

Personality Disorder Symptoms in Women as a Result of Chronic Intimate Male Partner Violence

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Abstract This study explores the personality disorder symptoms of women victims of intimate male partner violence (IPV), after controlling for the contribution of experiences of childhood abuse. Victims of both physical and psychological violence ($n=73$) or psychological violence alone ($n=53$) were compared with non-abused control women ($n=52$). Information about sociodemographic characteristics, childhood abuse, and personality characteristics (MCMI-II) was obtained through face-to-face structured interviews. Women victims of IPV had higher scores than controls in schizoid, avoidant, self-defeating personality scales, as well as in the three pathological personality scales (schizotypal, borderline and paranoid). Both physical and psychological IPV were strongly associated with personality disorder symptomatology, regardless of the effects of childhood abuse. These findings underscore the need to screen for personality disorder symptoms in women victims of IPV when dealing with therapeutic interventions.

Keywords Intimate male partner violence · Women · Personality disorder symptoms · MCMI-II profiles

Intimate male partner violence (IPV) is a major public health problem that has both short- and long-term physical and mental health consequences for women (Campbell 2002; Heru 2007; Watts and Zimmerman 2002; Weinbaum et al. 2001). Research addressing mental health effects in women victims of IPV has reported that the most prevalent psychological sequelae are depression, posttraumatic stress disorder (PTSD), and anxiety (Campbell et al. 1996; Campbell 2002; Cascardi et al. 1999; Golding 1999; Martinez et al. 2004; Woods 2000). In a recent study (Stuart et al. 2006), violence victimization was significantly related to symptoms of psychopathology: sexual and psychological abuse by partners were associated with the presence of PTSD, depression, and generalized anxiety disorder (GAD) diagnoses.

Despite the increasingly well-documented literature on the association between IPV and DSM Axis I diagnostic categories, there has been relatively less empirical focus on the interactions between IPV and personality disorders (PDs). However, the assumption of the interaction between inherited susceptibility and environmental factors, such as traumatic experiences (Paris 1996), in this case chronic violence by the partner, could lead us to the hypothesis that these victims are at high risk of developing PD symptoms. For example, Golier et al. (2003) found that subjects with paranoid PD were more likely than those without it to have experienced physical assault in adulthood. Further, it is reasonable to suppose that if women victims of IPV develop PD symptoms they may suffer worse detrimental effects on their well-being and therefore may require specialized therapeutic intervention strategies.

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Although there is a lack of homogeneity in the results available due to the variability of the sample (size, context from which women were recruited, such as shelters or clinics), the personality assessment instruments, and the criteria for intimate partner violence, the general conclusion is that IPV and PDs are frequently and positively associated (Cogan and Porcerelli 1996; Danielson et al. 1998; Gellen et al. 1984; Khan et al. 1993; Palau 1981). Snyder and Fruchtman (1981) studied interviews from a battered women's shelter and identified a specific subgroup exhibiting chronic problems associated with PDs. Back et al. (1982) examined the personality features of battered women from a psychiatric facility and found that 83% of them were given a discharge diagnosis of borderline, passive-dependent, or passive-aggressive PDs. In comparison, only 45% of non-abused psychiatric patients were diagnosed with a PD. Other researchers have observed a high prevalence of antisocial personality disorder and of obsessive-compulsive disorder (Gleason 1993), even accompanied by more frequent paranoid ideation (Riggs et al. 1992) in women victims of IPV. Moreover, Shields et al. (1990) found a positive correlation between the severity and extent of current IPV and the severity of Borderline personality disorder.

So far, the instrument more frequently used to assess PDs in abused women has been the Minnesota Multiphasic Personality Inventory (MMPI; Hathaway and McKinley 1943). MMPI studies attempting to explore the differences between women victims of IPV and control women confirmed that the former show higher overall levels of psychopathology (Gellen et al. 1984; Palau 1981; Rhodes 1992). For example, Rosewater (1988) found that battered women had elevated MMPI profiles, with scales 4, 6, and 8 showing the highest elevations (i.e., T -score >70 in Psychopathic Deviate, Paranoia, and Schizophrenia Scales). Khan et al. (1993) studied the MMPI-II profiles of 31 battered women in transition and also found elevations on clinical scales 4, 6, 8, and 9 (i.e., Psychopathic Deviate, Paranoia, Schizophrenia, and Hypomania Scales). Both studies concluded that in their samples MMPI scale elevations were likely related to a reactive state to IPV rather than to an underlying pathological process.

An important issue is the type of violence to which women have been exposed. Although women may experience varying and often complex combinations of physical, psychological, and sexual IPV, most studies have focused just on physical IPV (Martinez et al. 2004). Rollstin and Kern (1998) distinguished between physically and psychologically abused women in a intimate partner relationship and found that MMPI-II scores were positively correlated with both types of abuse.

The few studies that have assessed the impact of psychological IPV alone (Coker et al. 2000; Follingstad et al. 1990; O'Leary 1999), and those where physical and

psychological abuse co-occurred, suggest that psychological IPV has a unique and possibly even greater impact on women's psychological functioning and can be more predictive of psychopathology than physical abuse (Cogan and Porcerelli 1996; O'Leary 1999; Pico-Alfonso 2005; Ratner 1993; Sackett and Saunders 1999; Street and Arias 2001). Further, sexual violence may be concomitant with both physical and psychological violence, thus enhancing the impact of IPV on mental health (Bennice et al. 2003; Campbell and Alford 1989; Wingood et al. 2000).

By the 1980s, the Millon Clinical Multiaxial Inventory (MCMI) joined the MMPI as a broad assessment instrument able to detect personality disorders (Millon 1987). The MCMI is derived from Millon's bioevolutionary theory on the development of personality styles and personality disorders (Millon and Davis 1994). This instrument has generated a large literature base (Craig 1993a; Millon 1997) including interpretive manuals (Choca and Van Denburg 1997; Craig 1993b), and critical reviews (Craig 1999; Wetzler 1990). Even though originally the MCMI-II was normed as a clinical test, researchers have used it with non-psychiatric samples, including medical patients, military recruits, and other specific populations (Craig and Olson 1992; Craig and Weinberg 1992; Echeburua et al. 2005; Craig 2003; Espelage et al. 2002). Craig and Weinberg (1992) found that some specific personality disorder scales of the MCMI-II were quite accurate in classifying patients into DSM-III-R Axis II diagnostic categories. Cogan and Porcerelli (1996) administered MCMI-II to women attending couples therapy for violent relationships, finding that 28% of them were clinically elevated on the Dependent personality disorder scale, compared with 10% in Millon's normative sample. In the field of domestic violence, MCMI has been used to assess personality characteristics of batterers (Craig 2003; Hamberger and Hastings 1989; Fortunata and Kohn 2003) and survivors of childhood abuse (Haller and Miles 2004). To our knowledge, there is no literature concerning MCMI-II's assessments with women victims of IPV. Personality disturbance in this population is an important area of study, since its presence supposes significant symptoms and impairment in social functioning for the women at follow-up (De Groot et al. 2003). Moreover, research suggests that problems pertaining to intimate relationship matters are unique risk factors for imminent suicide attempts among subjects with personality disorders (Yen et al. 2005). The assessment of PDs in women victims of different types of IPV (i.e., physical, psychological, and sexual) would allow a greater understanding of the problem, in view of achieving more effective therapeutical strategies.

An increasing number of retrospective reports suggest that psychiatric disorders may be related to childhood abuse (Bradley et al. 2005; Bryer et al. 1987; Grilo et al. 1999). Saleptsi et al. (2004) explored the relationship between

psychiatric diagnoses (i.e., alcohol-related, schizophrenic, affective, and personality disorder groups) and negative life events during childhood in 192 patients, finding that emotional, physical, and sexual abuse was more often reported by patients with PDs. On the other hand, a history of childhood abuse seems to increase the risk for adult IPV victimization (Coid et al. 2001; Wind and Silvern 1992).

In summary, there are many studies in which physical, sexual, and psychological abuse by partners were associated with the presence of PTSD, depression, and GAD diagnoses. However, investigations are needed in order to assess personality disorder symptomatology in abused women, carefully separating the contribution of childhood abuse and experiences of IPV. The current study was aimed at evaluating the personality disorder symptomatology of women exposed to physical and psychological IPV, or to “only” psychological IPV with MCMI-II. It was hypothesized that women victims of IPV would exhibit significantly higher prevalence rates and greater levels of Axis II psychopathological symptoms than control women. Finally, the impact of concomitant sexual IPV on personality disturbances was also considered. A better knowledge of these variables would allow the design of more effective therapeutical strategies to cope with IPV and would encourage further research on this relevant topic.

Methods

Participants

The present study is part of a larger research project on the impact of IPV on women’s health, carried out between 2000 and 2002, and involving a sample of 182 women from the Valencian Community of Spain (Garcia-Linares et al. 2004, 2005; Pico-Alfonso 2005; Pico-Alfonso et al. 2004, 2006). Women victims of IPV were recruited from the 24 h centers for helping women, an outpatient counselling agency for battered women located in the three provinces of the Community (Alicante, Castellon, and Valencia). Control women, who lived in a non-violent intimate partner relationship, were contacted through Women’s associations. All participants were of Spanish nationality. The study was approved by the University of Valencia research ethics committee, and prior informed written consent was obtained from all participants at the outset.

Assessment Interviews

The study consisted of a structured interview in which four trained female licensed psychologists asked women about their lives and health. The psychologists were well informed about how to use the questionnaires in a way that

would minimize psychological stress for participant and interviewer. In general, each woman was interviewed four to six times by the same psychologist, each session taking approximately one and a half hours. Comprehensive questionnaires were designed for a face-to-face interview. The majority of questions were devised to yield objective factual reports. The questionnaires from which information for the present study was obtained are described below, and more detailed information is given in Garcia-Linares et al. (2005).

Sociodemographic Profile Variables

Data about age, number of children, level of education, and marital status of the women were obtained.

Violence Perpetrated by an Intimate Male Partner

The majority of the widely-used measures of IPV are in the English language. Therefore, on the basis of scientific literature about the instruments to measure violence by the partner, a questionnaire was constructed to obtain detailed information about the different types of violence (physical, sexual, and psychological) perpetrated by the batterer. Each type of violence consisted of one or more of the acts described below. Women were asked to answer “yes” or “no” to the incidence of each act. When the woman answered positively, she was asked about duration, frequency, and use of coercive instruments, in order to obtain a severity marker of the violence experienced.

- (a) *Physical violence*, including punches, kicks, slaps, pushes, bites, and strangling.
- (b) *Sexual violence*, including: (1) forced sex (vaginal or anal penetration, oral sex from her to him or from him to her, objects inserted in vagina or anus), (2) forced to have homosexual sex, (3) forced sex with animals, (4) forced to prostitute herself, (5) forced to have sex in public, (6) physical violence during sexual intercourse (bites, kicks, blows and slaps), (7) threats to hit the woman or children if rejecting sex, (8) threats with knives, guns or other weapons in order to have sex, (9) involvement of children in forced sex or witnessing sexual attacks and (10) forced use of pornographic films and photos.
- (c) *Psychological violence*, including: (1) verbal attacks (insults, humiliations), (2) control and power (isolation from family and friends, impeding decision-making, economic abandonment), (3) pursuit and harassment, (4) verbal threats (woman and family’s life threatened, threats regarding the custody of children, intimidating phone calls), and (5) blackmail (economic or emotional).

Control women were also asked all the questions, in order to ensure that they had had no experience of violence in any intimate partner relationship.

Endorsement or lack thereof of any of the acts of physical, sexual, or psychological violence was used as criteria to designate women as abused or non-abused. The presence or absence of any of the acts of physical violence was used to assign abused women to two subgroups: physically/psychologically abused and “only” psychologically-abused. The presence of any of the acts of concomitant sexual violence was specifically considered within both subgroups of abused women.

In order to evaluate more features of recent IPV, women were also asked whether they had been physically, psychologically or sexually abused during the last year. The maintenance of the cohabitation with the partner at the time of the interviews was also considered.

Childhood Abuse

Women were asked about the incidence, duration, frequency, and use of coercive instruments to perpetrate physical, sexual or psychological abuse during their childhood (prior to 14 years of age).

- (a) *Childhood physical abuse* was defined as above (see “Methods”).
- (b) *Childhood sexual abuse* included one or more of the following acts: forced sex, forced to touch a male’s sexual organs or being touched, forced exposure to the display of sexual organs, and threats of forced sex.
- (c) *Childhood psychological abuse* was defined as above (see “Methods”), but without variables regarding child custody and impeded decision making.

Personality

The personality assessment tool was Millon Clinical Multiaxial Inventory-II (MCMI-II) normed and validated for the Spanish populations by TEA Ediciones (2000), instead of MCMI-III, because this latter version was not available in Spain. The questionnaire was verbally read to the participants and their answers filled in by the interviewer. The MCMI-II is a 175-item true/false self-report inventory which objectively measures personality styles, severe personality disorders (Axis II), and clinical syndromes (Axis I) as categorized in the DSM-III-R (American Psychiatric Association 1997; Millon 1987). Previous research has found that the sensitivity of the MCMI-II subscales ranged from 59% to 79%, while the specificity ranged from 91% to 99% (Choca and Van Denburg 1997). Raw scores are converted to Base Rate (BR) scores, a “transformed score which ensures that the proportion of patients who score above each scale’s cut-off point matches the actual prevalence among a representative national population of patients who possess each scale’s cor-

responding disorder and completed the test” (Millon 1987, p. 95). A BR score of 85 and above signifies the “most prominent” disorder (e.g., “severe”), a BR score of 75 to 84 reflects the “presence of characteristics” of the disorder (e.g., “moderate”), while a score of 65 to 74 suggests that the patient has some of the traits defined by the scale (e.g., “mild”). According to the conservative criteria of Wetzler (1990), a BR score >84 is considered to be significant.

The test has 22 scales, plus three Modifier indices and a Random Response Index. Their names and designations are as follows. The Modifier Indices include the scales of Disclosure (*X*), Desirability (*Y*), and Debasement (*Z*). There is also a Random Index, consisting of four unusual items which, if answered in the endorsed direction, suggest profile invalidity (“I have never seen a car in the past ten years”). In this study, only women with valid profiles have been considered. The Clinical Personality Scales include Schizoid (1), Avoidant (2), Dependent (3), Histrionic (4), Narcissistic (5), Antisocial (6A), Aggressive/Sadistic (6B), Compulsive (7), Passive–Aggressive (8A), and Self-defeating (8B). Scales measuring severe Personality Pathology are Schizotypal (S), Borderline (C), and Paranoid (P). Scales measuring Clinical Syndromes were not analysed (Millon 1987).

Statistical Analyses

The three groups of women (non-abused, physically/psychologically abused, and psychologically abused) were compared with respect to age, BR scores of the scales by means of one-way analysis of variance (ANOVA). Post-hoc comparisons were carried out by Scheffé’s test.

Pearson’s chi-square tests were used to examine the associations between the incidence of IPV (non-abuse, physical/psychological abuse, and psychological abuse) and categorical variables represented by educational level, cohabitation with the partner, violence by the partner during the last year and the proportion of women with BR scores above 84.

Within both abused groups, *t*-tests were performed to examine the difference between the BR scores of personality scales of women who experienced (or not) sexual IPV.

Principal component factor analysis with varimax oblique rotation was performed to obtain the underlying structure of all measures (duration, frequency and use of coercive instruments in childhood and IPV). The criteria to determine the number of components were eigenvalues of greater than 1. The saturation for each item in every component was greater than 0.70. The components which emerged were used as predictor variables of MCMI-II personality scales scores. Hierarchical multiple regression analyses were conducted to investigate the relationship between IPV and childhood abuse variables and the personality scores. The analyses were conducted entering: at Step 1 – childhood variables (physical, psychological and

sexual abuse); and at Step 2 – IPV (physical, psychological and sexual IPV) variables. The level of significance for all analyses was set at $p < 0.05$.

Results

Participants

A total of 182 women completed the MCMI-II, but four of them provided invalid responses to the test and were discarded from the following analysis. Therefore, 178 women were considered and distributed into three groups: non-abused ($n=52$), physically/psychologically abused ($n=$

73), and psychologically abused ($n=53$) by their intimate male partners.

The mean age of the women was 44.21 years old ($SD=11.43$; range: 20 to 76). The sociodemographic profile of the three groups of women (non-abused, physically/psychologically abused, and psychologically abused) is given in Table 1. There were no differences between groups in age and number of children per woman. The mean education level was primary school (range extending from illiterate to 5–6 years of university studies). There was no association between educational level and IPV. However, there was an association between the marital statuses, particularly single, separated or divorced status, and the IPV (Table 1).

Table 1 Sociodemographic profile, intimate partner violence (IPV) and childhood abuse variables of non-abused, physically/psychologically abused, and psychologically abused women (%)

Variable	Non-abused women ($n=52$)	Physically/psychologically abused women ($n=73$)	Psychologically abused women ($n=53$)	Statistics
Age (mean±SD)	46.6±12.4	42.4±11.1	44.4±10.5	$F(2,175)=2.1$; n.s.
Number of children per woman (mean±SD)	1.85±1.1	2.1±1.4	2.25±1.2	$F(2,175)=1.4$; n.s.
Education level				$\chi^2(12, N=178)=7.9$; n.s.
Illiterate	0	1.4	1.9	
Able to read and write	1.9	9.6	9.4	
Incomplete primary school	15.4	23.3	18.9	
Primary school	38.5	32.9	37.7	
Secondary school	36.5	24.7	26.4	
University Studies: 3–4 years	3.8	2.7	3.8	
University Studies: 5–6 years	3.8	5.5	1.9	
Marital status				$\chi^2(8, N=178)=43.3$; $p < 0.001$
Single not living with partner	0	6.8	7.5	
Single living with partner	11.5	4.1	1.9	
Married	86.5	39.7	56.6	
Separated/divorced	0	45.2	32.1	
Widow	1.9	4.1	1.9	
Cohabiting with the partner during last year	98.1	84.9	83.0	$\chi^2(2, N=178)=7.0$; $p < 0.05$
Concomitance of sexual IPV	0	31.5	17.0	$\chi^2(2, N=178)=20.5$; $p < 0.001$
IPV during last year				
Physical	0	89.0	0	–
Psychological	0	97.3	88.2	$\chi^2(1, N=124)=4.1$; $p < 0.05$
Sexual	0	17.1	4.0	$\chi^2(1, N=120)=4.9$; $p < 0.05$
Childhood abuse				
Physical	26.9	50.7	54.7	$\chi^2(2, N=178)=9.8$; $p < 0.01$
Psychological	27.5	45.7	38.5	$\chi^2(2, N=173)=4.2$; n.s.
Sexual	13.5	39.7	34.0	$\chi^2(2, N=178)=10.4$; $p < 0.01$

Violence Perpetrated by the Intimate Male Partner

All women who were subjected to physical violence also suffered from some form of psychological violence (physically/psychologically abused group). Further, 31.5% of them were also sexually abused. On the other hand, 17% of psychologically abused women had also been sexually abused by their batterers (Table 1).

Chi-square analyses revealed that there was an association between IPV and the cohabitation with the partner during the last year. The proportion of physically/psychologically and psychologically abused women cohabiting with the partner was lower than expected by chance [$\chi^2(2, N=178)=7.0, p<0.05$].

When the incidence of IPV referred to the 12 months preceding the first interview (last year), it was found that most women of the physically/psychologically abused group experienced violence by the batterer. In particular, 89% experienced physical abuse, 97.3% psychological abuse, and 17.1% sexual abuse. Similarly, 88.2% of the psychologically abused women experienced continued psychological abuse during the last year, 4% also being sexually abused.

Childhood Abuse

There was a history of childhood abuse in all three groups. As shown in Table 1, chi-square tests revealed that both physical and sexual childhood abuse were associated with IPV [physical: [$\chi^2(2, N=178)=9.8, p<0.01$; sexual: $\chi^2(2, N=178)=10.4, p<0.01$], although this was not the case for psychological abuse [$\chi^2(2, N=173)=4.2, n.s.$]. The incidence of physical and sexual childhood abuse was higher than that expected by chance in the two abused groups but not in the non-abused group.

MCMI-II Personality Scales

Means and Standard deviations of MCMI-II BR scores for the total sample are presented in Table 2. One-way analysis of variance (ANOVA) revealed that there were statistically significant differences between groups in BR scores of the following MCMI-II personality scales: schizoid [$F(2, 175)=6.86, p=0.001$], avoidant [$F(2,175)=16.99, p<0.001$], narcissistic [$F(2,175)=3.50, p<0.05$], antisocial [$F(2,175)=4.79, p=0.01$], aggressive (sadistic) [$F(2,175)=5.03, p<0.01$], passive aggressive/negativistic [$F(2,175)=5.03, p<0.01$], self-defeating [$F(2,175)=17.62, p<0.001$], schizotypal [$F(2,175)=18.13, p<0.001$], borderline [$F(2,175)=20.01, p<0.001$], and paranoid personality [$F(2,175)=9.35, p<0.001$]. In particular, Scheffè's test showed that physically/psychologically abused women had higher scores than non-abused women in schizoid, avoidant, narcissistic, antisocial,

aggressive (sadistic), passive aggressive/negativistic, self-defeating (masochistic) personality scales, and also in the three pathology personality scales (schizotypal, borderline, and paranoid). Psychologically abused women had higher scores as compared to non-abused women in schizoid, avoidant, self-defeating (masochistic) personality scales and in the three pathology personality scales (schizotypal, borderline, and paranoid). However, there were no differences between the two groups of women victims of IPV in any of the MCMI-II personality scales considered.

Table 3 shows the percentages of physically/psychologically, psychologically and non-abused women in each range of BR scores. A significant association between higher scores in the personality scales and IPV was found. The percentages of women scoring above 84 in personality scales was higher than expected by chance in physically/psychologically and psychologically abused women in the following personality scales: schizoid [$\chi^2(2, N=178)=13.49, p=0.001$], narcissistic [$\chi^2(2, N=178)=6.79, p<0.05$], antisocial [$\chi^2(2, N=178)=6.94, p<0.05$], passive aggressive/negativistic [$\chi^2(2, N=178)=9.77, p<0.01$], schizotypal [$\chi^2(2, N=178)=12.91, p<0.01$], borderline [$\chi^2(2, N=178)=11.57, p<0.01$], paranoid [$\chi^2(2, N=178)=12.13, p<0.01$].

No association was found between IPV (either physical or psychological) and BR scores above 84 in the personality scales: avoidant [$\chi^2(2, N=178)=4.03, p=0.13$], dependent [$\chi^2(2, N=178)=3.78, p=0.15$], histrionic [$\chi^2(2, N=178)=1.19, p=0.55$], aggressive (sadistic) [$\chi^2(2, N=178)=0.91, p=0.64$], compulsive [$\chi^2(2, N=178)=0.02, p=0.99$], and self-defeating [$\chi^2(2, N=178)=3.68, p<0.16$] (Table 3).

Sexual Violence by the Intimate Male Partner and Personality Scales

The relationship between BR scores of personality scales and sexual IPV is given in Table 4. In the group of physically/psychologically abused women, those who had also been sexually abused had higher scores of schizoid ($t=-2.06, p<0.05$) and paranoid ($t=-2.02, p<0.05$) personality scales than women who had not experienced sexual abuse. The presence or absence of sexual abuse did not influence the scores of the other personality scales. Within the group of psychologically abused women, those who had also been sexually abused had higher scores only for compulsive personality scale ($t=-2.84, p=0.01$) (Table 4).

Contribution of IPV and Childhood Abuse to MCMI-II Personality Scales Scores

Hierarchical multiple regression analyses were carried out to control for the contribution of the IPV and experiences of

Table 2 Means and standard deviations of base rate scores of MCMI-II’s personality scales of non-abused, physically/psychologically abused, and psychologically abused women

Scales	Non abused-women (n=52)	Physically/psychologically abused women (n=73)	Psychologically abused women (n=53)	Statistics
Schizoid	54.13±25.81	70.79±32.12**	73.73±29.54**	$F(2, 175)=6.86, p=0.001$
Avoidant	21.08±18.66	45.60±27.90***	44.58±26.47***	$F(2,175)=16.99, p<0.001$
Dependent	62.87±33.51	74.68±29.51	70.89±32.06	$F(2,175)=2.16, p=0.12, ns$
Histrionic	52.10±28.75	61.03±29.21	51.47±29.21	$F(2,175)=2.18, p=0.12, ns$
Narcissistic	62.67±30.34	76.92±28.14*	68.87±32.30	$F(2,175)=3.50, p<0.05$
Antisocial	39.52±28.54	56.18±32.32**	46.89±28.09	$F(2,175)=4.79, p<0.01$
Aggressive (sadistic)	38.88±27.05	54.84±27.85**	46.15±29.08	$F(2,175)=5.03, p<0.01$
Compulsive	87.60±31.47	97.45±44.24	92.00±25.51	$F(2,175)=1.17, p=0.31, ns$
Passive aggressive/negativistic	26.44±24.78	42.47±32.96**	34.30±23.05	$F(2,175)=5.03, p<0.01$
Self-defeating (masochistic)	21.12±19.36	47.37±28.04***	43.36±26.70***	$F(2,175)=17.62, p<0.001$
Schizotypal	36.71±20.51	63.96±31.40***	64.58±27.03***	$F(2,175)=18.13, p<0.001$
Borderline	25.52±15.97	50.84±26.19***	42.77±21.36***	$F(2,175)=20.01, p<0.001$
Paranoid	54.79±33.27	79.62±32.55***	74.45±32.94**	$F(2,175)=9.35, p<0.001$

* $p<0.05$, Scheffé’s test; differs from non-abused group corresponding value
 ** $p<0.01$, Scheffé’s test; differs from non-abused group corresponding value
 *** $p<0.001$, Scheffé’s test, differs from non-abused group corresponding value

childhood abuse to the variance of the personality scale scores. The analyses revealed childhood abuse variables as unique predictors of histrionic [$F(2,122)=4.35, \Delta R^2=0.07, p<0.05$], narcissistic [$F(2,122)=4.32, \Delta R^2=0.07, p<0.05$], and compulsive [$F(1,122)=3.31, \Delta R^2=0.05, p<0.05$] scale scores.

On the other hand, the analyses revealed that childhood abuse variables had a significant predictive effect on the schizoid [$F(2,122)=3.81, \Delta R^2=0.059, p<0.05$] and antisocial [$F(2,122)=4.24, \Delta R^2=0.065, p<0.05$] scale score variance. The overall effect of IPV variables on the increase in the scores remained highly significant even after child-

hood variables had been controlled for in the following personality scales: schizoid [$F(3,119)=5.13; \Delta R^2=0.108, p<0.01$] and antisocial [$F(3,119)=2.75; \Delta R^2=0.061, p<0.05$].

IPV variables were predictor factors after childhood variables had been controlled for in the following personality scales: aggressive-sadistic [$F(3,119)=3.61; \Delta R^2=0.081, p<0.05$], passive-aggressive [$F(3,119)=3.750; \Delta R^2=0.084, p<0.05$], self-defeating [$F(3,119)=8.41; \Delta R^2=0.174, p<0.001$], schizotypal [$F(3,119)=11.12; \Delta R^2=0.217, p<0.001$], borderline [$F(3,119)=10.21; \Delta R^2=0.203, p<0.001$] and paranoid [$F(3,119)=6.35; \Delta R^2=0.138, p<0.001$]. The analyses

Table 3 Percentages (%) of MCMI-II personality scale BR scores in non-abused, physically/psychologically abused, and psychologically abused women

BR	Non abused women (n=52)				Physically/Psychologically abused women (n=73)				Psychologically abused women (n=53)			
	<60	60–74	75–84	>84	<60	60–74	75–84	>84	<60	60–74	75–84	>84
Scale												
Schizoid	50.0	26.9	9.6	13.5	37.0	6.8	13.7	41.3	30.2	15.1	13.2	41.5
Avoidant	96.2	1.9	0	1.9	65.8	15.1	8.2	11.0	69.8	17.0	1.9	11.3
Dependent	46.2	17.3	7.7	28.8	37.0	12.3	5.5	45.2	39.6	13.2	3.8	43.4
Histrionic	65.4	9.6	9.6	15.4	45.2	21.9	9.6	23.3	60.4	11.3	7.5	20.8
Narcissistic	46.2	17.3	7.7	28.8	27.4	11.0	9.6	52.1	35.8	13.2	5.7	45.3
Antisocial	71.2	13.5	7.7	7.7	53.4	13.7	8.2	24.7	69.8	11.3	5.5	13.2
Agresivo/sadica	73.1	13.5	3.8	9.6	49.3	21.9	13.7	15.1	56.6	24.5	7.5	11.3
Compulsive	19.2	11.5	1.9	67	12.3	8.2	11.0	68.5	9.4	18.9	3.8	67.9
Passive aggressive/negativistic	88.5	5.8	1.9	3.8	67.1	8.2	6.7	17.8	88.7	5.7	1.9	3.8
Self-defeating (masochistic)	96.2	1.9	0	1.9	64.4	15.1	9.6	11.0	69.8	13.2	7.5	9.4
Schizotypal	84.6	9.6	1.9	3.8	46.6	9.6	15.1	28.8	41.5	15.1	17.0	26.4
Borderline	98.1	0	0	1.9	61.6	15.1	8.2	15.1	79.2	11.3	5.7	3.8
Paranoid	51.9	17.3	9.6	21.2	27.4	12.3	9.6	50.7	32.1	15.1	5.7	47.2

Table 4 Means and standard deviations of base rate scores of personality scales from MCMI-II (Millon Clinical Multiaxial Inventory) for physically/psychologically abused women and psychologically abused women with or without concomitance of sexual abuse

Scale	Physically/psychologically abused women (<i>n</i> =73)		Statistics	Psychologically Abused women (<i>n</i> =53)		Statistics
	Non sexually abused (<i>n</i> =50)	Sexually abused (<i>n</i> =23)		Non sexually abused (<i>n</i> =44)	Sexually abused (<i>n</i> =9)	
Schizoid	65.64±32.68	81.96±28.41	<i>t</i> =−2.06, <i>p</i> <0.05	72.39±28.95	80.33±33.28	<i>t</i> =−0.73, ns
Avoidant	42.36±26.93	52.65±29.28	<i>t</i> =−1.48, ns	44.18±25.93	46.56±30.57	<i>t</i> =−0.24, ns
Dependent	71.22±31.04	82.22±24.84	<i>t</i> =−1.49, ns	68.95±32.78	80.33±28.03	<i>t</i> =−0.97, ns
Histrionic	61.94±30.96	59.04±255.53	<i>t</i> =0.42, ns	52.30±29.56	47.44±28.77	<i>t</i> =0.45, ns
Narcissistic	73.38±30.19	84.61±21.71	<i>t</i> =−1.80, ns	68.68±31.26	69.78±39.09	<i>t</i> =−0.09, ns
Antisocial	55.02±33.19	58.70±30.92	<i>t</i> =−0.45, ns	49.25±27.85	35.33±27.89	<i>t</i> =1.37, ns
Aggressive (sadistic)	52.80±28.88	59.26±25.52	<i>t</i> =−0.92, ns	46.48±28.51	44.56±33.55	<i>t</i> =0.18, ns
Compulsive	92.90±27.20	94.30±22.65	<i>t</i> =−0.22, ns	88.93±26.25	107.00±14.92	<i>t</i> =−2.84, <i>p</i> =0.01
Passive aggressive/negativistic	38.92±32.23	50.17±33.92	<i>t</i> =−1.36, ns	34.93±22.51	31.22±26.76	<i>t</i> =0.44, ns
Self-defeating (masochistic)	43.30±26.08	56.22±30.65	<i>t</i> =−1.86, ns	43.75±26.95	41.44±26.90	<i>t</i> =0.23, ns
Schizotypal	59.44±30.07	73.78±32.64	<i>t</i> =−1.84, ns	63.34±26.15	64.78±32.73	<i>t</i> =−0.14, ns
Borderline	48.06±24.75	56.87±28.71	<i>t</i> =−1.34, ns	42.82±20.46	42.56±26.76	<i>t</i> =0.03, ns
Paranoid	74.66±32.10	90.39±28.03	<i>t</i> =−2.02, <i>p</i> <0.05	73.86±32.33	77.33±37.72	<i>t</i> =−0.29, ns

showed that neither childhood abuse variables nor IPV variables predicted the score in the dependent personality scale.

Discussion

The current study aimed at evaluating the personality disorder symptoms of women victims of IPV. As compared to non-abused controls, both physically/psychologically and psychologically abused women had higher scores in schizoid, avoidant, self-defeating personality scales, as well as in the three pathology personality scales (schizotypal, borderline, and paranoid). In particular, physically/psychologically abused women had higher scores than non-abused women in schizoid, avoidant, narcissistic, antisocial, aggressive, passive-aggressive (negativistic), self-defeating, schizotypal, borderline, and paranoid personality scales. On the other hand, psychologically abused women differed from their non-abused counterparts in schizoid, avoidant, self-defeating, schizotypal, borderline, and paranoid personality scale scores. Generally speaking, these findings are in agreement with earlier results showing that battered women exhibit more personality disturbances as compared to non-abused women (Danielson et al. 1998; Gleason 1993; Khan et al. 1993).

The strength of this study lies in the assessment of the personality disorder symptoms in abused women, also including a group of “only” psychologically abused women. Interestingly, there were no differences in personality scale scores between the two groups. This result supports the view that psychological IPV alone can be associated with psychological disturbances as much as

physical abuse, although the latter always involves psychological violence too (Arias and Pape 2001; Kramer et al. 2004; O’Leary 1999; Pico-Alfonso et al. 2004, 2006; Sutherland et al. 2002; Weaver and Etzel 2003).

Moreover, the physically/psychologically abused women, who had also been sexually abused, had higher scores of schizoid and paranoid personality scales. In other words, concomitance of sexual violence is associated with higher scores in these personality disorders; it is a relevant result that one third of physically/psychologically abused women were also victims of sexual violence by the partner. The psychologically abused women who had been sexually abused had higher scores in the compulsive personality scale. It is worth mentioning that sexually abused women were underrepresented in our psychologically abused women group, which makes it rather difficult to explore associations between sexual abuse and personality features. We are aware that due to the sample size the statistical power is low. This is one limitation of our study which requires further research.

In the current study, physically/psychologically and psychologically abused women reported higher rates of childhood physical and sexual abuse experiences than expected by chance. This evidence is in agreement with other studies showing that women reporting childhood abuse had an increased risk of physical and psychological IPV in adulthood (Coid et al. 2001; Chu and Dill 1990; Desai et al. 2002; Gilbert et al. 1997; Mandoki and Burkhart 1989; Stuart et al. 2006; Wind and Silvern 1992). This association might be explained by suggesting that childhood abuse potentiates individual vulnerability through feelings of low self-worth or powerlessness, insecure attachment styles, or post-traumatic stress symp-

toms that decrease women's emotional well-being in adulthood, either directly or through difficulty in protecting themselves or forming positive relationships (Bensley et al. 2003; Briere 1992).

Indeed, experiences of childhood abuse are frequently implicated in the development of personality disorders (Battle et al. 2004; Johnson et al. 1999). In order to control for these contributions, data about childhood abuse were included in the analyses of the impact of IPV on MCMI-II personality scale score variance. However, after controlling for the effect of childhood abuse, the block of variables related to IPV turned out to be the strongest predictor in most of the MCMI-II scales. This result is in agreement with studies showing a strong association between adult victimization (with or without IPV) and specific personality disorders (Haller and Miles 2003; Shields et al. 1990). These findings underline the importance of also assessing PD symptomatology when delineating the treatment of IPV victims.

Moreover, the amount of abusive relationships experienced seems to be positively associated with PDs (Coolidge and Anderson 2002). Our study revealed that both types of abuse (childhood and IPV) contributed significantly to schizoid and antisocial personality scale score variances. In this sample, we found a strong association between IPV and PD symptoms and between IPV and childhood abuse. Childhood experiences can predispose women to develop personality characteristics (Haller and Miles 2004) and, at the same time, they can increase the likelihood of being engaged in abusive relationships when adults (Bensley et al. 2003). This allows us to hypothesize that IPV might facilitate the emergence of specific psychopathological personality traits. This is an exploratory study and the findings have to be taken cautiously. It has a relatively small sample and the results are based on cross-sectional data. Although we have observed specific associations, a causality link cannot be established. The reliance on cross-sectional data hampers the possibility to discern whether personality adaptations occurred in response to IPV or whether diffuse character pathology predisposed women to experience violent relationships. A further limitation of this study is that experiences of violence were assessed retrospectively. Although it may be argued that psychiatric symptoms may be associated with biased memory or reporting of early traumatic life events, there is little evidence to suggest that PD women tend to overreport adverse events (Maughan and Rutter 1997).

We found that physical and psychological IPV have a strong association with PD symptomatology, even after removal of the effects of experiences of childhood abuse. The results of the hierarchical regression analysis taking into account the intensity of childhood abuse suggest that only histrionic, narcissistic and compulsive scale scores

were explained uniquely by childhood abuse variables. In particular, the relationship between borderline PD and childhood abuse has received the majority of research attention. In the present study, childhood abuse was not associated with borderline scale scores, but it was strongly predicted by IPV variables. The contribution of IPV to the borderline PD scale score is in agreement with previous results by Shields et al. (1990), who found a positive relationship between severity of IPV (including physical and/or sexual abuse) and severity of Borderline personality disorder. On the other hand, our data are inconsistent with the results of Weaver and Clum (1996), who provided evidence that borderline personality characteristics in battered women were associated with their experiences of childhood abuse, current physical and sexual abuse being negligible predictors. Such inconsistency may be due to differences in the type of mental health assessment tools and sample differences (in their sample, women had been either exposed to physical abuse or threatened).

According to previous research (Khan et al. 1993; Rosewater 1988), the higher incidence of PD symptoms of women victims of IPV could be due to a reactive state to the chronic exposure to this violence. In fact, as suggested by Bremner (1999) some personality disturbances could be part of the stress-related disorder spectrum. According to that model, traumatic stress can alter structural and functional aspects of the brain and lead to the development of a range of psychiatric disorders that share in common a relationship to stress. Undoubtedly, the exposure to chronic physical and/or psychological violence by the partner is a stressful condition for the women. The effects of stress increase liability to psychiatric illness in general, and over time may produce the quasi-stable constellations of maladaptive traits and behaviours and pervasive dysfunctions that are typical of PDs (Grilo and McGlashan 1999; Heru 2007). PDs are characterized by specific sets of individual assumptions (Beck et al. 1990) and could be modulated by the chronic stressful experience of being under threat and/or a victim of repetitive violent acts. Future prospective research studies including larger samples are needed in order to provide more empirical data which can shed light on the complex interactions between different experiences of abuse and PDs.

In summary, these findings underscore the need to screen for PDs in women that have been exposed to IPV as some abused women could be resistant to psychological treatment because comorbid PDs complicate the clinical picture. This question should represent an important issue to be considered when dealing with therapeutic interventions.

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