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Research article

The role of complex posttraumatic stress symptoms in the association between exposure to traumatic events and severity of intimate partner violence

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ABSTRACT

Background: Symptoms of both posttraumatic stress disorder (PTSD) and disturbances in self-organization (DSO) have been suggested to play a role in the association between an individual's childhood physical abuse and neglect and his/her perpetration of IPV in adulthood; however, the two have yet to be studied in one model. Thus, we aimed to examine the interrelations among childhood exposure to violence and physical neglect, exposure to trauma across one's lifetime, ICD-11 CPTSD symptoms (i.e., PTSD and DSO), and IPV severity.

Methods: Participants were 234 men drawn randomly from a national sample of 1600 mandated men receiving treatment for domestic violence in Israel. They completed measures of potentially traumatic exposure, symptoms of CPTSD, child abuse and neglect, and IPV. Structural equation modeling (SEM) was used to examine possible direct and indirect effects of the study variables.

Results: Results confirmed the indirect role of CPTSD symptoms in the association between the following types of traumatic exposure – childhood exposure to violence (B = .03, β = .05, SE = .01, p = .05, CI 90% [.041, .143]), childhood exposure to physical neglect (B = .04, β = .04, SE = .02, p < .01, CI 90% [.014, .092]), and lifetime exposure to potentially traumatic events, or PTEs (B = .04, β = .09, SE = .01, p < .001, CI 90% [.006, .074]) – and the perpetration of psychological IPV as an adult. No significant results were found in relation to the perpetration of physical IPV.

Conclusions: The current cross-sectional study findings suggest a preliminary direction regarding the possible direct and indirect effects of ICD-11CPTSD on the severity of IPV psychological perpetration. The clinical implications include the need to focus on both PTSD and DSO symptoms in order to help reduce these potential risk factors for psychological IPV perpetration.

1. Introduction

Exposure to repeated childhood trauma and adversity, particularly childhood physical abuse and neglect, puts one at risk for

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numerous short- and long-term negative consequences (Milner et al., 2010), including PTSD as well as a range of interpersonal behavioral problems, specifically the enactment of intimate partner violence (IPV) in adulthood (Delsol & Margolin, 2004; Dugal, Goudbout, Bélanger, Hébert, & Goulet, 2018; Godbout, Runtz, MacIntosh, & Briere, 2013, Godbout et al., 2019; Kimber, Adham, Gill, McTavish, & MacMillan, 2018; Wekerle et al., 2001; Widom, Czaja, & Dutton, 2014). Various studies, based on different theoretical perspectives on trauma (for review, Dutton & Holtzworth-Munroe, 1998; Taft, Murphy, & Creech, 2016), have considered PTSD to be the main mediator in the association between exposure to traumatic events and IPV perpetration in adulthood, but these studies have yielded only partial results (Maguire et al., 2015; Taft, Schumm, Marshall, Panuzio, & Holtzworth-Munroe, 2008). As such, several factors – including interpersonal problems (LaMotte, Taft, Weatherill, & Eckhardt, 2017; LaMotte, Meis, Winters, Barry, & Murphy, 2018) and emotion dysregulation (Miles, Menefee, Wanner, Teten Tharp, & Kent, 2016) – have been suggested, along with PTSD, to explain the association between these phenomena. However, most studies have examined only the individual role played by each factor, together with PTSD, in terms of its contribution to the enactment of IPV, but have not considered all of these factors together. Thus, based on the self-trauma model, the current study examined the role of all of the suggested factors in one study model via an assessment of symptoms of both PTSD and disturbances in self-organization, or DSO (i.e., emotion dysregulation, negative self-concept, disturbances in relationships), in terms of the association between exposure to traumatic events and severity of IPV perpetration.

In this study, we chose to use the self-trauma model as it points to how trauma-related symptoms resulting from early exposure to repeated childhood trauma and adversity can together play a role in the adult perpetration of IPV (Godbout et al., 2019). Briere (2002) suggested that exposure to traumatic events in childhood (i.e., physical abuse and neglect) may affect the development of relational and affect regulation skills, potentially leading to the individual's higher risk of experiencing interpersonal difficulties or conflicts and engaging in impulsive or violent behaviors in adulthood. When the emotional distress that was experienced during the childhood event is triggered in the context of later interpersonal situations, the negative self-concept regarding relationships and the inability to regulate such emotions are reactivated. Briere's model suggests that when the damaging events that were experienced in childhood, and that led to PTSD and DSO symptoms, are retriggered in adulthood, the cumulative result may be the enactment of violent behavior in intimate relationships. Although findings indicating an association between PTSD, emotion regulation, and IPV (Miles et al., 2016) have provided some support for the Briere (2002) model, no study has yet examined the possible role of PTSD together with all of the DSO symptoms in one conceptual model in the eventual perpetration of severe IPV.

In 2018, the World Health Organization (WHO) published the 11th revision of the International Classification of Diseases and included a new trauma-based diagnosis termed Complex PTSD (CPTSD: WHO, 2018). This diagnosis includes two symptom components: PTSD and DSO. The PTSD symptoms comprise three clusters (re-experiencing in the here and now, avoidance, and sense of threat); the DSO symptoms also comprise three clusters (affective dysregulation, negative self-concept, and disturbances in relationships) (Brewin et al., 2017). The diagnosis of CPTSD was introduced into the ICD-11 and is distinguished from that of the PTSD diagnosis in order to acknowledge the negative impact that chronic interpersonal trauma, particularly childhood abuse, can have on emotion regulation and interpersonal capacities, as well as on self-concept (Cloitre et al., 2009). Complex-PTSD symptoms have been shown in multiple studies to be associated with early-life interpersonal forms of trauma such as abuse and neglect (Cloitre, Garvert, Brewin, Bryant, & Maercker, 2013; Hyland et al., 2017), as well as with aggressive behaviors (Elklit, Hyland, & Shevlin, 2014).

Many of the factors identified in the IPV literature, which describe the risk of enacting IPV, overlap with the symptoms represented in CPTSD: that is, PTSD (Askeland & Heir, 2014; Dutton, 1995; Hoyt, Wray, Wiggins, Gerstle, & Maclean, 2012; Rosenbaum & Leisring, 2003), emotion dysregulation (LaMotte, Gower, Miles-McLean, Farzan-Kashani, & Murphy, 2018), and negative self-concept (LaMotte, Meis et al., 2018). In addition, the literature has shown that exposure to violence and neglect in childhood are consistently associated with future perpetration of IPV (Dugal et al., 2018; Godbout et al., 2013, 2019; Kimber et al., 2018). The literature has also shown that male IPV perpetrators experience traumatic events at a greater rate of frequency than do other men in the community (Maguire et al., 2015), not only during childhood but also throughout their lifetimes (Cook et al., 2005). Thus, based on this observation, and the self-trauma model, the primary general aim of the current study was to test the hypothesis that ICD-11 CPTSD symptoms have a direct effect on IPV perpetration severity. The more specific aim was to examine the indirect effect of the association between exposure to violence in childhood, physical neglect, and lifespan traumatic events, respectively, with perpetration of both severe psychological and physical IPV, among a clinical sample of Israeli men mandated for the treatment of IPV perpetration.

2. Methods

2.1. Participants and procedures

Participants were randomly-drawn males from the Israeli Jewish population who received treatment at 30 centers for domestic violence prevention. Two hundred and thirty-four completed the full version of the questionnaires. They comprise about 14% of the total number of 1600 Jewish males who were treated at 66 centers for domestic violence prevention during the year 2016 (Hasherut Lerevahat Haprat VeHamishpaha [the Service for the Welfare of the Individual and the Family], 2016). A post-hoc power assessment based on the modeling results (Preacher & Coffman, 2006) ranged from .810 to .911.

This study was conducted in collaboration with Israel's Ministry of Social Affairs and Social Services, and ethical approval was received from both Bar-Ilan University's institutional review board (IRB ethical approval reference number: 021604) and the abovementioned Ministry's research department. Data collection took place from February–August, 2016. Social workers at the centers presented the study to those men who had been randomized to participate in the study, during the process of their therapy.

Participation was voluntary and unremunerated, and informed consent was obtained from all 234 men who enrolled in the study. Either a member of the research team or a social worker in the center then administered to participants a battery of self-report measures. The overall response rate was approximately 70%. Of those who did not respond, 10% could not complete the questionnaires due to language issues; 15% declined to participate because they were suspicious of the research purpose; and 5% had attention deficit problems which prevented them from completing the questionnaires.

2.1.1. Measures

2.1.1.1. Background variables. Education and age were assessed by years, on a continuous scale. Income was assessed by a categorical scale that ranged from $10k to $40k and more. Family status was assessed by a relationship categorical scale that ranged from various options (i.e., married, dating, cohabiting) to “not in a relationship at all.” Time served in the army's compulsory military service was assessed by a categorical scale ranging from full service to partial service to no service; and employment was assessed on a categorical scale ranging from unemployed to partially employed to fully employed.

2.1.1.2. Exposure to violence and physical neglect in childhood: Conflict Tactics Scale (CTS)—Parent–Child (PC) Short Form Version (Straus & Mattingly, 2007). This adapted version of the CTS-PC was constructed from four items that were used in a previous study regarding exposure to violence, which have been shown to be associated with IPV perpetration in adulthood (Lee, Walters, Hall, & Basile, 2013), as well as all of the items from the original scale for measuring physical neglect (Straus & Mattingly, 2007). For both scales, respondents were asked to rate the frequency, until they reached the age of 18, with which their father/male guardian or mother/female guardian used specific conflict tactics against (a) each other, and (b) the respondent (e.g., hitting or throwing something). Sample items measuring exposure to violence were: "Hitting or throwing something" and "Swore or cursed at you." Physical neglect in childhood was measured by asking 1) about "the number of occasions on which your parents did not take care of your basic needs, i.e., did not attend to matters of your basic cleanliness or obtain the food and/or clothing you needed” and 2) about "the number of times you were left alone when an adult should have been present.” Respondents rated the frequency with which each tactic was used by their parents or step-parents during what they defined as the worst year of their life before the age of 18 on a 7-point scale (0 = *never to 6 = more than 20 times*), and individual prevalence scores were summed. The Cronbach’s alpha in this study for exposure to violence in childhood was .85. In this study, this measure was translated into Hebrew according to the WHO criteria, which includes reverse-translation (Authors).

2.1.1.3. Exposure to traumatic events: Life Events Checklist (LEC-5) (Weathers et al., 2013). The LEC-5 is a 17-item self-report measure designed to screen for potentially traumatic events (PTEs) in a respondent's lifetime. The LEC was originally used to assess criteria A for PTSD in "The Clinician-Administered PTSD Scale" (CAPS) (Blake et al., 1990). The validation of the LEC has been supported by the demonstration of adequate temporal stability, and shows good convergence with an established measure of trauma history (Gray, Litz, Hsu, & Lombardo, 2004). We used the original measure, which does not include childhood trauma, to assess lifetime exposure to 15 traumatic events (e.g., natural disaster, sexual assault, life-threatening illness/injury). For each item, the respondent checks, in regard to the event: (1) *happened to me*, to (6) *doesn't apply to my experience*. In order to create a summed total that represents the number of different life events that the respondent has experienced, the items are re-coded into binary variables with *happened to me* responses being coded as 1 and all other responses coded as 0. This coding produces a single total cumulative index variable with possible scores ranging from 0 to 17. In the current study, we used the formal Hebrew translation of this scale, which has been used in many studies conducted in Israel.

2.1.1.4. CPTSD and PTSD symptoms: International Trauma Questionnaire (ITQ) (Cloitre et al., 2019; ITQ, n.d.). The final version of the ITQ is a 12-item self-report measure for screening ICD-11 PTSD and CPTSD symptomatology. The measure demonstrates good construct, factor, and discriminant validity (Cloitre et al., 2018; Hyland et al., 2016; Karatzias et al., 2016, 2017; Shevlin et al., 2017). Six items represent the three clusters of PTSD: that is, two items of re-experiencing in the here and now (Re); two items of avoidance (Av); and two items of sense of threat (Th). Symptom endorsement is scored on a Likert-type scale, indicating how bothersome a symptom has been over the past month with scores ranging from 0 (*not at all*) to 4 (*extremely*). In addition, six items represent the three DSO clusters – that is, two items of affective dysregulation (AD); two items of negative self-concept (NSC); and two items of disturbances in relationships (DR) – where endorsement of items indicates how typical the problem is to the individual, with scores ranging from 0 (*not at all*) to 4 (*extremely*). Cronbach’s alpha reliability estimates for the PTSD indicators in the current sample were acceptable for the PTSD cluster = .75, but higher for the DSO indicators, and for DSO = .91. In this study, this measure was translated into Hebrew according to the WHO criteria, which includes reverse-translation. Its construct validity was confirmed in our previous study (Gilbar, Hyland, Cloitre, & Dekel, 2018) and in an Israeli national community sample (Ben-Ezra et al., 2018).

2.1.1.5. Intimate partner violence severity: CTS2S Conflict Tactics Scale, Short Form (Straus & Douglas, 2004). Two subscales of this measurement were used in the current study. The questionnaire asks respondents to recall the number of IPV acts that occurred during the previous 12 months. Two items of physical IPV (e.g., kicked, punched my partner) and two items of psychological violence (e.g., insulted or swore at my partner) were examined via these subscales. The instrument has eight response categories: 0 *(has never happened)*, 1 *(happened more than one year ago)*, 2 (*once in the past year)*, 3 (*twice in the past year)*, 4 (*3–5 times*), 5 (*6–10 times*), 6 (*11–20 times*), 7 (*more than 20 times in the past year)*. We then used the averaged summed scores of each type of violence. The standardized Cronbach’s coefficient alpha in this study for psychological IPV perpetration was .88, and for physical IPV perpetration the Cronbach’s alpha was .79. We used the formal Hebrew translation of the two subscales in this study, which have been used in

many studies conducted in Israel.

2.1.1.6. Statistical analysis. We first computed descriptive statistics and assessed the correlations between study variables. We then applied SEM, using Mplus version 7 (Muthén & Muthén, 2013). We examined the direct and indirect associations of CPTSD, where the direct association was the path coefficient from exposure to violence and physical neglect in childhood as well as exposure to lifespan traumatic events, to physical and psychological IPV. The indirect association was the path coefficient from exposure to violence and physical neglect in childhood to physical and psychological IPV via CPTSD.

To assess these associations, we used the weighted least squares means and variance adjusted (WLSMV) estimator based on the polychoric correlation matrix of latent continuous response variables. Other methods of analysis, such as maximum likelihood estimation, tend to produce incorrect standard errors, attenuate the relationships between observed variables, and produce possible pseudo-factors when using categorical indicators (Brown, 2006). The WLSMV estimator has been shown to produce correct parameter estimates, standard errors, and test statistics (Flora & Curran, 2004). Unstandardized regression coefficients (*B*), standard errors (*SE*s), and standardized regression coefficients (β) were reported for all analyses. The 95% confidence intervals (CIs) of the *B* estimates were used to test the hypothesized mediational relationships. Goodness of fit for each model was assessed with a range of fit indices including the chi-square, the comparative fit index (CFI), and the Tucker-Lewis Index (TLI). A non-significant x^2 and values greater than .90 for the CFI and TLI are considered to reflect acceptable model fit. Additionally, the root mean square error of approximation (RMSEA) was reported with a value less than .05, indicating close fit (Hu & Bentler, 1999).

3. Results

3.1. Descriptive analyses

The majority of this study's respondents (88%) sought help after undergoing a legal or social services intervention. More than half (56%) were in a relationship, 37.6% were separated, and 6.4% were single. The average education length was 12.8 years, (*SD* = 2.58; range = 8–21). In addition, 14.7% were unemployed, 9% had part-time jobs, and 76% had full-time jobs. Descriptive data regarding the history of PTEs can be found in Fig. 1. The mean number of lifetime traumatic events among the participants was 4.26 (SD = 3.20). The most common traumatic event was exposure to a car accident (57.5%). In addition, there was a high rate of exposure to war events (32.2%), as expected in an Israeli sample. Exposure to physical violence was high (52.8%), and 22.2% of participants were exposed to assault with a weapon. Regarding experiences in childhood, 21.7% were exposed to physical abuse, and the rate of exposure to sexual abuse was 10.9%.

3.2. Bivariate correlations among study variables

The bivariate correlations among all of the study variables are presented in Table 1. Exposure to childhood violence, physical neglect, and lifetime PTEs exhibited positive associations with CPTSD. Also, as expected, CPTSD was positively related to physical,

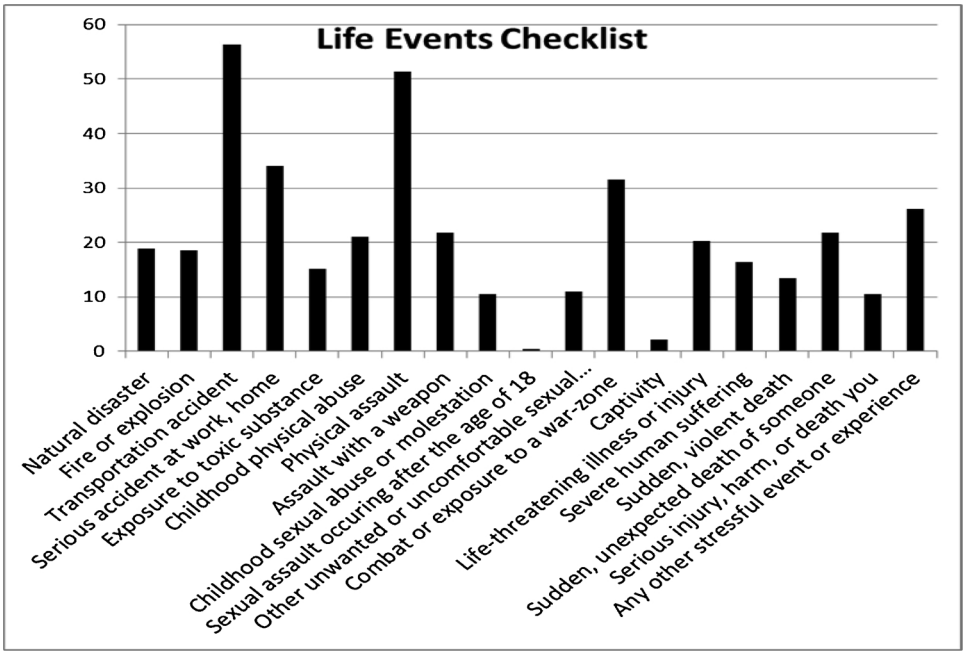

Fig. 1. Frequency of exposure to different types of traumatic events.

Table 1
Estimated Correlation Matrix of the Study Variables.

	Mean	SD	1	2	3	4	5
1. CPTSD							
2. Childhood physical neglect	.72	.14	**.30*****				
3. Exposure to violence in childhood	1.08	.13	**.30*****	**.23*****			
4. Lifetime PTEs	1.38	.13	**.42*****	**.26*****	**.37*****		
5. Physical IPV	.82	.10	**.14***	.01	**.13***	**.13***	
6. Psychological IPV	1.37	.12	**.28*****	.03	**.19****	**.11***	**.48*****

Note: PTSD = posttraumatic stress disorder. CPTSD comprises latent variables (i.e., PTSD and DSO).

and to psychological, IPV. Only physical neglect in childhood was not significantly correlated with either psychological or physical IPV perpetration.

3.3. Multivariate SEM analyses

The SEM model included five observed variables: exposure to violence in childhood, physical neglect in childhood, lifetime PTEs, psychological IPV perpetration, and physical IPV perpetration. The SEM model also included one latent variable, CPTSD, which comprises PTSD and DSO clusters. In addition, the PTSD cluster was identified by three latent indicators: the re-experiencing (Re), avoidance (Av), and threat (Th) symptom cluster scores. The latent DSO variable was also identified by three latent indicators: the affective dysregulation (AD), negative self-concept (NSC), and disturbances in relationships (DR) symptom cluster scores. Model fit indices showed that the data fit the model well, χ 2 (101) = 155.29, p < .05), RMSEA = .048, 90% CI [.032, .062]; CFI = .981, TLI = .975 (Fig. 2).

Results (see Table 2) showed that the only variable to exhibit a direct effect on psychological IPV perpetration was CPTSD. None of the independent variables had a significant direct effect on physical IPV perpetration. However, regarding the study's hypothesis, the indirect association between lifetime PTEs and psychological IPV perpetration via CPTSD was significant (β = .09, SE = .03, p = .001). In addition, the results also showed significant indirect associations between exposure to both violence and neglect in childhood and psychological IPV perpetration via CPTSD (for violence, β = .04, SE = .02, p = .05; for neglect β = .05, SE = .02, p = .01). However, none of the paths from exposure to violence/physical neglect in childhood or lifetime PTEs via CPTSD had an effect on physical IPV perpetration. Thus, based on the findings regarding the direct effects of the following factors – childhood exposure to violence, childhood exposure to physical neglect, and exposure to additional traumatic events across one's lifetime – on psychological IPV, the implication of the findings regarding the indirect effects is that they were fully explained through the pathway going from exposure to traumatic events via CPTSD to psychological IPV perpetration.

4. Discussion

The current study examined the role of ICD-11 CPTSD symptoms in the association between exposure to traumatic events (i.e., violence in childhood, physical neglect, and lifespan traumatic events) and IPV severity. As such, the study is in keeping with the self-trauma model, which has suggested that the combination of PTSD and DSO symptoms may predict the perpetration of violence in intimate relationships (Godbout et al., 2019). First, the study findings align with the idea that men who engage in IPV are exposed to more traumatic events over the course of their lives than are other men (Maguire et al., 2015; Taft et al., 2016). These findings

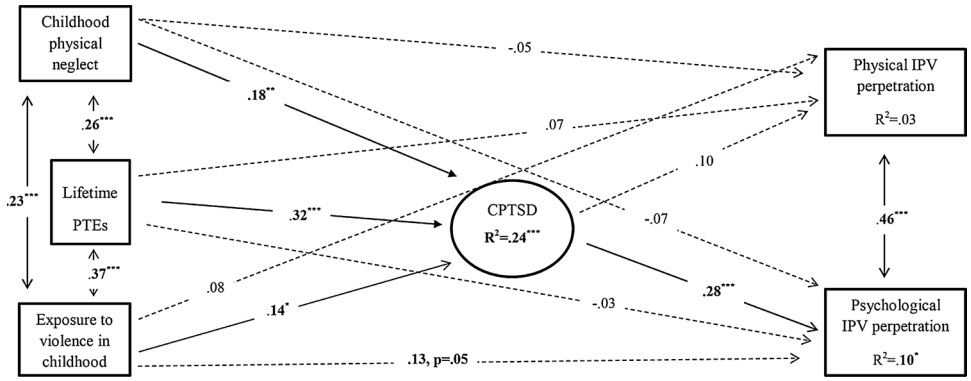

Fig. 2. SEM model for predicting IPV, leading from exposure to violence and physical neglect in childhood to IPV perpetration via potentially traumatic events across the life span and complex post-traumatic psychopathology.
Note: CPTSD = complex posttraumatic stress symptoms, PTEs = potentially traumatic events, *p < .05. **p < .01. ***p < .001. CFI = .981, TLI = .975, RMSEA = .048, 90% CI [.032, .062].

Table 2
Standardized Indirect Effects of Model Predictors on Psychological and Physical IPV Perpetration in the Structural Model.

Pathways	B	SE	β	CI (B)	CI (β)
PTEs = > CPTSD = > psychological IPV	·04	.01	**.09****	90% [.021, .077]	90% [.041, .143]
Exposure to physical neglect in childhood = > CPTSD = > psychological IPV	.04	.02	**.04***	90% [.012, .077]	90% [.014, .092]
Exposure to violence in childhood = > CPTSD = > psychological IPV	.03	.01	**.05***	90% [.0051, .060]	90% [.006, .074]
PTEs = > CPTSD = > physical IPV	.01	.00	.03	90% [−.004, .025]	90% [−.012, .078]
Exposure to physical neglect in childhood = > CPTSD = > physical IPV	.01	.00	.01	90% [−.004, .023]	90% [−.007, .045]
Exposure to violence in childhood = > CPTSD = > physical IPV	.00	.00	.01	90% [−.004, .017]	90% [−.007, .036]

Note: Unstandardized regression coefficients (B) and standardized regression coefficients (b) are reported. CI = confidence interval. CPTSD = complex posttraumatic stress symptoms; IPV = intimate partner violence.
$p < .05.$, $p < .01.$

concord with previous research conducted among male perpetrators of IPV in the US, which indicated that these men experienced higher exposure to traumatic events than did the general population (LaMotte, Gower et al., 2018; Maguire et al., 2015). Specifically, the traumatic event exposure of the current study participants was almost double that of U.S. students (M = 1.5, SD = 1.45; Read, Ouimette, White, Colder, & Farrow, 2011), and of Israeli students, the majority of whom were exposed to only one traumatic event (Amir & Sol, 1999). In addition, the current study participants reported higher rates of childhood exposure to physical abuse and sexual abuse than did the general population in Israel; specifically, childhood exposure to physical abuse in this study was 4% higher than such exposure in the general population (Lev-Wiesel, Eisikovits, First, Gottfried, & Mehlhausen, 2016).

The primary general aim of the current study was to test the hypothesis that ICD-11 CPTSD symptoms had a direct effect on IPV perpetration severity. Our expectation that CPTSD symptoms, which represent a combination of PTSD and DSO symptoms, would have a direct effect on IPV was confirmed in relation to the severity of psychological IPV perpetration. This finding suggests preliminary evidence for the idea underlying the self-trauma model, which claims that PTSD and DSO are, together, connected to the perpetration of violence, and specifically to the enactment of IPV (Godbout et al., 2019). Additionally, the current study reflects the efforts that have been made by various researchers to look for other psychological disturbances, in addition to PTSD symptoms, as being possible risk factors for IPV perpetration (Miles et al., 2017; Taft et al., 2015). Whereas previous research has separately examined other risk factors in addition to PTSD that may affect the perpetration of IPV, such as deficits in interpersonal relationships (LaMotte et al., 2017) and emotion dysregulation (Miles et al., 2016), the results of the current study suggest for the first time that these factors together may have an effect on IPV perpetration.

The main aim of this study was to examine the indirect effect of CPTSD in the link between traumatic exposure – specifically, exposure to violence and physical neglect in childhood and exposure to lifespan traumatic events – and IPV severity in adulthood. The indirect effect of CPTSD in the association between these kinds of trauma exposure and IPV severity was confined to psychological IPV perpetration only. The model pathways that had significant results for predicting IPV severity led from exposure to violence, physical neglect in childhood, and lifespan traumatic events to psychological IPV perpetration via the indirect effect of CPTSD symptoms. These results align with the results of other cross-sectional studies in the field which have found indirect effects of PTSD symptoms and other disturbance symptoms on IPV (LaMotte et al., 2017; Taft et al., 2008) and therefore suggest a preliminary direction regarding the possible indirect effects of complex trauma-related symptoms on IPV severity. Therefore, in order to build a robust argument for the possible mediating role of PTSD and symptoms of other psychological disturbances in the perpetration of severe IPV, we must conduct further research using longitudinal methods. Additionally, other trauma-related symptoms, such as depression, which might join together with PTSD symptoms in the prediction of severe IPV, should be examined (Nandi et al., 2017). It should also be reiterated that the associations found in the current study were in regard to psychological, and not physical, IPV. A possible explanation for this discrepancy is that participants in such interventions tend to report less physical violence than actually exists (Chan, 2011; Hamby, 2014), potentially reducing the significance of direct and indirect effects on severe physical IPV.

Borderline personality disorder (BPD), which includes some DSO symptoms, has also been suggested as playing a role in the use of violence (Martino et al., 2015) and specifically in the perpetration of IPV (Krause-Utz et al., 2018), potentially providing an alternative explanation for our study results. However, as defined, CPTSD comprises a disorder that is different and separate from BPD (Cloitre, Garvert, Weiss, Carlson, & Bryant, 2014; Courtois & Ford, 2009; Frost, Hyland, Shevlin, & Murphy, 2018). The ICD-11 working group has suggested that the emotion dysregulation aspect of BPD presents differently from how it presents in CPTSD, as it includes suicidal attempts and gestures, as well as self-injurious behaviors (e.g.,Cloitre et al., 2014). In addition, it is important to note that only a modest proportion of those who engage in IPV meet the diagnostic criteria for BPD (less than 25%; Elklit, Murphy, Jacobsen, & Jensen, 2018). Thus, based on the results of this study, the DSO symptoms that comprise one part of CPTSD may also serve as an alternative clinical conceptualization among male IPV perpetrators who were not diagnosed with BPD. However, further research should examine whether CPTSD predicts IPV perpetration among those who have been exposed to trauma but who do not present with BPD.

Men who perpetrate IPV may also be classified as violent men in accordance with psychosocial aspects and behavioral traits related mostly to personality disorders (PDs) (Hart et al., 1993). Among these men, researchers have found a higher prevalence of antisocial personality disorder (APD) (Holtzworth-Munroe & Stuart, 1994; Holtzworth-Munroe, Meehan, Herron, Rehman, & Stuart, 2000) and, recently, a higher prevalence of narcissistic personality disorder (NPD) as well (Elklit et al., 2018). Some of these studies also suggest that the emotion dysregulation factor among such men is related to IPV (Krause-Utz et al., 2018), providing yet another

potential interpretation for our study results: that is, the effect of CPTSD symptoms, as part of PDs, on IPV. However, Dutton and Holtzworth-Munroe (1998) emphasized that insecure attachment, caused by trauma, may result in a certain type of man who perpetrates IPV (via PTSD), a profile which differs from the PD profile. In addition, 50% of men who perpetrate IPV are characterized as the "family only" type (FO) (Holtzworth-Munroe & Stuart, 1994; Holtzworth-Munroe et al., 2000; Holtzworth-Munroe, Meehan, Herron, Rehman, & Stuart, 2003). The FO type generally does not have a personality disorder but rather has a history of exposure to violence committed by or among his parents. As such, the results of our study pointing to the indirect effect of CPTSD symptoms in the association between childhood trauma and IPV perpetration severity may also relate to this type of male IPV perpetrator and not to PD. Based on our study results and the possibility of PD as a result of childhood trauma among male IPV perpetrators, further research should examine whether perpetrators of IPV are manifesting CPTSD symptoms or personality disorders.

4.1. Limitations

This study had several limitations. Due to the use of a cross-sectional design, causal interpretations should be made cautiously. Specifically, the time-frame for the reporting of trauma symptoms (past month) and IPV (past year) might have caused a bias, given that our model assumed that trauma symptoms preceded the occurrence of IPV. The current study examined only those clients who perpetrated IPV, without a comparison community sample. The results, therefore, relate only to the IPV severity and not to the prediction of IPV itself. Longitudinal data on the basis of structured, clinical interviews are needed in order to better understand the role of PTSD in the etiology of CPTSD among men who perpetrate IPV. Furthermore, childhood physical neglect was defined only as the lack of fulfillment of a child's basic needs; additional forms of neglect, such as psychological neglect, should be examined in future studies. Our examination of a fairly homogeneous group of participants may also limit the generalizability of results. In this study the non-response rate was 30%, a rate which might limit the representativeness of this sample. Specifically, individuals who were suspicious of the study's intent and those whose reading skills were subpar did not participate. In addition, based on the social context of CPTSD, it is essential to study the role of CPTSD in the trauma model's explanation of violence among other cultural groups; this limitation was particularly highlighted by the low response rate of participants who immigrated to Israel from Ethiopia and the former Soviet Union and who were not able to read Hebrew. Also, social desirability biases for reporting PTSD/DSO and IPV may have reduced associations (Bell & Naugle, 2008; Hamby, 2014).

4.2. Clinical and policy implications

The current findings bring to light the plethora of trauma-related symptoms of individuals who perpetrate IPV in adulthood, and specifically raise awareness of the need to screen them for traumatic experiences and resultant CPTSD (Cloitre et al., 2011), not as a diagnosis assessment but as an identification of symptoms that may serve as risk factors for IPV severity. We would suggest that this is specifically the case for populations at risk, such as the mandated IPV population (Voith, Logan-Greene, Strodthoff, & Bender, 2018). Too few intervention programs for survivors of childhood exposure to repeated trauma and adversity focus on mental health issues other than PTSD, and too few therapists assess comorbid mental health and behavioral problems (Karatzias et al., 2018). In addition, the results emphasize the need to develop trauma-informed interventions that focus on PTSD and other important trauma-relevant core themes that increase the risk of IPV (Taft et al., 2016).

That is, in addition to PTSD-focused interventions for such populations (Taft et al., 2016), there is likely to be benefits from treatment interventions that are specifically tailored to address CPTSD symptoms, such as those stemming from childhood trauma exposure and manifesting in adult life (Cloitre, 2015). Although a recent systematic review found that evidence-based practice interventions for PTSD (i.e., EMDR, PE, CBT) are effective for CPTSD (De Jongh et al., 2016; Ehring et al., 2014; Karatzias et al., 2019), we would strongly suggest that the ISTSS (the International Society for Traumatic Stress Studies) treatment guidelines for complex CPTSD in adulthood also be discussed, in relation to the idea that treatment should emphasize not only the reduction of psychiatric symptoms, but equally important, the improvement of key functional capacities for self-regulation, and the strengthening of psychosocial and environmental resources (Cloitre et al., 2011). Specifically, consistent with recent findings of a study on ICD-11 CPTSD, interventions should also include developing stable, positive attachment representations; increasing organization of mind; transforming maladaptive interpersonal schemas through limited re-parenting; enabling the development of the capacity to mentalize; and reflecting on mental states that promote increased control over internal experiences (Karatzias et al., 2018). Finally, it is to be hoped that these findings will encourage policymakers in the field of domestic violence to suggest guidelines that emphasize the importance of addressing trauma symptoms in court-mandated interventions for IPV perpetrators (Voith et al., 2018).

4.3. Research implications

This study's results shed light on the associations between various types of trauma exposure (i.e., exposure to violence/physical neglect in childhood, and exposure to lifetime traumatic events) and the severity of adult perpetration of IPV, via use of the "trauma model of violence" (Neller, Denney, Pietz, & Thomlinson, 2005), as well as a newly coined diagnosis of integrated trauma-related symptoms: ICD-11 CPTSD.

This study's results also emphasize the need to continue studying the mechanism by which childhood exposure to violence can influence an individual's odds for perpetrating IPV in adulthood (Gonzalez, MacMillan, Tanaka, Jack, & Tonmyr, 2014). Future research should examine the potential risks for IPV perpetration brought about by specific CPTSD symptom clusters resulting from childhood trauma. Our findings suggest a need for additional research to examine mediational pathways involving posttraumatic

symptoms, basic self and interpersonal deficits, and arousal and affect dysregulation, in an effort to link specific CPTSD symptoms to IPV severity in different populations. Such results may strengthen the trauma theory's prediction of IPV and the importance of developing trauma-informed IPV treatment strategies.

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