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THE RELATIONSHIP BETWEEN FAMILY-OF-ORIGIN VIOLENCE, HOSTILITY, AND INTIMATE PARTNER VIOLENCE IN MEN ARRESTED FOR DOMESTIC VIOLENCE: TESTING A MEDIATIONAL MODEL

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Abstract

Although research has shown links between family-of-origin violence (FOV), intimate partner violence (IPV), and hostility, research has not examined whether hostility mediates the relationship between FOV and IPV. The current study examined whether hostility mediates FOV and IPV perpetration in 302 men arrested for domestic violence. Results demonstrated that hostility fully mediated the relationship between father-to-participant FOV and physical and

psychological IPV and the relationship between mother-to-participant FOV and physical IPV. Results indicated that hostility fully mediated the relationship between experiencing and witnessing FOV and physical IPV (composite FOV), and partially mediated the relationship between composite FOV and psychological aggression.

Keywords

intimate partner violence; family-of-origin violence; hostility; domestic violence

Intimate partner violence (IPV), which includes acts of physical, psychological, or sexual aggression, is a widespread and devastating problem affecting individuals of all ages (Bonem, Stanley-Kime, & Corbin, 2008; Campbell, 2002). Victims of IPV experience numerous and significant physical and mental health consequences (see review by Jordan, Campbell, & Follingstad, 2010). While extant research has identified some risk factors for perpetration (e.g., gender, age, socioeconomic status, and psychopathology), the vast majority has yielded mixed and inconclusive findings (e.g., Capaldi, Knoble, Shortt, & Kim, 2012; Stith, Smith, Penn, Ward, & Tritt, 2004). Thus, there is a growing need for research that further elucidates the risk factors for IPV perpetration.

Family-of-Origin Violence

One factor that has been found to contribute to IPV is family-of-origin violence (FOV; Capaldi et al., 2012; Langhinrichsen-Rohling, Hankla, & Stormberg, 2004; Schafer, Caetano, & Cunradi, 2004; Whiting, Simmons, Havens, Smith, & Okra, 2009). FOV is defined as violence that occurs in the family of origin before the age of 18, and includes exposure to child maltreatment (i.e., child abuse and/or neglect) and/or witnessing parental IPV (Gover, Kaukinen, & Fox, 2008; Temple, Shorey, Tortolero, Wolfe, & Stuart, 2013). The relationship between FOV and adulthood IPV perpetration, referred to as the intergenerational transmission of violence, has been studied extensively (Gover et al., 2008; Langhinrichsen-Rohling et al., 2004). Although this research has consistently supported an association between FOV and IPV, research has yet to clarify the strength of this relationship. Specifically, some studies support a strong, direct link between FOV and adulthood IPV perpetration and others suggest a weak-to-moderate association (Alexander, Moore, & Alexander III, 1991; Black, Sussman, & Unger, 2010; Jankowski, Leitenberg, Henning, & Coffey, 1999; Park, Smith, & Ireland, 2012). For example, Murrell and colleagues (2007) reported a strong direct link between FOV and adulthood IPV among male batterers, such that an increased exposure to childhood FOV was associated with both an increased frequency and severity of IPV perpetration in adulthood. Conversely, Black and colleagues (2010) examined the association between FOV and IPV among emerging adults and found evidence of a moderate association. One potential reason for the discrepant findings is the different samples utilized in the two studies (i.e., male batterers vs. emerging adults). Additionally, different measures of FOV and partner violence were employed in each of the studies, which could have contributed to the differences in findings. These divergent findings necessitate the continued investigation of the relationship between childhood FOV and future

IPV perpetration

Based on the moderate effect between FOV and adulthood IPV perpetration, Holtzworth-Munroe and colleagues (1997) argued for the importance of considering the interaction of multiple risk factors in increasing the risk of subsequent IPV. In accordance with this suggestion, there has been a growing emphasis on examining the potential mediating factors that may account for the relationship between FOV and IPV (Riggs, Caulfield, & Street, 2000). For example, previous research has demonstrated that problematic interpersonal relationships (Murphy & Blumenthal, 2000), antisocial personality traits (Caldeira & Woodin, 2012; White & Widom, 2003), substance use, depression, anxiety, and impulsivity (Mair, Cunradi, & Todd, 2012; White & Widom, 2003) mediate the relationship between FOV and IPV across multiple populations. The importance of considering such mediating factors has further been supported by research indicating that the presence of FOV is not a necessary and sufficient cause for subsequent IPV (Milhalic & Elliott, 1997; Wareham, Boots, Chavez, 2009). Thus, it is important that other indirect or mediating factors that may influence the FOV-IPV perpetration relationship are examined. One potential factor of particular interest is hostility.

Hostility

Aggressive behaviors and affect are believed to result from hostile cognitions and attributions (Eckhardt, Norlander, & Deffenbacher, 2004). The central features of hostility “involve the cognitive variables of cynicism (believing that others are selfishly motivated), mistrust (an overgeneralization that others will be hurtful and intentionally provoking), and denigration (evaluating others as dishonest, ugly, and mean)” (Norlander & Eckhardt, 2005, p. 124). According to the background-situational model of IPV, aggressive personality traits (e.g., hostility) and emotionality or arousability (e.g., emotion dysregulation) are risk factors for IPV perpetration (Riggs & O’Leary, 1989). Numerous studies have supported this theory and demonstrated that hostility is positively associated with IPV perpetration across various populations (e.g., treatment seeking men, couples; Schumacher, Homish, Leonard, Quigley, & Kearns-Bodkin, 2008; Stuart, Meehan, Moore, Morean, Hellmuth, & Follansbee, 2006; Tharp, Schumacher, Samper, McLeish, & Coffey, 2013).

In addition, a number of studies have examined the relationship between hostility and IPV perpetration. In a meta-analytic review, Nolander & Eckhardt (2005) found that, across assessment methods (e.g., self-report, observational), IPV perpetrators reported significantly higher levels of hostility as compared to nonviolent men. Additional meta-analyses have demonstrated a moderate association between anger/hostility and IPV perpetration (Schumacher, Feldbau-Kohn, Slep, & Heyman, 2001; Stith et al., 2004). Interestingly, White and Widom (2003) found that hostility and alcohol problems mediated the relationship between FOV and IPV perpetration in young adult women, but not men. However, the empirical investigation by White and Widom (2003) had a number of limitations; specifically, the authors’ measure of IPV was based on only three questions and it assessed only minor IPV.

Although existing literature supports the association between hostility and IPV perpetration as well as hostility and FOV, there is a significant limitation in the extant research concerning the definition and assessment of hostility. Specifically, much of the existing literature has blurred the lines between anger and hostility, often using these terms interchangeably (Eckhardt, Barbour, & Stuart, 1997; Norlander & Eckhardt, 2005). However, there are significant construct-level differences that suggest that these two constructs are distinct from one another. Thus, assessments that do not account for these differences are likely to provide an inaccurate conceptualization of hostility, its relationship with important outcome variables (e.g., IPV perpetration and FOV), and its role in predicting important outcomes, such as IPV perpetration (Norlander & Eckhardt, 2005).

Taken together, existing literature supports the relationship between IPV perpetration and both hostility and FOV. However, limitations of prior research necessitate further study. For example, several studies demonstrating the association between IPV and both FOV and hostility have utilized IPV measures that assess for a limited number of partner violent acts. Assessing IPV with more extensive and broad measures may provide a more valid and accurate assessment of both IPV and the predictors of IPV. Second, although there are a number of studies investigating the FOV-IPV relationship, the nature of this complex relationship has yet to be clarified. Furthermore, to our knowledge, no studies examining the relationship between hostility and FOV have accounted for the unique construct level differences that differentiate hostility from other similar constructs. Finally, no studies have examined whether hostility mediates the FOV-IPV relationship in sample of male batterers attending court ordered BIPs.

Current Study

Given the existing literature indicating that hostility is both a significant consequence of FOV and a significant predictor of subsequent IPV perpetration, hostility is a potentially important mediator that could further elucidate the intergenerational transmission of violence. In an effort to extend the literature on the intergenerational transmission of violence and to address the aforementioned limitations, we examined whether the relationship between FOV and IPV perpetration was mediated by hostility in a sample of men arrested for domestic violence and court-ordered to batterer intervention programs (BIPs). Based on previous research, we hypothesized that 1) hostility and FOV would be positively associated with each other and physical and psychological IPV perpetration, and 2) hostility would fully mediate the relationship between FOV and both physical and psychological IPV perpetration.

METHOD

Participants

Men, 18 years of age or older, arrested for domestic violence and court-referred to BIPs in the state of Rhode Island were recruited as part of a larger study. The sample of 301 men reported a mean age of 33.1 ($SD = 10.0$), annual income of \$34,054 ($SD = \$22,654$), and 11.9 years ($SD = 2.35$) of education. The ethnic/racial composition was as follows: 68.1% non-Hispanic Caucasian, 13.0% Black, 9.4% Hispanic, 1.9% American Indian or Alaskan

Native, 1.9% Asian or Pacific Islander, and 4.7% “Other”. At the time of the study, 31.6% of the participants were living with a partner, but not married, 26.9% were married, 11.9% had no partner, 18.8% were dating, 6.1% were separated, 3.9% were divorced, and less than 1% were widowed.

Procedure

All procedures were approved by the relevant Institutional Review Board. Research personnel recruited male participants from approximately three BIPs throughout the state of Rhode Island. In Rhode Island, BIPs are an outpatient, open enrollment group. The content of the BIPs is standardized and dictated and enforced by an oversight committee. Participants in the sample completed all assessment measures during their regularly scheduled BIP sessions. Prior to obtaining informed consent, all participants were informed that participation was voluntary and that none of the information provided by the participants on assessment measures would be shared with the BIPs or the criminal justice system. No compensation was given to participants for their completion of the assessment measures. After informed consent was obtained, participants completed the assessment measures based either on the year prior to entering the BIP (i.e., CTS2, Hostility, Demographics) or on family of origin violence that occurred prior to the age of 18. When the assessment measures were given, men had attended an average of 9.8 ($SD = 7.1$) intervention sessions. A detailed description of the sample and procedures can be obtained from Stuart and colleagues (2008). Total number of intervention sessions attended was not significantly related to any of the variables of interest in the current study, suggesting that number of sessions attended did not affect study results.

Measures

Demographics Questionnaire—A demographics questionnaire assessed participants’ age, ethnicity, relationship status, years of education, income, and number of BIP sessions attended.

The Revised Conflict Tactics Scales (CTS2)—Intimate partner violence perpetration was assessed using the Revised Conflict Tactics Scales (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996; Straus, Hamby, & Warren, 2003). The CTS2 is a 78-item questionnaire that assesses the frequency of negotiation, physical and psychological aggression, sexual coercion, and injury that has occurred in an intimate relationship in the past year. Participants were asked to report the frequency with which they perpetrated physical and psychological aggression on a 7-point scale (0 = never; 6 = more than twenty times). For each subscale, a total score was computed by summing the frequency of each behavior. Scores for each item range from 0 to 25 with higher scores indicating more frequent aggression. The CTS2 has demonstrated good validity and reliability (Straus et al., 1996). In the current study, the physical and psychological subscales were utilized in the analysis. The internal consistencies for IPV perpetration were .76 for psychological aggression and .77 for physical aggression.

Family-of-Origin Violence (FOV)—The current study assessed FOV using a 4-item scale adapted from Child-Parent Conflict Tactics Scale (Straus, Hamby, Finkelhor, Moore, &

Runyan, 1998). Participants were provided with a list of violent acts (e.g., “pushed grabbed or shoved”, “twisted arm or pulled hair”, “slapped”) and were asked to rate the frequency with which any of these acts occurred as perpetrated by the father (or male caregiver) to mother (or female caregiver), mother to father, father to participant, and mother to participant before the age of 18. Scores were on an 8-point Likert type scale (0 = never; 8 = more than 50 times) with higher scores indicating more frequent parent-to-parent and/or parent-to-child violence. Additionally, in order to examine the mediational model among participants who both experienced and witnessed FOV as children, a total FOV score (i.e., composite FOV) was computed by summing each of the scales’ four items.

Buss-Perry Aggression Questionnaire—Participants’ total scores on the 8-item hostility subscale of the Buss-Perry Aggression Questionnaire were used to assess participants’ overall level of trait hostility (Buss & Perry, 1992). Participants indicated on a 5-point scale (1 = extremely untrue; 5 = completely true) the extent to which each item applied to them. Items on the hostility subscale include, “I am sometimes eaten up with jealousy,” “I wonder why sometimes I feel so bitter about things, and “When people are especially nice, I wonder what they want.” Higher total scores on the hostility subscale indicate higher levels of overall trait hostility. The hostility subscale has demonstrated adequate internal consistency ($\alpha = .77$) and test-retest reliability ($\alpha = .72$; Buss & Perry, 1992). In the present sample, the scale demonstrated high internal consistency ($\alpha = .87$).

Data Analytic Strategy

Descriptive statistics were obtained for all demographic variables. Bivariate correlations were utilized in order to examine the first hypothesis that there would be significant associations between the variables of interest in the present study. In order to examine the second hypothesis regarding whether hostility mediated the relationship between FOV and IPV, MacKinnon, Lockwood, Hoffman, West, and Sheets’ (2002) recommendations for mediation were utilized. According to MacKinnon et al. (2002), mediation is supported if (a) hostility (the mediating variable) is associated with FOV (i.e., the independent variable), (b) IPV perpetration (the outcome variable) is associated with hostility, and (c) the relationship between FOV and IPV perpetration is significantly reduced when hostility is included in the model. The Z' formula (MacKinnon et al., 2002) was used to assess the significance of mediated effects. According to the Z' formula, a mediated effect is significant ($p < .05$) if the absolute value of Z' is at least 0.97.

RESULTS

Descriptive Statistics

Means, standard deviations, and correlations for all study variables are displayed in Table 1. The CTS2 and FOV variables were positively skewed, thus log transformations of all CTS2 and FOV variables were utilized in the analyses. Bivariate correlations among variables indicated that father-to-participant, mother-to-participant, and composite FOV violence were positively associated with hostility and psychological aggression perpetration. Hostility was positively associated with physical aggression perpetration.

Based on these results, mediation was not examined for the relationship between father-to-mother or mother-to-father FOV and IPV perpetration given the non-significant associations between these FOV subscales, hostility, and IPV perpetration.

Mediation for Physical Aggression Perpetration

Findings for the mediation analyses are presented in Table 2. Consistent with our hypothesis, results suggested that hostility mediated the relationship between father-to-participant FOV and physical aggression perpetration. When physical aggression perpetration was regressed simultaneously on father-to-participant violence and hostility, father-to-participant violence was no longer associated with physical aggression perpetration, but hostility still showed an association with physical aggression perpetration. The Z' formula indicated that the addition of hostility significantly reduced the association between father-to-participant violence and physical aggression perpetration ($Z' = 2.62$).

Results further suggested that hostility mediated the relationship between mother-to-participant FOV and physical aggression perpetration. As hypothesized, analyses demonstrated that the addition of hostility significantly reduced the association between mother-to-participant violence and past year physical aggression perpetration. The critical value of Mackinnon's Z' was significant ($Z' = 1.73$).

Results further indicated that hostility mediated the relationship between composite (experiencing and witnessing) FOV and physical aggression perpetration. When physical aggression was regressed simultaneously on composite FOV and hostility, composite FOV was no longer associated with physical aggression perpetration, but hostility still showed a significant association with physical aggression perpetration. The critical value of Mackinnon's Z' was significant ($Z' = 1.83$).

Mediation for Psychological Aggression Perpetration

Results for psychological aggression perpetration are presented in Table 3. For psychological aggression perpetration, results supported the proposed mediation model. Hostility was significantly associated with father-to-participant FOV, and psychological aggression was significantly associated with hostility. Furthermore, when psychological aggression was regressed simultaneously on father-to-participant violence and hostility, father-to-participant violence was no longer associated with psychological aggression but hostility was. MacKinnon's Z' formula indicated that the addition of hostility significantly reduced the association between father-to-participant violence and psychological abuse ($Z'=2.37$). Thus, hostility mediated the relationship between father-to-participant violence and psychological aggression perpetration.

When psychological aggression was regressed simultaneously on composite (experiencing and witnessing) FOV and hostility, composite FOV was still associated with psychological aggression; however, this association decreased with the inclusion of hostility. Mackinnon's Z' formula indicated that hostility partially mediated the relationship between composite FOV and psychological aggression ($Z'=2.36$).

DISCUSSION

The purpose of the present study was to further elucidate the relationship between FOV, hostility, and IPV. To our knowledge, this is the first study to examine the contribution of hostility as a mediator of the relationship between FOV and IPV in a sample of men arrested for domestic violence and court ordered to BIPs. Consistent with our hypothesis, both FOV and hostility were significantly and positively associated with psychological IPV perpetration. The current study is also, to our knowledge, the first empirical investigation to support the theory that hostile cognitions and attributions, separate from hostile behavior and anger, are related to psychological IPV perpetration. Additionally, results supported a positive relationship between hostility and physical IPV perpetration. This finding was expected given the existing literature indicating that hostility is a risk factor for physical IPV perpetration (Capaldi et al., 2012; Riggs et al., 2000; Stith, Smith, Penn, Ward, & Tritt, 2000). Furthermore, much of the existing literature examining the relationship between hostility and IPV perpetration have utilized assessments that confound measurements of anger and hostility, which is problematic due to the construct-level differences between these two traits (Eckhardt et al., 1997; Eckhardt et al., 2004; Norlander & Eckhardt, 2005). The current study focused on hostile cognitions and attributions, thus upholding the construct-level differences between anger and hostility, and ultimately supporting the relationship between hostile cognitions and physical and psychological IPV perpetration.

Findings also demonstrated that hostility fully mediated the relationship between father-to-participant FOV and physical and psychological IPV perpetration and mother-to-participant FOV and physical IPV perpetration. Thus, childhood experiences of violence by a parent are associated with adulthood physical and psychological IPV perpetration through the indirect influence of hostility. Male victims of child maltreatment may cope and react to their victimization by holding hostile cognitions and attributions that are characterized by mistrust and a belief that all individuals are selfish, dishonest, mean, and will intentionally cause harm. It is likely that these hostile cognitions and attributions subsequently increase the likelihood of physical and psychological IPV perpetration.

Furthermore, analyses indicated that hostility fully mediated the relationship between composite FOV and physical IPV perpetration and partially mediated the relationship between composite FOV and psychological aggression perpetration. Previous research has demonstrated that greater exposure to childhood violence is associated with more frequent and severe IPV offenses (Murrell et al., 2007). Thus, the mediational model might be more pronounced and significant in environments in which children both experience and witness childhood violence. In order to examine this, future research is needed that examines which combination of FOV has the most significant influence on negative outcomes.

It is notable that we did not find a significant association between interparental FOV (i.e., father-to-mother and mother-to-father violence) and subsequent psychological and physical aggression perpetration. A number of studies have found evidence supporting a differential influence of experiencing versus witnessing violence during childhood. For example, Sternberg et al., (1993) found that children who were exposed to both child maltreatment and interparental IPV were not more likely to experience adverse outcomes than those who

experienced a single type of family violence. Furthermore, Park et al. (2012) examined whether exposure to interparental IPV and child maltreatment had equivalent effects on subsequent violence and criminality during adulthood. Findings indicated that adults who were exposed to child maltreatment reported increased antisocial behaviors compared to children exposed to parental IPV. This finding is consistent with the current finding that male batterers who were exposed to child maltreatment reported more frequent perpetration of psychological aggression. Alternatively, it is possible that in the current sample experiencing and witnessing family violence had differential influences on the emergence of adverse outcomes. Because we focused on a single adverse outcome (i.e., subsequent adulthood IPV perpetration), it is possible that witnessing interparental IPV during childhood would have been associated with other adverse outcomes, such as increased general violence or depression.

Implications

The finding that hostility mediates the relationship between FOV and adulthood IPV suggests the potential importance of incorporating interventions that increase effective and more adaptive distress tolerance and emotion regulation skills into BIPs. Shorey and colleagues (2012b) have suggested that incorporating interventions into BIPs that target and enhance emotion regulation and distress tolerance could help increase the effectiveness of BIPs and ultimately reduce IPV. For instance, specialized dialectical behavioral therapies (DBTs) that focus on emotion regulation and distress tolerance skills have been developed for use with partner violent individuals in order to reduce IPV (Fruzzetti & Levensky, 2000; Waltz, 2003). Such interventions could help men with a history of FOV and higher levels of hostility regulate and express their hostile cognitions, emotions, and attributions in a more adaptive and less violent way. Mindfulness-based interventions and components of acceptance and commitment therapy have also been identified as interventions that could help enhance distress tolerance and emotion regulation and ultimately reduce IPV (Shorey, Cornelius, & Idema, 2011; Shorey et al., 2012a; Shorey, Zucosky, et al., 2012b). For example, mindfulness-based interventions (i.e., Vipassana meditation) have been shown to decrease psychiatric symptoms and hostility in incarcerated populations (Bowen et al., 2006). Thus, reductions in hostile attributions and cognitions could be achieved through the utilization of mindfulness-based interventions. However, to our knowledge, there have been no empirical investigations that have evaluated the efficacy of these interventions in enhancing emotion regulation in BIP samples. Future research is needed to evaluate the efficacy of mindfulness-based and acceptance-based interventions in reducing IPV.

In addition, cognitive-restructuring and techniques that alter hostile-maintaining schemas and beliefs could become a target of intervention and may decrease the influence of hostile attributions and cognitions (Maiuro, Hagar, Lin, & Olson, 2002; Murphy & Eckhardt, 2005). In sum, given the existing literature demonstrating the limited effectiveness of BIPs in reducing IPV (Babcock, Green, & Robie, 2004; Feder & Wilson, 2005; Murphy & Eckhardt, 2005; Murphy & Meis, 2008), new interventions targeting and ultimately reducing IPV are needed. Findings from the current study provide further evidence of the potential utility of interventions aimed at enhancing distress tolerance and emotion regulation skills and targeting hostile cognitions and attributions in reducing IPV.

Limitations and Future Directions

There are a number of limitations that need to be considered when interpreting the findings of the current study. First, our measure of FOV is a limitation as a single-item was used to assess each different form of FOV (i.e., father-to-mother, mother-to-father, father-to-participant, mother-to-participant violence). More detailed information regarding specific types and acts of FOV could have been obtained with a comprehensive FOV assessment instrument. Future research utilizing more thorough assessments of FOV should be conducted in order to further elucidate the relationship between FOV and IPV perpetration. Second, given existing research that has shown that men may underreport IPV perpetration (Hamby, 2009), it is possible that men in this sample underreported their aggression. Thus, it is recommended that future research include both qualitative and quantitative assessments of IPV perpetration and both partners' reports. In addition, the cross-sectional design of this study precludes a determination of causality among study variables. Future research utilizing longitudinal designs could be more informative in examining whether FOV predicts IPV via hostility. Fourth, the sample of men utilized in this current study were recruited from BIPs and were primarily non-Hispanic Caucasian in ethnicity, thus limiting the generalizability of the study's findings. Future research should include a more ethnically diverse sample. Moreover, given the frequency of female perpetrated IPV (e.g., Archer, 2000), the proposed mediational model should be examined in female perpetrators of IPV. Finally, future research should examine other mechanisms or risk factors that may connect FOV and other forms of violence, such as general aggression.

Conclusions

In summary, this is one of the first known empirical investigations that examined whether hostility mediated the relationship between FOV and IPV in a sample of men arrested for IPV and court referred to BIPs. Results indicated that hostility fully mediated the relationship between father-to-participant FOV and subsequent physical and psychological IPV perpetration, mother-to-participant FOV and physical IPV perpetration, and composite FOV (witnessing and experiencing FOV) and subsequent physical IPV perpetration. Moreover, results demonstrated that hostility partially mediated the relationship between composite FOV and psychological aggression perpetration. It will be important for future research utilizing longitudinal designs to replicate and extend our findings.

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Table 1

Correlations, means, and standard deviations among study variables

	1	2	3	4	5	6	7	8
1. Psychological Aggression	--	.56**	.07	.13*	.14*	.19**	.21**	.31**
2. Physical Aggression	--	--	.01	.07	.07	.08	.08	.18**
3. Father-Mother Violence	--	--	--	.51**	.64**	.21**	--	.08
4. Mother-Father Violence	--	--	--	--	.42**	.56**	--	.01
5. Father-Participant Violence	--	--	--	--	--	.55**	--	.15**
6. Mother-Participant Violence	--	--	--	--	--	--	--	.12*
7. Composite FOV	--	--	--	--	--	--	--	.15**
8. Hostility	--	--	--	--	--	--	--	--
<i>M</i>	30.18	7.93	5.83	3.47	6.28	4.43	19.76	19.72
<i>SD</i>	30.41	16.29	16.36	12.09	16.47	13.27	43.94	7.21

Note: For ease of interpretation, non-transformed means and standard deviations are presented. Log transformed values are used in the correlations.

*
 $p < .05$,**
 $p < .01$,

Table 2

Multiple Regression Analyses Testing Hostility as a Mediator of the Relationship between FOV and Physical Aggression Perpetration

	B	SE	β	R²	F
Model 1					
Father to Participant Violence	.87	.33	.15**	.02	6.87
Model 2					
Father to Participant Violence	.05	.06	.05	.04	5.73
Hostility	.03	.01	.18**		
Model 1					
Mother to Participant Violence	.78	.37	.12*	.10	4.37
Model 2					
Mother to Participant Violence	.07	.07	.06	.04	5.96
Hostility	.03	.01	.18*		
Model 1					
Composite FOV	.67	.25	.15**	.02	7.39
Model 2					
Composite FOV	.06	.04	.08	.04	6.29
Hostility	.03	.01	.17**		

*** $p < .001$

* $p < .05$,

** $p < .01$,

Table 3

Multiple Regression Analyses Testing Hostility as a Mediator of the Relationship between FOV and Psychological Aggression Perpetration

	B	SE	β	R²	F
Model 1					
Father to Participant Violence	.87	.33	.15**	.02	6.87
Model 2					
Father to Participant Violence	.11	.06	.10	.11	18.89
Hostility	.06	.01	.31***		
Model 1					
Mother to Participant Violence	.78	.37	.12*	.10	4.37
Model 2					
Mother to Participant Violence	.19	.06	.16**	.13	21.82
Hostility	.06	.01	.30***		
Model 1					
Composite FOV	.67	.25	.15**	.02	7.39
Model 2					
Composite FOV	.13	.04	.16**	.13	21.91
Hostility	.05	.01	.30***		

*
 $p < .05$,

**
 $p < .01$,

 $p < .001$