According to Whiting and colleagues, perpetrators who accept responsibility for their actions are more likely to change their thoughts and behaviors, and reject future violence.

In sum, the studies outlined above provide evidence of the cognitive distortions prevalent in IPV perpetrators. What is less clear is the influence of cognitive distortions, specifically denial, minimization, and external attributes of blame for the abuse, on offenders' subsequent behaviors. Additional limitations include small sample sizes, lack of controlled trials, and utilization of measures with low reliability. Furthermore, the results of the above studies apply specifically to domestic violence offenders without discussing co-occurring substance use. Given the high co-occurrence of IPV and substance abuse, in order to understand the role of perception in future behavior, it is necessary to look at the interaction of cognitive distortions and co-occurring predictor variables, such as substance abuse.

A recent study by Neighbors and colleagues (Neighbors et al., 2010), examined the influence of perception on behavior in a sample of substance-using male perpetrators of IPV. The study examined normative misperceptions of abuse-behaviors, specifically whether
misperceptions of IPV norms exist and whether perceived IPV norms were associated with behavior. Base rate norms for IPV perpetration were estimated using the National Family Violence Survey. Neighbors et al. found that IPV perpetrators overestimated the national prevalence of domestic violence behaviors and that their estimates were significantly and positively correlated with their own IPV behaviors. The more perpetrators overestimated the prevalence, the greater their reports of IPV.

Previous research suggesting that IPV perpetrators engage in more cognitive distortions than non-violent men (Eckhardt & Dye, 2000), combined with evidence from Neighbors et al. (2010) that one's perceptions influence behavior, magnifies the urgency for further research examining the influence of other cognitive distortions on subsequent behavior among substance dependent IPV offenders. Furthermore, given the high prevalence of substance abuse among IPV offenders, it is also important to consider the psychopharmacologic effects of substance use on cognitive functioning. Research suggests that IPV men prone to cognitive distortions may be more susceptible to the disinhibiting properties of substance use (Clements & Schumacher, 2010), thus, it may follow that cognitive risk factors for aggression and violence are exacerbated when compounded with psychoactive substance use (McMurran, 2007).

The Effects of Substance Abuse on Cognitive Functioning

Alcohol and illicit drugs can alter cognition in a variety of ways. The literature on psychopharmacologic effects of alcohol suggests that alcohol disinhibits brain centers important in maintaining inhibitory control over behavior (Chermack & Taylor, 1995). One of the most significant effects of alcohol intoxication is its disruption of executive cognitive functioning (McMurran, 2007). Executive functioning refers to higher cognitive abilities including attention,
abstracting relevant information, reasoning, problem-solving, planning, self-regulation (McMurran, 2007). These cognitive functions are essential for planning and controlling behavior. Poor executive functioning is linked to deficits in impulse control, impaired problem-solving skills, constricted attentiveness, and poor social decisions as a result of limited coping skills and failure to access socially appropriate responses (McMurran, 2007). A preliminary study by Easton, Sacco, Neavins, Wupperman, and George (2008) examined the association of alcohol and physical violence with cognitive performance. They examined differences in cognitive functioning between alcohol-dependent men with and without reported IPV. Twenty-five participants, grouped by: (1) men with alcohol dependence and IPV (IPV+), (2) men with alcohol dependence without IPV (IPV-), and (3) men without alcohol dependency or IPV (smoking condition), underwent a neurocognitive battery, which measured seven cognitive functions. They found that alcohol dependent men had significantly more impairments on executive functioning, particularly impulsive control, attention, cognitive flexibility, visuomotor sequencing-attention tasks, and prefrontal functioning, compared to men in the smoking condition. Participants with a history of IPV did not differ from those without a history of IPV in executive functioning or impulsivity. Moreover, alcohol dependent men with co-occurring intimate partner violence had the most severe neuropsychological impairments relative to comparison groups.

A review by Lundqvist (2005) presented various studies using brain imaging techniques and neuropsychological assessments, which examined acute and chronic effects of illicit drug use. Studies on cannabis use consistently revealed neuropsychological deficits in attention, memory, and executive functioning. Focused attention on the acute neuropsychological effects (within 12
to 24 hours) of cannabis use indicate loss of internal control and cognitive impairment of attention and memory. More recently, studies have identified chronic effects (24 hours to 28 days) of cannabis use, including attention deficits and reduced executive functioning, lasting beyond the period of intoxication due to years of use (Solowij & Grenyer, 2002). The limited research examining the cognitive functioning of methamphetamine users has documented deficits in learning, delayed recall, processing speed, and working memory (Simon, Domier, Carnell, Brethen, Rawson, & Ling, 2000). MDMA (i.e. ecstasy) use has been shown to disrupt coding into long-term memory, impair verbal learning, and limit the ability to focus attention. The impaired cognitive functioning related to cocaine use has been shown to effect attention, learning, memory, reaction time, and cognitive flexibility. Heroin use has been show to negatively effect impulse control and selective processing.

Various conceptual models attempt to explain the relationship between substance use and IPV (Leonard & Quigley, 1999). The proximal effects model shows the greatest empirical support (Easton, Neavins, & Mandel, 2007). According to the proximal effects model, individuals who consume psychoactive substances are more likely to engage in partner violence because intoxication facilitates violence, which may be mediated through the psychopharmacologic effects of drugs on cognitive processing (Chermack & Taylor 1995) or the expectancies associated with intoxication (Critchlow, 1983). Psychoactive substances disrupt the neuropsychological network, and negatively affect perception, attention, and behavior. Understanding the cognitive impairments caused by substance abuse, which are likely to interact with cognitive distortions commonly displayed by IPV offenders, may lead to more effective treatment for this unique and prevalent subgroup of men.
Stages of Change

Consistent with the findings that attitudes and perception influence problem behavior, additional research has demonstrated associations between attitudes and behavior change. Readiness to change and behavior change theories have been developed in an effort to understand the change process, including how, when, and why people change their problem behavior. The literature applying behavior change principles to IPV offenders and substance users focuses on the transtheoretical model of change (TTM; Prochaska & DiClemente, 1982; Prochaska, DiClemente, & Norcross, 1992). The TTM is considered an integrative and comprehensive model of behavior change due to the model's three core constructs: the stages of change, the pros and cons, and the integration between the stages and these decisional balance variables (Prochaska et al., 1994). It focuses on the balance of the pros and cons associated with the problem behavior, along with the five stages of change: precontemplation, contemplation, preparation, action, and maintenance. In the precontemplation stage, a person is unaware that he or she has a problem, thus has no intention of changing his or her behavior and does not see a need for any type of treatment in the near future (e.g., “I do not have a problem and I do not need treatment”). At the contemplation stage, a person begins to recognize he or she has a problem and considers the possibility of change (e.g., “I think I have a problem and I’m willing to think about treatment”). A person in the preparation stage is ready to take action towards changing within the next 30 days (e.g., “I have a problem and I’m ready to enter treatment”). The action stage is reached when a person changes his or her behavior (e.g., “I have a problem and I’m changing my behavior”). The maintenance is reached once a person has changed his or her behavior for at least six months and is continues with the changed status (e.g., “I have a problem
and I’m continuing to make changes for the better”). According to this behavior change model, in the early stages of change, pros of the problem behavior outweigh the cons. Likewise, cons of changing the problem behavior are higher in the early stages of change, and the pros of changing are higher in the action and maintenance stages. Progression through the stages involves increasing the pros of change and lowering the cons of change (Prochaska et al., 1994).

Furthermore, this model suggests that motivation, within the context of behavior change, may be best conceptualized as a series of cognitive and attitudinal stages (Shen, McLellan, & Merrill, 2000). One's change-relevant attitudes and beliefs are associated with the individual's stage of change, ranging from failure to perceive a problem to complete acceptance of the problem, which corresponds with future behavior, including one's commitment to change.

Motivation to change has been extensively reviewed in both the substance abuse literature (e.g., Prochaska et al., 1994) and IPV literature (e.g., Meis, Murphy, & Winters, 2010). Although, research in each domain yields conflicting results, the majority of reports across fields consistently reveal an association between attitudes and behavior. The following studies investigated the role of perception (i.e. beliefs and attitudes), in behavior change and treatment outcome, based on the stage of change theory.

Meis et al. (2010) investigated the role of perceived outcomes of abusive behavior in reducing subsequent violent behavior. The study assessed 130 IPV offenders' beliefs about the expected outcomes of their abusive behavior. Perpetrators were asked to rate their agreement with several statements indicating abusive behavior in intimate relationships. Their responses were rated as positive or negative outcome expectancies from the perspective of the offender. Positive outcome expectancies reflected beliefs that abuse is acceptable behavior and can result
in positively valued outcomes, thus highlighting the pros of abusive behavior. Negative outcome expectancies focused on the cons of abusive behavior and reflected the belief that abusive behavior could result in negatively valued outcomes for the aggressor. Meis et al. (2010) found that positive outcome expectancies were associated with less willingness to consider change, which is representative of the precontemplation stage. Participants with higher positive outcome expectancies scores also exhibited greater anger problems, lower relationship satisfaction, and greater impulsivity. Negative outcome expectancies were found to be associated with a greater readiness for change, representative of the contemplation stage and higher stages, and internal process of change (i.e. cognitive in nature; Eckhardt, Babcock, & Homack, 2004). The overall results suggest that change-relevant attitudes, such as readiness to change and internal processes of change, IPV problem severity, and behavioral dysregulation, shape outcome expectancies, which are related to further behavior.

Further support for the stage of change concept, can be found in a similar study by Bowen and Gilchrist (2004), which examined domestic violence offenders on varying levels of motivation to change, while also considering offenders' individual differences in treatment referral (i.e. court- or self-referred) and perceived locus of control. Bowen and Gilchrist (2004) found that the two groups differed in levels of motivation to change prior to treatment and locus of control. Specifically, court-referred offenders had higher precontemplation scores, and lower contemplation, action, and maintenance compared to self-referred offenders. Additionally, court-referred offenders had higher chance locus of control scores, relative to self-referred offenders who had higher internal locus of control scores. The significant positive relationship between precontemplation stage and chance locus of control indicated that court-referred offenders have
yet to acknowledge their problem and believe that fate controls their life (Bowen & Gilchrist, 2004).

The studies by Meis et al. (2010) and Bowen and Gilchrist (2004) made use of the transtheoretical model of change to substantiate our understanding of attitudes, beliefs, and expectancies that may facilitate or hinder an individual's movements through the stages of change. According to the stages of change concept, an offender's perceptions, as shaped by his attitudes, beliefs, and experiences, reflect his current stage of change, which can be used to predict future behavior, including behavior change and treatment outcome. However, the results of these studies are specific to IPV perpetrators and their perceptions about future abusive behavior, which may not generalize to IPV perpetrators with co-occurring addiction. Behavior change literature suggests that readiness to change is associated with one's change-relevant attitudes and beliefs related to individual problem behaviors.

Shen et al. (2000) examined the role of perceived need for treatment in behavior change, based on the stage of change concept. The sample consisted of 696 alcohol and drug abuse patients in addiction treatment. Shen and colleagues examined the relationship between clients' motivation for treatment and their post-treatment outcomes, specifically whether clients' perceived need for change predicted future behavior change. Participants were divided into two groups based on their perceived need for treatment: those who reported no need for treatment (labeled “precontemplators”) and the remainder who reported slight to extreme need for treatment (labeled “variously motivated”), as measured by the Addiction Severity Index (ASI; McLellan et al., 1992) across the following problem areas: alcohol, drug, medical, and psychiatric. Change in behavior was based on treatment outcomes, as measured by the reduction
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in number of days experiencing problem behavior. The results showed substantially greater improvements post-treatment, for participants who expressed some degree of need for changing their behaviors, compared to participants who perceived no need for treatment. Additionally, baseline reports revealed that participants in the “precontemplator” group reported significantly fewer days (e.g. one day of alcohol problems) experiencing problem behaviors, compared to participants in the “motivated” group (e.g. more than thirteen days of problems). At six-month follow up, participants in the motivated group reported a reduction of more than 11 days for drug problems and 10 fewer alcohol problem days, on average, compared to participants in the precontemplators group who reported increases in the number of days experiencing problem behaviors. Further analysis revealed that clients' motivation for treatment was influenced more by their recognition of recent problems, rather than lifetime problems, suggesting that patients do not think they need to change or need treatment unless they acknowledge having recent problems and are troubled by them. Although the study was unable to determine whether the participants had actual problems in the medical or psychiatric domain, they were able to verify true alcohol and drug problems. Therefore, patients who perceived no need for treatment may display a cognitive distortion common in the precontemplation stage: denial of a problem. Consistent with previous stage of change research, this study supports the contention that motivation, is a good predictor of change. A limitation of this study is that it does not discuss IPV as a co-occurring problem behavior or include aggression as an outcome measure, despite research highlighting the overrepresentation of domestic violence in clients entering substance abuse treatment. Shen and colleagues were also unable to verify that clients had “actual problems” in each problem area measured. Finally, the family and social relationships domain was not considered one of the most
important treatment targets in the study, therefore, clients' perceived problem severity and need for treatment regarding family problems were not assessed. Perceived problem and need for treatment for family problems would serve as an important treatment targets for substance dependent IPV perpetrators with repeat arrests.

**The Purpose of the Current Study**

Despite the highly prevalent co-occurrence of substance abuse and intimate partner violence, these maladaptive behaviors often continue to be examined separately in literature. Numerous studies indicate that intimate partner violence is associated with social cognitive biases. Research also indicates that substance abuse is associated with impairments in cognitive function. Furthermore, both fields agree that motivation, conceptualized as a series of cognitive and attitudinal stages, is a good predictor of change (Shen et al., 2000). Review of the literature suggests that acknowledgment of a problem behavior may indicate less distorted perceptions, a greater readiness to change, and better treatment outcomes. On the contrary, failure to perceive a problem may indicate cognitive distortions, such as denial or minimization, lower levels of motivation to change and poor treatment outcomes. Research examining disruptions in cognitive content and processing, resulting from substance abuse and IPV, relative to motivation to change is limited. Even fewer studies have examined the cognitive functioning of substance dependent male offenders of IPV, to date. Therefore it is unclear whether the findings from the studies above apply to my sample. Evidence suggests that men with co-occurring substance dependency and IPV problems may represent a more severe subgroup based on the possible interplay of cognitive impairments associated with each maladaptive behavior. An understanding of the possible interaction effects of dysfunctional cognitive processes, substance abuse and its
association with subsequent behavior would offer important treatment implications.

The current study seeks to simultaneously build upon the two bodies of research by examining the relationship between offender perception and treatment outcome, among a unique sample of male offenders with two co-occurring maladaptive behaviors. Using data drawn from a larger, randomized treatment evaluation study, this investigation seeks to address the following research questions:

(1) Are offenders' perceptions of family problems at baseline, as measured by the offender’s rating of problem severity, related to treatment outcome? I hypothesized that the perception of family problems (FP+) would demonstrate acknowledgement of the problem behavior and would result in greater treatment success, as measured by the total number of days abstinent from substance use and violence. Failure to accept the problem behavior (FP-) would represent a cognitive distortion and would result in less treatment success;

(2) Are offenders' perceptions of need for treatment for family problems at baseline, as measured by the offender's rating of treatment importance, related to treatment outcome? I hypothesized that the perception of need for treatment for family problems (FPTx+) would indicate a readiness to change, which would result in greater treatment success.

(3) Is there an interaction of offender perception of family problems and offender perception of need for treatment? I hypothesized that a perception of family problems (FP+) combined with a perception of a need for treatment for family problems (FPTx+) would result in the greatest treatment success. Likewise, I
hypothesized that no perception of family problems (FP-) combined with no perception of a need for treatment for family problems (FPTx-) would result in the least treatment success.

(4) Do offenders' perceptions of family problems and perceived need for treatment for family problems improve from baseline to the end of treatment? I predicted that clients would have more severe misperceptions at baseline due to recent substance use and its negative effects on cognitive processes, but would become less impaired with treatment compliance.

(5) Does SADV therapy lead to greater treatment success relative to IDC therapy? I hypothesized greater treatment success overall for participants in the SADV condition (relative to the IDC therapy) because SADV uses cognitive-behavioral techniques that tap into cognitive distortions and attempt to modify them, as well as MET techniques to encourage readiness to change;

**Method**

**Participants**

Participants were recruited from the Substance Abuse Treatment Unit, an outpatient substance abuse treatment facility affiliated with Yale University in New Haven, CT. All clients were referred to substance abuse treatment by the criminal justice system. Eligible participants were male offenders, 18 years or older, who met DSM-IV criteria for substance dependency (alcohol, cocaine and/or marijuana, and had used that substance within the 30 days prior to the screening session), and were arrested for intimate partner violence within the past year. Individuals were excluded if they: 1) were in withdrawal from substances and in need of
detoxification; 2) were actively receiving substance abuse or IPV treatment elsewhere; 3) read below a 6th grade level; 4) had cognitive impairment (a mini mental state score ≤ 25); 5) had major medical complications such as a head injury/trauma, or HIV dementia; 6) had psychomotor epilepsy (e.g. impulsivity or rage related symptoms secondary to a seizure disorder; 7) had a lifetime history of any psychotic or bipolar disorder; or 8) endorsed a suicidal or homicidal ideation. This study received approval from Yale’s Institutional Review Board (IRB). All participants provided written informed consent and were required to pass an informed consent quiz (Easton et al, 2007a; Easton et al., 2007b).

Eighty-five individuals, who appeared to meet study eligibility criteria during an initial triage screening, were invited for a second evaluation. Sixty-seven of the eighty-five participants met eligibility criteria and participated in the study. Of the 67 participants, 80% completed treatment. The mean age of the participants was 39.4 years (SD = 8.7 years). The sample comprised of individuals from the following ethnic backgrounds: 45% European American, 38% African American, 10% Latin American, and 55% minorities.

**Procedure**

Sixty-three substance dependent males who were arrested for domestic violence within the past year were randomly assigned to one of two treatment conditions: a cognitive behavioral SADV condition (N=29) or an Individual Drug Counseling (IDC; Mercer & Woody, 1999) condition (N=34). Each of the study treatments was manually-guided and delivered to participants in weekly 60 minute sessions across 12 weeks. Treatment was provided via an individual therapy approach and delivered by trained, master's-level clinicians. All therapy sessions were taped to assess treatment fidelity (e.g., adherence to the manualized therapies and
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competence in administering them). Primary outcomes included substance use and violence. Outcome variables (i.e., days abstinent from substance use, days abstinent from violence) were assessed at baseline and week 12 (the end of treatment). Predictor variables (i.e., perception of family problem and perception of need for treatment) were also assessed at baseline and week 12.

Treatments

Substance Abuse-Domestic Violence. SADV is a cognitive-behavioral therapy approach, which focuses on substance use, interpersonal violence, and the relationship between the two. CBT strategies are used to decrease substance abuse and reduce IPV within the context of a substance abuse treatment program. Addiction and aggression are two maladaptive behaviors that are targeted in each session. The manualized therapy is structured by handouts each of which teaches a new skill set, such as: (1) understanding patterns of substance use and aggression, (2) identifying high risk situations for substance use and aggression, (3) coping with craving for alcohol use and urges to lose control, (4) problem solving skills related to substance use and conflicts with significant others, (5) managing negative mood states, (6) awareness of anger, (7) management of anger related to significant others, (8) communication skills training I (nonverbal skills training with significant others), (9) communication skills training II (verbal skills training with significant others), (10) problem solving skills (e.g., problems related to substance use and IPV), (11) coping with criticisms, (12) emergency planning (triggers for substance use and/or aggression (Easton et al, 2007a; Easton et al., 2007b). These skills are practiced in each session through role-play, and clients are assigned exercises to practice between sessions. Couples modules are optional for four of the twelve sessions.
Independent Drug Counseling. IDC served as the comparison condition as it closely represented 'standard' drug counseling models, which specifically target substance use without providing intervention for domestic violence. Substance use is the only maladaptive behavior targeted in this approach. IDC is a disease-focused model of care (Mercer & Woody, 1999), which states that addiction is an illness that damages the individual physically, mentally, and spiritually. According to the IDC approach, addiction is not a problem behavior that one choses to enact, but rather an illness that one has little to no control over. Optimal treatment addresses the physical, mental, and spiritual needs of a patient using a 12-step philosophy. The 12-step philosophy emphasizes the steps to recovery, while helping substance abusers confront their addiction and identify the negative consequences of their behavior.

Assessments

Psychiatric characteristics. The Structured Clinical Interview for DSM-IV (SCID; First, Spitzer, Gibbon, & Williams, 1995) was used to assess current and lifetime psychiatric diagnoses at baseline. Psychosocial functioning across legal, alcohol, drug, family, employment, and psychiatric composite scores, was also measured at baseline using the Addiction Severity Index (ASI).

Substance use. Substance use was measured via the Timeline Follow-Back (TLFB; Sobell & Sobell, 1996) method, which assessed for type, frequency and amount of recent alcohol and drug use. Widely used, the TLFB is considered a reliable and valid method for assessing substance use (Miller & DelBoca, 1994; Sobell & Sobell, 1996). The TLFB uses a retrospective calendar method to assess clients’ self-reported daily alcohol and illicit drug use. Participants were asked to identify type of substance used on each day in the past 28 days. The TLFB was
completed at baseline, weekly, and at the end of treatment (week 12). The current study analyzed the baseline and week 12 reports. This measure was used to calculate the total number of days of self-reported alcohol and drug use. Following the work of Shen et al. (2000), the change in the number of days of substance use that patients reported between baseline and week 12 was used to measure treatment improvement. The total number of days abstinent from substance use, as measured across 84 days in treatment, determined treatment success.

**Violence.** The Timeline Followback Spousal Violence (TLFB-SV; Fals-Stewart, Birchler, & Kelley, 2003) interview was used to assess daily episodes of physical violence and partner contact. The TLFB-SV uses a calendar method to assess types of aggression performed and/or received, daily patterns and frequency of spousal violence, in the past 28 days. It demonstrates acceptable reliability and validity, and excellent temporal stability to supplement information gathered from the CTS2. The IPV measure was conducted at baseline, weekly, and at the end of treatment (week 12). The current study analyzed the baseline and week 12 reports to calculate total number of days of self-reported violence. The change in the number of days of spousal violence that patients reported between baseline and week 12 was used to measure treatment improvement. The total number of days abstinent from violence, as measured across 84 days in treatment, determined treatment success.

**Perception.** The Addiction Severity Index was used to measure client perception of family problems and clients perceived need for treatment for family problems, as related to the clients' motivation to change. The ASI interview was designed to assess psychosocial functioning across seven potential problem areas in substance-abusing patients: medical, employment, drug use, alcohol use, legal status, family/social relationships and psychiatric status. The ASI was
intended for use in treatment outcome evaluation and can be administered at various points across treatment to assess changes in patient functioning. The ASI was administered to clients at baseline, monthly, and at week 12. The current study focused on the baseline and week 12 ASI reports. Two items extracted from the family/social relationships section of the ASI were used to assess clients' perception: (1) Clients were asked how troubled or bothered they had been in the past 28 days by family problems (i.e., how serious a problem was), which was used in the current study to assess perception of family problems (FP), and (2) Clients were asked how important they felt treatment was for family problems, which was used in the current study to measure perceived need for treatment for family problems (FPTx). Despite updates to the ASI measure, these items have been fundamental to each problem area. Each question uses a 5-point scale where as 0 = not at all, 1 = slightly, 2 = moderately, 3 = considerably, and 4 = extremely. The ASI demonstrates excellent validity, is highly reliability and widely used (Carise et al., 2001). The family/social section subsection has demonstrated acceptable internal consistency across different samples and outcome measures (Crane, Hawes, Oberleitner, Mandel, & Easton, 2013). Additionally, participant perception of problems and need for treatment has been shown useful in categorizing patients into groups with different levels of readiness to change (Shen et al., 2000).

**Results**

The following factors were analyzed: (1) perception of family problems (FP), (2) perception of need for treatment (FPTx), and (3) treatment modality. Each participant was dichotomized as having a perception of family problems (FP+) (i.e., participants who rated family problem severity as greater than 0) or having no perception of family problems (FP-) (i.e., participants who rated problem severity as 0). Each participant was also dichotomized as having
a perceived need for treatment for family problems (FPTx+) (i.e., participants who rated treatment importance as greater than 0) or having no perception of a need for treatment for family problems (FPTx-) (i.e., participants who rated treatment importance as 0). The two levels of treatment modality include SADV and IDC

**Hypothesis 1: Are offenders' perceptions of family problems at baseline, as measured by the offender's ratings of problem severity, related to treatment outcome?** It was hypothesized that the perception of family problems (FP+) would demonstrate acknowledgement of problem behavior and would result in greater treatment success. Failure to accept the problem behavior (FP-) would represent a cognitive distortion and was expected to result in less treatment success. Two-way analyses of variance (ANOVAs) were used to analyze the effect of perception on treatment success, as measured by the total number of days abstinent from substance use and the total number of days abstinent from violence, across 84 days of treatment.

Results for treatment success are shown in Table 1. Across 84 days of treatment, results indicated no difference between participants who perceived family problems (FP+) and participants who perceived no family problems (FP-) at baseline in terms of treatment success related to abstinence from any substance use, $F(1, 37) = .36, p = .56, \eta^2_{\text{partial}} = .01$. Results also indicated no significant difference between participants who perceived family problems (FP+) and participants who perceived no family problems (FP-) at baseline in terms of treatment success related to abstinence from any violence, $F(1, 41) = .24, p = .62, \eta^2_{\text{partial}} = .01$. This finding failed to support Hypothesis 1.

The lack of significance between perception groups at baseline in terms of treatment
success, led me to investigate possible differences in baseline characteristics. How did the men start off in terms of severity of their problems prior to treatment (e.g., were there any baseline differences in severity)? A one-way ANOVA revealed a statistically significant difference between those who perceived family problems (FP+) at baseline and those who perceived no family problems (FP-) at baseline, in days of alcohol use, $F(1, 64) = 6.25, p = .02, \eta^2_{\text{partial}} = .09$, days of alcohol misuse, $F(1, 63) = 10.69, p < .001, \eta^2_{\text{partial}} = .15$, and days of violence, $F(1, 59) = 4.32, p = .04, \eta^2_{\text{partial}} = .07$, prior to starting treatment. As shown in Table 2, participants who perceived family problems at baseline started off with more severe problems in terms of alcohol use and violence, 28 days prior to treatment admission. The results show that participants who perceived family problems at baseline (FP+) started off significantly more severe than participants who perceived no family problems at baseline (FP-). However, following 84 days of treatment there were no significant differences between the two groups in terms of substance use or violence, indicating some improvement after having participated in the treatment programs.

Further analyses of treatment improvement were measured by the change in the number of days of substance use between baseline and week 12, and the change in the number of days of violence between baseline and week 12. Results of treatment improvement are also displayed in Table 1. There was a statistically significant difference between participants who perceived family problems (FP+) and participants who perceived no family problems (FP-) at baseline in terms of treatment improvement related to violence, $F(1, 48) = 6.73, p = .01, \eta^2_{\text{partial}} = .12$. As expected, participants who perceived family problems at baseline (FP+) reported a greater change in the number of days of violence from baseline to week 12, compared to participants who perceived no family problems at baseline (FP-). However, results revealed no significant
difference between participants who perceived family problems (FP+) and participants who perceived no family problems (FP-) at baseline in terms of treatment improvement related to substance use, \( F(1, 47) = .24, p = .63, \eta^2_{\text{partial}} = .01 \).

Overall, these findings indicate that clients who perceived having family problems at baseline (FP+) started off more severe in alcohol use and violence prior to treatment. However, across 84 days of treatment, clients who perceived having family problems at baseline (FP+) did not differ in treatment success from clients who perceived having no family problems at baseline (FP-). Thus suggesting that there was some improvement after having participated in the treatment programs. Further analysis of treatment improvement, revealed that participants who perceived family problems at baseline (FP+) showed a greater change in the number of days of violence from baseline to week 12.

**Hypothesis 2: Are offenders' perceptions of need for treatment for family problems at baseline, as measured by the offender's rating of treatment importance, related to treatment outcome?** It was predicted the perception of need for treatment for family problems (FPTx+) would indicate a readiness to change, which would result in greater treatment success. Two-way analyses of variance (ANOVAs) were used to analyze the effect of perception on treatment success, as measured by the total number of days abstinent from substance use and the total number of days abstinent from violence across 84 days of treatment.

Results for treatment success are shown in Table 3. Across 84 days of treatment, results indicated no significant difference between participants who perceived a need for treatment for family problems (FPTx+) and participants who perceived no need for treatment for family problems (FPTx-) at baseline in terms of treatment success related to abstinence from any
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substance use, \( F(1, 37) = .29, p = .59, \eta^2_{\text{partial}} = .01 \). Results also indicated no significant difference between participants who perceived a need for treatment for family problems (FPTx+) and participants who perceived no need for treatment for family problems (FPTx-) at baseline in terms of treatment success related to abstinence from any violence, \( F(1, 41) = .52, p = .48, \eta^2_{\text{partial}} = .01 \). This hypothesis is not supported by the results.

As with Hypothesis 1, the lack of significance between perception groups at baseline in terms of treatment success, led me to investigate possible differences in baseline characteristics. A one-way ANOVA revealed a statistically significant difference perception groups at baseline, in terms of days of alcohol use prior to starting treatment, \( F(1, 64) = 3.98, p = .05 \). Participants who perceived a need for treatment (FPTx+) at baseline reported a greater number of days of alcohol use (\( M = 9.62, SD = 8.19 \)) prior to starting treatment, compared to participants who perceived no need for treatment (FPTx-) at baseline (\( M = 6.22, SD = 5.46 \)). The results show that participants who perceived a need for treatment for family problems (FPTx+) at baseline started off significantly more severe in terms of alcohol use than participants who perceived no need for treatment for family problems (FPTx-) at baseline. However, following 84 days of treatment there were no significant differences between the two groups in terms of substance use or violence, indicating some improvement after having participated in the treatment programs.

Further analyses of treatment improvement were measured by the change in the number of days of substance use between baseline and week 12, and the change in the number of days of violence between baseline and week 12. Results for treatment improvement are also displayed in Table 3. There was a statistically significant difference between participants who perceived a need for treatment for family problems (FPTx+) and participants who perceived no need for
treatment for family problems (FPTx-) at baseline in terms of treatment improvement related to violence, $F(1, 48) = 5.06, p = .03, \eta^2_{\text{partial}} = .10$. As expected, participants who perceived a need for treatment for family problems (FPTx+) at baseline reported a greater change in the number of days of violence from baseline to week 12, compared to participants who perceived no need for treatment for family problems (FPTx-) at baseline. However, results revealed no significant difference between participants who perceived a need for treatment for family problems (FPTx+) and participants who perceived no need for treatment for family problems (FPTx-) at baseline in terms of treatment improvement related to substance use, $F(1, 47) = .38, p = .54, \eta^2_{\text{partial}} = .01$.

Similar to Hypothesis 1, the overall findings indicated that clients who perceived a need for treatment for family problems (FPTx+) at baseline started off more severe in alcohol use prior to treatment. However, across 84 days of treatment, clients who perceived a need for treatment for family problems (FPTx+) at baseline did not differ in treatment success from clients who perceived no need for treatment for family problems (FPTx-) at baseline. Thus suggesting that there was some improvement after having participated in the treatment programs. An improvement was indicated through further analysis of treatment improvement, which revealed that participants who perceived a need for treatment for family problems (FPTx+) at baseline showed a greater change in the number of days of violence from baseline to week 12.

**Hypothesis 3: Is there an interaction of offender perception of family problems and offender perception of need for treatment?** The interaction of client perception of family problems and client perception of need for treatment as related to treatment success and treatment improvement were analyzed using a repeated measures ANOVA, with a between-subjects factor for problem severity and treatment importance rating. No significant interactions
were found between client perception of family problems and perception of need for treatment for family problems at baseline in terms of treatment success regarding substance use, $F(1, 32) = .03, p = .86, \eta^2_{\text{partial}} = .00$, or treatment success regarding violence, $F(1, 36) = .56, p = .46, \eta^2_{\text{partial}} = .02$.

Further analyses of treatment improvement revealed a significant interaction between client perception of family problems and perception of need for treatment for family problems at baseline in terms of treatment improvement regarding violence, $F(1, 43) = 6.22, p = .02, \eta^2_{\text{partial}} = .13$. As predicted, participants who perceived family problems (FP+) and a need for treatment for family problems (FPTx+) at baseline reported a greater change in the number of days of violence from baseline to week 12 ($M = -4.45, SD = 7.16$), compared to participants who perceived no family problems (FP-) and no need for treatment for family problems (FPTx-) at baseline ($M = -.65, SD = 3.11$). However, a significant interaction was not found between client perception of family problems and perception of need for treatment for family problems at baseline in terms of treatment improvement related to substance use, $F(1, 42) = .16, p = .69, \eta^2_{\text{partial}} = .00$.

**Hypothesis 4: Do offenders' perceptions of family problems and perceived need for treatment improve from baseline to the end of treatment?** A repeated measures ANOVA revealed a marginally statistically significant change in clients’ perception of family problems from baseline to week 12, $F(1, 76) = 3.64, p = .06, \eta^2_{\text{partial}} = .05$. Client’s perceptions of family problems increased from baseline to week 12. At baseline, 39% of clients perceived family problems, whereas at week 12 51% of clients perceived family problems. In other words, more participants saw there being a problem at the end of treatment than at baseline. Results indicated no significant change in client’s perception of need for treatment for family problems from
Baseline to treatment completion, $F(1, 76) = 2.33, p = .13, \eta^2_{\text{partial}} = .03$. At baseline, 42% of clients perceived a need for treatment for family problems, and 52% of clients perceived a need for treatment for family problems at week 12.

**Hypothesis 5: Does SADV therapy lead to greater treatment success relative to IDC therapy?** A three-way mixed ANOVA was used to analyze treatment modality. In terms of treatment success, results revealed no significant difference between SADV and IDC therapies for treatment success related to abstinence from any substance use, $F(1, 37) = .00, p = .96, \eta^2_{\text{partial}} = .00$, or treatment success related to abstinence from any violence, $F(1, 41) = .04, p = .84, \eta^2_{\text{partial}} = .00$.

In terms of treatment improvement, results showed no significant difference between SADV and IDC therapies for treatment improvement related to substance use, $F(1, 47) = .01, p = .91, \eta^2_{\text{partial}} = .00$, or treatment improvement related to violence, $F(1, 48) = .65, p = .43, \eta^2_{\text{partial}} = .01$.

**Discussion**

The primary focus of this study was to investigate the relationship between offender perception and treatment outcome, among a unique sample of male offenders with co-occurring substance dependency and a history of IPV. Additional investigations included the change in perception from baseline to the end of treatment, and treatment modality in relation to treatment success.

For Hypotheses 1 and 2, the major findings were as follows: First, comparing offender perception at baseline and treatment success across 84 days of treatment resulted in no significant differences between groups. Those who perceived family problems at baseline (FP+)
did not significantly differ in overall treatment success, nor did those who perceived a need for treatment for family problems (FPTx+) at baseline, as compared to participants who perceived no family problems (FP-) or participants who perceived no need for treatment for family problems (FPTx-) at baseline. These results fail to support Hypotheses 1 and 2.

However, an investigation of differences in baseline characteristics between the groups revealed significantly more severe problems with alcohol and violence upon entering treatment, for participants in the perceived family problems (FP+) and the perceived need for treatment for family problems (FPTx+) groups. While these individuals started off significantly more severe than comparison groups, there were no significant differences between the two groups in terms of substance use or violence following the 84 days of treatment. These findings suggest that the treatment programs were generally effective, as reflected in the increased total days of abstinence from substances and violence, across conditions. One may even argue that the treatment programs worked better for the participants who perceived family problems (FP+) at baseline and the participants who perceived a need for treatment for family problems (FPTx+) at baseline, all of whom started off more severe in terms of alcohol use and violence, but did not show as more severe than comparison groups at week 12. By the end of treatment, the problem group did report a greater total number of days abstinent from substance use and violence overall, but not enough to reach significance.

There are a couple possible explanations for these results, especially the differences in severity of problem behaviors at baseline. Perhaps participants in the perception positive group were at a later stage of change (e.g., contemplation), one in which they have recognized there is a problem, they are more willing to disclose having a problem, and hence are more willing to work
toward a change. Conversely, participants in the no perception group may be at the earliest stage of change (i.e., precontemplation), they do not acknowledge having a problem, hence are unmotivated to change. Another possible explanation is that legal pressure may have influenced willingness to disclose. Participants who reported less severe problems at treatment admission might represent a cohort that worries if they disclose they would have to stay in treatment longer or get in further trouble with the court.

Further investigation of treatment improvement (i.e., the change score from baseline to the end of treatment) led to a second major finding: there was a significant difference between groups when analyzing the affect of offender perception at baseline on treatment improvement as related to violence, but not related to substance use. As predicted, those who perceived family problems (FP+), as well as those who perceived a need for treatment for family problems (FPTx+), at baseline reported a significantly greater change in the number of days of violence from baseline to the end of treatment, relative to their comparison groups. However, contrary to expectations, the opposite was true of treatment improvement related to substance use. Those who perceived no family problems (FP-), as well as those who perceived no need for treatment for family problems (FPTx-), at baseline reported a greater change in the number of days of substance use from baseline to the end of treatment, although, this change was not significant. The current study examined substance use as a composite of alcohol use and illicit drug use. Perhaps participants in the perception of family problems (FP+) and perceived need for treatment (FPTx+) groups would have displayed a significantly greater change in substance use if illicit drugs were examined individually, and should be considered in future studies. Additionally, there may have been a delayed emergence of effects. Cognitive-behavioral skills taught during
treatment have been shown to endure after cessation of treatment. Following short-term
treatment, client’s implement coping skills they have learned, allowing more durable and specific
effects of treatment to emerge (Carroll et al., 1994). Furthermore, over time, substance use may
significantly decrease with continued lower days of violence. Future research is encouraged to
investigate the relationship between offender perception at baseline and treatment success at the
three-month follow up. Finally, it is possible that the improvement in days of violence was due in
part to clients no longer being in a relationship with their significant other. Future studies should
evaluate waking hours spent with significant others to know if violence was equally likely to
occur in both perception groups.

Hypothesis 3 addressed a possible interaction effect of client perception of family
problems and a need for treatment for family problems on treatment success. The data, however,
did not support the prediction that a perception of family problems (FP+) combined with a
perception of need for treatment for family problems (FPTx+) at baseline would result in the
greatest overall treatment success. Those who perceived both having family problems (FP+) and
a need for treatment for family problems (FPTx+) at baseline did not have significantly greater
treatment success after the 84 days, nor did they have a greater change in total days of substance
use from baseline to the end of treatment, in relation to comparison groups. They did, however,
report a significantly greater change in total days of violence from baseline to the end of
treatment. Perhaps a larger sample size would have elicited a stronger association between
perception at baseline and treatment success, consistent with previous research (e.g., Shen et al,
2000). Nevertheless, it is important to remember that the participants who perceived family
problems (FP+) at baseline and the participants who perceived a need for treatment for family
problems (FPTx+) at baseline started off more severe in terms of alcohol use and violence, but ended up doing as well in treatment, if not better than comparison groups, given their greater severity at treatment admission. In essence, response to treatment is “success”.

The change in perception from baseline to the end of treatment was addressed in Hypothesis 4. The findings supported the hypothesis that clients’ perceptions of family problems and perceived need for treatment for family problems would improve from baseline to the end of treatment, as indicated by lower perception rates at baseline and higher rates at week 12. Results revealed an increase in offender perception of family problems and offender perception of need for treatment for family problems, from baseline to the end of treatment. However, the change was only significant for perception of family problems. As discussed earlier, clients may have more severe misperceptions at baseline due to recent substance use and its negative effects on cognitive processes, but will become less impaired with treatment compliance. My data supports this contention. Increased abstinence from substance use and violence may have decreased cognitive distortions, which may have helped clients realize and/or admit to having family problems. Treatment in and of itself, was also likely to have helped clients recognize and acknowledge problem behavior, as suggested by the data. Additionally, in the absence of a control group (i.e., no treatment group) there is the possibility that perception may have increased with time. However, a no treatment group is considered unethical among this population, given their problem behaviors.

A greater percentage of participants also perceived a need for treatment for family problems at week 12 than at baseline, though the change was not significant. It is not surprising that clients did not feel the need or desire for further treatment having just completed 12 weeks.
The majority of clients were employed full-time, which makes treatment attendance difficult. Additionally, further treatment would likely be at the cost of the client. This change in perception data does not tell us in which direction clients changed their responses from baseline to week 12. It would be interesting for future research to examine the relationship between perception change (i.e., improvement or decline) and treatment success.

It is important to point out that, unlike the variables examined by Shen et al. (2000) family problems and a need for treatment for family problems could be identified as “actual problems” for all participants in the study. We know this from arrest reports of domestic violence within the year prior to treatment and a history of repeat arrests. Therefore, participants who perceived no family problems (FP-) and/or no need for treatment for family problems (FPTx-), especially at baseline, reflect the use of cognitive distortions such as denial or minimization. These clients seem to represent “precontemplators”, according to the stage of theory. An essential characteristic of individuals in the precontemplation stage is denying the existence of true problems (Shen et al., 2000). On the other hand, those who perceived having family problems (FP+) and/or a need for treatment for family problems (FPTx+) at baseline may represent contemplators (e.g., I have a problem and I may need treatment for my problem), according to the stage of change theory and similar to the research of Shen et al. (2000). This data may suggest that participants who show some degree of acknowledgement of their problems and/or express some degree of need for treatment for those problems at treatment admission demonstrate a higher level of motivation level and readiness for change since they come in already acknowledging their problems.

Regarding treatment modality, my results differed from those obtained by Easton (2012)
who found a significant difference between individuals in the SADV group versus the IDC group on aggression outcomes. In the original study, individuals in the SADV group had significantly more total days of abstinence from aggressive behavior across 84 days of treatment compared to individuals in the IDC condition. The current study found no significant differences between the SADV and IDC therapies in terms of overall treatment success or treatment improvement. The lack of significance can be largely explained by the different analytic strategy conducted in each study. The original study applied a true intention-to-treat approach, which used hierarchical linear models to compare treatment modalities (Nich & Carroll, 2002). The mixed ANOVA used to analyze treatment modality in the current study only included participants with complete data. Participants with missing data points were dropped from the analysis. Additionally, in the original study, clients who attended eight out of the twelve sessions were considered fully compliant with treatment. The present study, however, only included participants who completed twelve weeks of treatment in the analyses. Research shows that full compliance is rare, especially among substance abusers, as a significant number of participants violate protocol (Nich & Carroll, 2002). I am confident that the discrepancies in analytic review largely accounted for the lack of significant differences between modalities as related to treatment success.

The current study presented a number of limitations. The primary limitations were related to sample size. As mentioned above, twelve weeks of treatment compliance and the method of data analysis review reduced the sample size. Main effects for perception on treatment success may have been concealed by sample size. It seems likely that a greater number of participants would have revealed a significant association between perception at baseline and treatment
success, as displayed in past research (Shen et al, 2000). A replication of this study using a larger sample size is needed. This study could be deemed a feasibility study of perception and treatment outcome. Effect size calculations could be completed to determine if there is enough power to detect differences across variables, in future research. Moreover, more sensitive measures of perception could be utilized in conjunction with the present measures to increase accuracy of perception. Additionally, the current investigation only examined self-report measures. While self-reports were advantageous in providing client perspective, they are also subject to client biases and possible deception. Underreporting and minimization among a forensic sample may be due to the threat of legal consequences or additional court-ordered treatments. Future research should include objective indicators (e.g., breathalyzers reports, toxicology screens, and/or collateral reports of violence) as additional measures of treatment outcomes. It is also suggested that future studies control for the amount of legal pressure at treatment admission. The limitations associated with retrospective reporting methods are also understood (Brewin, Andrews, & Gotlib, 1993). Furthermore, all participants were court mandated to attend treatment. Therefore, legal order may have influenced offender perception. Some offenders may not have entered treatment on their own, thus in greater denial of the existence of true problems or need for treatment, whereas, others may consider themselves to have hit rock bottom following repeat arrest and legal consequences. Future research should consider the effects of mandated treatment on offender perception. Finally, the secondary use of preexisting data limited how precisely I was able to approach the hypotheses and the availability of predictor variables of interest.

In the current investigation, the data shows that treatment generally increases abstinence
from substance use and violence, regardless of offender perception of family problems and/or need for treatment for family problems at baseline. However, given the severity of the offenders (i.e., substance dependent and average arrest history of 2-3 arrests), the fact that even some of these offenders disclosed problem behaviors, makes it seem reasonable to conclude that perception may serve as an important indicator of one’s motivation to change and is an important predictor of future behavior change, among this under-researched population of substance dependent IPV offenders. Admitting problems is a step in the right direction. Furthermore, failure to perceive problem behavior and/or a need for treatment likely suggests the use of cognitive distortions, including minimization and denial. Treatment modality did not influence treatment success, in this study. Instead, the data suggests that evidence based therapy works. Perhaps MET would be most beneficial for this population by encouraging internally motivated change.

In sum, the data suggest that offenders who admit to having family problems and/or recognize a need for treatment for family problems represent a more motivated cohort of individuals, and one that displayed a significantly greater improvement in days of violence than comparison groups. Although the lack of change in substance use suggests they are still using, they are less likely to become violent while using, perhaps because they are learning how to handle conflict in treatment. Of the two maladaptive behaviors, it seems reasonable to argue that violence is most important to treat. Hopefully, this study will encourage further investigations of the cognitive impairments associated with IPV and substance abuse, and the association with subsequent behavior, in an effort to improve treatment outcomes among this population.
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## Appendix

### Table 1

*Treatment success and treatment improvement by offender perception of family problems at baseline*

<table>
<thead>
<tr>
<th>Treatment Success -</th>
<th>Perception of family problems</th>
<th>Perception of no family problems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Days abstinent from any substances, M (SD)</td>
<td>72.65 (13.56)</td>
<td>75.19 (15.42)</td>
</tr>
<tr>
<td>Days abstinent from any violence, M (SD)</td>
<td>79.00 (8.05)</td>
<td>76.85 (13.61)</td>
</tr>
</tbody>
</table>

**Treatment Improvement -**

<table>
<thead>
<tr>
<th>Change in the number of days of substance use, M (SD)</th>
<th>Perception of family problems</th>
<th>Perception of no family problems</th>
</tr>
</thead>
<tbody>
<tr>
<td>-2.0 (4.14)</td>
<td>11</td>
<td>-2.75 (5.59)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Change in the number of days of violence, M (SD)</th>
<th>Perception of family problems</th>
<th>Perception of no family problems</th>
</tr>
</thead>
<tbody>
<tr>
<td>-4.33 (6.84)</td>
<td>12</td>
<td>-.74 (2.97)</td>
</tr>
</tbody>
</table>

### Table 2

*Significant differences between groups prior to starting treatment*

<table>
<thead>
<tr>
<th>Baseline Characteristics</th>
<th>Perception of family problems</th>
<th>Perception of no family problems</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Days of alcohol use</td>
<td>10.39</td>
<td>7.18</td>
</tr>
<tr>
<td>Days of alcohol misuse</td>
<td>2.68</td>
<td>4.33</td>
</tr>
<tr>
<td>Days of any violence</td>
<td>4.81</td>
<td>7.21</td>
</tr>
</tbody>
</table>
Table 3

*Treatment success and treatment improvement by offender perception of need for treatment for family problems at baseline*

<table>
<thead>
<tr>
<th>Perceived need for treatment</th>
<th>n</th>
<th>Perceive no need for treatment</th>
<th>n</th>
</tr>
</thead>
</table>
**Treatment Success -**<br>Days abstinent from any substances, M (SD) | 75.76 (12.28) | 13 | 73.83 (16.23) | 26 |
Days abstinent from any violence, M (SD) | 79.36 (7.07) | 14 | 76.45 (14.27) | 29 |
**Treatment Improvement -**<br>Change in the number of days of substance use, M (SD) | -1.96 (3.86) | 14 | -2.83 (5.83) | 35 |
Change in the number of days of violence, M (SD) | -3.67 (6.23) | 15 | -.71 (3.09) | 35 |