

RESEARCH ARTICLE

Borderline Traits and Symptoms of Post-traumatic Stress in a Sample of Female Victims of Intimate Partner Violence

Karlijn F. Kuijpers*[†], Leontien M. van der Knaap, Frans Willem Winkel, Antony Pemberton & Anna C. Baldry

International Victimology Institute Tilburg (INTERVICT), Tilburg University, Tilburg, The Netherlands

Abstract

Research has shown that symptoms of a post-traumatic stress disorder (PTSD) are prevalent among victims of intimate partner violence (IPV). Furthermore, positive correlations have been reported between IPV victimization and borderline traits, and borderline traits and PTSD symptomatology. Although there is some evidence that individuals with a borderline disorder are vulnerable to developing PTSD after experiencing trauma, to our knowledge, this has never been studied empirically among a sample of victims of IPV in specific. However, the presence of borderline traits might place these victims at higher risk for developing PTSD symptoms as well. In the current study, associations between PTSD symptoms and borderline traits were examined in a Dutch sample of female help-seeking victims of IPV ($n = 120$). As hypothesized, it was found that borderline traits significantly add to the vulnerability for development of PTSD in IPV victims, above and beyond the severity of IPV. Results are discussed in the light of practical implications like an early screening for borderline traits in treatment of victims of IPV. Copyright © 2010 John Wiley & Sons, Ltd.

Received 25 September 2009; Accepted 5 May 2010; Revised 29 April 2010

Keywords

PTSD; borderline; victimization; intimate partner violence; abuse

*Correspondence

Karlijn F. Kuijpers, Faculty of Law, INTERVICT, Tilburg University, Room M802, PO Box 90153, 5000 LE Tilburg, The Netherlands.

[†]Email: K.F.Kuijpers@uvt.nl

Published online 6 July 2010 in Wiley Online Library (wileyonlinelibrary.com) DOI: 10.1002/smi.1331

Introduction

Intimate partner violence (IPV) is one of the most common forms of interpersonal violence (Krug, Dahlberg, Mercy, Zwi, & Lozano, 2002). Victimization of violence perpetrated by a partner or spouse can have serious consequences, not only physical (for an overview, see Campbell et al., 2002), but also psychological. Being a victim of IPV puts people at higher risk for developing different kinds of psychological complaints, such as depressive symptoms (Campbell, 2002; Golding, 1999), decreased perceived quality of life

(Alsaker, Moen, Nortvedt, & Baste, 2006; Laffaye, Kennedy, & Murray, 2003) and post-traumatic stress disorder (PTSD) (Dutton et al., 2006; Foa, Cascardi, Zoellner, & Feeny, 2000; Golding, 1999). Furthermore, experiencing IPV also increases the risk for repeated abuse in certain cases (Bennett Cattaneo & Goodman, 2003; Bybee & Sullivan, 2005; Crandall, Nathens, Kermic, Holt, & Rivara, 2004). In literature, two conflicting perspectives on how prior victimization might relate to re-victimization have been described: the resilience/inoculation perspective and the vulnerability

perspective (Solomon, 1995; Winkel, 2008; Winkel & Vrij, 1998). The first perspective suggests that a prior victimization is a learning experience that leads to development of more adequate coping strategies in the victim. As a result, the victim is better prepared for a future victimization. The second perspective on the contrary suggests that a prior victimization is a risk factor for re-victimization, in the way that it 'depletes available coping resources and thereby increases vulnerability to subsequent stress' (Solomon, 1995, p. 143). Winkel (1999) integrates these two conflicting perspectives in a 'coping consistency model'; the relation between victimization and re-victimization depends on the degree of coping success. For victims who are able to successfully cope with their victimization, it will be a learning experience following the resilience/inoculation perspective. However, victims with coping problems because of their victimization might experience even more psychological problems with a new victimization; prior victimization thus increases their vulnerability and risk for re-victimization. One of the important factors in the mechanisms underlying this increased risk for re-abuse has been suggested to be PTSD (Perez & Johnson, 2008; Winkel, 2007).

Sonis (2007) suggests four possible mechanisms through which PTSD might increase the risk of re-victimization of IPV. Firstly, he states that PTSD may increase risk for behaviours like substance use and alcohol use, which are themselves risk factors for IPV. Following the vulnerability perspective, the use of alcohol and substances might reflect an unsuccessful attempt to cope with the situation and, in that way, lead to higher risk for re-victimization. Secondly, PTSD has been suggested to increase relationship conflicts, and this in turn increases risk of IPV. Thirdly, in some victims of IPV, PTSD is a risk factor for unemployment, and unemployment and poverty increase the risk of IPV victimization. Fourthly, Sonis (2007) states that it has been suggested that PTSD impairs the ability of assessing possibly dangerous situations that might put victims at increased risk of violence, because of problems with concentration (Orcutt, Erickson, & Wolfe, 2002). These 'deficits in accurately recognizing risk' (Orcutt *et al.*, 2002, p. 264) might put victims at increased risk of violent re-victimization.

In order to prevent re-abuse from occurring, victim support services would be much helped with high-quality risk assessment that enables them to offer effective interventions to victims most at risk. Considering

the role that PTSD symptoms might play in increasing the risk of re-victimization, one possibility for risk assessment is to identify victims of IPV who are at greater risk of developing PTSD symptoms. Previous research has reported that individuals with borderline traits are at higher risk for the development of PTSD symptoms after experiencing trauma (Gunderson & Sabo, 1993). Borderline personality disorder, as defined in the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV), is characterized by a pervasive pattern of instability of interpersonal relationships, self-image and affects, and marked impulsivity (American Psychiatric Association, 1994). Among other things, this instability of affect (that is characterized by periods of intense moods) can be supposed to cause individuals with borderline traits to experience their feelings, such as anxiety, more intensely. This in turn increases the risk of this anxiety developing into more serious symptoms, and as a result, people with borderline traits might meet criteria for PTSD sooner than people without borderline traits. Although the association between borderline traits and PTSD symptoms has, to our knowledge, not been studied in victims of IPV, this mechanism might occur in IPV victims as well, thereby placing victims with borderline traits at higher risk of developing PTSD symptoms and, consequently, for re-abuse. However, borderline traits have also been reported to correlate with victimization of IPV. Positive correlations have been reported between severity and extent of IPV victimization and severity of borderline personality disorder (Sansone, Chu, & Wiederman, 2006; Shields, Resick, & Hanneke, 1990). As a result, the influence of borderline traits on PTSD symptoms in victims of IPV could also be hypothesized to go via victimization (instead of a direct influence). For instance, individuals with borderline traits typically might have unstable interpersonal relationships and poorer relationship skills through which the chance for relationship conflicts might increase. Because of difficulties with controlling anger, another typical borderline trait, there is a considerable risk that these conflicts get out of hand and result in IPV. Furthermore, it might also be possible that women with borderline traits, because of their higher levels of anger, are more inclined to express this anger by using violence themselves. This in turn increases their risk of becoming victimized by IPV themselves (Kim & Capaldi, 2004; Stith, Smith, Penn, Ward, & Tritt, 2004). For these reasons, individuals with borderline traits might already be predisposed to be victimized

by IPV. Subsequently, victimization by IPV might lead to increased risk for development of PTSD symptomatology, as long-term or repeated exposure is more common for IPV than for other types of trauma. However, co-morbidity of PTSD and borderline personality disorder has been reported to be associated with more anger, dissociation, anxiety and interpersonal problems, and less compliance to treatment (Heffernan & Cloitre, 2000). These characteristics might in turn put victims of IPV at greater risk of re-abuse.

The present study is therefore conducted to explore the relation between borderline traits and PTSD symptoms in a sample of female victims of IPV. The mechanisms previously described suggest two possibilities: (1) borderline traits have a direct influence on the development of PTSD symptomatology in victims of IPV; or (2) borderline traits have an indirect influence on the development of PTSD symptomatology that goes via IPV victimization. As prior research has shown that individuals with borderline traits are at higher risk for the development of PTSD symptoms (Gunderson & Sabo, 1993), we expect this also to be the case in victims of IPV. Therefore, we hypothesize that borderline traits make an additional, independent contribution to the development of PTSD symptoms in our sample. In other words, we expect that presence of borderline traits in victims of IPV adds to the vulnerability for the development of PTSD symptoms above and beyond the influence of severity of IPV victimization.

Method

Procedure and participants

Participants are from a larger, longitudinal study on re-victimization among victims of IPV and were recruited from various victim support services in one large and three medium-sized cities in the Netherlands, including a women's shelter, domestic violence teams, a victim support office and social work/mental health organizations. Therefore, we will refer to our sample as help-seeking victims of IPV. Participants were included in our study if: (1) they had been a victim of IPV at least once in the past two years; and (2) if they sufficiently mastered the Dutch language to understand the Dutch questionnaires we used. Participants were considered to be a victim of IPV if they had been abused physically, sexually or psychologically by their current or ex-partner. Victims were recruited through the collaborating victim support organizations by having staff

inform eligible clients about this study. Most victims were directly contacted by staff members; others were informed about the study through a letter. Clients indicating interest in participating were given a registration form asking them to provide some personal data (name, address, phone number and email address) and to return it to the researchers. Registered participants were then telephoned by a researcher to discuss any questions about the study that they might have and to establish whether they preferred to fill in an online or a paper version of the questionnaire. It was also possible to plan a personal appointment with the researcher to complete the questionnaire. If there were any questions during completion of the questionnaire, participants could phone or email the researchers.

Data that are reported in this paper were collected between August 2008 and August 2009. In this period, 123 victims of IPV joined the study. Because we aimed to study an adult sample of female victims of IPV, two male participants were excluded from analyses and a third participant was excluded because she was younger than 18 years. Therefore, our final sample consisted of 120 women who had been victims of physical, sexual and/or psychological violence perpetrated by their partner or ex-partner at least once in the past two years. This study is part of a more comprehensive prospective study aimed at identifying victims at (high) risk of re-victimization of partner violence. Therefore, victims were asked to participate in the study at three different moments in time: After the initial assessment, assessments would be repeated two and six months later. Participants will be paid a 100 euro compensation for their time after completing the questionnaire at all three waves of data collection. In the current cross-sectional study, data of the first wave of data collection are analysed.

Measures

Severity of IPV

Severity of IPV victimization was assessed with the short form of the Revised Conflict Tactics Scale (CTS2S; Straus & Douglas, 2004), a self-report measure of tactics used during relationship conflicts of dating, cohabiting, or married couples. The CTS2S consists of 20 items listing conflict tactics or, in other words, violent behaviours for which respondents report the frequency of occurrence by either spouse over the past 12 months. Thus, the CTS2S measures both violent behaviours that

have been committed by a partner or ex-partner against the respondent (victimization measure), as well as the violent behaviours that have been perpetrated by the respondent itself (perpetration measure). In this study, we only used the scores on the victimization measure of the CTS2S. We assessed the occurrence of victimization by violent behaviours perpetrated by a partner or ex-partner during the *complete* abusive relationship. The items of the CTS2S are divided into five subscales: negotiation, psychological aggression, physical assault, sexual coercion and injury. We left out the negotiation subscale in this study, because these items included showing respect for the other partner and settling conflicts by a compromise. In this study, we were mainly interested in violence in the relationship, not in negotiation skills that the couples might have used. A validity study showed the short form to be comparable in validity to the full CTS2 (Straus & Douglas, 2004). For the CTS2, a good internal consistency has been demonstrated for all subscales, as well as adequate construct and discriminant validity (Straus, Hamby, Boney-McCoy, & Sugarman, 1996). Sample items of the victimization measure of the CTS2S include 'My (ex-) partner punched or kicked or beat me up' and 'I had a sprain, bruise or small cut, or felt pain the next day because of a fight with my (ex-)partner'. Participants in the current study were asked to indicate the occurrence of victimization by each of the violent behaviours in their relationship with their (ex-)partner by giving a 'yes' or 'no' answer. The CTS2S is usually scored using an 8-point ordinal scale indicating the frequency of occurrence of conflict tactics ranging from 1 (*once in the past year*) to 6 (*more than 20 times in the past year*), with 7 and 8 indicating '*not in the past year, but it happened before*' and '*this has never happened*', respectively (Straus & Douglas, 2004). According to Straus (2006), the CTS2S can be used not only as a frequency measure of conflict tactics, but also as a prevalence measure of violent behaviours (like we did in this study), by instructing respondents to indicate *if* the behaviours had occurred or not, instead of *how frequent*. In studying associations between borderline traits and PTSD symptoms among victims of IPV, we were interested in the victimization measure as an independent, continuous variable. A sum score for the victimization measure was computed by adding up the affirmative responses to the violent behaviours stated in the victimization measure of the CTS2S. In doing so, we created a scale for the variety of different assaultive behaviours by

which one had been victimized, as Moffitt, Robins and Caspi (2001) did in their 'Dunedin study'.¹ Participants with a higher sum score were victimized by a greater variability of violent behaviours than participants with a lower sum score. According to Moffitt et al. (1997), violence severity is often measured by frequency scores; however, variety scores have proved to be a good alternative. In this study, we therefore interpret our variety score of violent behaviours as a severity measure of IPV. Variety scales are desirable because they are more reliable than frequency scores, particularly in the case of IPV (Moffitt et al., 2001). "Has X happened?" is a more accurate response format than is "How many times has X happened?" especially among respondents whose violent acts have lost their salience because they happen frequently' (p. 15). In addition, variety scores are less skewed than frequency scores and give equal weight to all violent acts (Moffitt et al., 2001). Finally, it has been stated that 'the endorsement of more acts (i.e. a greater variety of violent acts) generally indicates greater severity as the most severe acts are least frequent' (Kwong, Bartholomew, Henderson, & Trinke, 2003, p. 290). Scale reliability of the victimization measure of the CTS2S in this study was fair as Cronbach's alpha was 0.69. In general, a Cronbach's alpha of 0.60 or higher is considered a minimum acceptable level in the case of short instruments used for screening purposes (e.g. Murphy & Davidshofer, 1998, pp.142–143), although some methodologists apply a stronger standard of at least 0.70 (Nunnally, 1978).

Borderline traits

The borderline subscale of the Personality Diagnostic Questionnaire-4+ (PDQ-4+; Akkerhuis, Kupka, Van Groenestijn, & Nolen, 1996; Hyler, 1994) was used to assess borderline traits in our victim sample. The full PDQ-4+ is a self-report questionnaire. It assesses both the 10 DSM-IV personality disorders and additional diagnoses of the passive-aggressive and depressive personality disorder included in an appendix of the DSM-IV (American Psychiatric Association, 1994). The

¹The Dunedin study is a longitudinal cohort study of more than 1000 people born over the course of a year in Dunedin, New Zealand. It started in 1972 and is still running. This multidisciplinary study provides information about various aspects of human health and development, including intimate partner violence.

borderline subscale that was used in this study consists of nine items that correspond with the nine criteria for a borderline personality disorder as described in the DSM-IV. Sample items include 'I'll go to extremes to prevent those who I love from ever leaving me' and 'I have done things on impulse that can get me into trouble [such as] spending more money than I have or having sex with people I hardly know'. Besides that the items of this borderline scale are clearly stated and easy to understand, they are easy to answer as well. For each statement, participants are asked to indicate whether it applies to them by giving a simple 'true' or 'false' response. Again, we computed a sum score by summing the answers (*true* = 1, *false* = 0). Thus, borderline traits measured by the subscale of the PDQ-4+ were also treated as a continuous variable. Evidence for the validity and reliability of the PDQ-4+ can be derived from research on an earlier version of this instrument, the PDQ-R (Hyler & Rieder, 1987). The PDQ-R shows adequate criterion validity for most axis II disorders, including borderline personality disorder (Hyler, Skodol, Oldham, Kellman, & Doidge, 1992). Although instruments such as the PDQ-R are not substitutes for a structured diagnostic interview, it appears to be an efficient screening instrument in clinical (Hyler, Skodol, Kellman, Oldham, & Rosnick, 1990; Hyler et al., 1992) and non-clinical populations (Johnson & Bornstein, 1992). For reliability analysis of the borderline subscale of the PDQ-4+ used in the current study, an acceptable Cronbach's alpha of 0.76 can be reported (Murphy & Davidshofer, 1998; Nunnally, 1978).

PTSD symptoms

PTSD symptoms were assessed with the Trauma Screening Questionnaire (TSQ; Brewin et al., 2002). This validated, self-report screening tool has been adapted from the PTSD Symptom Scale-Self Report (Foa, Riggs, Dancu, & Rothbaum, 1993). The TSQ consists of 10 items that are answered with straightforward 'yes' or 'no' responses. Five items concern re-experiencing of traumatic events, such as 'Upsetting thoughts or memories about the event that have come into your mind against your will'. The remaining five items concern symptoms of arousal, like 'Heightened awareness of potential dangers to yourself and others'. To measure current PTSD symptomatology, participants were asked to indicate if they had recently experienced any of the 10 re-experiencing and arousal items to a

substantial extent, following past incident(s) of IPV during their most recent abusive relationship. For the TSQ, we computed a sum score by adding up the scores of the responses (*yes* = 1, *no* = 0), creating a continuous dependent variable. Cronbach's alpha for the TSQ was found to be 0.81, indicating a good reliability (Murphy & Davidshofer, 1998; Nunnally, 1978).

Statistical analyses

As a first step in our analyses, we generated a number of descriptive statistics for our victim sample (e.g. age, education, etc.) and their scores on our variables of interest: severity of IPV victimization, borderline traits and PTSD symptomatology. Means and standard deviations (SD) were computed for continuous variables, while percentages are presented for categorical variables. To identify potential confounders, we examined if there were any (socio-demographic) variables that were significantly associated with our dependent variable, PTSD symptomatology. For this purpose, we computed Pearson correlation coefficients and performed independent samples *t*-tests and one-way analyses of variance. Next, we computed Pearson correlation coefficients to assess whether PTSD symptoms, borderline traits and severity of IPV victimization were significantly related. For these Pearson correlations, one-tailed significance levels will be reported because our hypotheses state the direction of the relationship. To test whether borderline traits contribute significantly to the development of PTSD symptomatology in our sample above and beyond the severity of IPV victimization, a hierarchical multiple regression analysis was performed with severity of IPV and borderline traits as independent variables and PTSD symptoms as the dependent variable. The alpha level was set at 0.05 in all statistical tests. All statistical analyses were performed using the software package SPSS 17.0 for Windows (SPSS, Inc., Chicago, IL, USA).

Results

Demographics

Our sample consisted of 120 female help-seeking victims of IPV. Participants of the current study ranged in age from 20 to 61, with a mean age of 37.0 years (*SD* = 10.2). Ethnic background of respondents was determined by their parents' birthplace. Out of them,

77 (64.2%) had Dutch parents, 9 (7.5%) had a Western immigrant background,² 33 (27.5%) had a non-Western background³ and of 1 respondent (0.8%), her background was unknown. Of all respondents, 78.3% was born in the Netherlands. A vast majority of the participants had one or more children (85.8%). By far, most victims reported being divorced or separated from their abusive partner (almost 71%), and another 10.0% reported being married but wanting a divorce. Only 11.7% reported living under the same roof with the perpetrator of the violence. Almost 16% reported to live in a shelter at the moment of our study. Most participants completed intermediate vocational education (48.3%), a second group having completed lower vocational education (21.7%). Only 41.7% held a paid job; the other 58.3% did not. The annual income of participants was rather low; 30.0% had an income of less than 10,000 euro and 43.3% had an income between 10,000 and 20,000 euro. To identify any potential confounders we should control for in our regression analysis, we checked if any of the variables described above was significantly related to our dependent variable, PTSD symptomatology. However, for none of them, a significant relationship with PTSD symptomatology was found.

Severity of IPV, borderline traits and PTSD symptoms

Furthermore, we examined the descriptive statistics of our variables of interest. Participants' mean sum score on the victimization measure of the CTS2S was 6.1 (SD = 1.7, range 1–8), indicating that on average, individuals in our sample were victimized by their partners by a variety of six violent behaviours (e.g. hitting, kicking, beating up, etc.). For borderline traits, the mean score was 2.9 (SD = 2.4, range 0–9). The majority of victims in our sample (70.0%) did not meet the criteria for a borderline personality disorder (presence of five or more symptoms). The mean score of victims on the TSQ, our outcome measure of PTSD symptoms, was 6.6 (SD = 2.8, range 0–10). No less than 63.2% of

all IPV victims in our sample had a score of six PTSD symptoms or more, indicating that they met the criteria for a PTSD (Brewin et al., 2002).

Pearson correlations

As expected, positive and significant correlations were found between scores on severity of IPV victimization and PTSD symptoms ($r = 0.24, p < 0.01$), and scores on severity of IPV and borderline traits ($r = 0.17, p < 0.05$), although the size of these correlations is small following the guidelines of Cohen (1988). A medium-sized correlation of $r = 0.45$ was found between scores on borderline traits and PTSD ($p < 0.001$).

Regression analysis

Next, a hierarchical regression analysis was performed with PTSD symptomatology as the dependent variable. Results at step 1 of the regression model show that severity of IPV victimization significantly and positively predicts PTSD symptomatology, $\beta = 0.24, p < 0.01$ (Table I). When placed on the same regression step with borderline traits (step 2), severity of IPV still accounts for a significant portion of variance in PTSD symptomatology, although this association is less powerful compared with step 1 ($\beta = 0.17, p < 0.05$ on step 2 versus $\beta = 0.24, p < 0.01$ on step 1, Table I). In addition, borderline traits make a positive and significant contribution to the prediction of PTSD symptoms, $\beta = 0.43, p < 0.001$, when controlled for severity of IPV victimization. They significantly explain an extra 17.5% of the variance in PTSD scores ($\Delta R^2 = 17.5\%, \Delta F(1, 117) = 26.75, p < 0.001$), which underlines the clinical relevance of assessing borderline traits in identifying IPV victims vulnerable to the development of PTSD symptoms. Borderline traits are thus able to account for a

Table I. PTSD symptoms regressed on severity IPV victimization and borderline traits ($n = 120$)

Variable	B	SE B	β
Step 1			
Severity IPV	0.40	0.15	0.24**
Step 2			
Severity IPV	0.28	0.14	0.17*
Borderline traits	0.49	0.10	0.43***

Step 1: $R^2 = 5.7\%$; step 2: $\Delta R^2 = 17.5\%, \Delta F(1, 117) = 26.75, p < 0.001$. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

IPV: intimate partner violence; PTSD: post-traumatic stress disorder.

²Of these nine respondents, five had an Indonesian, one German, one Belgian, one Ukrainian and one Bosnian background.

³Of these 33 respondents, 11 had a Moroccan, 10 Surinamese, 5 Turkish, 4 Antillean, 1 Nigerian, 1 Pakistan and 1 Ecuadorian background.

significant part of variance above and beyond the variance that severity of IPV victimization is able to explain.

Discussion

In this paper, we described a study on the relationship between PTSD symptoms and borderline traits in a sample of female help-seeking victims of IPV. As hypothesized, results show that borderline traits make an additional, independent contribution to the development of PTSD symptomatology. They suggest that the presence of borderline traits significantly adds to the vulnerability of victims of IPV in terms of the development of PTSD symptoms, above and beyond the severity of IPV victimization. Early identification of victims of IPV who are likely to develop PTSD is crucial, because early treatment of symptoms of PTSD seems important in preventing the occurrence of the adverse consequences that are associated with PTSD (Solomon & Benbenishty, 1986), such as poor physical health (Schnurr & Jankowski, 1999); socio-economic disadvantage; impaired functioning in financial, physical and psychological domains (Amaya-Jackson *et al.*, 1999); and, in fact, a higher risk for repeat IPV victimization (Krause, Kaltman, Goodman, & Dutton, 2006; Winkel, 2007, 2008). Based on our results that show that borderline traits make a significant contribution to the development of PTSD symptoms in our sample, we argue that screening for borderline traits in victims of IPV might be an important strategy in the prevention of (further) development of PTSD symptomatology. Although a wide array of semi-structured interviews exists that assess DSM personality disorders, such as the Structured Clinical Interview for DSM Personality Disorders (First, Gibbon, Spitzer, Williams, & Benjamin, 1997) and the Structured Interview for DSM-IV Personality Disorders (Pfohl, Blum, & Zimmerman, 1997), these instruments are designed for use by mental health-care professionals and are quite time consuming in their use. Such instruments are therefore less appropriate as tools for a first screening of borderline symptomatology when a victim contacts easily accessible social support services like a victim support office or a domestic violence office. However, for a correct referral to the right (psychological) assistance and victim services, a quick and short borderline assessment could be helpful for victims of IPV in the light of prevention of future development of PTSD symptoms. Several instruments have been developed to assess characteristics of borderline in individuals. Apart from the borderline

subscale of the PDQ-4+ (Hyler, 1994) that we used in the current study, other self-report borderline assessment tools include the Zanarini Rating Scale for Borderline Personality Disorder (Zanarini, 2003) and the Borderline Personality Disorder Checklist (Arntz & Dreesen, 1995). Instruments such as these could easily be used in primary victim support services in order to get an indication of the possible presence of borderline traits. Following the proposed criteria by Brewin and colleagues (2002) for screening instruments, preference would be given to the PDQ-4+ because it is a short questionnaire (only nine items), the items are simple and easy to understand, and it uses a simple true/false response format.

Despite our clinically relevant results, there are several limitations to this study that need to be addressed. Firstly, we did not ask our respondents about any other possibly traumatic incidents that might have occurred in their lives, such as a recent loss of a family member or friend. As a result, we were not able to control for the influence of such experiences on PTSD symptomatology. Furthermore, we are lacking data on any prior trauma (in childhood or adolescence), while these earlier traumatic experiences might play an important role in the development of both borderline traits and PTSD symptoms. For instance, individuals with borderline traits often show a history of extensive childhood victimization (Herman, Perry, & van der Kolk, 1989), and childhood sexual abuse (CSA) in particular seems to be associated with elevated symptoms of a borderline personality disorder (Johnson, Cohen, Brown, Smailes, & Bernstein, 1999). Such traumatic experiences are thought to lead to profound difficulties with modulating or expressing affect in some victims (Ogata *et al.*, 1990). Higher rates of CSA are also related to higher rates of subsequent adult sexual and physical victimization, which was shown to contribute to the level of PTSD symptomatology (Nishith, Mechanic, & Resick, 2000). The possible role of childhood trauma in explaining the relationships between borderline traits and PTSD symptoms in victims of IPV should therefore be taken into account in future studies.

A further limitation of the current research pertains to the cross-sectional nature of our data, which prevents us from determining causality or the exact nature of the relationships between variables. However, this study is part of a more comprehensive prospective study aimed at identifying victims at (high) risk for re-victimization of IPV. Using follow-up data, we will

be able to replicate these findings in a prospective design. In addition, our sample size of $n = 120$ is rather small. Yet participants are being included in the larger study until the end of 2009, which will offer the possibility to test the hypotheses of the current study in a larger sample. Another remark we would like to make here is that the results of our study are based on a sample of help-seeking IPV victims. Therefore, the results may not be generalizable to victims of partner violence who do not come to the attention of victim support organizations. However, it is not easy to reach this anonymous group of victims, for some of them are very reluctant to disclose the fact that they have been victimized by a violent partner. Under-reporting is a well-known problem for domestic violence and partner violence. In the Netherlands, it is estimated that only 10–12% of domestic violence cases are reported to the police (Ferwerda, 2006).

In light of these limitations, a number of areas in which further research is needed can be identified. Firstly, in order to gain more knowledge about causality, the relationship between borderline traits and PTSD symptoms among victims of IPV should be studied using a prospective research design. Secondly, further research is needed into the distinct dimensions of borderline personality disorder like negative emotionality, impulsivity and instability in mood and interpersonal relationships, and how these distinct borderline dimensions might play a role in the relationship between severity of IPV victimization and PTSD. Thirdly, more research is needed among victims of IPV beyond the reach of victim support organizations. Do they have the same needs compared with help-seeking victims of IPV? Are there any differences in risk for PTSD and other negative health outcomes? For example, victims of IPV that stay away from a victim support organization might be able to cope with the victimization and its effects themselves, and therefore be more resilient and less vulnerable to adverse health consequences like PTSD.

Despite the limitations mentioned above, the relevance of this study is apparent. This was the first study that empirically assessed the effect of borderline traits on the development of PTSD symptomatology in a sample of female help-seeking victims of IPV. Although these findings should be replicated in a study with a larger sample and a prospective design in order to gain more support, we showed that borderline traits add to the vulnerability for the development of PTSD above and beyond the severity of IPV. These results are in line

with earlier studies that show individuals with a borderline disorder to be at increased risk for developing symptoms of PTSD (Gunderson & Sabo, 1993), lending more support to our findings. As such, the current study underlines the importance of an early, quick screening of borderline symptoms for victims of IPV as a prevention strategy for future PTSD.

Acknowledgments

This study is financially supported by the Achmea Foundation Victim and Society. Data collection was done in collaboration with Stichting Valkenhorst Breda, Bureau Slachtofferhulp Breda, Instituut voor Maatschappelijk Welzijn Breda, Veiligheidshuis Breda, Veiligheidshuis Bergen op Zoom, Traverse, GGZ Westelijk Noord-Brabant, LEV-groep Helmond, Slachtofferloketten Openbaar Ministerie Breda, Middelburg, Utrecht, Den Haag and Rotterdam, and the 'local domestic violence teams' with all their cooperating partners and organizations of GGD Rotterdam.

REFERENCES

- Akkerhuis, G.W., Kupka, R.W., Van Groenestijn, M.A.C., & Nolen, W. A. (1996). *PDQ-4+ : Vragenlijst voor persoonlijkheidskenmerken*. Lisse, The Netherlands: Swets & Zeitlinger.
- Alsaker, K., Moen, B.E., Nortvedt, M.W., & Baste, V. (2006). Low health-related quality of life among abused women. *Quality of Life Research*, *15*, 959–965.
- Amaya-Jackson, L., Davidson, J.R., Hughes, D.C., Swartz, M., Reynolds, V., George, L.K., & Blazer, D.G. (1999). Functional impairment and utilization of services associated with posttraumatic stress in the community. *Journal of Traumatic Stress*, *12*, 709–724.
- American Psychiatric Association (APA) (1994). *Diagnostic and statistical manual of mental disorders* (4th edn.). Washington, DC: Author.
- Arntz, A., & Dreessen, L. (1995). *Borderline personality disorder symptom checklist*. Maastricht, The Netherlands: Author.
- Bennett Cattaneo, L., & Goodman, L.A. (2003). Victim-reported risk factors for continued abusive behavior: Assessing the dangerousness of arrested batterers. *Journal of Community Psychology*, *31*, 349–369.
- Brewin, C.R., Rose, S., Andrews, B., Green, J., Tata, P., McEvedy, C., Turner, S., & Foa, E.B. (2002). Brief screening instrument for post-traumatic stress disorder. *British Journal of Psychiatry*, *181*, 158–162.
- Bybee, D., & Sullivan, C.M. (2005). Predicting revictimization of battered women 3 years after exiting a

- shelter program. *American Journal of Community Psychology*, 36, 85–96.
- Campbell, J.C. (2002). Health consequences of intimate partner violence. *Lancet*, 359, 1331–1336.
- Campbell, J.C., Jones, A.S., Dienemann, J., Kub, J., Schollenberger, J., O'Campo, P., Gielen, A.C., & Wynne, C. (2002). Intimate partner violence and physical health consequences. *Archives of Internal Medicine*, 162, 1157–1163.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd edn.). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Crandall, M.L., Nathens, A.B., Kernic, M.A., Holt, V.L., & Rivara, F.P. (2004). Predicting future injury among women in abusive relationships. *Journal of Trauma: Injury, Infection, and Critical Care*, 56, 906–912.
- Dutton, M.A., Green, B.L., Kaltman, S.I., Roesch, D.M., Zeffiro, T.A., & Krause, E.D. (2006). Intimate partner violence, PTSD, and adverse health outcomes. *Journal of Interpersonal Violence*, 21, 955–968.
- Ferwerda, H. (2006). *Binnen zonder kloppen. Omvang, aard en achtergronden van huiselijk geweld in 2005 op basis van landelijke politiecijfers*. Dordrecht, The Netherlands: Advies en Onderzoeksgroep Beke.
- First, M.B., Gibbon, M., Spitzer, R.L., Williams, J.B., & Benjamin, L. (1997). *Structured clinical interview for DSM-IV personality disorders (SCID-II): Interview and questionnaire*. Washington, DC: American Psychiatric Press.
- Foa, E.B., Cascardi, M., Zoellner, L.A., & Feeny, N.C. (2000). Psychological and environmental factors associated with partner violence. *Trauma, Violence, and Abuse*, 1, 67–91.
- Foa, E.B., Riggs, D.S., Dancu, C.V., & Rothbaum, B.O. (1993). Reliability and validity of a brief instrument for assessing post-traumatic stress disorder. *Journal of Traumatic Stress*, 6, 459–473.
- Golding, J.M. (1999). Intimate partner violence as a risk factor for mental disorders: A meta-analysis. *Journal of Family Violence*, 14, 99–132.
- Gunderson, J.G., & Sabo, A.N. (1993). The phenomenological and conceptual interface between borderline personality disorder and PTSD. *American Journal of Psychiatry*, 150, 19–27.
- Heffernan, K., & Cloitre, M. (2000). A comparison of post-traumatic stress disorder with and without borderline personality disorder among women with a history of childhood sexual abuse: Etiological and clinical characteristics. *Journal of Nervous and Mental Disease*, 188, 589–595.
- Herman, J.L., Perry, J.C., & van der Kolk, B.A. (1989). Childhood trauma in borderline personality disorder. *American Journal of Psychiatry*, 146, 490–495.
- Hyler, S.E. (1994). *The PDQ-4 personality questionnaire*. New York: New York State Psychiatric Institute.
- Hyler, S.E., & Rieder, R.O. (1987). *Personality diagnostic questionnaire—revised (PDQ-R)*. New York: New York State Psychiatric Institute.
- Hyler, S.E., Skodol, A.E., Kellman, H.D., Oldham, J., & Rosnick, L. (1990). The validity of the Personality Diagnostic Questionnaire: A comparison with two structured interviews. *American Journal of Psychiatry*, 147, 1043–1048.
- Hyler, S.E., Skodol, A.E., Oldham, J.M., Kellman, H.D., & Doidge, N. (1992). Validity of the Personality Diagnostic Questionnaire-Revised (PDQ-R): A replication in an outpatient sample. *Comprehensive Psychiatry*, 33, 73–77.
- Johnson, J.G., & Bornstein, R.F. (1992). Utility of the Personality Diagnostic Questionnaire-Revised in a non-clinical population. *Journal of Personality Disorders*, 6, 450–457.
- Johnson, J.G., Cohen, P., Brown, J., Smailes, E.M., & Bernstein, D.P. (1999). Childhood maltreatment increases risk for personality disorders during early adulthood. *Archives of General Psychiatry*, 56, 600–606.
- Kim, H.K., & Capaldi, D.M. (2004). The association of antisocial behavior and depressive symptoms between partners and risk for aggression in romantic relationships. *Journal of Family Psychology*, 18, 82–96.
- Krause, E.D., Kaltman, S., Goodman, L., & Dutton, M.A. (2006). Role of distinct PTSD symptoms in intimate partner reabuse: A prospective study. *Journal of Traumatic Stress*, 19, 507–516.
- Krug, E.G., Dahlberg, L.L., Mercy, J.A., Zwi, A.B., & Lozano, R. (2002). *World report on violence and health*. Geneva: World Health Organization.
- Kwong, M.J., Bartholomew, K., Henderson, A.J.Z., & Trinke, S.J. (2003). The intergenerational transmission of relationship violence. *Journal of Family Psychology*, 17, 288–301.
- Laffaye, C., Kennedy, C., & Murray, B.S. (2003). Post-traumatic stress disorder and health-related quality of life in female victims of intimate partner violence. *Violence and Victims*, 18, 227–238.
- Moffitt, T.E., Caspi, A., Krueger, R.F., Magdol, L., Margolin, G., Silva, P.A., & Sydney, R. (1997). Do partners agree about abuse in their relationship? A psychometric evaluation of interpartner agreement. *Psychological Assessment*, 9, 47–56.
- Moffitt, T.E., Robins, R.W., & Caspi, A. (2001). A couples analysis of partner abuse with implications for abuse-prevention policy. *Criminology and Public Policy*, 1, 5–37.
- Murphy, K.R., & Davidshofer, C.O. (1998). *Psychological testing: Principles and applications* (4th edn.). Upper Saddle River, NJ: Prentice-Hall.

- Nishith, P., Mechanic, M.B., & Resick, P.A. (2000). Prior interpersonal trauma: The contribution to current PTSD symptoms in female rape victims. *Journal of Abnormal Psychology, 109*, 20–25.
- Nunnally, J.C. (1978). *Psychometric theory* (2nd edn.). New York: McGraw-Hill.
- Ogata, S.N., Silk, K.R., Goodrich, S., Lohr, N.E., Westen, D., & Hill, E.M. (1990). Childhood sexual and physical abuse in adult patients with borderline personality disorder. *American Journal of Psychiatry, 147*, 1008–1013.
- Orcutt, H.K., Erickson, D.J., & Wolfe, J. (2002). A prospective analysis of trauma exposure: The mediating role of PTSD symptomatology. *Journal of Traumatic Stress, 15*, 259–266.
- Perez, S., & Johnson, D.M. (2008). PTSD compromises battered women's future safety. *Journal of Interpersonal Violence, 23*, 635–651.
- Pfohl, B., Blum, N., & Zimmerman, M. (1997). *Structured interview for DSM-IV personality: SIDP-IV*. Washington, DC: American Psychiatric Press.
- Sansone, R.A., Chu, J., & Wiederman, M.W. (2006). Domestic violence and borderline personality symptomatology among women in an inpatient psychiatric setting. *Traumatology, 12*, 314–319.
- Schnurr, P.P., & Jankowski, M.K. (1999). Physical health and post-traumatic stress disorder: Review and synthesis. *Seminars in Clinical Neuropsychiatry, 4*, 295–304.
- Shields, N.M., Resick, P.A., & Hanneke, C.R. (1990). Victims of marital rape. In R. Ammerman, & M. Hersen (Eds), *Treatment of family violence* (pp. 165–182). New York: Wiley.
- Solomon, Z. (1995). *Coping with war-induced stress: The Gulf War and the Israeli response*. New York: Plenum.
- Solomon, Z., & Benbenishty, R. (1986). The role of proximity, immediacy, and expectancy in frontline treatment of combat stress reaction among Israelis in the Lebanon War. *American Journal of Psychiatry, 143*, 613–617.
- Sonis, J. (2007). Posttraumatic stress disorder does not increase recurrent intimate partner violence. *Journal of Psychological Trauma, 6*, 27–48.
- Stith, S.M., Smith, D.B., Penn, C.E., Ward, D.B., & Tritt, D. (2004). Intimate partner physical abuse perpetration and victimization risk factors: A meta-analytic review. *Aggression and Violent Behavior, 10*, 65–98.
- Straus, M.A. (2006). Cross-cultural reliability and validity of the multidimensional neglectful behavior scale Adult Recall Short Form. *Child Abuse & Neglect, 30*, 1257–1279.
- 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*, 507–520.
- Straus, M.A., Hamby, S.L., Boney-McCoy, S., & Sugarman, D.B. (1996). The revised Conflict Tactics Scale (CTS2): Development and preliminary psychometric data. *Journal of Family Issues, 17*, 283–316.
- Winkel, F.W. (1999). Repeat victimization and trauma-susceptibility: Prospective and longitudinal analyses. In J.J.M. van Dijk, R.G.H. van Kaam, & J. Wemmers (Eds), *Caring for crime victims* (pp. 207–211). Monsey, NY: Criminal Justice Press.
- Winkel, F.W. (2007). *Post traumatic anger. Missing link in the wheel of misfortune*. Inaugural address. Tilburg, The Netherlands: INTERVICT.
- Winkel, F.W. (2008). Identifying domestic violence victims at risk of hyper-accessible traumatic memories and/or re-victimization through validated screening: The predictive performance of the Scanner and the B-Safer. In A.C. Baldry, & F.W. Winkel (Eds), *Intimate partner violence prevention and intervention: The risk assessment and management approach* (pp. 61–81). New York: Nova Science Publishers, Inc.
- Winkel, F.W., & Vrij, A. (1998). Who is in need of victim support? The issue of accountable, empirically validated selection and victim referral. *Expert Evidence, 6*, 23–41.
- Zanarini, M.C. (2003). Zanarini Rating Scale for Borderline Personality Disorder (ZAN-BPD): A continuous measure of DSM-IV borderline psychopathology. *Journal of Personality Disorders, 17*, 233–242.