

# The Mediating Effects of Empowerment, Interpersonal Conflict, and Social Support on the Violence–PTSD Process among Single Mothers

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## ABSTRACT

In this study, data from 181 income-assisted single mothers residing in Ontario, Canada, is used to examine the process through which childhood abuse and intimate partner violence (IPV) affect current post-traumatic stress disorder (PTSD) symptom levels. Structural equation modelling is used to examine the mediating effects of empowerment, social support, and interpersonal conflict on the trauma–PTSD process. Empowerment and social support are highlighted as key protective factors that may be compromised by exposure to abuse/violence and interpersonal conflict. Implications include understanding the ways in which women's empowerment may be enhanced particularly in the post-trauma period.

**Keywords:** post-traumatic stress symptoms, single mothers, predictive and protective factors, empowerment, interpersonal conflict, social support

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## RÉSUMÉ

Dans cette étude, nous examinons des données portant sur 181 mères monoparentales ontariennes vivant de l'aide sociale, et nous analysons comment la violence subie pendant l'enfance et la violence conjugale influencent l'importance des symptômes de trouble de stress post-traumatique (TSPT) chez ces femmes. À l'aide d'une modélisation par équation structurelle, nous évaluons les effets médiateurs de l'autonomisation, du soutien social et des conflits interpersonnels sur le processus du TSPT. Nous montrons que l'autonomisation et le soutien social sont des facteurs de protection dont l'efficacité peut être compromise quand les femmes ont subi de la violence pendant l'enfance et de la violence conjugale ainsi que quand elles vivent des conflits interpersonnels. Cela nous permet donc de mieux comprendre comment une plus grande autonomisation des femmes serait importante, particulièrement pendant la période post-traumatique.

**Mots clés :** symptômes de trouble de stress post-traumatique, mères monoparentales, prédicteurs et facteurs de protection, autonomisation, conflit interpersonnel, soutien social

Interpersonal violence refers to “the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community that either results in or has a high likelihood of resulting in injury, death, psychological harm, mal-development, or deprivation” (World Health Organization, 2002). Globally, 1.6 million people die annually as a direct or indirect consequence of violence, with interpersonal violence accounting for a third of all deaths (WHO). Intimate partner violence (IPV) and childhood abuse are among the most common and detrimental forms of interpersonal violence faced by females. In Canada, 30% and 4% of males and 21% and 12% of females are likely over their lifetime to experience childhood physical and sexual abuse respectively. In addition, 6% of males and 30% of females will experience at least one incident of IPV (Statistics Canada, 2009).

Particularly among income-assisted individuals, interpersonal violence has been shown to have a wide range of significant physical, psychological, and social impacts. In an earlier analysis we found that as many as 38% and 58% of single mothers receiving social assistance reported exposure to a physically, sexually, or psychologically violent incident (Samuels-Dennis, Ford-Gilboe, Avison, Wilk, & Ray, 2010; Samuels-Dennis, Ford-Gilboe, & Ray, 2011). In addition to immediate physical injuries, long-term physical health problems, loss of social networks, and diminished ability to work, income-assisted survivors of childhood abuse and IPV face debilitating mental health problems such as depression, anxiety, and post-traumatic stress disorder (PTSD) (Dutton et al., 2006).

PTSD is one of the most common mental health consequences of interpersonal violence (Campbell, 2002). As many as 30% of income-assisted females who report experiencing interpersonal violence also report symptom levels consistent with a probable diagnosis of PTSD (Salomon et al., 2004; Samuels-Dennis, Ford-Gilboe, & Ray, 2011; Tolman & Rosen, 2001). The higher incidence of PTSD found among this population (compared to the 10% percent prevalence rate found among the general female population) is not surprising given the high rates of childhood abuse and IPV found among this population (Samuels-Dennis et al., 2010; Tolman & Rosen, 2001).

While trauma exposure is the central explanatory variable in the development of PTSD, we previously demonstrated that specific personal and social resources can and do diminish the psychological impact of violence. In this article, we expand on our prior work and partially validate the Intersectionality Model of Trauma and Post-traumatic Stress Disorder (IMT-PTSD: Samuels-Dennis, Bailey, & Ford-Gilboe, 2011), a framework that explains the process through which exposure to violence leads to PTSD among women. The protective effects of empowerment and social support, as well as the detrimental effects of childhood abuse, intimate partner violence (IPV), and interpersonal conflict are highlighted.

## THEORETICAL FRAMEWORK

In 1981, Leonard Pearlin introduced the stress process formulation. Pearlin asked researchers, clinicians, and decision makers alike, to reconsider the relationship between stress and mental well-being as more than the simple equation of  $X_{\text{stress}} = Y_{\text{mental illness}}$ . He suggested that the process from stressful encounter to mental health/illness is a complex one. Even the most severe stressors can fail to compromise the well-being of people, while the most benign of stressors can have significant consequences for the mental health of individuals. In his early writing, and in his expansion of the stress process (Pearlin, Lieberman, Menaghan, & Mullan, 1981; Pearlin, 1999; Pearlin & Schieman, 2005), Pearlin recognized the individual as someone who not only acted upon by his/her environment, but also as someone who is “agentic.” One who is agentic holds the capacity to respond in powerful ways to their environment.

The stress process formulation has been embraced by researchers from multiple disciplines for three reasons. First, it respects the complexities of the human condition. Second, it has promulgated the understanding that stressful encounters and health at both the micro- and macro-level are determined by social location. Third, it identifies stressors as having an important initial role to play in the stress–illness trajectory, while recognizing that certain personal and social resources also affect mental well-being.

The Intersectionality Model of Trauma and Post-traumatic Stress Disorder (IMT-PTSD: Samuels-Dennis, Bailey, & Ford-Gilboe, 2011) combines the strengths of the stress process formulation with that of intersectionality to situate PTSD within a social determinant of health (SDH) perspective. The model acknowledges exposure to trauma as the central cause of PTSD. It further suggests that disparities in mental well-being are determined by macro-level and meso-level factors reflective of the intersection between women’s diverse experiences and the social context of their lives. Particularly for women, these experiences are characterized by power inequalities, discriminating social relations, and the inequitable distribution of health and social resources. Intersecting oppressive experiences operating at a macro-level facilitate a meso-level trauma–PTSD process whereby gender-based trauma (primary stressor) directly and indirectly affects women’s mental health. This process is influenced by the availability of personal and social resources (mediating resources) and exposure to chronic stressors and strains that arise as direct consequences of the initial traumatic experience (secondary stressors). The current analysis addresses the meso-level components of the IMT-PTSD model and illustrates the direct and indirect effects of violence on current PTSD symptom severity. This is accompanied by an analysis of the mediating effects of women’s personal strengths (empowerment), social resources (social support), and interpersonal conflict (secondary stressor).

## REVIEW OF THE LITERATURE

### Violence, Mediating Resources, and PTSD

The IMT-PTSD model suggests that the severity of impact of single or multiple traumatic experiences is shaped by the depletion of protective resources and/or by interpersonal stressors that arise as a direct consequence of violence exposure. Among protective resources identified in the literature, the significance of social support in the post-trauma period has been consistently highlighted. Numerous studies have found a moderate, negative association between social support and PTSD symptom severity (Brewin, Andrews, & Valentine, 2000; Ozer, Best, Lipsey, & Weiss, 2003). Specifically, low levels of social support endured over time, or persistent conflict within one's social network, have been shown to increase PTSD symptoms. Schumm, Briggs-Phillips, and Hobfoll (2006) examined cumulative interpersonal traumas and social support as risk and resiliency factors in predicting PTSD among inner-city women and demonstrated that women who had a strong social support system were 56% less likely to report PTSD symptoms compared to those who did not.

Coker et al. (2002) assessed the protective role of abuse disclosure and support on PTSD symptom severity among women previously exposed to IPV and found that emotional support from non-abusive spouses, family, and friends reduced women's risk of PTSD by 20–40%. Across six dimensions of social support (availability of others, confiding in others, emotional support, practical support, negative responses, and satisfaction with support) Andrews, Brewin, & Rose (2003) found that the presence of negative responses to women's assault experiences was the only significant predictor of PTSD symptoms 6 months post physical or sexual assault.

While social support has garnered much attention, less attention has been given to the protective role of empowerment. Empowerment, in its broadest sense, is defined as personal control over decisions in all domains of life (Corrigan, 2006). For women previously exposed to violence, however, empowerment is further conceptualized as women's ability to successfully access skills and resources (internal and external) for effective coping and personal development (Johnson, Worell, & Chandler, 2005). Within the SDH literature, it is understood that the healthiest people are those who are most empowered (Fitzsimons & Fuller, 2002; Laverack, 2004); however, few studies have systematically examined the protective role of empowerment and the ways in which it interacts with stressors/traumas, personal and social resources, or strains to influence mental well-being. Intervention studies that incorporate empowerment as a central component of the intervention have consistently shown that empowerment intervention reduces depressive symptoms. Results have been mixed, however, when researchers have attempted to demonstrate the protective role of empowerment in the violence–PTSD process (Fallot, McHugo, Harris, & Xie, 2011; Johnson & Zlotnick, 2006; Kaslow et al., 2010). Fallot et al. tested the effectiveness of the Trauma Recovery and Empowerment Model (TREM) among a group of women trauma survivors. TREM incorporates a supportive, skill-building approach that allows individuals to acknowledge the impact of abuse while developing techniques for mastery and enhancing their existing strengths for coping with current life events. The results showed significant difference across groups for drug and alcohol problem severity, anxiety, safety, and exposure to secondary stressors; however, they found no significant differences in PTSD symptom severity or in global mental health symptoms.

Similarly, Kaslow et al. (2010) tested the efficacy of a culturally informed, empowerment-focused psycho-educational group intervention that emphasized finding purpose and hope for oneself and one's community. Results of the study revealed that the intervention group, when compared to the control group post-intervention, experienced lower levels of depressive symptoms and general distress but no significant reductions in PTSD symptoms. In contrast, Johnson and Zlotnick (2006) used a non-experimental design to evaluate an empowerment-based intervention that focused on stabilization, safety, and skill development for managing PTSD symptoms. They found a significant reduction in women's PTSD symptom severity 6 months post-intervention. It would appear that the conceptualization of empowerment matters to the efficacy of a given intervention. Specifically, effective empowerment intervention must focus on reducing secondary stressors and enhancing women's capacity to access needed personal and social resources. While these interventions offer some beginning understanding of the key components of empowerment, the current study attempts to clarify the strength of these associations.

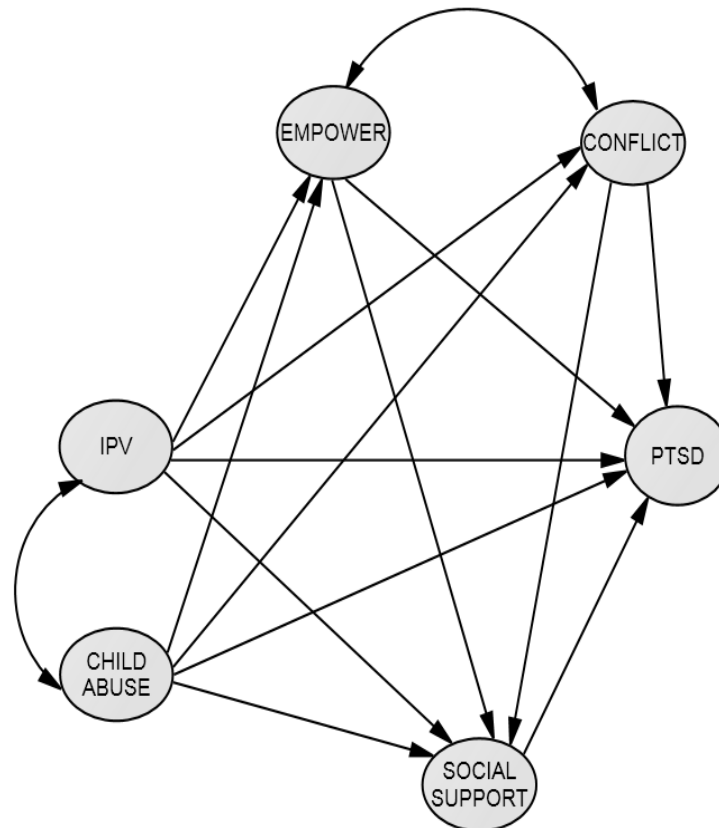
### **Violence, Interpersonal Conflict, and PTSD**

A few studies have examined the role of interpersonal conflict or negative interaction in the violence–PTSD process (Coker, Weston, Creson, Justice, & Blakeney, 2005; Ullman & Filipas, 2001). In an earlier analysis of the direct and indirect effects of cumulative trauma on women's PTSD symptoms, Samuels-Dennis et al. (2010) demonstrated that interpersonal conflict mediated the relationship between cumulative trauma and current PTSD symptom severity. It has been suggested that women who have experienced psychological and assaultive traumas are particularly at risk for an impeded ability to form close, trusting relationships with others (Herman, 1997). Furthermore, poor social interactions with members of their social network and the unavailability of social support that is normally garnered from these relationships may negatively affect psychological well-being. This study extends our previous work by examining the mediating effects of empowerment, social support, and social strain on the process through which lifetime assaultive and psychological traumas affect PTSD symptoms.

### **HYPOTHESIS**

Informed by previous research and the IMT-PTSD framework, a causal model was constructed to assess the effect of IPV, abuse, interpersonal conflict, social support, and empowerment on single mothers' PTSD symptom severity (Figure 1). The model contains three latent variables and two manifest variables. IPV and childhood abuse are hypothesized to affect PTSD symptom severity directly and indirectly through their impact on mothers' level of exposure to interpersonal conflict, empowerment, and social support. IPV and abuse are proposed to (a) increase women's experiences of interpersonal conflict, leading to more severe PTSD symptoms, and (b) erode women's personal empowerment and social support, leading to more severe PTSD symptoms. We also hypothesize that empowerment and interpersonal conflict will directly and indirectly affect a mother's PTSD symptoms through their impact on the availability of social support.

**Figure 1**  
**Direct and Indirect Effect of Violence on PTSD Symptom Severity**



*Note.* IPV = Intimate partner violence; Empower = personal empowerment; Conflict = interpersonal conflict; PTSD = post-traumatic stress disorder

## METHOD

### Design

This is a secondary analysis of data taken from a larger cross-sectional study that investigated the process through which lifetime assaultive and psychological traumas affect PTSD symptoms among a sample of 247 single mothers receiving social assistance in a large metropolitan city in Ontario, Canada.

### Sample and Data Collection Procedure

The current sample consists of 181 randomly selected single mothers who were recruited from the active caseload of the provincial social assistance program. All participants met the following eligibility criteria: (a) recipients of social assistance for at least 6 months; (b) currently living with a least one dependent child

(< 18 years old); (c) not currently living with a spouse or common-law partner; and (d) fluent in English. Additionally, all participants reported exposure to physical and non-physical partner abuse, and physical, sexual, or emotional childhood abuse. A detailed description of the sample, recruitment process, protection of study participants, and reasons for the low response rate is reported elsewhere (Samuels-Dennis, Ford-Gilboe, and Ray, 2011). The average age of participants was 36.0 years ( $SD = 9.2$ , Range 18–61 years). More than half (54.7%) of the sample were single, never-married mothers while 38.7% were separated or divorced. On average the mothers were caring for two dependent children (range 1–6). Caucasians made up the largest proportion of the sample (38.1%) followed by Blacks (25.4%), bi-racials (14.4%), and Hispanics (9.4%). Fifty percent of the sample reported completing high school, while just over 19.3% reported having some post-secondary education. Nineteen percent of mothers were employed either part-time or full-time but were still receiving some social assistance.

## Measures

**Severity of IPV.** The latent variable IPV was constructed from the total scores of the physical and non-physical violence subscales of the Index of Spouse Abuse (ISA; Hudson & McIntosh, 1981). The ISA is a 30-item self-report survey that measures the severity and magnitude of physical and non-physical violence inflicted on women by an intimate partner. Each participant reviewed behaviours representing varying degrees of abuse and identified how often those behaviours occurred on a 4-point scale. ISA-P and ISA-NP scores range from 0 to 100 with higher scores indicating a greater degree and/or frequency of abuse. The ISA possesses strong reliability and discriminant and construct validity among community samples of abused and non-abused women (Ford-Gilboe et al., 2009; Hudson & McIntosh, 1981). Cronbach's alpha for this study: ISA-P ( $\alpha = .95$ ) and ISA-NP ( $\alpha = .92$ ).

**Child abuse.** Exposure to child abuse was assessed using three items taken from a 23-item trauma inventory. A description of all 23 items is published elsewhere (Samuels-Dennis et al., 2010). The definition for childhood physical, emotional, and sexual abuse was first reviewed with/by the study participants. Next, participants indicated if they had ever experienced each event and, if so, the number of times the event occurred during childhood. Responses were coded 0 (no exposure) or 1 (at least 1 lifetime occurrence).

**Social support.** The latent variable social support was constructed from the appraisal and self-esteem support subscales of the Interpersonal Support Evaluation List (ISEL; Cohen, Kamarck, & Mermelstein, 1983). The ISEL is a 40-item summated rating scale developed to measure the perceived availability of four specific forms of social support: tangible support, appraisal support, self-esteem support, and belonging support. Participants reviewed 20 statements relevant to appraisal and self-esteem support and identified the extent to which the statement was true. Scores are derived by summing all items with higher scores indicating greater perceived support. Validity and reliability has been demonstrated among women exposed to assaultive trauma (Hyman, Gold, & Cott, 2003). Cronbach's alpha for this study: appraisal support ( $\alpha = .65$ ) and self-esteem support ( $\alpha = .79$ ).

**Interpersonal conflict.** Interpersonal conflict was measured using the social conflict subscale of the Interpersonal Relationship Inventory (IPRI; Tilden, Nelson, & May, 1990). The IPRI is a 39-item self-report inventory designed to measure three dimensions of interpersonal relationships: (a) degree of perceived support,

(b) degree of perceived conflict, and (c) degree of perceived reciprocity. Participants were asked to review 13 statements and indicate how often each statement is true for them. Scores range from 13 to 65 with higher scores indicating greater interpersonal conflict. The IPRI has demonstrated strong reliability and validity in samples of women exposed to IPV (Ford-Gilboe et al., 2009). Cronbach's alpha for this study was .88.

**Empowerment.** Personal Empowerment was measured using the Personal Progress Scale-Revised (PPS-R; Johnson et al., 2005). The PPS-R is a 28-item summated rating scale developed to assess women's psychological responses to specific stressors along seven dimensions: (a) perceptions of power and competence, (b) self-nurturance and resource access, (c) interpersonal assertiveness, (d) awareness of cultural discrimination, (e) expression of anger and confrontation, (f) autonomy, and (g) personal strength and social activism. Participants reviewed 28 statements and identified how often they felt that way. The PPS-R possesses strong discriminant validity and a reliability of .88 among university students (Johnson et al., 2005). Cronbach's alpha for this study was .87.

**PTSD symptom severity.** The latent variable PTSD was constructed from the total intrusion, avoidance, and hyperarousal subscales scores for the Davidson Trauma Scale (DTS; Davidson, 1996). The DTS is a 17-item scale that measures the frequency and severity of intrusive, avoidance/numbing, and hyperarousal symptoms. Participants ranked, on a 5-point Likert scale, the frequency and severity of each symptom in the past week. Scores for each symptom cluster were calculated by summing the frequency and severity scores. Scores range from 0 to 40, 0 to 56, and 0 to 50 for intrusion, avoidance/numbing, and hyperarousal, respectively. This scale has demonstrated strong reliability among women exposed to interpersonal violence (Bradley, Schwartz, & Kaslow, 2005; Ford-Gilboe et al., 2009). Cronbach's alphas for this study were: intrusion ( $\alpha = .94$ ), avoidance/numbing ( $\alpha = .94$ ), and hyperarousal ( $\alpha = .93$ ).

## Analysis

Data were analyzed using SEM in AMOS 19 (Arbuckle, 2006) with the maximum likelihood (ML) method of estimation. The goodness of fit between the hypothesized model and the data obtained from this sample was assessed by five fit indexes using established critical values, including a non-significant ( $p > .05$ ) chi-square statistic ( $\chi^2$ ) (Jöreskog & Sörbom, 1995), comparative fit index (CFI)  $\geq .95$  (Bentler, 1990), Parsimony-Adjusted CFI (PCFI)  $\geq 0.50$  (James, Mulaik, & Brett, 1982), and a root mean square error of approximation (RMSEA)  $\leq .05$  (Browne & Cudeck, 1993). Multivariate normality, multivariate outliers, linearity, homoscedasticity, and multicollinearity were assessed prior to analysis. No problematic issues were identified.

## RESULTS

### Model Fit

Initial analysis revealed an excellent fit between the hypothesized model and data ( $\chi^2 = 38.7$ ,  $df = 43$ ,  $p = .658$ ,  $\chi^2/df = 1.64$ , CFI = 1.0, PCFI = .65, RMSEA = 0.0). Thus, the proposed model accounted adequately for the observed variance, co-variances, and error co-variances among the indicators and provided support for the hypothesized model.



## Measurement Model

The covariance matrix with variable descriptives for the indicators used in the measurement model is presented in Table 1. Summary statistics indicate that a majority of the sample in each case had no history of physical, emotional, and sexual abuse (58%, 52%, and 64%, respectively). Means and standard deviations on the Interpersonal Relationship Inventory and the Personal Progress Scale-Revised (empowerment) were close to these instruments' norms. Twenty-three percent reported a score on the Davidson Trauma Scale above the cutoff of 40, indicating that less than a fourth of the sample had a likely diagnosis of PTSD. However, the means for the appraisal and self-esteem subscales of the ISEL were below the means reported by Cohen et al. (1983) and Bauman, Haaga, Kaltman, & Dutton (2012), and the means for physical and non-physical Interpersonal Violence (39.2, 32.45) were significantly higher than the clinical cutoff scores (10 and 25, respectively) recommended by Hudson and McIntosh (1981). These descriptive statistics suggest that this sample of single women presented with normative levels of conflict and empowerment and did not exhibit exceptionally high levels of trauma, but did indicate lower than average social support and higher than average levels of IPV inflicted by an intimate partner.

Regarding the covariance matrix, inspection of the parameter estimates of the model and their associated critical ratio values provided support for the hypothesized structure of the measurement model. The factor loadings were all statistically significant and were of substantial magnitude (.35 – .93).

## Direct and Indirect Effects

Figure 2 presents the standardized regression coefficients for the structural model. These path coefficients represent the “pure” relationships between each set of variables in the model, after controlling for the effects of all other variables. Both the direct ( $B = .155, p = .047$ ) and indirect ( $B = .154, p = .009$ ) effect of childhood abuse on mothers' PTSD symptom levels were small but significant, with the direct effect being equal to the indirect effect. IPV did not have a significant direct effect on the severity of mother's PTSD symptoms ( $B = .065, p = .225$ ), but had a small indirect effect ( $B = .113, p = .013$ ). The findings suggest that it is not the direct path between violence and PTSD symptom severity that deserves our attention. Rather, our attention should be drawn to the ways in which IPV and abuse have an impact on current exposure to interpersonal conflict and levels of perceived personal empowerment. Both child abuse and IPV had a positive direct effect on mother's current levels of interpersonal conflict ( $B_{\text{abuse}} = -.280, p = .002$ ;  $B_{\text{IPV}} = .201, p = .009$ ) and a negative direct effect on mother's personal empowerment ( $B_{\text{abuse}} = .254, p = .002$ ;  $B_{\text{IPV}} = -.201, p = .013$ ). While social support has a strong buffering affect on PTSD symptoms severity ( $B = -.33, p = .018$ ), neither child abuse nor IPV appears to have a direct or indirect association with mothers' level of social support.

The most remarkable findings were the indirect effects of personal empowerment and the direct effect of interpersonal conflict on the severity of mothers' PTSD symptoms. Social support fully mediated the relationship between personal empowerment and PTSD symptom severity ( $B_{\text{direct}} = -.039, p = .336$ ;  $B_{\text{indirect}} = -.242, p = .014$ ). We found a strong direct relationship between personal empowerment and social support ( $B = .733, p = .004$ ) and a moderate direct relationship between social support and mothers' PTSD symptoms ( $B = -.33, p = .018$ ). Additionally the findings reveal a moderate significant direct effect of interpersonal conflict on mothers' current PTSD symptom levels ( $B = .287, p = .003$ ). Review of the squared multiple correlations

**Table 1**  
Sample Covariance

	1	2	3	4	5	6	7	8	9	10	11	12
1. Appraisal support	34.987											
2. Self-esteem support	11.024	18.795										
3. Conflict	-14.205	-14.562	108.432									
4. Empowerment	51.009	62.624	-95.276	521.377								
5. Physical abuse	-.100	-.255	.867	-1.890	.243							
6. Emotional abuse	-.147	-.409	1.185	-3.029	.162	.249						
7. Sexual abuse	.061	-.178	1.020	-1.750	.067	.067	.230					
8. IPV physical	-9.394	-11.171	35.563	-99.125	-.341	.261	-.202	777.400				
9. IPV non-physical	-20.940	-13.825	72.709	-141.624	-.267	.942	.978	632.925	813.705			
10. PTSD – arousal	-12.132	-13.348	38.267	-78.999	.726	1.161	.843	23.695	45.718	74.917		
11. PTSD – avoidance/numbing	-15.202	-16.214	44.429	-96.200	.719	1.313	1.009	28.707	53.989	60.743	91.847	
12. PTSD – intrusion	-7.512	-6.678	24.014	-36.140	.112	.412	.810	13.703	29.790	34.384	45.432	59.184

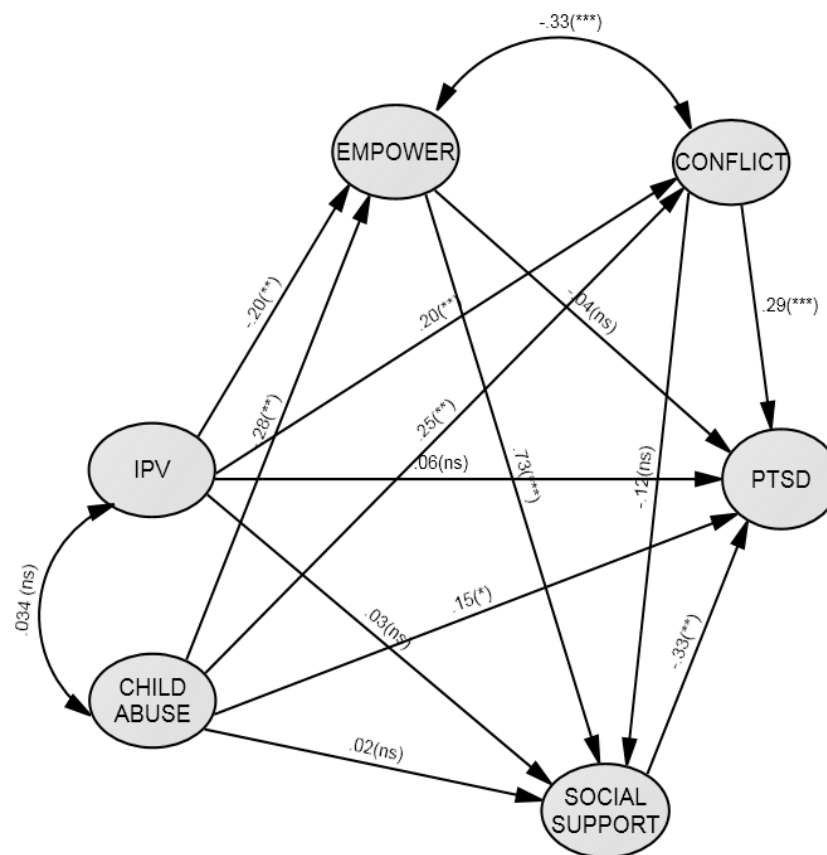
Variable descriptive

Mean	19.22	19.52	39.67	123.93	-	-	-	39.20	32.45	9.02	9.14	6.14
SD	5.09	4.59	10.44	22.90	-	-	-	28.60	29.96	8.68	9.61	7.71
Min, Max	7, 28	6, 30	13, 65	60, 175	0, 1	0, 1	0, 1	-1.3, 91.8	0, 100	0, 31	0, 42	0, 30

\*\*\*Davidson Trauma Scale (Total PTSD Score): Mean=24.5, SD=22.6, Min=0, Max=100; 23.2% had scores >41

revealed that 39.2% of the variance in mothers' PTSD symptoms was explained by IPV, child abuse, social support, empowerment, social support, and interpersonal conflict. The squared multiple correlations also revealed that 10.8%, 12.3%, and 60.7% of the variance in mothers' level of interpersonal conflict, personal empowerment, and social support was explained by the other variables in the model, respectively.

**Figure 2**  
**Standardized Direct Effects for all Variables in the Model**



Fit Indices:  $\chi^2 = 38.7$ ,  $df = 43$ ,  $p = .658$ ,  $\chi^2/df = 1.64$ , CFI = 1.0, PCFI = .65, RMSEA = 0.0

## DISCUSSION

The present study addressed a current gap in knowledge regarding the role of violence, resources, and strain in the violence–mental health process by testing the direct and indirect effects of violence on PTSD symptom severity. We found an excellent fit between the data and the proposed model of mothers' PTSD symptom severity. Interpersonal violence appears to be associated with the severity of single mothers'

PTSD symptoms through various paths, with some forms of violence exhibiting greater effects than others. We found a small but significant association between child abuse and PTSD symptom severity. Contrary to our hypothesis and to the findings of other studies (e.g., Coker et al., 2005; Humphreys & Lee, 2009; Pico-Alfonso et al., 2006), IPV was not directly associated with PTSD symptom severity. Childhood abuse and IPV appear to increase women's experience of interpersonal conflicts, leading to more severe PTSD symptoms, and erode empowerment, leading to decreased social support and increased PTSD symptom severity. The findings suggest that empowerment, interpersonal conflict, and social support deserve greater attention, particularly from professionals endeavoring to promote the mental health of this population. IPV, childhood abuse, and interpersonal conflict represent risk factors, because they erode social support, and empowerment represents an important protective factor in that it increases social support.

Empowerment played an indirect or mediating role in the expression of post-traumatic symptoms both in the current study and in others (Wright, Perez, & Johnson, 2010). Social support indicators in the present study were self-esteem support (the presence of others with whom the individual feels they compare favourably) and appraisal support (the availability of someone with whom to discuss issues of personal importance). With this conceptualization of resources, it is possible that social support influenced the severity of PTSD symptoms through its positive influence on women's self-esteem, sense of connectedness, and promotion of adaptive coping skills. It has also been hypothesized that IPV survivors with more social support are better positioned to increase their safety and reduce the effect of IPV-related stressors (Mitchell et al., 2006). Social support has also been shown to modify the effects of IPV on measures of mental health (Coker, Watkins, Smith, & Brandt, 2003; Ford-Gilboe et al., 2009), decrease the severity of PTSD symptoms (Agathangelou & Killian, 2002; Bradley et al., 2005), and decrease social isolation (Nicolaidis et al., 2008).

The role of empowerment is crucial in the delivery of health services to survivors of IPV and abuse. Interventions that target the interconnection between empowerment, social support, and negative interactions with members of one's social network are needed to improve women's sense of control and their capacity to make decisions about all aspects of their lives. In accordance with the findings of this study, empowerment-based interventions could be redesigned to target the impact of interpersonal violence (risk factors) and harness the protective effects of empowerment and social support. Such interventions should address (a) perceptions of power and competence, (b) self-nurturance and resource access, (c) interpersonal assertiveness, (d) awareness of cultural discrimination, (e) expression of anger and confrontation, (f) autonomy, and (g) personal strength and social activism.

Identifying and understanding how the empowerment process unfolds is critical in order to develop empowerment-oriented services. The empowerment process is not linear but circular and mutually reinforcing with interconnecting sub-processes, including understanding positionality, conscientization, and social transformation, that are meant to inform empowerment-oriented services (Carr, 2003). Ideally, empowerment is facilitated by systems of care that are collaborative, respectful, and nested within various social and community contexts (Burns Jager & Carolan, 2010). According to Cook and Tedeschi (2007), best practices for empowerment-oriented services incorporate community systems of care that facilitate partnerships with women and involve trauma treatment, resources access, violence prevention, and, when needed, protection. These practices focus on equal and empowered processes of change with respect for traumatized women in their community context.

Women should be welcomed to participate in tailoring the services they need to enhance their mental well-being. With an interactional, collective nature of the empowerment process in mind, clinicians should consider how their own positions, interpretations, and identities inflect the empowerment process (Burns Jager & Carolan, 2010). Interpersonal violence affects relationships and social support on various levels (e.g., partner, family, friends, community) and informs coping in various ways. Overt discussions about survival skills may help clinicians to facilitate self-efficacy and engage women in empowerment processes in their social contexts and within community systems of care (Burns Jager & Carolan, 2010).

It is the responsibility of clinicians to initiate therapeutic conversations with women with respect to how their traumatic abuse experiences affect their connections or disconnections with themselves and their informal social supports. Through trauma-informed practices, empowerment-oriented services can focus on the re-establishment of basic safety in relationships, and support survivors in the development of their personal worth (Herman, 1997). Women's experiences of gaining knowledge, skills, and resources within empowerment-oriented services/systems of care have the potential to provide resolution to breaches in trust and connection with the larger community. This holistic, integrated application in systems of care can assist clinicians to open spaces for partnerships to facilitate or create non-abusive contacts and informal social supports (ISS) that could effectively increase the level of personal empowerment. This empowerment could benefit both mothers and their children in the effort to impede cycles of multigenerational abuse (Burns Jager & Carolan, 2010).

There is increasing interest among policy makers and practitioners in tapping the potential of family, friends, volunteers, peer support groups, and mutual aid organizations to help prevent violence (Budde & Schene, 2004). The popularity of these informal social support interventions stems, in part, from their flexibility, responsiveness to individual needs, and perceived low cost. Policy makers, funders, administrators, and practitioners increasingly look to interventions that attempt to mobilize ISS as a strategy to provide concrete assistance, improve parenting skills or developmental outcomes, offer emotional support and enjoyable social relationships, and monitor and promote safety (Budde & Schene, 2004). Improving informal social support by enhancing personal empowerment among women who have experienced violence can lead to a decrease in interpersonal conflict. Informal social support interventions that support women in reducing negative social relations, building positive ones, and promoting a sense of personal control appear to be central to the enhancement of personal empowerment among this population. While this approach does not erase past trauma, it may be able to help women build the resources they need to begin addressing the impact of trauma.

There is still limited understanding of whether and how informal social support interventions can improve social support, enhance personal empowerment, reduce interpersonal conflict and violence, or save money. Furthermore, mobilizing and sustaining ISS interventions appears to be difficult, particularly for women and their families living in high-risk environments. Further research is needed to appropriately assess income-assisted single mothers' informal social support and intervene by promoting access to health care services and social resources that promote personal empowerment and well-being.

## STRENGTHS AND LIMITATIONS

This study highlights the all-important role of personal and social resources in the trauma–mental health process and offers some beginning insights about how to enhance current interventions directed at mothers previously exposed to childhood abuse and IPV. This study incorporates a number of strengths, including the initial attempt to select a random sample of income-assisted mothers, the rigorous data-collection process, and the highly reliable measures used to assess the study variables. We wish to also acknowledge some of the limitations associated with the study, however.

It should be noted that the present study used a cross-sectional methodology and, therefore, we cannot determine the temporal sequence regarding empowerment, support, interpersonal conflict, and PTSD symptom severity. Further validation is needed, using a larger sample and a longitudinal design to examine relations among constructs over time. Future studies might investigate the *mediating* role PTSD itself plays in impeding women's access to resources, such as help-seeking behaviours, social support, and empowerment (Rhatigan, Shorey, & Nathanson, 2011; Wright et al., 2010), and increasing the frequency of unhealthy behaviours, such as substance use and abuse (Sullivan, Cavanaugh, Buckner, & Edmondson, 2009). The current findings may also be attributed to the fact that income-assisted single mothers may possess a trauma profile different from the general low-income population (Samuels-Dennis, 2010). About half of the participants identified themselves as visible minorities, and it is likely that a significant percentage of the participants are also immigrants. Thus, it is possible that culture, ethnicity, and even the act of immigration, with the multitude of stressors associated with migratory trajectory, influenced participants' ability to resolve difficult life experiences or to access available services and resources. Stressors associated with pre- and post-migration could be assessed and included in future models. Despite these possible limitations, this study points to important associations among women's PTSD risk, childhood abuse, interpersonal relationships, empowerment, and social interactions. Mental health services geared to women with PTSD and trauma that incorporate these findings may influence reduction in psychiatric symptoms and improve women's quality of life.

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