Predictors of Intimate Partner Violence among Women Seeking Treatment for a Substance Use Disorder

THESIS

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By

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Abstract

Intimate partner violence (IPV) is pervasive in the U.S., and has numerous implications for mental and physical health. While numerous studies have explored the impact of IPV experience on individuals, less is known about which factors are predictive of IPV victimization. The current study examined the extent to which substance use, differentiation of self, parental bonding, self-efficacy, and family systems therapy each predicted past or future IPV experiences using a multinomial logistic regression analysis. Results showed that women who reported lower levels of differentiation of self were significantly more likely to experience past or future IPV. However, no other significant predictors of IPV were found. Current findings suggest that differentiation of self may be an effective therapeutic target for IPV prevention efforts.

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Chapter 1. Introduction

Intimate partner violence (IPV) is a pervasive issue in the United States, and although both men and women experience IPV, women are significantly more likely to experience IPV. More than one in three women experiences physical violence, rape, and/or stalking perpetrated by an intimate partner in her lifetime, and approximately 10 million people experience IPV each year (Black et al., 2011). IPV occurs in all racial and age groups, but is most prevalent among non-Hispanic Blacks, individuals of two or more races, and individuals ages 18 to 24 (Truman & Morgan, 2014).

Women who experience IPV have poorer physical and mental health and higher rates of substance use than women who have not experienced IPV (Black et al., 2011; Ullman, Relyea, Peter-Hagene, & Vasquez, 2013). Although numerous studies have examined the impact of IPV on those who experience it, few studies have examined factors that predict experiences of IPV. It is well established in the literature that childhood experiences of abuse and/or witnessing IPV as a child are related to experiencing IPV as an adult (Abramsky et el., 2011; Bensley, Van Eenwyk, & Simmons, 2003; Thompson et al., 2006). However, other factors such as substance use, parental relationship quality, and self-efficacy that may predict IPV experiences remain understudied. These factors will be reviewed below.

Substance Use

Substance use has been clearly linked to IPV experiences, but the directionality of the relationship is less clear. Numerous studies have shown an association between substance use and IPV victimization and perpetration (Afifi, Henriksen, Asmundson, & Sareen, 2012; Devries et al., 2014; Smith, Homish, Leonard, & Cornelius, 2012). When assessing the longitudinal relationship between substance use and IPV, the relationship becomes more complex and less clear. A study by Testa, Livingston, and Leonard (2003) found that illicit substance use among women was associated with later experiences of IPV and that experiences of IPV were somewhat associated with later alcohol use, but not later drug use. Conversely, Kraanen and colleagues found that alcohol and cocaine abuse in women predicted both perpetration and victimization of IPV (Kraanen, Vedel, Scholing, & Emmelkamp, 2014). While substance use is clearly related to experiences of IPV, no study to date has examined the longitudinal effect of substance use on both past and future IPV experiences.

Differentiation

The degree to which a person is able to separate themselves from their experiences and from others may uniquely impact IPV. The concept of differentiation is one way to assess this ability to separate oneself. Differentiation of self refers to the degree to which an individual is able to separate their feeling process and thought process (Bowen, 1976). Individuals who are unable to separate these processes are considered to be 'fused' and function the poorest and experience the most problems. Fused individuals are controlled by their emotions and act more on instinct. Alternatively, individuals who are most able to separate feeling and thought processes are considered 'highly differentiated' and are able to adapt to life stressors easily. Differentiated individuals still have emotional instincts, but are able to balance these instincts with logic and reasoning (Bowen, 1976).

Scant literature has examined the relationship between differentiation of self and IPV. The few studies that have examined how differentiation is related to IPV have focused on how differentiation impacts the intergenerational transmission of IPV (Rosen, Bartle-Haring, & Stith, 2001) or the relationship between differentiation and IPV perpetration (Likcani, Stith, Spencer, Webb, & Peterson, 2017). It may be that levels of differentiation uniquely impact IPV experiences. However, no studies to date have examined the relationship between differentiation levels and experiences of IPV over time. Understanding the relationship between differentiation and IPV avenues of intervention for populations vulnerable to IPV. Parental Bonding

Another area that may predict experiences of IPV is the quality of relationship an individual had with his or her mother growing up. Parental bonding refers to the level of warmth and care a parent exhibits toward their child. As the child grows up, this relationship changes to allow the child to function independently. Many theorists and researchers have examined the specific factors that categorize the parent-child relationship. The common factors iterated include two dimensions – care (acceptance versus rejection) and psychological control (autonomy versus control) (for a review, see Parker, Tupling, & Brown, 1979). The parent-child relationship has a significant impact

on child outcomes, and higher levels of care and lower levels of control are associated with more positive outcomes.

Previous literature has studied the protective effects of maternal warmth and parenting skills on children exposed to IPV, as mothers likely attempt to compensate for the exposure to violence (Holt, Buckley, & Whelan, 2008; Letourneau, Fedick, & Willms, 2007). Further, research has shown that poor parenting practices, including neglectful, coercive, and rejecting behaviors negatively impact children and may be associated with future IPV (for a review, see Schwartz, Hage, Bush, & Burns, 2006). However, no research has tested the effects an adult child's report of parental bonding may have on their later experiences of IPV. It may be that women whose mothers exhibited high levels of care and low levels of control are less likely to experience IPV. Self-Efficacy

The sense of self-confidence and independence a person feels may also be related to whether or not they experience IPV. Self-efficacy refers to a person's belief that they are competent and capable of handling the events in their life (Bandura, 1982). An individual's perception of self-efficacy influences the choices they make and the effort they give to difficult experiences, as well as their thoughts and emotional reactions during such events. Perception of self-efficacy is based on personal and vicarious previous experiences, verbal support/persuasion, and physiological responses when facing a given situation (Bandura, 1982). Self-efficacy influences decision-making, social abilities, and confidence in oneself.

Very little research has examined the relationship between self-efficacy and IPV outcomes. However, some research has examined the relationship between general victimization and self-efficacy, as well as the relationship between IPV experiences and self-esteem. In a study of women's experiences with victimization, Severson, Postmus, and Berry (2009) found that higher rates of self-efficacy were associated with better mental health outcomes. Zlotnick, Johnson, and Kohn (2006) found that women who reported IPV had lower self-esteem compared to women who did not report IPV. Additionally, research has shown that women who report higher self-esteem were more likely to leave an IPV relationship compared to women with low self-esteem (Kim & Gray, 2008). It is likely that self-efficacy serves as a similarly protective factor against IPV experience. Further research is needed to examine the relationship between selfefficacy and experiences of IPV over time. A better understanding of the impact of selfefficacy on IPV experiences may help clinicians intervene with individuals experiencing IPV.

Family Systems Therapy

Little is known about which treatments are best for women who experience IPV. Although a mother's experience of IPV impacts the entire family, family systems therapy has not been examined as a potential predictor of IPV experiences. Ecologically based family therapy (EBFT) utilizes a family systems perspective, which suggests that every family member influences, and in turn is influenced by, every other family member (e.g., Bowen, 1974). Further, when one family member changes, the other family members adjust to these changes or create maladaptive strategies that push the family to reject changes or create new problems (Cox & Paley, 1997). Family members have a unique influence on each other unlike any other relationship. Therefore, including multiple family members in treatment allows for changes in behavior to occur more cohesively and with a greater likelihood of long-term acceptance of change.

No study to date has examined the impact of family therapy on IPV outcomes. However, previous research has shown that including children in mother's treatment, specifically EBFT, results in more positive and lasting changes (Murnan, Wu, & Slesnick, 2017; Slesnick & Zhang, 2016). It is likely that family therapy will serve as a more protective factor for IPV experiences compared to individual treatment, as family therapy provides both mother and child to process the violence that has occurred, strengthen their relationship, and create lasting changes together.

Current Study

The current study explored predictive factors of IPV experiences. Data from a larger randomized clinical trial testing family systems therapy with substance-using mothers and their children were used (Slesnick & Zhang, 2016). It was hypothesized that higher rates of substance use, lower differentiation of self, lower maternal relationship quality, lower self-efficacy, and no participation in family systems therapy would each predict experiences of IPV. Examining predictors of IPV experiences has significant implications for research and practice. By better understanding predictive factors of IPV, researchers and clinicians can test ways to improve protective factors to prevent IPV experiences. Additionally, understanding predictors of repeated IPV experiences can help

inform intervention for individuals who have already experienced IPV to break the cycle of IPV.

Chapter 2. Method

Participants

Participants included 126 mothers who participated in a larger randomized clinical trial (N=183) testing the efficacy of family systems therapy for mothers seeking treatment for a substance use disorder and their children (Slesnick & Zhang, 2016). Mothers were recruited through a community-based substance abuse treatment facility in a large Midwestern city. Mothers were eligible to participate in the larger study if they met diagnostic criteria for a substance use disorder using the DSM-IV, were seeking outpatient treatment for their substance use disorder, and currently had a biological child in their custody between the ages of 8-16 years. Participants were excluded from the current study if they did not have complete IPV data. These participants either missed a follow-up assessment or did not fully answer all of the IPV questions. All participants in this study had a substance use disorder, and many participants moved frequently or lost custody of their children at some point during the study, resulting in missed assessments. In the current study, mother's ages ranged from 24 to 54 years (M = 33.9, SD = 6.80). Mothers reported having between one and 11 children (M = 3.21, SD = 1.63). Most mothers in the sample were white, non-Hispanic (52.4%) or African-American (44.4%). The majority of mothers had a high school diploma or less (61%). Further, more than three-fourths of the mothers reported an annual family income of \$30,000 or less

(80.9%), and only 14.3% of the mothers identified as married. Almost half of the mothers (40.4%) identified opioids as their primary drug of choice, 24.9% reported alcohol as their primary drug, 23.0% identified marijuana as their primary drug, and 9.6% reported cocaine as their primary drug of choice.

Procedures

The Ohio State University Institutional Review Board approved all study procedures. Women were recruited and screened at a substance use treatment facility by a research assistant. Mothers were then consented, and parental permission for their child's participation was obtained. Upon completion of the baseline assessment, women were randomized into one of three treatment groups – in-home EBFT, in-office EBFT, or an individualized attention control, Women's Health Education (WHE). Treatment was completed within 6 months of randomization.

Data were collected at six time points. The first time point was at baseline, where the mother and child were randomized into one of three treatment groups. The other five time points were at 3, 6, 9, 12, and 18-months post-baseline, respectively. At each time point, extensive self-report and observational data were collected. Mothers received a \$75 gift card and their children received a \$40 gift card for each completed assessment. For the purpose of this study, only data collected from the mothers will be used. Data from all time points will be used to allow for adequate examination of treatment effects and the sustainability of changes over time.

Measures

IPV Experience.

IPV was measured at each time point with five questions from the Behavioral Risk Factor Surveillance Survey (BRFSS), which was introduced by the Center for Disease Control and Prevention (CDCP) as a state-based data collection tool. It has been widely used to approximate the prevalence of IPV in the United States and has been validated by previous studies (CDCP, 1994; Slesnick, Erdem, Collins, Patton, & Buettner, 2010). In this measure, IPV includes any physical (hitting, slapping, choking, shoving, kicking, or any other physical injury), sexual (being forced to participate in a sex act, including oral, vaginal, and anal penetration, as well as sex acts that do not include penetration), verbal (being put down, called names, or had their behavior controlled), or emotional (fearing for their safety or the safety of family/friends due to partner's anger or threats) abuse perpetrated by an intimate partner.

Physical IPV was assessed through the questions, "Has an intimate partner ever hit, slapped, shoved, choked, kicked, shaken, or otherwise physically hurt you?" and "Have you ever been frightened for your safety or that of your family or friends because of anger or threats of an intimate partner?" Emotional and verbal IPV were assessed by asking, "Has an intimate partner ever put you down, or called you names repeatedly, or controlled your behavior?" Sexual IPV was measured through responses to the questions "Has an intimate partner ever forced you to participate in a sex act against your will?" and "Has an intimate partner ever threatened, coerced, or physically forced you into any sexual contact that did not include penetration or intercourse?" If a participant answered "yes" to any of these questions, they were then asked if the IPV occurred with their current intimate partner, and if it occurred with their current intimate partner within the past 12 months. Experiences of IPV were coded into four categories – women who never reported IPV, women who reported experiencing IPV in the past, but did not report any current IPV during the study, women who reported experiencing IPV once during the study, and women who reported experiencing IPV two or more times during the study.

Substance Use.

Substance use, as defined by alcohol and illicit drug use, was measured at each time point using the Form-90 (Miller, 1996). The Form-90 is a standardized interview that uses a timeline follow-back approach to measure daily substance use for the past 90 days (Sobell & Sobell, 1992). Through this measure, a comprehensive report of participants' alcohol and drug use was generated, including the types of drugs used, the percentage of days of use for each substance, number of days of mild, moderate, and severe substance use for each substance, and the percentage of days of total substance use. The Form-90 has demonstrated high test-retest reliability for indices of drug use for adults and runaway adolescents, with kappas for drug classes ranging from 0.74 to 0.95 (Slesnick & Tonigan, 2004).

Differentiation.

Differentiation was measured through the emotional reactivity and emotional cutoff subscales of the Differentiation of Self Inventory (DSI; Skowron & Friedlander, 1998). These subscales assess how difficult a person finds it to remain calm when responding to high emotions in others and the level of emotional distance and isolation from loved ones an individual displays, respectively (Bowen, 1976,1978; Kerr & Bowen,

1988). The subscales consist of 23 items assessing participants' typical feelings in their relationships, rated on a 6-point Likert scale. Sample items include "At times, my feelings get the best of me and I have trouble thinking clearly" and "I'm often uncomfortable when people get too close to me." The DSI has shown internal construct validity and consistency reliability, as higher emotional reactivity and cutoff each predicted higher distress, and conversely lower emotional cutoff predicted higher relationship satisfaction (Skowron & Friedlander, 1998). Skowron and Friedlander (1998) reported coefficient alphas of .88 and .79 for emotional reactivity and emotional cutoff, respectively. In this study, the coefficient alphas were .88 for emotional reactivity and .88 for emotional cutoff.

Parental Bonding.

Quality of participants' relationship with their mother growing up was assessed through the Parental Bonding Instrument (PBI; Parker et al., 1979). This measure consists of 25 items assessing perceived parental care versus rejection and control versus autonomy, and respondents score their mother using a 4-point Likert scale. Example statements include, "[Growing up, my mother] appeared to understand my problems and worries" and "[Growing up, my mother] tried to make me dependent on her." The PBI has shown good construct and predictive validity (Klimidis, Minas, & Ata, 1992; Parker, 1983). Further, scores of the PBI have been shown to remain stable over twenty years, indicating test-retest reliability (Wilhelm, Niven, Parker, & Hadzi-Pavlovic, 2005). In the current study, Cronbach's alpha coefficients were .91 for the parental care subscale and .75 for the parental overprotection scale. Self-efficacy.

Participants' self-efficacy was measured through the Self-Efficacy Scale (SE; Sherer et al., 1982), which assesses both general and social self-efficacy. A total of 23 items are scored on a 5-point Likert scale, with higher scores indicating higher selfefficacy. Sample questions include "Failure just makes me try harder" and "It is difficult for me to make new friends" The Self-Efficacy scale has shown high reliability, with Cronbach alpha coefficients of .86 for general self-efficacy and .71 for social selfefficacy (Sherer et al., 1982). Cronbach's alpha coefficients for the current study were .89 and .57 for general and social self-efficacy, respectively. As the social self-efficacy subscale had low internal consistency, it was excluded from the analysis.

Treatment Group.

Treatment group was selected through randomization at baseline. Treatment groups included in-home EBFT, in-office EBFT, or WHE. Home- and office-based EBFT included children in treatment, whereas WHE was only for participating mothers.

Covariates.

As age and race have been shown to be disproportionately related to experiences of IPV (Truman & Morgan, 2014), these variables will be controlled for in the current study. Race and age as reported on a demographic questionnaire will be used as covariates. Race was coded into three categories – Black/African American, White, non-Hispanic, and other, and age was used as a continuous variable.

Analytic Plan

To determine how substance use, differentiation, parental bonding, self-efficacy, and participation in family therapy predict differences in IPV experiences, a multinomial logistic regression analysis will be conducted using SPSS software. Participants' experience of IPV will be assessed using self-report data from baseline, 3-, 6-, 12-, and 18-months post-baseline. All dependent variables will be assessed using reports from baseline data.

Chapter 3. Results

Descriptive Analysis

The means and standard deviations of the independent variables are reported in Table 2. In the overall sample, participants had an average age of 33.9 (*SD*=6.8). Most participants were white, non-Hispanic (52.4%) or African American (44.4%). Additionally, participants had an average of 68.5% (*SD*=31.5) days of substance use, excluding tobacco, in the 90 days prior to baseline. Thirty-seven women reported never experiencing IPV, 37 reported experiencing IPV in the past, but at no current point during the study, and 52 women reported experiencing IPV one or more times during the study. Bivariate correlations are reported in Table 3. Correlations were examined for each IPV sub-group, and showed similar patterns of significance and directionality. As such, only correlations for the full sample are discussed below. All variables examined were within an acceptable range for skewness and kurtosis \pm 1.96. Independent sample t-tests were conducted to compare women in the sample with and without a history of IPV by age and ethnicity. There were no significant differences across these variables.

Correlation analyses were conducted to examine the relationship between variables in the model. There was a significant positive correlation between Self-Efficacy scale (SE) scores and race (r (126) = .420, p < .01). Differentiation of Self Inventory (DSI) scores were positively associated with parental overprotection (r (126) = .265, p < .01) and with a history of IPV (r(126) = .376, p < .01) and negatively related to parental care (r(126) = -.220, p < .05) and SES (r(126) = -.382, p < .01). There was a significant correlation between parental care and treatment condition (r(126) = .201, p < .05). Additionally, parental overprotection was negatively correlated with parental care (r(126) = -.189, p < .05).

Multinomial Logistic Regression Results

Multinomial logistic regression was used to examine the effects of parental bonding, self-efficacy, differentiation of self, substance use, family systems therapy, race, and age on experiences of IPV. Never reported experiencing IPV was used as the reference category for the analysis. Due to the small number of individuals who reported only experiencing IPV once during the current study (N=20), individuals who reported one current IPV experience and individuals who reported experiencing IPV two or more times during the study were grouped together for the analysis. As such three groups were used – never reported IPV, reported past IPV but no current IPV, and reported current IPV – in order to capture the heterogeneity of IPV experience while ensuring statistical power for a complete analysis.

The results of the multinomial logistic regression model are summarized in Table 4. Results indicate that the full model was statistically significant [X^2 = 30.64 (df = 14), p < .01]. However, only baseline DSI scores significantly predicted experiencing IPV in the past (OR=.95; 95% CI=.92-.98) and experiencing current IPV (OR = .96; 95% CI = .93-.99) such that lower DSI scores predicted experiencing IPV.

Chapter 4. Discussion

In this study, predictors of IPV were examined with data collected from a sample of women seeking treatment for a substance use disorder. This is one of the first studies to examine predictors of IPV over time, and can help inform prevention and intervention programs. Findings showed that women who reported lower differentiation of self were significantly more likely to report past or current experiences of IPV. Further, current results provide evidence supporting the importance of differentiation in relation to IPV experience (e.g. Bartle & Rosen, 1994; Rosen et al., 2001) and expand on the limited literature examining predictors of IPV. That is, most studies of IPV focus on the impact of parental IPV on children or the impact of past IPV on adult outcomes (for a review, see Beydoun, Beydoun, Kaufman, Lo, & Zonderman, 2012; Carpenter & Stacks, 2009; Langdon, Armour, & Stringer, 2014; Wood & Sommers, 2011). Additionally, most studies that examine predictors of IPV focus on younger populations, such as dating violence in adolescence and early adulthood (e.g. Gomez, 2010; Jain, Buka, Subramanian, & Molnar, 2010; Maas, Fleming, Herrenkohl, & Catalano, 2010), while this study examined how adult individual and relational variables predicted IPV experiences over time.

Building on previous research (Likcani et al., 2017; Rosen et al., 2001), findings supported the hypothesis that differentiation of self would significantly predict IPV experiences. This is the first examination of differentiation of self as a predictor of future IPV experiences. In general, according to Bowen's Theory, individuals with low levels of differentiation are often more emotionally dependent on others and are more controlled by their emotions than their intellect (Bowen, 1976). Although low levels of differentiation do not inherently lead to problematic symptoms, it was expected that lower differentiation of self would impact women's ability to navigate relationships and make them more vulnerable to violent relationships. Results from this study supported this hypothesis, as women with lower differentiation of self were more likely to experience past or current IPV.

Few studies have examined the relationship between differentiation of self and relationship violence. However, prior research has found that differentiation of self is related to the intergenerational transmission of dating violence (Rosen et al., 2001), as well as perpetration of physical IPV (Lickani et al., 2017). As Bowen's theory suggests that family of origin influences an individual's differentiation level (Bowen, 1976), current findings expand our understanding of the intergenerational transmission of violence through differentiation of self as a predictor of IPV experience. However, additional research is needed, as there is scant literature examining the relationship between IPV and differentiation of self and no studies to date testing differentiation of self as a focus of IPV intervention.

In contrast with previous studies (Holt et al., 2008; Letourneau et al., 2007; Schwartz et al., 2006), parental bonding at baseline did not predict future IPV experiences. It was expected that lower levels of parental care and higher levels of parental control at baseline would predict future IPV experiences, but results from this study did not support the hypothesis. To measure parental bonding, each participating

mother reported the quality of her relationship with her mother when she was a child. It may be that a positive mother-child relationship ceases to serve as a protective factor against negative life experiences, such as IPV, as the child becomes a mother herself. Studies suggest that among adolescents, positive parental relationships provide low to moderate protective effects against dating violence (for a review, see Capaldi, Knoble, Shortt, & Kim, 2012). It is unknown whether a positive parental relationship continues to serve as a protective factor against IPV as an adult child transitions to parenthood. Researchers should assess women's experiences with IPV before and after becoming parents to better understand whether a positive parental relationship in the family of origin continues to serve as a protective factor against violent relationships. This information has implications for IPV prevention, as promoting protective factors against relationship violence, such as a positive parent-child relationship, may be an effective way to prevent IPV relationships.

No significant relationship was found between frequency of substance use and IPV experiences. Previous research suggests that substance use is related to both perpetration and victimization of IPV (Afifi et al., 2012; Devries et al., 2014; Kraanen et al., 2014; Smith et al., 2012), but current results did not support this finding. This may be due to a selection effect, as all women in the current study were seeking treatment for a substance use disorder. That is, the relationship found between substance use and IPV in previous studies may not hold true for women seeking substance use treatment. It is likely that among women who view their substance use as problematic, and are thus seeking treatment, substance use is at such a level that it ceases to serve as a predictive factor of IPV.

Additionally, lower self-efficacy was expected to predict IPV experiences. That is, previous studies suggest that self-efficacy protects against IPV, as women with higher levels of self-efficacy are more likely to leave relationships with IPV or to avoid them entirely (e.g. Kim & Gray, 2008; Zlotnick et al., 2006). However, the current findings did not support this relationship. Rather, self-efficacy did not significantly predict experiencing IPV. One reason for the observed lack of relationship may be because selfefficacy scores among these substance-using women were low compared to normative samples. That is, there was not enough variance in scores in each group to yield a significant difference between groups. Alternatively, the relationship between selfefficacy and IPV may be inherently different among substance using populations. More research examining underlying mechanisms that contribute to this relationship is needed.

This is one of the first studies to examine the impact of family therapy on IPV, and it was expected that participation in family therapy would predict IPV. However, the findings did not show a relationship. A review by Stover, Meadows, and Kaufman (2009) found that couples treatment and trauma treatments for children have been effective at reducing IPV recidivism and child symptoms, respectively. Thus, even though this study did not find a relationship between family therapy and IPV, Stover and colleagues' (2009) results suggest that relational therapy may be an effective avenue of IPV intervention. This study's findings might differ from prior studies given the relatively small sample size, resulting in a lack of statistical power. Also, the family therapy tested in this study did not specifically address IPV experiences, which might be needed in order to prevent future IPV.

Limitations

Several limitations of this study should be considered when interpreting the findings. First, all participants in the current study were seeking treatment for a substance use disorder. As such, the sample may not represent non-treatment seeking women or women without a substance use disorder who experience IPV. Second, participants for this secondary data analysis were selected only if they completed all follow-up assessments, and may not be representative of substance-using women who are more transient or difficult to track over time. Finally, the current study did not assess the frequency or severity of violence, and may not capture the complexity and heterogeneity of IPV experiences. That is, research clarifying the relationship between severity or frequency of IPV and factors such as differentiation of self, substance use, parental bonding, and self-efficacy is needed.

Conclusions

Despite these limitations, this is the first study to examine predictors of past and future IPV experiences among substance using mothers. Findings showed that differentiation of self significantly predicted past and future IPV. While prior research has shown that differentiation of self is related to IPV experiences (Lickani et al., 2017; Rosen et al., 2001), this study found that women reporting low levels of differentiation are more likely to experience IPV. The current findings suggest that differentiation of self may be an important therapeutic target to prevent future IPV experiences. Clinicians may find success by decreasing emotional reactivity and cutoff, thereby improving differentiation of self, to help women who have experienced IPV heal from past experiences and reduce the likelihood of experiencing IPV in the future.

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Appendix A. Tables

Variable	n (%)	
Race		
African American	56 (44.4)	
White, non-Hispanic	66 (52.4)	
Other	4 (3.2)	
Highest Level of Education		
11 th grade and below	53 (42.0)	
High school graduate	24 (19.0)	
Some college	42 (33.3)	
Bachelor's degree or above	7 (5.6)	
Total Annual Family Income		
0 - 5,000	36 (28.6)	
\$5,001 - 15,000	42 (33.3)	
\$15,001 - 30,000	24 (19.0)	
\$30,001 - 45,000	11 (8.7)	
\$45,001 or above	12 (9.6)	
Missing	1 (0.8)	
Marital Status		
Single	39 (31.0)	
In a romantic relationship	44 (34.9)	
Legally married	18 (14.3)	
Separated, but still married	8 (6.3)	
Divorced	16 (12.7)	
Widowed	1 (0.8)	
Primary Drug of Choice		
Alcohol	31 (24.7)	
Cocaine	12 (9.6)	
Marijuana	29 (23.0)	
Opiates	51 (40.4)	
Other	3 (2.4)	

Table 1. Demographic characteristics of participants (N = 126)

Variable	M (SD)	Range
Age	33.91 (6.80)	22-54
PBI – Care	21.14 (9.73)	0-36
PBI – Overprotection	16.38 (7.39)	0-36
SE – General	58.39 (13.10)	26-85
DSI	80.16 (18.39)	37-124
Percent Days of Drug Use	68.49 (31.47)	2.1-100

Table 2. Means and standard deviations of continuous variables

Table 3. Pearson correlations for complete sample

	1.	2.	3.	4.	5.	6.	7.	8.
1. Race	1							
2. Treatment Condition	.09	1						
3. PBI – Care	.103	.201*	1					
4. PBI – Overprotection	024	.052	189*	1				
5. SE – General	.420**	.070	.065	.028	1			
6. Percent days drug use	047	.085	.045	.050	072	1		
7. DSI	174	104	220*	.265**	382**	.096	1	
8. IPV Experience	164	094	069	.151	116	.111	.376**	1
7. DSI 8. IPV Experience	174 164	104 094	220* 069	.265** .151	382** 116	.096 .111	1 .376**	1

*p<.05 (2-tailed); **p<.01 (2-tailed)

Table 4. Multinomial logistic regression for IPV experiences

Variable	Reported Past IPV		Reported Current IPV		
	Exp(B)	(95% C.I.)	Exp(B)	(95% C.I.)	
PBI – Care	1.01	(.96 – 1.07)	1.02	(.96 – 1.07)	
PBI –	1.02	(.95 – 1.10)	1.03	(.96 – 1.10)	
Overprotection					
SE – General	1.00	(.96 – 1.05)	1.02	(.98 - 1.07)	
Percent days	1.00	(.98 – 1.02)	1.01	(1.00-1.03)	
drug use					
DSI	.95	(.92 – .98)*	.96	(.93 – .99)*	
Treatment	1.37	(.49 - 3.85)	.46	(.17 – 1.26)	
Condition					
Race	.93	(.31 – 2.78)	.38	(.13 – 1.07)	
Model $X^2 = 30.65$ (df = 14), p < .01					

* $p \leq .01$ The reference category is Never Reported IPV.