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Hostility and Substance Use in Relation to Intimate Partner Violence and Parenting Among Fathers

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Abstract

Intimate partner violence (IPV) is a significant public health and economic problem, which also increases the risks for child maltreatment. One attribute that may contribute to both IPV and poor parenting is hostility. Moreover, the link between hostility and these outcomes may be mediated by substance use, such that more hostile individuals are at greater risk for using drugs and alcohol, leading them to engage in more aggressive and rejecting behavior towards their partners and children. We tested this possibility in sample of 132 fathers. Additionally, we explored whether hostility and substance use had interactive effects on IPV and parenting by examining moderated-mediation models. The results show that substance use mediated the relationship between hostility and all IPV and parenting outcomes. Furthermore, this mediated relationship was moderated by substance use level for parenting outcomes, but not IPV. In the case of parenting, the mediated path from hostility to aggressive and rejecting parenting only occurred for those high in substance use. Limitations and implications for prevention and treatment of IPV and aggressive and rejecting parenting are discussed.

Background

Recent estimates indicate there are approximately 907,000 instances of intimate partner violence (IPV) per year in the United States (Catalano, 2012). The most recent national surveys show nearly 36% of women and 29% of men experience IPV at some point in their lifetime (Black et al., 2011), though a recent literature found little evidence for gender discrepancies in IPV perpetration and much evidence of mutual violence (Archer, 2013). IPV remains a significant public health concern due to both the direct (death, rape, or injury) and indirect (e.g., lasting psychological damage and effects on stress related illnesses, such as cardiovascular and immune diseases) consequences to men and women exposed (Amanor-Boadu, 2011; CDC, 2012; Hines & Douglas, 2010; Hines & Douglas, 2011). In addition to the significant health consequences of IPV on victims, child witnesses are at significant risk for child maltreatment (Hamby, Finkelhor, Turner, & Ormrod, 2010). Understanding the causes of IPV remains an important goal of behavioral research to enable development of appropriate prevention and intervention efforts. Multiple studies have highlighted the undeniable co-occurrence of IPV and substance abuse (Note that throughout the manuscript, we refer to substance use as mere use of a drug, and substance abuse as drug consumption with related legal, interpersonal, and health consequences; for reviews, see Langenderfer, 2013; Shorey, Stuart, & Cornelius, 2011; Testa, 2004), yet few have examined

the potential role substance abuse may have on the association of various personality characteristics and psychological symptoms to IPV or hostile-aggressive parenting behavior. This study was designed to fill these gaps in the literature.

Hostility, IPV, and Substance Use

One factor that distinguishes those who engage in IPV from those who do not is level of anger or hostility. Male IPV perpetrators are highly similar to other violent men in terms of intelligence, personality, aggression, and criminal sentiments; however, individuals who engage in IPV appear to be higher in hostility than violent controls (Valliant, De Wit, & Bowes, 2004). Indeed, a meta-analysis of 33 studies suggests that men with histories of IPV are higher on anger and hostility than individuals without IPV histories across self-report, observational, and spouse-specific measures (i.e., anger directed by a male at his spouse and not some other target: Norlander & Eckhardt, 2005). This difference between men with and without histories of IPV holds even when controlling for relationship distress. Hostility has also been shown to predict IPV over time (Schumacher, Homish, Leonard, Quigley, & Kearns-Bodkin, 2008; White & Widom, 2003).

Another clear risk factor for IPV is substance use. Two separate reviews have concluded that alcohol and drug use increase the likelihood of IPV among men, though the association has been shown more clearly for alcohol than other drugs, and may depend on drug type (Moore et al., 2008; Shorey et al., 2011). IPV is between 2 and 11 times more likely to occur under conditions of drinking (Moore, Elkins, McNulty, Kivisto, & Handsel, 2011). Additionally, individuals given alcohol exhibit increases in anger expression and aggression verbalization in the laboratory, with increases being more dramatic for maritally violent than maritally nonviolent men (Eckhardt, 2007). Thus, it seems clear that intoxication is a major factor that sets the stage for IPV occurrences.

Substance use may represent a mediating factor by which hostility leads to IPV. Certainly, greater hostility is linked with more drug and alcohol use (Calhoun, Bosworth, Siegler, & Bastian, 2001; Hamdan-Mansour, Halabi, & Dawani, 2009; Hampson, Tildesley, Andrews, Luyckx, & Mroczek, 2010; Putt, Dowd, & McCormick, 2001). Additionally, longitudinal studies indicate that changes in hostility predict changes in substance use severity over time, implying that differences in hostility explain differences in substance use severity and not the other way around (Putt et al., 2001). Furthermore, both male and female substance users who report high hostility are more likely to utilize drugs in response to interpersonal and familial conflicts, and to resort to confrontational coping styles to deal with these conflicts (McCormick & Smith, 1995). These studies imply that individuals high in hostility may more frequently use drugs and alcohol, which may put them at greater risk for engaging in IPV. It is also possible that hostility and substance use have interactive effects, such that individuals high in both these traits will engage in more IPV than those low in either or both traits. Indeed, one study revealed that high alcohol use and more hostile temperament interacted to predict alcohol-related aggression over time among newlywed couples for both husbands and wives (Kachadourian, Homish, Quigley, & Leonard, 2012).

Hostility, Substance Use, and Parenting

IPV has effects beyond its economic impact and the distress caused for victims and child witnesses. For example, IPV can have an influence on parenting behavior. Experiencing or engaging in IPV is a risk factor for harsh parenting (e.g., sarcastic tone, threatening or punishing without explanation); intrusive parenting (e.g., lack of respect for the child as an individual, interfering with the child's needs; Gustafsson & Cox, 2012; Postmus, Huang, & Mathisen-Stylianou, 2012); reduced parenting and co-parenting capability (Baker, Perilla, & Norris, 2001; Casanueva, Martin, Runyan, Barth, & Bradley, 2008; Kan, Feinberg, & Solmeyer, 2012; Murray, Bair-Merritt, Roche, & Cheng, 2012); and child maltreatment (Payne, Higgins, & Blackwell, 2010; Taylor, Guterman, Lee, & Rathouz, 2009).

Given the high co-occurrence of IPV and child maltreatment (Edelson, 1999; Hamby et al., 2010), it is possible that hostile-aggressive parenting shares a similar relationship with hostility and substance use as IPV. Indeed, parental hostility predicts harsher parenting and emotional unavailability (Buehler, Benson, & Gerard, 2006; Rhoades et al., 2011; Sturge-Apple, Davies, & Cummings, 2006). Additionally, substance use is associated with neglectful and hostile-aggressive parenting (Dunn et al., 2002; Stover, Urdahl, & Easton, 2012), more negative father-child interactions (Eiden, Chavez, & Leonard, 1999), less responsible fathering in terms of delivery of economic resources, patterns of procreation, pair-bonding, and parenting (McMahon, Winkel, & Rounsaville, 2008), and lower reflective functioning (Borelli, West, Decoste, & Suchman, 2012; Stover & Kiselica, in press). Thus, in a similar vein to IPV, parents high in hostility may be led to engage in more hostile-aggressive parenting behavior as a result of their use of substances. The effect of hostility on parenting may also be moderated by substance use, such that those high in hostility and substance use may engage in poorer parenting than those low in either or both of these characteristics.

Current Study

The purpose of the current study was to investigate mediation models predicting IPV and negative parenting behavior from hostility and substance use in a sample of fathers. We hypothesized that substance use would mediate the relationship between hostility and both physical and psychological partner violence, as well as hostile-aggressive and rejecting parent behavior. We also explored moderated-mediation models to look for interactive effects of hostility and substance use on IPV and negative parenting.

Methods

Participants

The participants in the study were 132 fathers recruited for the Comparative Study on Fathering (Stover, Easton, & McMahon, 2013). This study was designed to examine the parenting of men with IPV and substance use histories and those without these problems. A number of participants (36.80%) had co-occurring IPV and substance abuse histories. Some participants (8.33%) reported IPV only, 21.21% reported substance abuse only, and the remaining 33.67% of the fathers had neither problem. The participants reported using many

different drugs, including alcohol (63.9%), marijuana (28.5%), opiates (4.6%), sedatives (4.6%), hallucinogens (3.0%), cocaine (2.4%), inhalants (2.3%), and amphetamines (.8%). The fathers mean age was 34.56, and ages ranged from 20 to 52. They reported their racial/ethnic backgrounds as African American (55.7%), White/Caucasian (17.7%), Hispanic (15.2%), Mixed (8.0%), and other (1.3%). A large portion of the sample was unemployed (46.8%). Finally, 46.8% of the sample lived with their child, and fathers saw their children 20.30 (SD = 9.63) days a month on average. Their children ranged in age from 2 to 6 years. Fathers with children of this age were targeted for recruitment given that families impacted by IPV often have younger children (DOJ, 2006; Fantuzzo & Mohr, 1999), fathers are more likely to be involved when children are younger, young children are most affected by IPV and negative parenting (Shonkoff & Phillips, 2000) and the broader study included a measure of child behavioral functioning which was designed for early childhood (aged 2 to 6 years).

Measures

Fathers completed a series of demographic and family history questions and standardized measures of IPV and parenting.

The Revised Conflict Tactics Scale (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996) is a self-report measure of participants' use of violence in the last year and over the course of the relationship with their partner. In this study, fathers were asked to report violence in their relationship with the mother of the target child. The CTS2 was used to assess the presence of both physical and psychological IPV in the last 12 months on the part of the mother and father. Because we only collected data on fathers' hostility and substance use and the focus of our study is on father-initiated IPV and aggressive parenting, only male initiated violence scores are used in the analyses. It is important to note, however, that fathers did report much mother initiated violence (physical violence [M = 6.69, SD = 9.24]; psychological aggression [M = 15.60, SD = 10.06]). The CTS2 is the most commonly used self-report measure for assessing IPV in the research literature. In this sample, internal consistencies of the physical and psychological IPV scales were .92 and .89, respectively.

The Parental Acceptance Rejection Questionnaire (PARQ; Rohner, Khaleque, & Cournoyer, 2005) documents the frequency of rejecting and hostile-aggressive parenting. Respondents rate how frequently they engage in rejecting (not showing love, affection, or care to the child) or aggressive (violent or harsh actions directed toward the child) behavior toward their child from 0 ("Almost never true of me") to 3 ("Almost always true of me"). Examples of items that index rejecting parenting include, "I see my child as a big nuisance" and "When my child misbehaves, I make him/her feel unloved". Examples of items that index aggressive parenting include, "I yell at my child when I am angry" and "I hit my child even when (s)he may not deserve it". Each subscale consists of 15-items and each has demonstrated good convergent, discriminant, and construct validity, as well as internal consistency (Rohner & Khaleque, 2005). The PARQ has shown utility in multiple studies of fathers with IPV and substance abuse histories (McMahon et al., 2008; Stover et al., 2013; Stover et al., 2012). For this study, fathers were asked to rate the frequency of specific acts of parenting behavior occurring in their relationship with their oldest biological child

between the ages of two and six years. In this sample, internal consistencies of the aggressive and rejecting parenting scales were .77 and .60, respectively.

The Addiction Severity Index 5th Edition (ASI; McLellan et al., 1992) is an interview assessing drug use and problems. From the ASI, we gathered frequency of alcohol and drug use in the past month, measured by number of days on which a substance was used. We summed across drug categories to obtain a measure of total substance use. The ASI has been validated in many different populations (Makela, 2004). Furthermore, reports of drug use on the ASI are correlated with drug use detection via urinalysis (Denis et al., 2012).

Brief Symptom Inventory (BSI; Derogatis & Melisaratos, 1983) is a 53-item self-report measure assessing multiple domains of symptoms. Items are rated on 5-point scale that ranges from 0 (never) to 4 (always). We used the hostility subscale of the BSI (example items include: “Feeling easily annoyed or irritated,” and “Having urges to beat, injure, or harm someone”). The BSI has high internal consistency and convergent validity with other measures of psychological distress (Boulet & Boss, 1991). Internal consistency was .62 in the current sample.

Procedure

Fathers were recruited into the study by flyers posted in substance abuse treatment programs, health clinics, pediatric offices, the court house, domestic violence programs, unemployment offices, preschools, pediatric clinics, bus stops, libraries and community agencies in New Haven, CT. Men were screened by phone for eligibility (biological father of a child between 2 and 6 years of age with at least monthly visitation) and then met in person for a single two-hour session with trained research assistants to complete informed consent and study measures. Recruitment was focused on collecting a sample of fathers of young children with at least half struggling with substance use and/or IPV. Data were collected regarding fathers’ relationships and parenting behavior toward their oldest biological children aged two through six years. Participants were paid $50 for their time and the study was approved by the Yale University School of Medicine Human Investigations Committee.

Data Analysis

We proposed that hostility would lead to increased IPV and poorer parenting via substance use. We tested for the significance of indirect effects of hostility on outcomes through substance use by using bootstrapping methodology (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). This procedure produces an empirical sampling distribution, consisting of 5000 bootstrap samples, of the estimated indirect effect of the independent variable on the dependent variable through the proposed mediator. This sampling distribution is then used to provide an estimate of the indirect effects and a 95% confidence interval. Simulation studies have found that the bias-corrected bootstrap yields the most accurate confidence intervals (Cheung & Lau, 2008; MacKinnon, Lockwood, & Williams, 2004). Thus, we report bootstrap estimates and bias-corrected confidence intervals for each mediational relationship (Preacher & Hayes, 2008). For these analyses, confidence intervals for the estimate of the indirect effect that do not contain zero are considered significantly different from zero, indicating a meaningful effect. When testing study hypotheses, we used

two outcomes for IPV—physical and psychological IPV—and two outcomes for parenting —aggressive and rejecting parenting.

Because research suggested that being high in hostility and substance use could have an interactive effect on IPV and parenting, we added an interaction term (hostility X substance use) to these models, using the Process macro for SPSS (Preacher & Hayes, 2008) to examine potential moderated-mediation relationships. Moderated-mediation occurs when a mediated relationship is qualified by an interaction (Preacher, Rucker, & Hayes, 2007)—in other words, the strength of the indirect effect depends on a moderator variable (note that in this case, the moderator variable is also the mediator variable).

Results

We first examined all variables for outliers: None were detected. Means and standard deviations, as well as correlations, for all study variables are presented in Table 1. As might be expected, the two IPV variables were highly correlated, as were the two parenting variables. Hostility and substance use were correlated with each other, as well as each of the outcomes variables.

Next, we examined bootstrap mediation models of hostility leading to IPV and poor parenting via substance use. These analyses yielded confidence intervals for the indirect effects that did not include zero (Table 2). Thus, substance use mediated the relationship between hostility and all outcomes. In other words, individuals who were high in hostility engaged in substance use more often, leading them to more instances of physical and psychological IPV and more rejecting and aggressive parenting practices.

The hostility by substance use interaction was not significant for either IPV outcome (see Table 2), indicating that moderated-mediation was not present. However, the interaction was significant for both parenting outcomes, indicating a significant moderated-mediation effect (see Table 2). The direct effect of this interaction is presented graphically in Figure 1: Individuals high in hostility and substance use were at greater risk for aggressive and rejecting parenting than those low on either or both of these variables. For the parenting outcomes, conditional indirect effects are presented in Table 3: Indirect effects with confidence intervals that do not contain zero are considered significant. These results indicate that the mediated path from hostility to rejecting and aggressive parenting only occurs for those high in substance use.

We also tested an alternative relationship, whereby substance use led to IPV and poor parenting via hostility. This alternative mediation model was significant for all outcomes except rejecting parenting. This alternate finding indicates the directionality of the mediation is not clear. Given our hypotheses, we report findings from the original model, but acknowledge that the direction of effect remains uncertain.

Discussion

This was the first study to examine the interrelationship of substance use with the influential characteristic of hostility in determining IPV and parenting outcomes. We proposed that

substance use would mediate the relationship between hostility and both physical and psychological IPV, as well as rejecting and hostile-aggressive parenting behavior. Furthermore, we explored whether hostility and substance use might also have interactive effects on IPV and parenting behavior. There were several interesting findings.

First, substance use mediated the relationship between hostility and both physical and psychological IPV. This finding indicates that individuals who are more hostile are more likely to engage in substance use, increasing the probability that they may become violent towards their partners. Research has clearly demonstrated that being under the influence of substances makes an individual more likely to engage in IPV (Moore et al., 2011). Thus, any trait that makes substance use more likely will enhance the possibility of IPV occurring. This mediated relationship held across all levels of substance use, with no interaction between hostility and substance use reaching significance. These findings are consistent with other studies that have found that men and women who abuse drugs and who endorse high levels of hostility are the most likely to be violent and those with high levels of hostility have more difficulty remaining abstinent from drugs at times of stress (Handelsman et al., 2000; McCormick & Smith, 1995). These connections suggest a cycle that requires interruption, whereby hostility can increase substance use which may result in IPV.

In addition to IPV, substance use mediated the association between hostility and aggressive and rejecting parenting. This result indicates that those higher in hostility are more likely to use substances, leading them to engage in poorer parenting practices (e.g., spanking, yelling, ignoring the child) that may represent child maltreatment. Similar to IPV, rejecting and aggressive parenting was more frequent when substance use was involved, so that other risk factors such as hostility that increase the likelihood of substance use, also may increase the likelihood of poor parenting behavior.

It must be acknowledged that there is a directionality issue with all but one of our mediation findings because substance use may lead to poor parenting and IPV through hostility, except in the case of rejecting parenting. Our converse model examining mediation of the link from substance use to IPV by hostility was also significant suggesting the relationship may occur in the opposite direction. Indeed, a wealth of experimental research suggests that alcohol increases aggression and quasi-experimental studies support the role of substance use in increasing the incidence of IPV (Exum, 2006; Murphy & Ting, 2010). Use of alcohol in a laboratory study resulted in more hostile verbalizations (generated from hostile thinking) in response to relationship scenarios (Eckhardt, 2007). This study suggests that the use of substances may facilitate an increase in hostility leading to greater likelihood of aggression toward partners and children. Alternatively, there may be a bidirectional relationship between hostility and substance use and the link to IPV. Longitudinal research is necessary to resolve this directionality problem.

Substance use only served as a mediator between hostility and parental rejection and aggression when substances were used at higher levels, suggesting that frequent drug use may be necessary for an effect on parenting to occur. This finding may provide some insight into why some fathers may perpetrate both IPV and child maltreatment, while others who are violent toward their partners, abstain from violence toward their children. Men with a

combination of hostility and high levels of drug use seem to be the most at risk for hostile-aggressive and rejecting parenting. However, it must be acknowledged that not all men who use substances engage in IPV and/or negative parenting, and not all men who engage in IPV and/or poor parenting use substances.

Though these findings extend our knowledge of hostility and substance use in relation to IPV and parenting, they are limited in several ways. First, the study is cross-sectional in nature. Although it is typical to describe mediation models in a causal fashion, as we have noted above, causal interpretations of cross-sectional results must be made with caution. Future research could employ longitudinal methods to determine whether hostility, substance use, and IPV and parenting relate to each other in the manner described above. Additionally, this study relied on self-report measures only, which may have resulted in reporting bias. Studies that include multiple informants and direct observations of fathers and their children would strengthen these findings. Several studies have found that fathers report more of their antisocial behavior than mothers (Caspi et al., 2001), and fathers' reports of their parenting correlate more strongly than mothers' reports with reports and observations of children's emotional-behavioral status (Hernandez & Coley, 2007), evidencing the validity of fathers' reports of their own behavior. Furthermore, it must be acknowledged that these findings only apply to the fathers' behavior in a single father-mother-child triad and may not extend to the fathers' behavior with other romantic partners or offspring.

Another limitation concerns the study sample. The participants represented here generally included men with mild to moderate IPV behavior that do not represent the full severity of IPV and the small sample does not allow examination of the impact of specific kinds of drugs. Larger scale studies that include a broader range of IPV and drug use would aid in generalizability of these findings. Additionally, this study was designed to examine IPV and parenting among men in order to contribute to our understanding of fathering. However, we know that many women also engage in IPV (Black et al., 2011) and that mothers' parenting is clearly affected by hostility and substance use (e.g., Dunn et al., 2002; Rhoades et al., 2011). Future research could include women to identify gender differences, if any, in these phenomena.

Despite these limitations, this research has clear implications for prevention and intervention for both IPV and parenting. Current interventions for IPV focus on educating men about their controlling patterns of behavior and/or reducing violence through anger management skills training. Unfortunately, programs focused on reducing controlling behavior and managing anger have been largely unsuccessful (Babcock, Green, & Robie, 2004; Feder & Wilson, 2005). What is unclear is whether these anger management programs actually reduce hostile thinking patterns. Development of novel treatments and research evaluation of new ways to target hostile thinking are warranted. Specific focus on the content of hostile thoughts in response to relationship-based situations, examination of the origins of these thoughts (e.g. learned from family of origin, unconscious response based on traumatic past, etc.), and practice of skills to reduce hostile thinking and impulsive responding may benefit men who are at high risk for use of substances and IPV in the context of hostility. Evaluation of such intervention would need to assess whether it resulted in less IPV and negative

parenting. Some programs for batterers utilize cognitive behavioral strategies to target maladaptive thoughts and reactions (Gondolf, 2012). These methods have not been found to be any more effective than power and control models of IPV interventions (Babcock et al., 2004; Stover, Meadows, & Kaufman, 2006), but it may be that modifications or enhancements to these approaches may result in better outcomes, especially for those who use substances. Assessment of men for hostility and substance use may also facilitate identification of men for whom these issues are contributing to IPV, enabling implementation of programs that target the connection between hostility, substance use and violence.

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References

Amanor-Boadu Y, Stith SM, Miller M, Cook J, Allen L, Gorzek M. Impact of dating violence on male and female college students. Partner Abuse. 2011; 2:323–343. DOI: 10.1891/1946-6560.2.3.323

Archer J. Can evolutionary principles explain patterns of family violence? Psychological Bulletin. 2013; 139:403–440. DOI: 10.1037/a0029114 [PubMed: 22774787]

Baker CK, Perilla JL, Norris FH. Parenting stress and parenting competence among Latino men who batter. Journal of Interpersonal Violence. 2001; 16:1139–1157. DOI: 10.1177/088626001016011003

Black, MC.; Basile, KC.; Breiding, MJ.; Smith, SG.; Walters, ML.; Merrick, MT.; Stevens, MR. The National Intimate Partner and Sexual Violence Survey: 2010 Summary Report. 2011. Retrieved from http://www.cdc.gov/violenceprevention/pdf/nisvs_executive_summary-a.pdf

Borelli JL, West JL, Decoste C, Suchman NE. Emotionally avoidant language in the parenting interviews of substance-dependent mothers: Associations with reflective functioning, recent substance use, and parenting behavior. Infant mental health journal. 2012; 33:506–519. DOI: 10.1002/imhj.21340 [PubMed: 23049148]

Boulet J, Boss MW. Reliability and validity of the Brief Symptom Inventory. Psychological Assessment: A Journal of Consulting and Clinical Psychology. 1991; 3:433.doi: 10.1037/1040-3590.3.3.433

Buehler C, Benson MJ, Gerard JM. Interparental hostility and early adolescent problem behavior: The mediating role of specific aspects of parenting. Journal of Research on Adolescence. 2006; 16:265–292. DOI: 10.1111/j.1532-7795.2006.00132.x

Calhoun PS, Bosworth HB, Siegler IC, Bastian LA. The relationship between hostility and behavioral risk factors for poor health in women veterans. Preventive Medicine. 2001; 33:552–557. DOI: 10.1006/pmed.2001.0921 [PubMed: 11716650]

Casanueva C, Martin SL, Runyan DK, Barth RP, Bradley RH. Quality of maternal parenting among intimate-partner violence victims involved with the child welfare system. Journal of Family Violence. 2008; 23:413–427. DOI: 10.1007/s10896-008-9167-6

Caspi A, Taylor A, Smart M, Jackson J, Tagami S, Moffitt TE. Can women provide reliable information about their children's father? Cross-informant agreement about men's lifetime antisocial behaviour. Journal of Child Psychology and Psychiatry. 2001; 42:915–920. DOI: 10.1111/1469-7610.00787 [PubMed: 11693586]

Catalano, SM. Intimate Partner Violence 1993–2010. 2012. Retrieved from http://www.bjs.gov/content/pub/pdf/ipv9310.pdf

Cheung GW, Lau RS. Testing mediation and suppression effects of latent variables bootstrapping with structural equation models. Organizational Research Methods. 2008; 11:296–325. DOI: 10.1177/1094428107300343

Denis, Cc; Fatseas, Ml; Beltran, V.; Bonnet, C.; Picard, Sp; Combourieu, I.; Auriacombe, M. Validity of the self-reported drug use section of the Addiction Severity Index and associated factors used under naturalistic conditions. Substance Use & Misuse. 2012; 47:356–363. DOI: 10.3109/10826084.2011.640732 [PubMed: 22216906]

Derogatis LR, Melisaratos N. The Brief Symptom Inventory: An introductory report. Psychological Medicine. 1983; 3:595–605. DOI: 10.1017/S0033291700048017 [PubMed: 6622612]

Dunn MG, Tarter RE, Mezzich AC, Vanyukov M, Kirisci L, Kirillova G. Origins and consequences of child neglect in substance abuse families. Clinical Psychology Review. 2002; 22:1063–1090. DOI: 10.1016/S0272-7358(02)00132-0 [PubMed: 12238246]

Eckhardt CI. Effects of alcohol intoxication on anger experience and expression among partner assaultive men. Journal of Consulting and Clinical Psychology. 2007; 75:61.doi: 10.1037/0022-006X.75.1.61 [PubMed: 17295564]

Eiden RD, Chavez F, Leonard KE. Parent–infant interactions among families with alcoholic fathers. Development and Psychopathology. 1999; 11:745–762. DOI: 10.1017/S0954579499002308 [PubMed: 10624724]

Exum ML. Alcohol and aggression: An integration of findings from experimental studies. Journal of Criminal Justice. 2006; 34:131–145. DOI: 10.1016/j.jcrimjus.2006.01.008

Feder L, Wilson DB. A meta-analytic review of court-mandated batterer intervention programs: Can courts affect abusers' behavior? Journal of Experimental Criminology. 2005; 1:239–262. DOI: 10.1007/s11292-005-1179-0

Gondolf, EW. The Future of Batterer Programs. Boston, MA: Northeastern University Press; 2012.

Gustafsson HC, Cox MJ. Relations among intimate partner violence, maternal depressive symptoms, and maternal parenting behaviors. Journal of Marriage and Family. 2012; 74:1005–1020. [PubMed: 23869110]

Hamby S, Finkelhor D, Turner H, Ormrod R. The overlap of witnessing partner violence with child maltreatment and other victimizations in a nationally representative survey of youth. Child Abuse & Neglect. 2010; 34:734–741. DOI: 10.1016/j.chiabu.2010.03.001 [PubMed: 20850182]

Hamdan-Mansour AM, Halabi JO, Dawani HA. Depression, hostility, and substance use among university students in Jordan. Mental Health and Substance Use: Dual Diagnosis. 2009; 2:52–63. DOI: 10.1080/17523280802593301

Hampson SE, Tildesley E, Andrews JA, Luyckx K, Mroczek DK. The relation of change in hostility and sociability during childhood to substance use in mid adolescence. Journal of Research in Personality. 2010; 44:103–114. DOI: 10.1016/j.jrp.2009.12.006 [PubMed: 20401178]

Handelsman L, Stein JA, Bernstein DP, Oppenheim SE, Rosenblum A, Magura S. A latent variable analysis of coexisting emotional deficits in substance abusers: Alexithymia, hostility, and ptsd. Addictive Behaviors. 2000; 25:423–428. DOI: 10.1016/s0306-4603(99)00010-6 [PubMed: 10890295]

Hernandez DC, Coley RL. Measuring father involvement within low-income families: Who is a reliable and valid reporter? Parenting: Science and Practice. 2007; 7:69–97. DOI: 10.1207/s15327922par0701_4

Hines DA, Douglas EM. A closer look at men who sustain intimate terrorism by women. Partner Abuse. 2010; 1(3):286–313. DOI: 10.1891/1946-6560.1.3.286 [PubMed: 20686677]

Hines DA, Douglas EM. Symptoms of post-traumatic stress disorder in men who sustain intimate partner violence: A study of help seeking and community samples. Psychology of Men and Masculinity. 2011; 12:112–127. [PubMed: 21841915]

Kachadourian LK, Homish GG, Quigley BM, Leonard KE. Alcohol expectancies, alcohol use, and hostility as longitudinal predictors of alcohol-related aggression. Psychology of Addictive Behaviors. 2012; 26:414–422. DOI: 10.1037/a0025842 [PubMed: 22004128]

Kan ML, Feinberg ME, Solmeyer AR. Intimate partner violence and coparenting across the transition to parenthood. Journal of Family Issues. 2012; 33:115–135. DOI: 10.1177/0192513X11412037

Langenderfer L. Alcohol use among partner violent adults: Reviewing recent literature to inform intervention. Aggression and Violent Behavior. 2013; 18:152–158. DOI: 10.1016/j.avb.2012.11.013

MacKinnon DP, Lockwood CM, Hoffman JM, West SG, Sheets V. A comparison of methods to test mediation and other intervening variable effects. Psychological Methods. 2002; 7:83.doi: 10.1037/1082-989X.7.1.83 [PubMed: 11928892]

MacKinnon DP, Lockwood CM, Williams J. Confidence limits for the indirect effect: Distribution of the product and resampling methods. Multivariate Behavioral Research. 2004; 39:99–128. DOI: 10.1207/s15327906mbr3901_4 [PubMed: 20157642]

Makela K. Studies of the reliability and validity of the Addiction Severity Index. Addiction. 2004; 99:398–410. Retrieved from http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1360-0443. [PubMed: 15049734]

Mbilinyi LF, Neighbors C, Walker DD, Roffman RA, Zegree J, Edleson J, O'Rourke A. A telephone intervention for substance-using adult male perpetrators of intimate partner violence. Research on Social Work Practice. 2011; 21:43–56. DOI: 10.1177/1049731509359008 [PubMed: 22754270]

McCormick RA, Smith M. Aggression and hostility in substance abusers: The relationship to abuse patterns, coping style, and relapse triggers. Addictive Behaviors. 1995; 20:555–562. DOI: 10.1016/0306-4603(95)00015-5 [PubMed: 8712053]

McLellan AT, Kushner H, Metzger D, Peters R, Smith I, Grissom G, Argeriou M. The fifth edition of the Addiction Severity Index. Journal of Substance Abuse Treatment. 1992; 9:199–213. DOI: 10.1016/0740-5472(92)90062-S [PubMed: 1334156]

McMahon TJ, Winkel JD, Rounsaville BJ. Drug abuse and responsible fathering: a comparative study of men enrolled in methadone maintenance treatment. Addiction. 2008; 103:269–283. Retrieved from http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1360-0443. [PubMed: 18199306]

Moore TM, Elkins SR, McNulty JK, Kivisto AJ, Handsel VA. Alcohol use and intimate partner violence perpetration among college students: Assessing the temporal association using electronic diary technology. Psychology of Violence. 2011; 1:315.doi: 10.1037/a0025077

Moore TM, Stuart GL, Meehan JC, Rhatigan DL, Hellmuth JC, Keen SM. Drug abuse and aggression between intimate partners: A meta-analytic review. Clinical Psychology Review. 2008; 28:247–274. DOI: 10.1016/j.cpr.2007.05.003 [PubMed: 17604891]

Murphy CM, Ting L. The effects of treatment for substance use problems on intimate partner violence: A review of empirical data. Aggression and Violent Behavior. 2010; 15:325–333. DOI: 10.1016/j.avb.2010.01.006

Murray KW, Bair-Merritt MH, Roche K, Cheng TL. The Impact of intimate partner violence on mothers' parenting practices for urban, low-income adolescents. Journal of Family Violence. 2012; 27:573–583. DOI: 10.1007/s10896-012-9449-x

Norlander B, Eckhardt C. Anger, hostility, and male perpetrators of intimate partner violence: A meta-analytic review. Clinical Psychology Review. 2005; 25:119–152. DOI: 10.1016/j.cpr.2004.10.001 [PubMed: 15642644]

Payne BK, Higgins GE, Blackwell B. Exploring the link between self-control and partner violence: Bad parenting or general criminals. Journal of Criminal Justice. 2010; 38:1015–1021. DOI: 10.1016/j.jcrimjus.2010.07.003

Postmus JL, Huang CC, Mathisen-Stylianou A. The impact of physical and economic abuse on maternal mental health and parenting. Children and Youth Services Review. 2012; 34:1922–1928. DOI: 10.1016/j.childyouth.2012.06.005

Preacher KJ, Hayes AF. Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. Behavior Research Methods. 2008; 40:879–891. DOI: 10.3758/BRM.40.3.879 [PubMed: 18697684]

Preacher KJ, Rucker DD, Hayes AF. Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. Multivariate Behavioral Research. 2007; 42:185–227. DOI: 10.1080/00273170701341316 [PubMed: 26821081]

Putt CA, Dowd ET, McCormick RA. Impact of pre-existing levels of hostility and aggression on substance abuse treatment outcome. Counselling Psychology Quarterly. 2001; 14:139–147. DOI: 10.1080/09515070110058576

Rhoades KA, Leve LD, Harold GT, Neiderhiser JM, Shaw DS, Reiss D. Longitudinal pathways from marital hostility to child anger during toddlerhood: Genetic susceptibility and indirect effects via

harsh parenting. Journal of Family Psychology. 2011; 25:282.doi: 10.1037/a0022886 [PubMed: 21480707]

Rohner RP, Khaleque A, Cournoyer DE. Parental acceptance and rejection: Theory, methods, cross-cultural evidence, and implications. Ethos. 2005; 33:299–334. DOI: 10.1525/eth.2005.33.3.299

Schumacher JA, Homish GG, Leonard KE, Quigley BM, Kearns-Bodkin JN. Longitudinal moderators of the relationship between excessive drinking and intimate partner violence in the early years of marriage. Journal of Family Psychology. 2008; 22:894–904. DOI: 10.1037/a0013250 [PubMed: 19102610]

Shorey RC, Stuart GL, Cornelius TL. Dating violence and substance use in college students: A review of the literature. Aggression and Violent Behavior. 2011; 16:541–550. DOI: 10.1016/j.avb.2011.08.003 [PubMed: 22125415]

Stover CS, Easton CJ, McMahon TJ. Parenting of men with co-occurring intimate partner violence and substance abuse. Journal of Interpersonal Violence. 2013; doi: 10.1177/0886260512475312

Stover CS, Kiselica AM. An initial examination of the association of reflective functioning to parenting of fathers. Infant Mental Health Journal. in press.

Stover CS, Urdahl A, Easton C. Depression as a mediator of the association between substance abuse and negative parenting of fathers. The American Journal of Drug and Alcohol Abuse. 2012; 38:344–349. DOI: 10.3109/00952990.2011.649221 [PubMed: 22243417]

Straus MA, Hamby SL, Boney-McCoy S, Sugarman DB. The revised Conflict Tactics Scales (CTS2) development and preliminary psychometric data. Journal of Family Issues. 1996; 17:283–316. DOI: 10.1177/019251396017003001

Sturge-Apple ML, Davies PT, Cummings EM. Hostility and withdrawal in marital conflict: Effects on parental emotional unavailability and inconsistent discipline. Journal of Family Psychology. 2006; 20:227.doi: 10.1037/0893-3200.20.2.227 [PubMed: 16756398]

Taylor CA, Guterman NB, Lee SJ, Rathouz PJ. Intimate partner violence, maternal stress, nativity, and risk for maternal maltreatment of young children. American Journal of Public Health. 2009; 99:175–183. DOI: 10.2105/AJPH.2007.126722 [PubMed: 19008518]

Testa M. The role of substance use in male-to-female physical and sexual violence: A brief review and recommendations for future research. Journal of Interpersonal Violence. 2004; 19:1494–1505. DOI: 10.1177/0886260504269701 [PubMed: 15492063]

Valliant PM, De Wit M, Bowes R. Cognitive and personality factors associated with assaultive and domestic offenders. Psychological Reports. 2004; 94:1180–1184. DOI: 10.2466/PR0.94.3.1180-1184 [PubMed: 15362389]

White HR, Widom CS. Intimate partner violence among abused and neglected children in young adulthood: The mediating effects of early aggression, antisocial personality, hostility and alcohol problems. Aggressive Behavior. 2003; 29:332–345. DOI: 10.1002/ab.10074

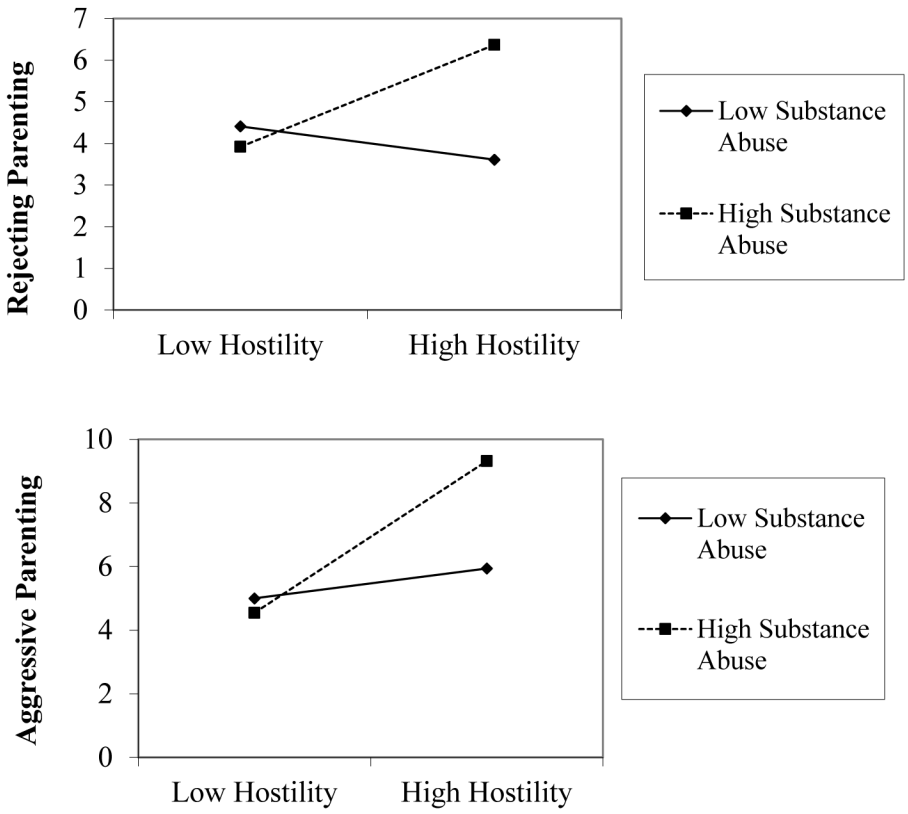

Figure 1.
Hostility X substance use interactions predicting rejecting and aggressive parenting.

Table 1

Means, Standard Deviations, Minimums, Maximums, and Correlations for Study Variables.

Variable	Mean (SD)	Min.	Max.
Hostility	1.47 (.52)	1	4
Substance Use	7.81 (10.26)	0	48
Physical IPV	2.64 (4.37)	0	21
Psychological IPV	12.86 (8.77)	0	46
Parental Rejection	6.37 (4.64)	1	26
Parental Aggression	4.75 (2.73)	1	19

	2.	3.	4.	5.	6.
1. Hostility	.16	.31***	.30**	.20*	.34***
2. Substance Use	--	.26**	.29**	.31***	.26**
3. Physical IPV	--	--	.65***	.51***	.60***
4. Psychological IPV	--	--	--	.37***	.55***
5. Parental Rejection	--	--	--	--	.71***
6. Parental Aggression	--	--	--	--	--

* $p < .05$,

** $p < .01$,

*** $p < .001$

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Table 2

Results of Bootstrapped Mediation Analyses

Dependent Variable	B (SE) for IV to Mediator	B (SE) for Mediator to DV	B (SE) for IV to DV	Estimate of the indirect effect [$CI_{95\%}$]	B for Hostility x Substance Use Interaction	Model R^2 [a]
Physical IPV	3.46 (1.76)	.09** (.04)	2.57*** (.72)	.31 [.01,1.19]	.03	.13***
Psychological IPV	3.46 (1.76)	.20** (.07)	4.98** (1.43)	.71 [.05,2.45]	.14	.15***
Parental Rejection	3.11 (1.73)	.08*** (.02)	.75 (.44)	.26 [.004,.78]	.15***	.20***
Parental Aggression	3.11 (1.73)	.10* (.04)	2.68*** (.73)	.33 [.01,1.25]	.18*	.20***

Note. These analyses were also run controlling for days of child contact in the past month. Controlling for child contact did not change results, so results are reported without the effect of covariates.

[a] For models without significant interactions, R^2 values are reported for just the mediation model.

* $p < .05$,

** $p < .01$,

*** $p < .001$

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Table 3

Conditional Indirect Effects of Hostility on Outcomes at Values of the Moderator

Outcome		Estimate of the indirect effect [$CI_{95\%}$]
Parental Rejection	[a] Low Substance Use	.19 [−.59,.22]
	[b] High Substance Use	2.00 [.04,1.12]
Parental Aggression	[a] Low Substance Use	.30 [−.98,.33]
	[b] High Substance Use	.41 [.01,1.80]

Note. These analyses were also run controlling for days of child contact in the past month. Controlling for child contact did not change results, so results are reported without the effect of covariates.

[a] 1 SD below the mean,

[b] 1 SD above the mean.