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# **Violence in the Family of Origin, Mentalization, and Intimate Partner Violence Perpetration**

**Tommaso Trombetta, PhD**

**Marco Rizzo, PhD**

**Silvia Gattino, PhD**

**Luca Rollè, PhD**

***Department of Psychology, University of Turin, Torino, Italy***

Intimate partner violence (IPV) is a serious social issue that has impact on the physical and psychological well-being of victims. Exploring the mechanisms that intervene in the intergenerational transmission of violence from family of origin (VFO) to couple relationships can provide theoretical and clinical data. Drawing on the attachment theory and Fonagy's mentalizing model, this article aims to explore the relationship between VFO and IPV perpetration and the mediating role of mentalization. A total of 531 Italian participants who were in a relationship (68.7% females; mean age = 28.1, standard deviation = 9.0) participated anonymously in the study by completing an online questionnaire. A direct association emerged between VFO and mentalization and between VFO and IPV. Furthermore, mentalization demonstrated a direct association with IPV. An indirect effect was also found between VFO and IPV with the mediation of mentalization. However, the indirect effect of VFO on IPV through mentalization was significant only in relation to psychological IPV, whereas it was not supported in relation to physical and sexual IPV. Although further research is needed across different populations, forms, and typologies of IPV, the preliminary results found the role of mentalization in psychological IPV, providing theoretical and clinical insights.

**KEYWORDS:** intimate partner violence; IPV; perpetration; violence in the family of origin; mentalization; intergenerational transmission of violence

## **INTRODUCTION**

Intimate partner violence (IPV) is a serious social issue that has impact on the physical and psychological well-being of its victims (Beydoun et al., 2012; Sillito, 2012; Taccini & Mannarini, 2023; Trevillion et al., 2012), regardless of gender,

sexual orientation, or sociocultural background. Almost one-third of women across the world have been victims of IPV during their lifetime (Smith et al., 2018; WHO, 2022). When considering family studies conducted within the general population, similar rates are found among men (Smith et al., 2018) as well as in same-sex couples (Walters et al., 2013).

Although methodological limitations may have partially influenced the results of research on the intergenerational transmission of violence (e.g., lack of representative samples and prospective data, use of a single reporter to assess violence in the family of origin (VFO), and absence of follow-up data), as observed in a systematic review by Thornberry et al. (2012), several studies have identified an association between VFO and IPV perpetration (e.g., Delsol & Margolin, 2004; Fitton et al., 2020; Haj-Yahia et al., 2021; Kaufman-Parks et al., 2018). However, the processes and variables that mediate this relationship require further clarification (Thornberry et al., 2012). Identifying the psychological processes that can intervene may deepen our understanding of the mechanisms that lead to the perpetration of violence within couple relationships and provide data for clinical interventions targeting IPV perpetrators. Accordingly, the present study aimed to assess the association between VFO and IPV perpetration, exploring the mediating role of mentalization.

Mentalization refers to the mental process by which the individual implicitly and explicitly understands the actions of him/herself or others in terms of mental states, such as desires, needs, feelings, or beliefs (Fonagy et al., 2002). It develops within attachment relationships and influences emotion regulation and cognition, as well as relational functioning. Mentalization has traditionally been assessed through the Reflective Functioning Scale (Fonagy et al., 1998) using narratives drawn from the Adult Attachment Interview (George et al., 1985). However, to gather more data and increase the possible generalization of the results, as well as to make the evaluation less costly, Fonagy et al. (2016) developed the Reflective Functioning Questionnaire (RFQ; Fonagy et al., 2016). This instrument assesses two dimensions of mentalization: Reflective Functioning Questionnaire—*certainty of mentalization* (RFQ\_C), which discriminates between maladaptive hypermentalizing (i.e., excessive certainty of or a proliferation of hypotheses about mental states not supported by evidence) and adaptive levels of certainty about mental states, and Reflective Functioning Questionnaire—*uncertainty of mentalization* (RFQ\_U), which assesses levels of uncertainty from adaptive opaqueness of mental states (i.e., genuine mentalizing) to maladaptive hypomentalizing (i.e., concrete thinking and poor understanding of oneself and others).

Several studies have confirmed an association between the suffering of VFO and deficits in mentalization skills (Asen & Fonagy, 2017a; Mueller & Tronick, 2020; Shackman & Pollak, 2014; Schwarzer et al., 2021; van Schie et al., 2017). While secure attachment relationships—characterized by sensitive dyadic interactions, contingent mirroring, and epistemic trust—promote the ability to reflect or mentalize

on the mental states of others and oneself, adverse and traumatic experiences in the family of origin, such as violence, can undermine mentalization development (Fonagy et al., 2002, 2012; Luyten et al., 2017). In this regard, VFO may entail an early sense of discomfort and humiliation which disrupts the ability to understand oneself and others in order to avoid a negative state of minds that can lead to psychic disorganization (Bateman et al., 2013; Fonagy, 2003).

Mentalization was found to be related to violent behaviors in several studies in both clinical (Abate et al., 2017; Bo et al., 2011; Fonagy et al., 2016; Taubner et al., 2016) and nonclinical populations (Adler et al., 2021; Schwarzer et al., 2021). However, as far as we know, these findings have yet to be confirmed with specific regard to violence perpetrated within couple relationships. Nonetheless, data on constructs strictly related to mentalization, such as empathy, theory of mind, meta-cognition, social information processing, alexithymia, and emotion regulation, have already demonstrated their predicting role in IPV perpetration (Cascardi & Jouriles, 2018; Mannarini et al., 2023; Misso et al., 2019; Romero-Martínez et al., 2016; Taft et al., 2008; Ulloa & Hammett, 2016).

While mentalization abilities, favoring investigation and integration of complex or negative mental states and experiences, can buffer the negative effects of traumatic experiences such as VFO as well as promote functional help seeking, a lack of mentalization can negatively influence psychic functioning and social relations (Fonagy et al., 2011; Stein, 2006). The immature self that results from adverse experiences in childhood and entails a lack of mentalization abilities can promote the use of pre-mentalistic modes (i.e., psychic equivalence, excessive certainty, concrete thinking, teleological thought, and intrusive pseudo-mentalization), immature defensive mechanisms (e.g., projection, splitting, and projective identification), and dysfunctional physical action-centered emotion regulation strategies. In turn, these can increase the likelihood of perpetrating violence to regulate unbearable and threatening psychic contents and defend the fragile self, avoiding psychic disorganization in times of distress (Fonagy, 1999). Accordingly, the mediating role of mentalization in the association between VFO and violence in adolescence or adulthood has been confirmed in recent studies (Adler et al., 2021; Ensink et al., 2016; Schwarzer et al., 2021; Taubner et al., 2016). Nonetheless, as far as we know, no studies have focused specifically on IPV perpetration, although in this regard, preliminary data have emerged on IPV victimization (Condino et al., 2022).

In an attempt to bridge the gap, this article aims to explore the association between VFO and IPV perpetration, investigating the mediating role of mentalization skills. The data obtained can provide theoretical insights and clinical information, useful for promoting interventions for IPV perpetrators, which these days often seem to be based on sociological or feminist theories (e.g., the Duluth Model) rather than on data driven by psychological perspectives.

## Hypotheses

The hypotheses for this study are as follows, which are also presented in Figure 1:

**H1:** Experienced VFO is expected to be directly and positively associated with the perpetration of IPV.

**H2:** Experienced VFO is expected to be directly and negatively associated with RFQ\_C and directly and positively associated with RFQ\_U.

**H3:** RFQ\_C is expected to be directly and negatively associated with perpetration in IPV, while RFQ\_U is expected to be directly and positively associated with IPV.

**H4:** RFQ\_U and RFQ\_C are expected to mediate the association between experienced VFO and IPV.

## METHOD

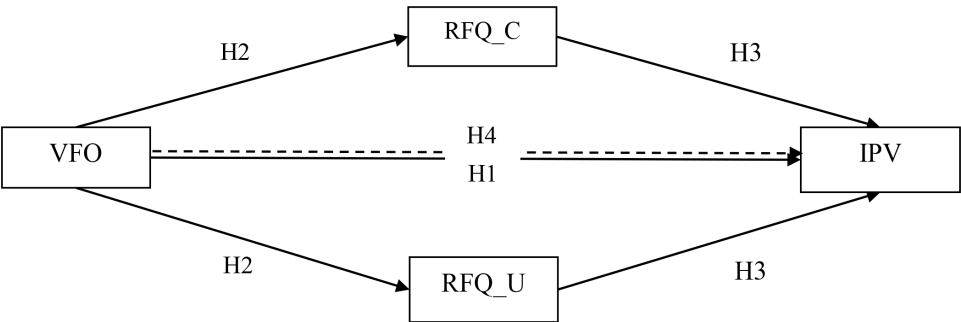
### Procedure

The procedures used in the study are in accordance with the ethical standards of APA and the 1964 Declaration of Helsinki. The questionnaire was prepared by the research team, using validated Italian scales whenever possible. Data were collected from the end of July 2021 to April 2022 in Italy through an online survey conducted via the Lime Survey platform. The questionnaire contained general information about the study, an invitation to participate, and a link to the questionnaire, which was distributed using snowball sampling by the research team members to their personal, professional, and social networks through email and word of mouth. Participation was voluntary and anonymous. Before starting the questionnaire, participants received an informed consent form describing the aims of the study and the content of the survey, along with the risks, benefits, privacy, names of research institutions, and contact information for the head of the study team. Completion of the questionnaire took approximately 15 minutes. The study was approved by the Bioethical Committee of the University of Turin (prot. n° 0429348).

### Participants

The sample size was estimated using G\*Power (Faul et al., 2009). Considering a multiple linear regression with three predictors, an expected power of .80, an effect size of .02, and an alpha level of .05, the optimal sample size should be 550.

A total of 722 Italian participants completed the questionnaire. We excluded 191 participants as they were not in a couple relationship. The final sample included 531 Italian participants who had been in a relationship for at least 1 year in the last 12 months (68.7% females) aged between 18 and 83 (mean age = 28.1, standard



**Figure 1. Hypothesized model.**

**Note.** IPV = intimate partner violence; RFQ\_C = Reflective Functioning Questionnaire—certainty of mentalization; RFQ\_U = Reflective Functioning Questionnaire—uncertainty of mentalization; VFO = violence in the family of origin. Dashed line and its hypothesis (H6) presented the mediation effect. Control variables excluded for clarity.

deviation [*SD*] = 9.0; nine cases were missing on this variable). The respondents' sociodemographic characteristics are presented in Table 1.

**Measures**

The data reported here are taken from the portion of the self-report questionnaire which included sociodemographic questions and the measurement items listed below. The items in the scales were all treated as continuous variables.

*Violence in the Family of Origin.* According to a large body of literature (for a review on this issue, see Delsol & Margolin, 2004), experienced psychological and physical VFO was assessed using two items developed by the authors (“within your family of origin have you ever suffered threats, insults, or verbal offenses” and “within your family of origin have you ever suffered physical violence, e.g., slaps and shoves”). Participants rated each item on a 5-point Likert scale ranging from 1 (“never”) to 5 (“almost every day”). Higher levels correspond to higher levels of VFO. For this study, the reliability was good ( $\omega = .81$ ).

*Mentalization.* To assess mentalization skills, the RFQ (Fonagy et al., 2016) was used in its eight-item Italian version (Morandotti et al., 2018). The RFQ assesses mentalization through two subscales: RFQ\_U (e.g., “Sometimes I do things without really knowing why”), which assesses hypomentalizing, and RFQ\_C (e.g., “I don’t always know why I do what I do”), which assesses hypermentalizing. Low levels of *certainty of mentalization* reflect maladaptive hypermentalizing, while higher levels correspond to adaptive levels of certainty about mental states. Conversely, low

**TABLE 1. Characteristics of the Sample**

	<i>N</i>	%
Relationship status		
Cohabiting couple	361	68.0
Noncohabiting couple	170	32.0
Sex		
Female	365	68.7
Male	131	31.3
Gender <sup>a</sup>		
Woman	357	67.2
Man	161	30.3
Transgender	4	0.8
Other/don't know	7	1.3
Sexual orientation		
Heterosexual	324	61.0
Lesbian	41	7.7
Gay	69	13.0
Bisexual	52	9.8
Pansexual	9	1.7
Prefer not to say	31	6.0
Other	4	0.8
Partner's gender <sup>b</sup>		
Same gender	156	29.4
Different gender	374	70.4
Educational level		
Middle school diploma or less	10	1.9
High school diploma	194	36.5
Bachelor's degree	228	42.9
Master's degree or higher	99	18.6
Employment status		
Freelancer	44	8.3
Employee	148	27.9
Student	312	58.8
Homemaker	3	0.6
Retired	3	0.6

(Continued)

TABLE 1. Characteristics of the Sample (*Continued*)

	<i>N</i>	%
Economic satisfaction		
Insufficient	4	0.8
Unstable	67	12.6
Sufficient	257	48.4
Wealthy or higher	203	38.2

**Note.** *N* = 531.  
<sup>a</sup>Two missing values.  
<sup>b</sup>One missing value.

levels of *uncertainty of mentalization* reflect an adaptive awareness of the paucity of mental states, while higher levels correspond to maladaptive hypomentalizing. Participants rated each item on a 7-point Likert scale ranging from 1 (“strongly disagree”) to 7 (“strongly agree”). For this study, the reliability of the subscales that report the degree of uncertainty (RFQ\_U) and certainty (RFQ\_C) was good (omega = .95 and omega = .76, respectively).

***Intimate Partner Violence Perpetration.*** To assess IPV perpetration, the Conflict Tactics Scale—Short Form (Straus & Douglas, 2004) was used. This consists of 20 items and 5 dimensions (negotiation, injury, and physical, psychological, and sexual IPV), to which participants responded considering both perpetration and victimization occurred in the current relationship in the past 12 months. Only physical, psychological, and sexual IPV perpetration subscales were considered for this study. Participants rated each item on an 8-point Likert scale (0 = this has never happened; 1 = once in the past year; 2 = twice in the past year; 3 = 3–5 times in the past year; 4 = 6–10 times in the past year; 5 = 11–20 times in the past year; 6 = more than 20 times in the past year; and 7 = not in the past year, but it did happen before). The total score combining the scores obtained on the three subscales (i.e., psychological, physical, and sexual IPV) was considered (i.e., total IPV); additional analyses were performed separately for each form of IPV. Reliability was not calculated according to the instrument’s authors (Straus & Douglas, 2004). As additional information, the severity levels of each form of IPV were also calculated, in accordance with Strauss’ and Douglas’ instructions (2004).

The following sociodemographic variables were included as control variables in line with the literature on IPV perpetration: sex, educational level, and socioeconomic condition.



## Data Analysis

Statistical analyses were performed using the Statistical Package for the Social Sciences (SPSS 28.0), and a mediation analysis was tested using Hayes' (2019) PROCESS (Version 4.1, Model 4) to test direct and indirect effects. Frequencies, means, and SDs were calculated to summarize the variables included in this study. Pearson's correlation ( $r$ ) was used to test the relationship between variables, and the results were interpreted according to Cohen's (1988) conventions. The reliability of each scale was determined using the Omega coefficient. According to Newman (2014), we used pairwise deletion because the percentage of missing data in the sample was <10% (2%).

Sex, educational level, and socioeconomic condition were used in the model as control variables and recoded as dummy variables. Educational level and socioeconomic conditions were recoded as dummy variables using the median values as a cutoff criterion, so all respondents under the median value were recoded 0.

As recommended by Tabachnick and Fidell (2007), the studied variables were tested for the assumptions of normality and multicollinearity. As the data violated the multinormality condition, we used a robust estimator to test the significance of the model. To assess the mediation model according to our hypotheses, we used bootstrap estimation to test the significance of the indirect effects (Hayes, 2019) with 5,000 samples, and we computed the bias - corrected 95% confidence interval (CI) by determining the effects at the 2.5th and 97.5th percentiles; when 0 was not included in the CI, the indirect effects were significant. The bootstrap method has proven to be a reliable test to identify an indirect effect from a resampling process, especially with a small sample size (Caron, 2019; Hayes, 2019).

## RESULTS

Of the participants, 60.6% had perpetrated at least one violent behavior during their lifetime (i.e., physical, psychological, or sexual IPV). The most prevalent form of violence was psychological IPV (57.1%), while lower rates emerged for physical and sexual IPV (9.4% and 8.5%, respectively). Similarly, with regard to violence perpetrated in the past 12 months, 56.9% of participants reported to have perpetrated at least one act of IPV (physical, psychological, or sexual IPV). Current psychological IPV was the most common form of violence perpetrated (53.5%), followed by sexual (7.7%) and physical (6.8%) IPV. Within the entire sample, only 4.9%, 1.9%, and 0.4% perpetrated severe psychological, physical, and sexual IPV, respectively. The  $t$ -tests revealed significant mean differences in the three forms of IPV included in this study (psychological, physical, and sexual) between female and male participants. In detail, the mean difference on psychological IPV between the female (2.4;  $SD = 2.5$ ) and male (1.8;  $SD = 2.2$ ) samples was statistically significant ( $t[347.5] = 2.7, p < .05; d = 2.4$ ). Furthermore, a statistically significant mean difference emerged between the female (0.3;  $SD = 1.1$ ) and male (0.1;  $SD = .4$ )

samples on physical IPV scores ( $t[509.9] = 2.0, p < .05; d = .9$ ). Finally, a statistically significant mean difference emerged between the female ( $0.1; SD = .6$ ) and male ( $0.4; SD = 1.1$ ) samples on sexual IPV ( $t[208.5] = -2.6, p < .05; d = .8$ ). However, no mean difference emerged between the female ( $2.9; SD = 3.1$ ) and male ( $2.3; SD = 2.7$ ) samples on the total IPV score ( $t[516] = 1.9, p > .05; d = .2$ ). Table 2 reports bivariate correlations between the scale scores. The results demonstrated a negative correlation between VFO and RFQ\_C, while positive correlations emerged between VFO and RFQ\_U and IPV, respectively. A negative correlation was found between RFQ\_C and IPV, while there was a positive correlation between RFQ\_U and IPV. A negative correlation emerged between the two forms of RFQ.

To test our hypotheses, we conducted a mediation model. VFO was the independent variable, the two subscales of RFQ were the mediators, and total IPV was the dependent variable. The mediation model makes it possible to examine both the direct effect of the independent variable on the dependent variable and the indirect effect of the independent variable on the dependent variable through a third intervening factor (i.e., the mediator; Hayes, 2019). After checking for control variables, we included in the final model only those variables that showed significant associations with scale scores (sex, educational level, and socioeconomic condition). The results are presented in Table 3.

All hypotheses in this study were confirmed. According to H1, a direct and positive association emerged between VFO and IPV ( $B: .20; SE: .12; p < .01$ ); there was a negative and direct association between VFO and RFQ\_C ( $B: -.11; SE: .12; p < .05$ ) and a positive and direct association between VFO and RFQ\_U ( $B: .12; SE: .07; p < .01$ ), in accordance with H2. Furthermore, we also confirmed H3, identifying a negative and direct association between RFQ\_C and IPV ( $B: -.17; SE: .03; p < .001$ ) and a positive and direct association between RFQ\_U and IPV ( $B: .11; SE: .04; p < .01$ ). The model explained 12.5% of the variance for IPV ( $F[6, 524] = 9.2; p < .001$ ).

The indirect effects were also significant, in line with H4. In detail, a positive indirect effect emerged between VFO and IPV through the mediation of RFQ\_C ( $B: .02; Bootstrap SE: .01; 95\% CI [.01, .03]$ ) and the mediation of RFQ\_U ( $B: .01; Bootstrap SE: .01; 95\% CI [.01, .03]$ ). Finally, both the direct ( $B: .38; SE: .12; p < .01$ ) and total ( $B: .44; SE: .12; p < .001$ ) associations between VFO and IPV were positive and significant.

Regarding the role of the sociodemographic variables (educational level, sex, and socioeconomic conditions) included in the model, only the educational level (0 = low educational level) revealed a significant and positive association with RFQ\_C ( $B: .14; p < .01$ ) and a negative association with RFQ\_U ( $B: -.13; p < .01$ ).

As a further control, we tested the same model for the three forms of IPV separately (psychological, physical, and sexual IPV) to determine if there were significant differences between the subscales. The mediational model was significant only with regard to psychological IPV. In contrast, while the direct association

TABLE 2. Bivariate Correlations Between Scale Study Variables

	1	2	3	4
VFO	—			
RFQ_C	−0.11*	—		
RFQ_U	0.13**	−0.44**	—	
IPV	0.25**	−0.23**	0.21**	—

**Note.** *N* = 531. IPV = intimate partner violence; RFQ\_C = Reflective Functioning Questionnaire—certainty of mentalization; RFQ\_U = Reflective Functioning Questionnaire—uncertainty of mentalization; VFO = violence in the family of origin.

\*\**p* < .01. \**p* < .05.

TABLE 3. Summary of Direct and Indirect Effects

Paths	β	<i>B</i>	<i>SE</i>	BC 95% CI
Total IPV				
Direct effects				
VFO → RFQ_C	−.11*	−0.28*	(0.12)	[−0.51, −0.04]
VFO → RFQ_U	.12**	0.20**	(0.07)	[0.05, 0.35]
VFO → IPV	.20**	0.38**	(0.12)	[0.15, 0.61]
RFQ_C → IPV	−.17***	−0.12***	(0.03)	[−0.18, −0.06]
RFQ_U → IPV	.11**	0.12**	(0.04)	[0.02, 0.22]
Indirect effects				
VFO → RFQ_C → IPV	.02	0.02	(0.01)	[0.01, 0.03]
VFO → RFQ_U → IPV	.01	0.02	(0.01)	[0.01, 0.03]

**Note.** *N* = 531. *B* = unstandardized Beta; BC = bias - corrected; CI = confidence interval; IPV = intimate partner violence; RFQ\_C = Reflective Functioning Questionnaire—certainty of mentalization; RFQ\_U = Reflective Functioning Questionnaire—uncertainty of mentalization; SE = standard error; VFO = violence in the family of origin.

\*\*\**p* < .001. \*\**p* < .01. \**p* < .05.

between VFO and physical or sexual IPV and between VFO and mentalization was confirmed, mentalization was not associated with IPV perpetration (see Appendix A available at <https://connect.springerpub.com/journals> in the PDF view).

## DISCUSSION

As far as we know, this is the first study to explore mentalization as a potential mechanism intervening in the relationship between VFO and IPV perpetration.

Although it is difficult to establish firm conclusions on the prevalence of IPV perpetration due to methodological differences between the studies, in accordance with previous research (Esquivel-Santoveña et al., 2013; Tognasso et al., 2022; Walters et al., 2013), our results showed a high percentage of participants who had perpetrated violence at least once during their lifetime regardless of the form of violence perpetrated (over 60%). However, it should be specified that these data are inflated by psychological IPV, which is the most common form of violence perpetrated (57.1%). A much lower prevalence of physical and sexual IPV emerged (9.4% and 8.5%, respectively). Similar results were found regarding IPV perpetration in the past year.

### Association Between VFO and IPV Perpetration

All hypotheses proposed in this research were confirmed. According to H1, VFO was positively associated with IPV perpetration. In line with other studies (e.g., Fitton et al., 2020; Green et al., 2019; Haj-Yahia et al., 2021), our findings confirm the hypotheses on the intergenerational transmission of violence. From the attachment theory perspective, traumatic experiences, such as VFO, contribute to the establishment of insecure, particularly disorganized, attachment relationships which undermine the development of a mature self. In this context, aggression is not inhibited and immature mechanisms of protest, emotional expression, and impulse control persist, which can, in turn, contribute to violence during times of psychic threatening (Fonagy, 2003; Meloy, 1992). Accordingly, as Bowlby (1984) had already noted, violent behaviors can be seen as an extreme protest for unmet attachment needs and a dysfunctional mechanism of self-other distance regulation in times of distress.

### The Mediating Role of Mentalization in the Association Between VFO and IPV Perpetration

According to H2, VFO was negatively associated with certainty of mentalization and positively with uncertainty of mentalization, which were both, in turn, related to IPV perpetration, in accordance with H3. The mediating role of mentalization on the relationship between VFO and IPV perpetration was also confirmed, in line with H4. Our results supported previous findings (Adler et al., 2021; Ensink et al., 2016; Schwarzer et al., 2021; Taubner et al., 2016) on the complex relationship between VFO, mentalization, and violence, suggesting their extension to the intimate couple context.

According to recent considerations of attachment theory and mentalizing model (Fonagy et al., 2002) on violence (Fonagy, 1999, 2003), mentalization can play a role in the intergenerational transmission of violence. Traumatic experiences such as VFO undermine the development of the self and the reflection on one's own state of mind and that of others, limiting the development of mentalization to avoid facing up to fearful and intolerable contents induced by abusive relational experiences (Bateman et al., 2013; Fonagy et al., 2012; Luyten et al., 2017). A lack of mentalization skills, in turn, prevents the use of mature strategies of affect regulation. In times of frustration, violence can take over as a prementalistic action-centered strategy used to defend the fragile self from unbearable and threatening psychic contents (Fonagy, 1999), eliminating the source of this threat and restoring baseline autonomic functioning (Meloy, 1992).

The results of this study thus highlight the role of mentalization as a mechanism that mediates the relationship between VFO and IPV, preliminarily confirming recent perspectives on IPV perpetration drawn from attachment theory and mentalizing model. However, the indirect effect of VFO on IPV perpetration through mentalization was supported only when considering total or psychological IPV. In contrast, the hypothesized model was not confirmed for physical and sexual IPV. While these results may be influenced by the low levels of mentalization deficit and physical and sexual IPV perpetration observed in our sample, future studies are required in order to understand the validity of the hypotheses proposed here across different forms of IPV. Nonetheless, the correlation between psychological, physical ( $r: .42; p < .001$ ), and sexual ( $r: .10; p < .05$ ) IPV found in our study further underscores the usefulness of the data obtained in relation to psychological IPV and their clinical implication in limiting possible escalation into physical or more severe forms of IPV. Finally, it should be clarified that the results emerging from the current study were drawn from a sample characterized mainly by a prevalence of minor violent behaviors. Although we have no data on controlling violence which would allow for this hypothesis to be explored further, in our sample drawn from the general population, perpetrated IPV appears to reflect what Johnson (2008) defined as *Situational Couple Violence* (SCV). This typology of violence is characterized by noncontrolling violent behaviors, usually of minor severity, episodic, and linked to situations of conflict. A more severe typology of abuse has been defined as *Intimate Terrorism* (IT). It refers to coercive and controlling violence that is likely to escalate over time, tends to result in serious injuries, is more common in clinical settings, and is perpetrated to a greater extent by men. Although conflicting results emerged on Johnson's typology implications (Anderson, 2008) and more recent studies suggest that both IT and controlling violence also occur in community samples and among both men and women (Graham-Kevan & Archer, 2009; Graham-Kevan, 2007; Hines & Douglas, 2018, 2019), future studies should consider this distinction and explore our hypotheses for both these typologies of IPV, as well as in a sample characterized by more severe forms of violence. This could extend

the results that emerged in the current study and their possible clinical utility in different contexts and for different typologies of couple violence.

Regardless, the results that emerged in our sample, which was characterized by minor violent behaviors that might result primarily from conflict situations rather than from a systematic pattern of control and coercion, seem to provide preliminary support to the role of mentalization in such contexts as well. In this regard, a situational and limited deficit of mentalization related to severe conflicts, rather than a more complex and pervasive immaturity of the self, might be mainly involved in the use of prementalistic action-centered mechanisms of regulation such as IPV. Although further research is needed to confirm these hypotheses, which were beyond our scope, current findings may be a first indication of the usefulness of mentalization-based interventions also in cases of SCV and minor episodes of psychological IPV, to promote relational well-being and limit the escalation of violence, as recently suggested (Tavistock Relationship, 2016).

## LIMITATIONS

This study has some limitations. First, the study design is cross-sectional. In addition, while RFQ is a measure of present functioning, assessments of both VFO and IPV are retrospective in nature. Although the direction of the hypothesized and subsequently verified relationships is strongly grounded in attachment theory and psychodynamic psychology more generally, these limitations prevent the firm definition of the causal direction of the highlighted associations.

Second, the sample is imbalanced, with a greater prevalence of females. However, in line with official records and studies conducted in clinical settings, the phenomenon of violence, in its most serious forms, appears to be predominantly by males. Nevertheless, our data appear to be in line with family studies on IPV, which often do not reveal data consistent with this assumption or differences in prevalence by gender (in our study, where differences emerged, they highlighted a higher prevalence of IPV perpetration among female participants). These considerations further highlight the need to distinguish between typologies of IPV, which can differ in terms of prevalence, dynamics, predictors, and consequences.

Third, our investigation was limited to experiences of psychological and physical violence within the family of origin (e.g., slaps, shoves, insults, and destroyed objects), while other serious (e.g., sexual abuse) or more subtle (e.g., neglect) forms of abuse, as well as violence suffered at the hands of significant persons other than family members, were not explored.

Fourth, mentalization skills were assessed using self-reports. Despite their merits (mainly in terms of ease of recruitment and time of administration), they should be integrated with assessment procedures that are more suitable for exploring deep intrapsychic dimensions which can be concealed when using self-report instruments.

Finally, we included a convenience sample drawn from the general population, mainly White, well-educated, with good socioeconomic status, characterized mainly by a prevalence of minor violent behaviors, which limits the possibility of generalizing our findings.

## FUTURE DIRECTIONS

Several limitations emerged when considering this study and the literature on intergenerational transmission of VFO to couple relationships which would need to be considered in future studies. First, given the lack of focus on VFO, mentalization, and IPV perpetration, further studies exploring the complex relationship between these variables are required in order to confirm our preliminary results. In addition, considering the widely confirmed relationship between attachment and mentalization skills, our comprehension of the mechanisms that contribute to the intergenerational transmission of violence and IPV perpetration can be increased by including the assessment of attachment in future models. Considering IPV as a relational dynamic, couple data and dyadic analysis should be included in future studies, in order to understand how the psychological functioning of both partners can influence IPV perpetration.

Second, research using a longitudinal design is required to support empirically the causal directions that are hypothesized here in accordance with the attachment theory and mentalizing model.

Third, a broader range of traumatic experiences, such as severe physical violence, sexual abuse, neglect, witnessing of violence between relatives, and violence experienced outside the family context, should be included in future studies in order to highlight further the impact of adverse experiences on mentalization, intergenerational transmission of violence, and IPV perpetration, in accordance with recent developments of research on mentalization (Fonagy & Allison, 2014; Luyten et al., 2020). Similarly, future studies should explore the role of VFO and mentalization in different forms of IPV separately. Indeed, different psychological functions and processes may have different impacts depending on the form of IPV being considered. Future studies should further investigate these issues to provide individualized clinical guidance based on the form(s) of violence perpetrated.

Fourth, studies that use semistructured interviews, such as the Adult Attachment Interview (George et al., 1985), are needed to confirm and extend our findings, as they may be able to identify deeper intrapsychic mechanisms that promote IPV perpetration.

Fifth, our hypotheses should be explored in samples characterized by severe IPV or IT, as well as in predominantly male or clinical populations, in order to support our results and their usefulness, along with their clinical implications for interventions targeting IPV perpetrators.



Finally, while assessing sexual orientation differences beyond our scope, future studies should differentiate between opposite-sex and same-sex couples and test the predictability of our model in both populations. Furthermore, replicating the study involving gender or ethnic minorities and people with low socioeconomic status should further extend the possible generalization of our findings.

## CONCLUSION

As far as we know, this is the first study to assess the mediating role of mentalization in the relationship between VFO and IPV perpetration. Although our hypotheses were confirmed only regarding psychological IPV, the findings emerged support, at least in part, recent perspectives of the attachment theory and mentalizing model on IPV, providing preliminary insights for intervention purposes.

Although violence within couples is a widespread social issue which arises, at least partly, from the patriarchal and sexist culture that still persists in societies across the world, interventions aimed at reducing gender role stereotypes, sexism, the gender gap, and power imbalances in social and relational contexts (e.g., the Duluth Model; Pence & Paymar, 1993) fail to address the psychodynamic processes that can contribute to IPV perpetration. Within this context, our data can provide preliminary information, which, if further supported, can promote the implementation of mentalization-informed interventions targeted at perpetrators of IPV. Promoting balanced reflection on the mental states of oneself and others can help perpetrators process adverse or traumatic experiences, reducing the risk of subsequent violent behaviors. In addition, enhancing mentalization and reflection on cognitive and affective triggers of violence can help the perpetrator to take responsibility for their own actions, limiting minimization and justification, and promoting awareness of the consequences of their own violent acts; these, in turn, can decrease the risk of violence perpetration within couple relationships (Asen & Fonagy, 2017b; Misso et al., 2019; Schwarzer et al., 2021; Tasso et al., 2016). Although, according to our preliminary results, these clinical considerations seem to apply only to context of minor episodes of psychological IPV, future studies should explore our hypotheses across different populations (i.e., general and clinical populations), forms, and typologies of IPV, in order to deepen our understanding of the association between VFO, mentalization, and IPV perpetration and its clinical implications.

While more rigorous studies are required to support further the transmission of violence hypotheses and the impact of VFO on IPV perpetration (Thornberry et al., 2012), our results highlight the need for interventions aimed at preventing VFO to reduce indirectly the risk of violence perpetration within adult couple relationships.



## REFERENCES

- Abate, A., Marshall, K., Sharp, C., & Venta, A. (2017). Trauma and aggression: Investigating the mediating role of mentalizing in female and male inpatient adolescents. *Child Psychiatry and Human Development*, 48(6), 881–890. <https://doi.org/10.1007/s10578-017-0711-6>
- Adler, A., Gervinskaitė-Paulaitienė, L., Čekuolienė, D., & Barkauskienė, R. (2021). Childhood maltreatment and adolescents' externalizing problems: Mentalization and aggression justification as mediators. *Journal of Aggression, Maltreatment & Trauma*, 30(1), 54–69. <https://doi.org/10.1080/10926771.2020.1783733>
- Anderson, K. L. (2008). Is partner violence worse in the context of control? *Journal of Marriage and Family*, 70(5), 1157–1168. <https://doi.org/10.1111/j.1741-3737.2008.00557.x>
- Asen, E., & Fonagy, P. (2017a). Mentalizing family violence part 1: Conceptual framework. *Family Process*, 56(1), 6–21. <https://doi.org/10.1111/famp.12261>
- Asen, E., & Fonagy, P. (2017b). Mentalizing family violence part 2: Techniques and interventions. *Family Process*, 56(1), 22–44. <https://doi.org/10.1111/famp.12276>
- Bateman, A., Bolton, R., & Fonagy, P. (2013). Antisocial personality disorder: A mentalizing framework. *FOCUS*, 11(2), 178–186. <https://doi.org/10.1176/appi.fOCUS.11.2.178>
- Beydoun, H. A., Beydoun, M. A., Kaufman, J. S., Lo, B., & Zonderman, A. B. (2012). Intimate partner violence against adult women and its association with major depressive disorder, depressive symptoms and postpartum depression: A systematic review and meta-analysis. *Social Science & Medicine* (1982), 75(6), 959–975. <https://doi.org/10.1016/j.socscimed.2012.04.025>
- Bo, S., Abu-Akel, A., Kongerslev, M., Haahr, U. H., & Simonsen, E. (2011). Risk factors for violence among patients with schizophrenia. *Clinical Psychology Review*, 31(5), 711–726. <https://doi.org/10.1016/j.cpr.2011.03.002>
- Bowlby, J. (1984). Violence in the family as a disorder of the attachment and caregiving systems. *American Journal of Psychoanalysis*, 44(1), 9–27. <https://doi.org/10.1007/BF01255416>
- Caron, P.-O. (2019). A comparison of the type I error rates of three assessment methods for indirect effects. *Journal of Statistical Computation and Simulation*, 89(8), 1343–1356. <https://doi.org/10.1080/00949655.2019.1577858>
- Cascardi, M., & Jouriles, E. N. (2018). A study space analysis and narrative review of trauma-informed mediators of dating violence. *Trauma, Violence, & Abuse*, 19(3), 266–285. <https://doi.org/10.1177/1524838016659485>
- Cohen, J. (1988). Set correlation and contingency tables. *Applied Psychological Measurement*, 12(4), 425–434. <https://doi.org/10.1177/014662168801200410>
- Condino, V., Giovanardi, G., Vagni, M., Lingiardi, V., Pajardi, D., & Colli, A. (2022). Attachment, trauma, and mentalization in intimate partner violence: A preliminary investigation. *Journal of Interpersonal Violence*, 37(11–12), NP9249–NP9276. <https://doi.org/10.1177/0886260520980383>
- Delsol, C., & Margolin, G. (2004). The role of family-of-origin violence in men's marital violence perpetration. *Clinical Psychology Review*, 24(1), 99–122. <https://doi.org/10.1016/j.cpr.2003.12.001>

- Ensink, K., Bégin, M., Normandin, L., & Fonagy, P. (2016). Maternal and child reflective functioning in the context of child sexual abuse: Pathways to depression and externalising difficulties. *European Journal of Psychotraumatology*, 7, 30611. <https://doi.org/10.3402/ejpt.v7.30611>
- Esquivel-Santoveña, E. E., Lambert, T. L., & Hamel, J. (2013). Partner abuse worldwide. *Partner Abuse*, 4(1), 6–75. <https://doi.org/10.1891/1946-6560.4.1.6>
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G\*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, 41(4), 1149–1160. <https://doi.org/10.3758/BRM.41.4.1149>
- Fitton, L., Yu, R., & Fazel, S. (2020). Childhood maltreatment and violent outcomes: A systematic review and meta-analysis of prospective studies. *Trauma, Violence, & Abuse*, 21(4), 754–768. <https://doi.org/10.1177/1524838018795269>
- Fonagy, P. (1999). Male perpetrators of violence against women: An attachment theory perspective. *Journal of Applied Psychoanalytic Studies*, 1(1), 7–27. <https://doi.org/10.1023/A:1023074023087>
- Fonagy, P. (2003). Towards a developmental understanding of violence. *The British Journal of Psychiatry*, 183, 190–192. <https://doi.org/10.1192/bjp.183.3.190>
- Fonagy, P., & Allison, E. (2014). The role of mentalizing and epistemic trust in the therapeutic relationship. *Psychotherapy (Chicago, Ill.)*, 51(3), 372–380. <https://doi.org/10.1037/a0036505>
- Fonagy, P., Bateman, A., & Bateman, A. (2011). The widening scope of mentalizing: A discussion. *Psychology and Psychotherapy*, 84(1), 98–110. <https://doi.org/10.1111/j.2044-8341.2010.02005.x>
- Fonagy, P., Target, M., Steele, H., & Steele, M. (1998). *Reflective functioning manual: Version 5 for application to adult attachment interviews*. University College London.
- Fonagy, P., Bateman, A., & Luyten, P. (2012). Introduction and overview. In A. Bateman & P. Fonagy (Eds.), *Handbook of mentalizing in mental health practice* (pp. 3–41). American Psychiatric Publishing.
- Fonagy, P., Gergely, G., Jurist, E., & Target, M. (2002). *Affect regulation, mentalization, and the development of the self*. Karnac Books.
- Fonagy, P., Luyten, P., Moulton-Perkins, A., Lee, Y. W., Warren, F., Howard, S., Ghinai, R., Fearon, P., & Lowyck, B. (2016). Development and validation of a self-report measure of mentalizing: The reflective functioning questionnaire. *PloS One*, 11(7), e0158678. <https://doi.org/10.1371/journal.pone.0158678>
- George, C., Kaplan, N., & Main, M. (1985). *The adult attachment interview*. University of California at Berkeley.
- Graham-Kevan, N. (2007). Johnson's control-based domestic violence typology: Implications for research and treatment. *Issues in Forensic Psychology*, 6, 109–115.
- Graham-Kevan, N., & Archer, J. (2009). Control tactics and partner violence in heterosexual relationships. *Evolution and Human Behavior*, 30(6), 445–452. <https://doi.org/10.1016/j.evolhumbehav.2009.06.007>

- Green, K., Browne, K., & Chou, S. (2019). The relationship between childhood maltreatment and violence to others in individuals with psychosis: A systematic review and meta-analysis. *Trauma, Violence & Abuse, 20*(3), 358–373. <https://doi.org/10.1177/1524838017708786>
- Haj-Yahia, M. M., Sousa, C. A., & Lugassi, R. (2021). The relationship between exposure to violence in the family of origin during childhood, psychological distress, and perpetrating violence in intimate relationships among male university students. *Journal of Interpersonal Violence, 36*(15–16), NP8347–NP8372. <https://doi.org/10.1177/0886260519843280>
- Hayes, A. F. (2019). *Introduction to mediation, moderation, and conditional process analysis: A regression - based approach* (2<sup>nd</sup> edition.). The Guilford Press.
- Hines, D. A., & Douglas, E. M. (2018). Influence of intimate terrorism, situational couple violence, and mutual violent control on male victims. *Psychology of Men & Masculinity, 19*(4), 612–623. <https://doi.org/10.1037/men0000142>
- Hines, D. A., & Douglas, E. M. (2019). An empirical test of Johnson's typology of intimate partner violence in two samples of men. *Partner Abuse, 10*(2), 180–198. <https://doi.org/10.1891/1946-6560.10.2.180>
- Johnson, M. P. (2008). *A typology of domestic violence: Intimate terrorism, violent resistance, and situational couple violence*. Northeastern University Press.
- Kaufman-Parks, A. M., DeMaris, A., Giordano, P. C., Manning, W. D., & Longmore, M. A. (2018). Intimate partner violence perpetration from adolescence to young adulthood: Trajectories and the role of familial factors. *Journal of Family Violence, 33*(1), 27–41. <https://doi.org/10.1007/s10896-017-9924-5>
- Luyten, P., Campbell, C., Allison, E., & Fonagy, P. (2020). The mentalizing approach to psychopathology: State of the art and future directions. *Annual Review of Clinical Psychology, 16*, 297–325. <https://doi.org/10.1146/annurev-clinpsy-071919-015355>
- Luyten, P., Nijssens, L., Fonagy, P., & Mayes, L. C. (2017). Parental reflective functioning: Theory, research, and clinical applications. *The Psychoanalytic Study of the Child, 70*(1), 174–199. <https://doi.org/10.1080/00797308.2016.1277901>
- Mannarini, S., Taccini, F., & Rossi, A. A. (2023). The role of alexithymia and impulsivity in male victims and perpetrators of intimate partner violence. *Behavioral Sciences (Basel, Switzerland), 13*(5), 402. <https://doi.org/10.3390/bs13050402>
- Meloy, J. R. (1992). *Violent attachments*. Jason Aronson.
- Misso, D., Schweitzer, R. D., & Dimaggio, G. (2019). Metacognition: A potential mechanism of change in the psychotherapy of perpetrators of domestic violence. *Journal of Psychotherapy Integration, 29*(3), 248–260. <https://doi.org/10.1037/int0000111>
- Morandotti, N., Brondino, N., Merelli, A., Boldrini, A., De Vidovich, G. Z., Ricciardo, S., Abbiati, V., Ambrosi, P., Caverzasi, E., Fonagy, P., & Luyten, P. (2018). The Italian version of the reflective functioning questionnaire: Validity data for adults and its association with severity of borderline personality disorder. *PloS ONE, 13*(11), e0206433. <https://doi.org/10.1371/journal.pone.0206433>

- Mueller, I., & Tronick, E. (2020). The long shadow of violence: The impact of exposure to intimate partner violence in infancy and early childhood. *International Journal of Applied Psychoanalytic Studies*, 17(3), 232–245. <https://doi.org/10.1002/ap.s.1668>
- Newman, D. A. (2014). Missing data: Five practical guidelines. *Organizational Research Methods*, 17(4), 372–411. <https://doi.org/10.1177/1094428114548590>
- Pence, E., & Paymar, M. (1993). *Education groups for men who batter: The Duluth model*. Springer. <https://doi.org/10.1891/9780826179913>
- Romero-Martínez, Á., Lila, M., & Moya-Albiol, L. (2016). Empathy impairments in intimate partner violence perpetrators with antisocial and borderline traits: A key factor in the risk of recidivism. *Violence and Victims*, 31(2), 347–360. <https://doi.org/10.1891/0886-6708.VV-D-14-00149>
- Schwarzer, N. H., Nolte, T., Fonagy, P., & Gengelmaier, S. (2021). Mentalizing mediates the association between emotional abuse in childhood and potential for aggression in non-clinical adults. *Child Abuse & Neglect*, 115, 105018. <https://doi.org/10.1016/j.chiabu.2021.105018>
- Shackman, J. E., & Pollak, S. D. (2014). Impact of physical maltreatment on the regulation of negative affect and aggression. *Development and Psychopathology*, 26(4 Pt 1), 1021–1033. <https://doi.org/10.1017/S0954579414000546>
- Sillito, C. (2012). Gendered physical and emotional health consequences of situational couple violence for heterosexual married and cohabiting couples. *Feminist Criminology*, 7(4), 255–281. <https://doi.org/10.1177/1557085111431695>
- Smith, S. G., Zhang, X., Basile, K. C., Merrick, M. T., Wang, J., Kresnow, M., & Chen, J. (2018). In *The national intimate partner and sexual violence survey (NISVS): 2015 data brief – updated release*. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.
- Stein, H. (2006). Does mentalizing promote resilience. In J. G. Allen & P. Fonagy (Eds.), *Handbook of mentalization-based treatment* (pp. 307–326). Wiley. <https://doi.org/10.1002/9780470712986>
- Straus, M. A., & Douglas, E. M. (2004). A short form of the revised conflict tactics scales, and typologies for severity and mutuality. *Violence and Victims*, 19(5), 507–520. <https://doi.org/10.1891/vivi.19.5.507.63686>
- Tabachnick, B. G., & Fidell, L. S. (2007). Multivariate analysis of variance and covariance. *Using Multivariate Statistics*, 3, 402–407.
- Taccini, F., & Mannarini, S. (2023). An attempt to conceptualize the phenomenon of stigma toward intimate partner violence survivors: A systematic review. *Behavioral Sciences (Basel, Switzerland)*, 13(3), 194. <https://doi.org/10.3390/bs13030194>
- Taft, C. T., Schumm, J. A., Marshall, A. D., Panuzio, J., & Holtzworth-Munroe, A. (2008). Family-of-origin maltreatment, posttraumatic stress disorder symptoms, social information processing deficits, and relationship abuse perpetration. *Journal of Abnormal Psychology*, 117(3), 637–646. <https://doi.org/10.1037/0021-843X.117.3.637>

- Tasso, A., Whitmarsh, L., & Ordway, A. (2016). Intimate partner violence within military families: Intervention guidelines for relational aggressors. *The Family Journal*, 24(2), 114–121. <https://doi.org/10.1177/1066480716628622>
- Taubner, S., Zimmermann, L., Ramberg, A., & Schröder, P. (2016). Mentalization mediates the relationship between early maltreatment and potential for violence in adolescence. *Psychopathology*, 49(4), 236–246. <https://doi.org/10.1159/000448053>
- Tavistock Relationship. (2016). *Working relationally with couples where there is situational violence*. Tavistock Relationship.
- Thornberry, T. P., Knight, K. E., & Lovegrove, P. J. (2012). Does maltreatment beget maltreatment? A systematic review of the intergenerational literature. *Trauma, Violence & Abuse*, 13(3), 135–152. <https://doi.org/10.1177/1524838012447697>
- Tognasso, G., Trombetta, T., Gorla, L., Ramon, S., Santona, A., & Rollè, L. (2022). Romantic attachment, internalized homonegativity, and same-sex intimate partner violence perpetration among lesbian women in Italy. *Frontiers in Psychology*, 13, 870921. <https://doi.org/10.3389/fpsyg.2022.870921>
- Trevillion, K., Oram, S., Feder, G., & Howard, L. M. (2012). Experiences of domestic violence and mental disorders: A systematic review and meta-analysis. *PloS One*, 7(12), e51740. <https://doi.org/10.1371/journal.pone.0051740>
- Ulloa, E. C., & Hammett, J. F. (2016). The role of empathy in violent intimate relationships. *Partner Abuse*, 7(2), 140–156. <https://doi.org/10.1891/1946-6560.7.2.140>
- van Schie, C. C., van Harmelen, A.-L., Hauber, K., Boon, A., Crone, E. A., & Elzinga, B. M. (2017). The neural correlates of childhood maltreatment and the ability to understand mental states of others. *European Journal of Psychotraumatology*, 8(1), 1272788. <https://doi.org/10.1080/20008198.2016.1272788>
- Walters, M. L., Chen, J., & Breiding, M. J. (2013). In *The national intimate partner and sexual violence survey (NISVS): 2010 findings of victimization by sexual orientation*. Atlanta, GA: National Center for Injury Prevention and Control. Appendices.
- WHO. (2022). <https://apps.who.int/violence-info/intimate-partner-violence/>

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Correspondence regarding this article should be directed to Marco Rizzo, PhD, Department of Psychology, University of Torino, Via Verdi 10, 10124, Torino, TO, Italy. E-mail: marco.rizzo@unito.it

APPENDIX

APPENDIX TABLE 1. Summary of Direct and Indirect Effects for Control Models

Paths	$\beta$	B	(SE)	BC 95% CI
Psychological IPV				
Direct effects				
VFO → RFQ_C	-.11*	-0.28*	(0.12)	[-0.51, -0.04]
VFO → RFQ_U	.12**	0.20**	(0.08)	[0.05, 0.28]
VFO → IPV_psy	.13**	0.13**	(0.05)	[0.05, 0.35]
RFQ_C → IPV_psy	-.20***	-0.10***	(0.02)	[-0.15, -0.06]
RFQ_U → IPV_psy	.13**	0.10**	(0.04)	[0.03, 0.17]
Indirect effects				
VFO → RFQ_C → IPV_psy	.02	0.03	(0.01)	[0.01, 0.04]
VFO → RFQ_U → IPV_psy	.02	0.02	(0.01)	[0.01, 0.04]
Physical IPV				
Direct effects				
VFO → RFQ_C	-.11*	-0.28*	(0.12)	[-0.51, -0.04]
VFO → RFQ_U	.12**	0.20**	(0.10)	[ 0.05, 0.28]
VFO → IPV_phys	.18*	0.08*	(0.04)	[0.02, 0.19]
RFQ_C → IPV_phys	-.04	-0.01	(0.01)	[-0.02, 0.01]
RFQ_U → IPV_phys	.03	0.01	(0.01)	[-0.01, 0.03]
Indirect effects				
VFO → RFQ_C → IPV_phys	.003	0.002	(0.004)	[-0.004, 0.013]
VFO → RFQ_U → IPV_phys	.004	0.002	(0.004)	[-0.003, 0.015]
Sexual IPV				
Direct effects				
VFO → RFQ_C	-.11*	-0.28*	(0.12)	[-0.51, -0.04]
VFO → RFQ_U	.12**	0.20**	(0.10)	[ 0.05, 0.28]
VFO → IPV_sex	.18*	0.09*	(0.04)	[0.02, 0.17]
RFQ_C → IPV_sex	-.03	-0.01	(0.01)	[-0.02, 0.01]
RFQ_U → IPV_sex	.03	0.01	(0.01)	[-0.01, 0.03]
Indirect effects				
VFO → RFQ_C → IPV_sex	.003	0.001	(0.004)	[-0.01, 0.01]
VFO → RFQ_U → IPV_sex	.004	0.002	(0.004)	[-0.01, 0.02]

**Note.** *N* = 531. VFO = violence in the family of origin; RFQ\_C = Reflective Functioning Questionnaire—certainty of mentalization; RFQ\_U = Reflective Functioning Questionnaire—uncertainty of mentalization; IPV\_psy = psychological intimate partner violence; IPV\_phys = physical intimate partner violence; IPV\_sex = sexual intimate partner violence.

\*\*\**p* < .001; \*\**p* < .01; \**p* < .05.