The following full text is a publisher's version.

For additional information about this publication click this link.
http://hdl.handle.net/2066/202030

Please be advised that this information was generated on 2020-11-05 and may be subject to change.
Factors Related To Depression and Post-Traumatic Stress Disorder in Shelter-Based Abused Women

Irene E. Jonker¹, Danielle A. M. Lako¹, Mariëlle D. Beijersbergen¹, Marit Sijbrandij², Albert M. van Hemert³, and Judith R. L. M. Wolf¹

Abstract
In this study, linear mixed-effects regression analyses were used to examine whether sociodemographic variables, abuse-related variables, and well-being variables were associated with symptoms of depression and post-traumatic stress disorder (PTSD) in abused women residing in shelters. Results pointed out that symptoms of depression severity were positively associated with migration background and the experience of physical abuse and negatively associated with self-esteem and social support. PTSD symptoms were positively associated with the experience of sexual abuse and negatively associated with self-esteem. Within women’s shelters, staff could be sensitive to improving the social integration of women, especially those with a non-Dutch background, and strengthening the women’s social networks and their self-esteem.

Keywords
battered women, depression, PTSD

¹Radboud University Nijmegen Medical Center, The Netherlands
²VU University Amsterdam, The Netherlands
³Leiden University Medical Center, The Netherlands

Corresponding Author:
Irene E. Jonker, Radboud university medical center, Impuls- Netherlands Center for Social Care Research, Department of Primary and Community Care, Nijmegen, The Netherlands.
Email: irene.jonker@radboudumc.nl
Introduction

Intimate partner violence (IPV) is a major public health concern and a violation of women’s human rights (World Health Organization [WHO], 2014). Worldwide, almost one third (30%) of all women who have been in a relationship have experienced physical and/or sexual violence by their intimate partner (WHO, 2014). The implications of IPV are extensive and include physical, mental, sexual, reproductive health as well as other health problems (Campbell et al., 2002; WHO, 2014). The negative mental health consequences most frequently associated with IPV are depression and post-traumatic stress disorder (PTSD; Campbell & Lewandowski, 1997; Dienemann et al., 2000; Golding, 1999; Jones, Hughes, & Unterstaller, 2001).

Depression is defined as a state of low mood and loss of interest or pleasure that can affect a person’s thoughts, behavior, feelings, and sense of well-being (American Psychiatric Association, 2013). In survivors of IPV, depression can severely influence women’s ability to establish and maintain relationships, contributing to social isolation and decreased access to social support (Carlson, McNutt, Choi, & Rose, 2002; Helfrich, Fujiura, & Rutkowski-Kmita, 2008; Nathanson, Shorey, Tirone, & Rhatigan, 2012). High levels of depression have been found in 35-70% of female IPV survivors (Gerlock, 1999; Golding, 1999; Nathanson et al., 2012; Petersen, Gazmararian, & Clark, 2001; Stein & Kennedy, 2001).

PTSD may develop in some people after experiencing a traumatic event, including experiences with IPV (American Psychiatric Association, 2013). The symptoms of PTSD include re-experiencing, avoidance, negative alterations in cognitions and mood, and arousal (American Psychiatric Association, 2013). High levels of PTSD symptoms have been found in 55-92% of women with a history of IPV (Gorde, Helfrich, & Finlayson, 2004; Humphreys, Lee, Neylan, & Marmar, 2001; Jones et al., 2001). Both depression and PTSD among abused women have been found to be persistent, with symptoms continuing to exist when the abuse has ended (Campbell & Lewandowski, 1997; Campbell & Soeken, 1999; Campbell, Sullivan, & Davidson, 1995; Mechanic, Weaver, & Resick, 2008; Zlotnick, Johnson, & Kohn, 2006).

Taking refuge in a shelter usually is a last resort for women in their effort to escape violence and end IPV (Berk, Newton, & Berk, 1986; Shostack, 2001). Research has shown that shelters and crisis centers are being used by women who experience the most severe abuse (Ansara & Hindin, 2010) and report more related injury and mental health problems than abused women not residing in shelters (Johnson, Zlotnick, & Perez, 2008; Jones et al., 2001; Saunders, 1994).

Only a limited number of studies have examined depression or PTSD in IPV survivors during their shelter stay. An early study by Mitchell and Hodson (1983) showed high levels of depression, low self-esteem, and social isolation among shelter-based abused women (Mitchell & Hodson, 1983). Clinically significant levels of depression were reported in 43% of a sample of abused women receiving extensive services from a crisis or transitional shelter after their shelter exit (Ham-Rowbottom, Gordon, Jarvis, & Novaco, 2005). The 12 months prevalence of major depression in a shelter-based sample of abused women in the United States was estimated to be 51% (Helfrich et al.,
Clinical levels of PTSD in shelter-based abused women, as reported across studies, range from 40-84% (Ham-Rowbottom et al., 2005; Jones et al., 2001; Kemp, Rawlings, & Green, 1991; Mertin & Mohr, 2001). Depression and PTSD usually show high comorbidity, also in shelter samples (Ham-Rowbottom et al., 2005; Nixon, Resick, & Nishith, 2004).

Factors associated with depression and PTSD in adult abused women are many, and they include among others young age (Hazen, Connelly, Soriano, & Landsverk, 2008; Wrangle, Fisher, & Paranjape, 2008), a high number of children (Campbell & Lewandowski, 1997; Cascardi, O’Leary, & Schlee, 1999; Jones et al., 2001), and for depression, migration (Prosmian, Jansen, Lo, Fo, & Lagro-Janssen, 2011). In addition, for both depression and PTSD, factors are frequency and severity of physical (Campbell et al., 1997; Golding, 1999; Jones et al., 2001) and sexual abuse (Bennice, Resick, Mechanic, & Astin, 2003; National Coalition Against Domestic Violence [NCADV], 2015; Plichta & Falik, 2001), low self-efficacy (Sullivan, McPartland, Price, Cruzaguet, & Swan, 2013), poor self-esteem (Campbell & Alford, 1989; Cascardi & O’Leary, 1992; Sato & Heibly, 1992), and little or no available social support (Campbell et al., 1997; Rodriguez et al., 2008; Wong, Tiwari, Fong, Humphreys, & Bullock, 2011).

The above-mentioned factors related to symptoms of depression and PTSD are found in studies including broad categories of abused women. The aim of this study was to investigate whether these factors are also valid for adult abused women in shelters, who represent the extreme end of severity of abuse. Research in this subgroup of abused women is scarce, possibly because these women may not be willing to participate in research as sharing their experiences may be risky and their partners may not approve. Therefore, this study contributes to the literature as well as to everyday practice because it may provide women’s shelters with important information to better attune their services to the needs of abused women and to possibly reduce symptoms of depression and PTSD in these women.

We included the previously mentioned variables and categorized them into sociodemographic variables (age, migration background [Dutch or non-Dutch], and number of children), abuse-related variables (sexual and physical abuse), and well-being variables (self-efficacy, self-esteem, and available social support). The latter variables may be amenable to modification, by the women themselves or professional interventions.

**Method**

**Participants**

This study was part of a larger research project by Impuls—Netherlands Center for Social Care Research (Radboud University Nijmegen Medical Center) and the Netherlands Institute of Mental Health and Addiction on supply and demand among abused women in women’s shelters (Wolf, Jonker, Nicholas, Meertens, & Te Pas, 2006; Wolf, Jonker, Nicholas, & Putriss, 2007). Women were recruited at 18 of the 39 women’s shelters in the Netherlands. The 39 shelters were stratified by the four regions of the Netherlands (north, east, south, and west) and approached per stratum on a randomly ordered list.
To be eligible for the study, women had to be aged 18 years or older, survivor of IPV by a male (ex-)partner, and having been admitted to a shelter between mid-November 2004 and mid-March 2005. By stratified sampling, four categories of women were approached: (a) Dutch women in short-stay shelters (3 weeks or less), (b) Dutch women in long-stay shelters (3 weeks or more), (c) non-Dutch women in short-stay shelters, and (d) non-Dutch women in long-stay shelters. The aim was to reach 40 women in each category. In total, 490 women were approached to participate, of whom 218 (44.5%) could be interviewed. Reasons for nonparticipation were refusal to participate in the study, inclusion in wrong stratification categories, or no interpreters available (Jonker, Sijbrandij, & Wolf, 2012).

For the purpose of this study, we excluded 34 women because they missed outcome measures relevant for this study due to the use of a shortened version of the questionnaire, which was used if women did not speak Dutch and had to be interviewed in a foreign language. We used this shorter questionnaire because we expected that the translation of questions would considerably lengthen the interview. The final number of women in the current study was 184.

**Procedures**

At each shelter location, an assigned staff member screened and approached women using a randomly ordered registration list of all the women living in the shelter. After giving written informed consent, women were interviewed face-to-face by trained research assistants. All instruments, including self-report measures, were administered in-person because a substantial but unknown proportion of the shelter-based women are illiterate. Each woman received 15 Euros for their participation. The method of the study has been reported elsewhere in more detail (Jonker et al., 2012).

**Measures and Instruments**

**Sociodemographic Characteristics**

Sociodemographic characteristics collected were age, marital status, country of birth, migration background (Dutch/non-Dutch), number of children, educational level, and employment status. Educational level was divided into low (no formal education or primary education only), average low (prevocational education, junior general secondary education, or prevocational secondary education), and average high to high (vocational education, general secondary education, pre-university education, professional higher education, or academic higher education).

**Abuse-Related Variables**

The type of abuse experienced before shelter entry was assessed using a self-developed question: “What kind of violence did you experience by [NAME ABUSER]?” Women could select one or more of the following options: physical violence (“like
being beaten, kicked, or objects thrown at you”), sexual violence (“like intimacy you didn’t want or like, or rape, for example when he came home drunk”), and psychological violence (“like threats, or he had no respect for your feelings, said things to hurt you or prohibited you to go outside”). Women were also asked how long they were in a relationship with the abuser and whether the violence had become more severe over time. Furthermore, they were asked if they had been in touch with the abuser during their shelter stay.

Mental Health

Depressive symptoms were measured with the Dutch version of the Center for Epidemiological Studies Depression Scale (CES-D; Hanewald, 1987; Radloff, 1977). The CES-D is a self-report measure with 20 items related to depressive symptoms during the past week. An example of one of the items is as follows: “I had trouble keeping my mind on what I was doing.” Item scores are rated on a 4-point scale ranging from 0 (seldom or never) to 3 (always or almost always). Total scores range from 0-60 and are categorized according to the following criteria: scores 0-15.5 for no depression, scores 16-20.5 for mild depression, scores 21-30.5 for moderate depression, and scores of 31 and higher for severe depression (Radloff, 1977). The Dutch CES-D showed good internal consistency and high convergent validity in several samples (Bouma, Ranchor, Sanderman, & Sonderen, 1995). Cronbach’s alpha in this study was .91.

Symptoms of PTSD were measured with the Dutch version of the 15-item Impact of Event Scale (IES; Brom & Kleber, 1985; Horowitz, Wilner, & Alvarez, 1979). The IES is a self-report instrument to assess changes in response action to potentially traumatic events. One of the scale items is as follows: “I tried not to talk about it.” Item scores are rated on a 4-point scale: 0 (not at all), 1 (seldom), 3 (sometimes), and 5 (often). Responses were summed to give total PTSD symptom scores (range: 0-75). A summed score higher than 26 indicates the probable presence of PTSD (Chemtob, Tomas, Law, & Cremniter, 1997; Mooren, de Jong, Kleber, & Ruvic, 2003). The Dutch IES has adequate internal consistency and convergent validity in samples of people afflicted by violence, calamities, or war (van der Ploeg, Mooren, Kleber, van der Velden, & Brom, 2004). Cronbach’s alpha of the IES in the current study was .85.

Well-Being

Self-efficacy was measured by the Dutch version of the General Self-Efficacy Scale (GSES; Bosscher & Baardman, 1989; Sherer et al., 1982). This scale contains 12 items regarding the expectations people have of their capacities. An example of an item is as follows: “If something looks too complicated I will not even bother to try it.” Item scores are rated on a 5-point scale ranging from 1 (strongly agree) to 5 (strongly disagree). Summed scores range from 12-60, and a higher total score is indicative of more self-efficacy (Bosscher & Smit, 1998; Bosscher, Smit, & Kempen, 1997; Woodruff & Cashman, 1993). The Dutch GSES demonstrated acceptable internal
consistency and construct validity in samples of people older than 55 years (Bosscher et al., 1997). Cronbach’s alpha of the GSES in this study was .73.

Self-esteem was examined using the Dutch version of the Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965; van der Linden, Dijkman, & Roeders, 1983). The RSES measures global self-worth and contains 10 statements which can be scored on a 4-point scale ranging from 1 (strongly agree) to 4 (strongly disagree). One of the statements is as follows: “I wish I could have more respect for myself.” All items were summed to create the total score (range: 10-40), with higher scores indicating stronger levels of self-esteem. The RSES shows satisfactory reliability and validity with samples of abused women (Blascovich & Tomaka, 1991; Kim & Kim, 2001; Woods Cox & Stoltenberg, 1991). For this sample, Cronbach’s alpha was .86.

Social support was assessed using a self-developed question: “Do you get help or support from other people (e.g., seeking comfort, emotional support, getting things, arranging things)?” If affirmed, women were asked how many people provided support. A total score was obtained by adding the total number of persons from whom the woman received support, with a “no” answer to the first question coded as zero.

### Data Analysis

Statistical analyses were performed using SPSS version 20.0. Frequencies and means were used to describe women’s sociodemographic characteristics, abuse-related variables, mental health, and well-being. Missing items on a scale were substituted with the individual’s mean score on the particular scale if no more than 20% of the items were missing (Shrive, Stuart, Quan, & Ghali, 2006). Otherwise, the women were excluded from the analysis.

We selected control variables based on associations with depression and PTSD in previous research (Jones et al., 2001; McGrath, Keita, Strickland, & Russo, 1990; Patel et al., 2010). Control variables consisted of age, migration background, number of children, and physical and sexual abuse by (ex-)partner. First, Pearson correlations were calculated to examine significant associations between the control variables, well-being, and symptoms of depression and PTSD. Second, correlations between the independent variables were inspected for multicollinearity. The highest correlation did not exceed .52, indicating there was no multicollinearity. Third, we specified two linear mixed-effects models for predicting depression and PTSD symptoms. In these analyses, shelter organization was specified as a random factor to account for non-independence of data. Marginal $R^2$s were calculated to describe the proportion of variance explained by the fixed factors. The $p$ values less than .05 were considered to be statistically significant.

### Results

#### Participants

Characteristics of the study sample are given in Table 1. The 184 interviewed women averaged 32.6 years of age (range: 18-58 years) and 41.3% were married. The majority
of women (82.6%) had children (range: 0-5) and more than half (57.1%) were from a non-Dutch background (predominantly Moroccan, Surinamese, or Turkish). Most of them (71.4%) were first-generation migrants (she and at least one of her parents were born outside the Netherlands). The remaining 28.6% of the women were second-generation migrants (born in the Netherlands and at least one of the parents was born outside the Netherlands). A quarter of the women (24.5%) had no education or

Table 1. Characteristics of the Women in the Study.

| Characteristics                        | M (SD) or n (%) |
|----------------------------------------|----------------|
| Age (in years; n = 183)                | 32.6 (8.8)     |
| Marital status (n = 184)               |                |
| Married                                | 76 (41.3%)     |
| Divorced                               | 40 (21.7%)     |
| Never been married                     | 68 (37.0%)     |
| Non-Dutch background (n = 184)        | 105 (57.1%)    |
| Children                               | 152 (82.6%)    |
| Number of children                     | 1.7 (1.2)      |
| Educational level (n = 184)            |                |
| None/primary school                    | 45 (24.5%)     |
| Average low                            | 64 (34.8%)     |
| Average high and high                  | 75 (40.8%)     |
| Unemployed (n = 184)                   | 153 (83.2%)    |
| Experienced violence (n = 184)         |                |
| Physical                               | 146 (79.3%)    |
| Sexual                                 | 61 (33.2%)     |
| Emotional                              | 178 (96.7%)    |
| Violence increased over time (n = 162) | 147 (90.7%)    |
| Length of relationship (in years; n = 163) | 9.2 (7.5)  |
| Contact with abuser during shelter stay (n = 184) | 78 (42.4%) |
| Depression (CES-D; n = 174)            |                |
| Mean score                             | 24.3 (11.4)    |
| No depression (CES-D 0-15.5)           | 48 (27.6%)     |
| Mild (CES-D 16-20.5)                   | 21 (12.1%)     |
| Moderate (CES-D 21-30.5)               | 51 (29.3%)     |
| Severe (CES-D ≥ 31)                    | 54 (31.0%)     |
| PTSD (IES; n = 170)                    |                |
| Mean score                             | 42.6 (15.8)    |
| Presence of PTSD (IES > 26)            | 143 (84.1%)    |
| Self-efficacy (GSES; n = 168)          | 42.9 (8.7)     |
| Self-esteem (RSES; n = 169)            | 29.9 (6.2)     |
| Available social support (n = 176)      | 2.8 (1.2)      |

Note. N varies due to missing data (range: 162-184). CES-D = Center for Epidemiological Studies Depression Scale; PTSD = post-traumatic stress disorder; IES = Impact of Event Scale; GSES = General Self-Efficacy Scale; RSES = Rosenberg Self-Esteem Scale.
finished only primary school. At the time of the interview, 83.2% of the women were unemployed.

Nearly all women (96.7%) reported emotional abuse, 79.3% reported physical abuse, and 33.2% suffered sexual abuse by their (ex-)partner before shelter entrance. The mean length of the relationship with the abusive (ex-)partner was 9.2 years (range: 0.5-36 years), and most women (90.7%) reported that the violence had increased over time. Nearly half of the women (42.4%) reported having been in touch with the abuser during shelter stay.

Almost three quarters of the women (72.4%) reported symptoms of depression, and the majority (84.1%) were suspected to suffer from PTSD. According to Dutch norm scores, the mean self-efficacy score ($M = 42.9$) in the study group was average (Bosscher, Laurijssen, & Boer, 1992). With a mean score of 29.9, the women’s level of self-esteem was comparable with the score of women in the Dutch population (Sandfort, de Graaf, & Bijl, 2003). On average, the women mentioned two persons from whom they received social support (range: 0-4).

**Missing Data**

A total of 51 (23.4%) women were not included in the linear mixed-effects model to predict depression due to missing values for any of the scales in the analysis. In the model to predict PTSD symptoms, a total of 52 (23.9%) women were not included for the same reason. For most of them ($n = 34$), the cause was the use of the short version of the questionnaire due to language difficulties. The excluded women were significantly more often from a non-Dutch background ($p < .001$). No significant differences were found for age.

**Univariate Analyses of Symptoms of Depression and PTSD**

Table 2 shows the correlations between the outcome measures, the control variables, self-efficacy, self-esteem, and available social support. Depression scores were related to migration background, number of children, self-efficacy, self-esteem, and available social support. Depression scores were not related to age and physical and sexual abuse. Depression and migration background were positively related ($r = .20$, $p = .01$), indicating higher depression scores for women from a non-Dutch background. Women with more children reported lower depression scores ($r = -.17$, $p = .01$). Higher self-efficacy ($r = -.39$, $p < .001$), higher self-esteem ($r = -.59$, $p < .001$), and more available social support ($r = -.33$, $p < .001$) were also associated with lower levels of depression.

PTSD symptoms were related to sexual abuse, self-efficacy, self-esteem, and available social support. No associations were found with age, migration background, number of children, or physical abuse. Women who experienced sexual abuse, reported more symptoms of PTSD ($r = .24$, $p = .002$). As with symptoms of depression, higher self-efficacy ($r = -.28$, $p < .001$), higher self-esteem ($r = -.46$, $p < .001$) and more available social support ($r = -.22$, $p = .01$) were associated with lower levels of PTSD symptoms.
The results of the two linear mixed-effects models evaluating the contribution of self-efficacy, self-esteem, and available social support in symptoms of depression and PTSD are presented in Table 3. After controlling for the effects of age, migration background, number of children, and physical and sexual abuse, both self-esteem and available social support remained significantly associated with symptoms of depression, while self-efficacy showed no effects. A non-Dutch background and having experienced physical abuse were significantly associated with higher levels of depressive symptoms. Self-esteem and available social support were associated with significantly lower levels of depressive symptoms. For example, for a 1-unit increase in self-esteem, depressive symptoms decreased with 0.97 points. The marginal $R^2$ value of this model was .38.

Regarding PTSD symptoms, after controlling for the effects of age, migration, number of children, and physical and sexual abuse, the model shows only a significant association with self-esteem. The experience of sexual abuse was associated with higher levels of PTSD symptoms. Self-esteem was associated with significantly lower levels of PTSD symptoms. For example, for a 1-unit increase in self-esteem, PTSD symptoms decreased by 1.01 points. The marginal $R^2$ value of this model was .21.

**Discussion**

This study provides important information about factors related to symptoms of depression and PTSD in a Dutch shelter-based sample of abused women. In this sample, the levels of depression and PTSD are high. The scores of self-reported depressive symptoms ($M = 24.3$, $SD = 11.4$) are within the clinical range. More than 70% (72.4%)
of our sample had scores above the cutoff score of 16 (indicating at least mild clinical depression). Similar high rates of CES-D scores were found in abused women at shelter entry (Lewis et al., 2006) and at shelter exit (Campbell et al., 1995).

Regarding women’s PTSD symptoms, high IES scores ($M = 42.6, SD = 15.8$) were found, with 84.1% of the women meeting the threshold for a probable PTSD diagnosis (Foa, Riggs, Dancu, & Rothbaum, 1993; Lewis et al., 2006). These scores are comparable with the shelter samples of Ham-Rowbottom et al. (2005) and Kemp et al. (1991).

Our findings confirm an earlier report showing that the prevalence rates of depression and PTSD are the highest in sheltered IPV survivors (Golding, 1999). Across diverse samples, comorbidity between PTSD and depressive symptoms is common; almost half of the people diagnosed with PTSD are also diagnosed with depression (Cascardi et al., 1999; Dillon, Hussain, Loxton, & Rahman, 2013; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995; Nixon et al., 2004; Rytwinski, Scur, Feeny, & Youngstrom, 2013; Stein & Kennedy, 2001). In a study of PTSD and depression prevalence within a shelter sample, Nixon and colleagues found that 75% of IPV survivors were diagnosed with PTSD and 54% were diagnosed with depression (Nixon et al., 2004).

To examine which factors (i.e., sociodemographic variables, abuse-related variables, and well-being variables) were associated with symptoms of depression and PTSD, we examined the univariate relationships between CES-D and IES scores, the control variables, self-efficacy, self-esteem, and available social support. Two linear mixed-effects models showed that factors predicting depression were migration background, the experience of physical abuse, a lower level of self-esteem, and low available social support. PTSD symptoms were predicted by the experience of sexual abuse and lower levels of self-esteem.

### Table 3. Results of the Linear Mixed-Effects Models for Depression ($n = 167$) and PTSD ($n = 166$).

|                | Depression | PTSD          |
|----------------|-------------|---------------|
|                | Marginal $R^2$ | .38 | .21 |
| Fixed effects  | Estimate [95% CI] | $p$ value | Estimate [95% CI] | $p$ value |
| Age            | 0.05 [–0.13, 0.23] | .60 | –0.08 [–0.37, 0.21] | .59 |
| Migration background$^a$ | 3.48 [0.60, 6.36] | .02 | 0.40 [4.16, 4.95] | .86 |
| Number of children | –0.36 [–1.65, 0.94] | .59 | –0.22 [–2.25, 1.82] | .84 |
| Physical abuse  | 4.10 [0.45, 7.76] | .03 | 0.39 [5.46, 6.25] | .90 |
| Sexual abuse    | 0.44 [–2.55, 3.44] | .77 | 5.94 [1.19, 10.69] | .02 |
| Self-efficacy   | –0.09 [–0.28, 0.10] | .34 | –0.07 [–0.36, 0.23] | .66 |
| Self-esteem     | –0.97 [–1.24, –0.69] | .00 | –1.01 [–1.44, –0.58] | .00 |
| Available social support | –1.52 [–2.79, –0.25] | .02 | –1.27 [–3.28, 0.73] | .21 |

Note. Marginal $R^2$ represents the variance explained by fixed factors. PTSD = post-traumatic stress disorder; CI = confidence interval.

$^a$Migration background, 0 = Dutch, 1 = non-Dutch.
Although limited research has been conducted in shelter samples, our findings are in line with other research that depression was related to physical violence (Campbell et al., 1995; Cascardi et al., 1999). However, we did not replicate earlier findings that physical abuse was related to PTSD symptoms (Cascardi et al., 1999). An explanation for not finding an association between the presence of physical abuse and PTSD symptoms may be the measurement of abuse-related variables. In our study, women could indicate whether or not they experienced physical abuse in the past. This resulted in a high rate of physical abuse experienced (approximately 80%), with limited variance to detect differences. We confirmed, however, that PTSD symptoms were related to sexual abuse similar to previous studies (Bennice et al., 2003; Pico-Alfonso, 2005). Sexual abuse within an intimate relationship has been shown to be an independent factor contributing to severity of PTSD symptomatology, even beyond the impact of physical abuse (Bennice et al., 2003).

Our study showed that a lower level of self-esteem predicted both symptoms of depression and PTSD. Other studies also found associations among self-esteem, IPV, and mental health outcomes (Bradley, Schwartz, & Kaslow, 2005; Campbell & Alford, 1989; Cascardi & O’Leary, 1992; Sato & Heiby, 1992; Zlotnick et al., 2006). It is possible that self-esteem and depression as well as self-esteem and PTSD are associated because they may share underlying constructs, and items on the instruments may show overlapping content (e.g., with measures of personality and affect; Kernis, 2013).

Women in the current study who reported having lower levels of available social support experienced more severe depressive symptoms. These findings are consistent with previous literature on shelter samples (Campbell et al., 1995; Coker et al., 2002; Mitchell & Hodson, 1983). Other research has indicated that supportive networks may protect women from re-abuse (Bowker, 1984; Goodman, Dutton, Vankos, & Weinfurt, 2005; Krishnan, Hilbert, & VanLeeuwen, 2001; Tan, Basta, Sullivan, & Davidson, 1995; Thompson et al., 2000).

A remarkable finding in the current study is that migration background was related to symptoms of depression. A study including Dutch women attending general practices showed that migrants were significantly more often victims of IPV and suffered more frequently from severe depression than Dutch women (Prosman et al., 2011). Previous studies found that migration status is not necessarily associated with IPV (Du Mont & Forte, 2012; Wong et al., 2011).

Limitations

Our study has some limitations that should be taken into account. First, it was a cross-sectional study that does not allow any inferences about temporal or causal relationships. Moreover, although we tried to recruit a random sample of women admitted to shelters across the Netherlands, 46% of women who were eligible to participate in the study were not screened or interviewed. An additional 34 women had to be excluded because of missing data due to the use of the shortened version of the questionnaire for women who did not speak Dutch, possibly biasing and limiting the generalizability of our results. Moreover, the way we measured physical abuse (we did not ask the
number of abuse experiences and the severity of physical abuse), truncated the range on this variable and may have limited our ability to detect significant correlations with depression. Furthermore, our findings are limited only to help-seeking female IPV survivors residing in women’s shelters. In addition, the use of self-report instruments to assess symptoms of depression and PTSD may have led to over-reporting, as shown in previous studies (Engelhard et al., 2007). In our study, the report of women’s PTSD symptoms should be interpreted with caution. In some cases, women resided in the shelter no longer than 3 weeks and may still be in a situation where there is threat or danger. Therefore, some of the women may clearly display criteria associated with PTSD but may not qualify for the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.; *DSM-IV*) PTSD diagnosis because the time criterion of symptom presence of at least 4 weeks is not met (American Psychiatric Association, 1994). Further assessment will be necessary to make an accurate diagnosis of psychopathology. Finally, diversity in cultural background may have impacted the results.

**Research Implications**

Our study is among the first to report predictive relationships in depression and PTSD symptoms in women residing in shelters, who suffered more extreme levels of abuse. There is a great need for more research into this vulnerable group of IPV survivors, for example, randomized controlled trials (RCTs) evaluating shelter interventions. The high levels of depression and PTSD found in this shelter sample warrant adequate mental health consultation. Further research is needed to evaluate the efficacy of shelter staff conducting routine assessment of depression and PTSD, to indicate mental health treatment by a professional within or outside women’s shelters.

**Clinical & Policy Implications**

The presence of symptoms of depression and PTSD in the majority of our shelter sample reveals the importance of specialized mental health treatment, yet few shelters offer such service. Shelter staff’s counseling consists of education to increase understanding of patterns of violence and linking women to resources in the community (Woodcock, 2007). The most effective interventions for individuals experiencing depression and PTSD appear to be cognitive-behavioral treatments (CBT; Bisson, 2007; Foa et al., 2005; Iverson et al., 2011; Nathanson et al., 2012). Prolonged Exposure (PE) and Cognitive Processing Therapy (CPT) are the two specific CBT treatments offered (Resick et al., 2008). Eye movement desensitization and reprocessing (EMDR) is effective as a treatment for symptoms of PTSD (Seidler & Wagner, 2006; van Etten & Taylor, 1998; van Minnen, Hendriks, & Olff, 2010).

More insight into factors that influence symptoms of depression and PTSD in abused women may assist shelter workers and other health care professionals in providing appropriate care as well as in developing effective programs for treating the negative health outcomes of IPV, focusing on factors that are amenable to modification, such as self-esteem and available social support. Professionals may help women
build and maintain a sustainable social support network and, to improve their self-esteem, improve women’s capacity to fend for themselves and help them strengthen their ability to cope (Jonker, Jansen, Christians, & Wolf, 2014). Research showed that a strengths-based approach for abused women and their children in which advocates were instructed to focus on actively assisting mothers to access community resources, caused improvement in women’s depression and self-esteem over time (Sullivan, Bybee, & Allen, 2002).

The current study showed high rates of depression and PTSD, and it has expanded our understanding of factors that influence symptoms of depression and PTSD in a shelter sample of abused women. These findings speak to the importance of shelter workers paying attention to the mental health problems women are experiencing and underline the necessity for appropriate shelter interventions.

Authors’ Note
The first two authors contributed equally.

Acknowledgments
We would like to thank the clients and professionals in all the women’s shelters for their participation in this research project.

Declaration of Conflicting Interests
The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding
The author(s) received no financial support for the research, authorship, and/or publication of this article.

References
American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.
American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Publishing.
Ansara, D. L., & Hindin, M. J. (2010). Formal and informal help-seeking associated with women’s and men’s experiences of intimate partner violence in Canada. *Social Science & Medicine, 70*, 1011-1018. doi:10.1016/j.socscimed.2009.12.009
Bennice, J. A., Resick, P. A., Mechanic, M., & Astin, M. (2003). The relative effects of intimate partner physical and sexual violence on post-traumatic stress disorder symptomatology. *Violence and Victims, 18*, 87-94.
Berk, R. A., Newton, P. J., & Berk, S. F. (1986). What a difference a day makes: An empirical study of the impact of shelters for battered women. *Journal of Marriage and the Family, 48*, 481-490. doi:10.2307/352034
Bisson, J. I. (2007). Post-traumatic stress disorder. *Occupational Medicine, 57*, 399-403. doi:10.1093/occmed/kqm069
Blascovich, J., & Tomaka, J. (1991). Measures of self-esteem. In J. P. Robinson, P. R. Shaver, & L. S. E. Wrightsman (Eds.), Measures of personality and social psychological attitudes (pp. 115-160). San Diego, CA: Academic Press. doi:10.1016/B978-0-12-590241-0.50008-3

Bosscher, R. J., & Baardman, I. (1989). Het meten van gepercipieerde competentie bij psychiatrische patienten [The measure of perceived competence in psychiatric patients]. Bewegen & Hulpverlening, 6, 312-322.

Bosscher, R. J., Laurijssen, L., & Boer, E. (1992). Competence at later age: An explorative study [Competentie op latere leeftijd: Een exploratieve studie]. Bewegen & Hulpverlening, 9, 225-265.

Bosscher, R. J., & Smit, J. H. (1998). Confirmatory factor analysis of the General Self-Efficacy Scale. Behaviour Research and Therapy, 36, 339-343. doi:10.1016/S0005-7967(98)00025-4

Bosscher, R. J., Smit, J. H., & Kempen, G. I. J. M. (1997). Algemene competentieverwachtingen bij ouderen: een onderzoek naar de psychometrische kenmerken van de Algemene Competentieschaal (ALCOS) [Expectations of general self-efficacy in elderly persons: Investigating psychometric characteristics of the General Self-Efficacy Scale]. Nederlands Tijdschrift voor de Psychologie, 52, 239-248.

Bouma, J., Ranchor, A. V., Sanderman, R., & Sonderen, E. V. (1995). Het meten van symptomen van depressie met de CES-D: een handleiding (CES-D) [Measuring depressive symptoms with the CES-D: A manual]. Groningen, The Netherlands: Noordelijk Centrum voor Gezondheidsvraagstukken, Rijksuniversiteit Groningen.

Bowker, L. H. (1984). Coping with wife abuse: Personal and social networks. In A. R. Roberts (Ed.), Battered women and their families: Intervention strategies and treatment programs (pp. 168-191). New York: Springer.

Bradley, R., Schwartz, A. C., & Kaslow, N. J. (2005). Posttraumatic stress disorder symptoms among low-income, African American women with a history of intimate partner violence and suicidal behaviors: Self-esteem, social support, and religious coping. Journal of Traumatic Stress, 18, 685-696. doi:10.1002/jts.20077

Brom, D., & Kleber, R. J. (1985). De Schok Verwerkings Lijst [The Impact of Events Scale]. Nederlands Tijdschrift voor de Psychologie, 40, 164-168.

Campbell, J. C., & Alford, P. (1989). The dark consequences of marital rape. American Journal of Nursing, 89, 946-949. doi:10.2307/3426372

Campbell, J. C., Jones, A. S., Dienemann, J., Kub, J., Schollenberger, J., O’Campo, P., et al. (2002). Intimate partner violence and physical health consequences. Archives of Internal Medicine, 162, 1157-1163. doi:10.1001/archinte.162.10.1157

Campbell, J. C., Kub, J., Belknap, R. A., & Templin, T. N. (1997). Predictors of depression in battered women. Violence Against Women, 3, 271-293. doi:10.1177/1077801297003003004

Campbell, J. C., & Lewandowski, L. A. (1997). Mental and physical health effects of intimate partner violence on women and children. The Psychiatric Clinics of North America, 20, 353-374. doi:10.1016/S0193-953X(05)70317-8

Campbell, J. C., & Soeken, K. L. (1999). Women’s responses to battering over time: An analysis of change. Journal of Interpersonal Violence, 14, 21-40. doi:10.1177/088626099014001002

Campbell, R., Sullivan, C. M., & Davidson, W. S. (1995). Women who use domestic violence shelters: Changes in depression over time. Psychology of Women Quarterly, 19, 237-255. doi:10.1111/j.1471-6402.1995.tb00290.x

Carlson, B. E., McNutt, L.-A., Choi, D. Y., & Rose, I. M. (2002). Intimate partner abuse and mental health: The role of social support and other protective factors. Violence Against Women, 8, 720-745. doi:10.1177/1077801022183251

Cascardi, M., & O’Leary, K. D. (1992). Depressive symptomatology, self-esteem, and self-blame in battered women. Journal of Family Violence, 7, 249-259. doi:10.1007/BF00994617
Cascardi, M., O’Leary, K. D., & Schlee, K. A. (1999). Co-occurrence and correlates of posttraumatic stress disorder and major depression in physically abused women. *Journal of Family Violence, 14*, 227-249. doi:10.1023/A:1022827915757

Chemtob, C. M., Tomas, S., Law, W., & Cremniter, D. (1997). Postdisaster psychosocial intervention: A field study of the impact of debriefing on psychological distress. *American Journal of Psychiatry, 154*, 415-417. doi:10.1176/ajp.154.3.415

Coker, A. L., Smith, P. H., Thompson, M. P., McKeown, R. E., Bethea, L., & Davis, K. E. (2002). Social support protects against the negative effects of partner violence on mental health. *Journal of Women’s Health & Gender-Based Medicine, 11*, 465-476. doi:10.1089/15246090260137644

Dienemann, J., Boyle, E., Baker, D., Resnick, W., Wiederhorn, N., & Campbell, J. (2000). Intimate partner abuse among women diagnosed with depression. *Issues in Mental Health Nursing, 21*, 499-513. doi:10.1080/01612840050044258

Dillon, G., Hussain, R., Loxton, D., & Rahman, S. (2013). Mental and physical health and intimate partner violence against women: A review of the literature. *International Journal of Family Medicine, 2013*, Article 313909. doi:10.1155/2013/313909

Du Mont, J., & Forte, T. (2012). An exploratory study on the consequences and contextual factors of intimate partner violence among immigrant and Canadian-born women. *BMJ Open, 2*, 1-9.

Engelhard, I. M., van den Hout, M. A., Weerts, J., Arntz, A., Hox, J. J. C. M., & McNally, R. J. (2007). Deployment-related stress and trauma in Dutch soldiers returning from Iraq: Prospective study. *British Journal of Psychiatry, 191*, 140-145. doi:10.1192/bjp.bp.106.034884

Foa, E. B., Hembree, E. A., Cahill, S. P., Rauch, S. A., Riggs, D. S., Feeny, N. C., & Yadin, E. (2005). Randomized trial of prolonged exposure for posttraumatic stress disorder with and without cognitive restructuring: Outcome at academic and community clinics. *Journal of Consulting and Clinical Psychology, 73*, 953-964. doi:10.1037/0022-006x.73.5.953

Gerlock, A. A. (1999). Health impact of domestic violence. *Issues in Mental Health Nursing, 20*, 373-385. doi:10.1080/016128499248547

Golding, J. M. (1999). Intimate partner violence as a risk factor for mental disorders: A meta-analysis. *Journal of Family Violence, 14*, 99-132. doi:10.1023/A:1022079418229

Goodman, L., Dutton, M. A., Vankos, N., & Weinftur, K. (2005). Women’s resources and use of strategies as risk and protective factors for reabuse over time. *Violence Against Women, 11*, 311-336. doi:10.1177/1077801204273297

Gorde, M. W., Helfrich, C. A., & Finlayson, M. L. (2004). Trauma symptoms and life skill needs of domestic violence victims. *Journal of Interpersonal Violence, 19*, 691-708. doi:10.1177/0886260504263871

Ham-Rowbottom, K. A., Gordon, E. E., Jarvis, K. L., & Novaco, R. W. (2005). Life constraints and psychological well-being of domestic violence shelter graduates. *Journal of Family Violence, 20*, 109-121. doi:10.1007/s10896-005-3174-7

Hanewald, G. J. F. B. (1987). *Een onderzoek naar de betrouwbaarheid en de validiteit [CES-D the Dutch version: A study of the reliability and validity]* (Internal report). Amsterdam, The Netherlands: Vakgroep Klinische Psychologie, Universiteit Van Amsterdam.

Hazan, A. L., Connelly, C. D., Soriano, F. I., & Landsverk, J. A. (2008). Intimate partner violence and psychological functioning in Latina women. *Health Care for Women International, 29*, 282-299. doi:10.1080/07399330701738358
Helfrich, C. A., Fujiura, G. T., & Rutkowski-Kmitta, V. (2008). Mental health disorders and functioning of women in domestic violence shelters. *Journal of Interpersonal Violence, 23*, 437-453. doi:10.1177/0886260507312942

Horowitz, M., Wilner, N., & Alvarez, W. (1979). Impact of Event Scale: A measure of subjective stress. *Psychosomatic Medicine, 41*, 209-218.

Humphreys, J., Lee, K., Neylan, T., & Marmar, C. (2001). Psychological and physical distress of sheltered battered women. *Health Care for Women International, 22*, 401-414. doi:10.1080/0739933010215141

Iverson, K. M., Gradus, J. L., Resick, P. A., Suvak, M. K., Smith, K. F., & Monson, C. M. (2011). Cognitive-behavioral therapy for PTSD and depression symptoms reduces risk for future intimate partner violence among interpersonal trauma survivors. *Journal of Consulting and Clinical Psychology, 79*, 193-202. doi:10.1037/a0022512

Johnson, D. M., Zlotnick, C., & Perez, S. (2008). The relative contribution of abuse severity and PTSD severity on the psychiatric and social morbidity of battered women in shelters. *Behavior Therapy, 39*, 232-241. doi:10.1016/j.beth.2007.08.003

Jonker, I. E., Jansen, C. C., Christians, M. G., & Wolf, J. R. L. M. (2014). Appropriate care for shelter-based abused women: Concept mapping with Dutch clients and professionals. *Violence Against Women, 20*, 465-480. doi:10.1177/1077801214528580

Jonker, I. E., Sijbrandij, M., & Wolf, J. R. L. M. (2012). Toward needs profiles of shelter-based abused women: Latent class approach. *Psychology of Women Quarterly, 36*, 38-53. doi:10.1177/0361684311413553

Kim, S., & Kim, J. (2001). The effects of group intervention for battered women in Korea. *Archives of Psychiatric Nursing, 15*, 257-264. doi:10.1053/apnu.2001.28682

Krishnan, S. P., Hilbert, J. C., & VanLeeuwen, D. (2001). Domestic violence and help-seeking behaviors among rural women: Results from a shelter-based study. *Family and Community Health, 24*, 28-38.

Kessler, R. C., Sonnega, A., Bromet, E., Hughes, M., & Nelson, C. B. (1995). Posttraumatic stress disorder in the National Comorbidity Survey. *Archives of General Psychiatry, 52*, 1048-1060. doi:10.1001/archpsyc.1995.03950240066012

Kemp, A., Rawlins, E., & Green, B. L. (1991). Post-traumatic stress disorder (PTSD) in battered women: A shelter sample. *Journal of Traumatic Stress, 4*, 137-147. doi:10.1002/jts.2490040111

Kernis, M. H. (2013). *Self-esteem issues and answers: A sourcebook of current perspectives*. New York: Taylor & Francis.

Kessler, R. C., & Zaslavsky, A. M. (2002). Estimates of major mental disorders: United States, 1980-1999. *Archives of General Psychiatry, 59*, 875-882. doi:10.1001/archpsyc.59.10.875

Kim, S., & Kim, J. (2001). The effects of group intervention for battered women in Korea. *Archives of Psychiatric Nursing, 15*, 257-264. doi:10.1053/apnu.2001.28682

Krishnan, S. P., Hilbert, J. C., & VanLeeuwen, D. (2001). Domestic violence and help-seeking behaviors among rural women: Results from a shelter-based study. *Family and Community Health, 24*, 28-38.

Lewis, C. S., Griffing, S., Chu, M., Jospitre, T., Sage, R. E., Madry, L., et al. (2006). Coping and violence exposure as predictors of psychological functioning in domestic violence survivors. *Violence Against Women, 12*, 340-354. doi:10.1177/1077801206287285

McGrath, E., Keita, G. P., Strickland, B. R., & Russo, N. F. (1990). *Women and depression: Risk factors and treatment issues: Final report of the American Psychological Association’s National Task Force on women and depression*. Washington, DC: American Psychological Association. doi:10.1037/10074-000

Mechanic, M. B., Weaver, T. L., & Resick, P. A. (2008). Mental health consequences of intimate partner abuse: A multidimensional assessment of four different forms of abuse. *Violence Against Women, 14*, 634-654. doi:10.1177/1077801208319283

Mertin, P., & Mohr, P. B. (2001). A follow-up study of posttraumatic stress disorder, anxiety, and depression in Australian victims of domestic violence. *Violence and Victims, 16*, 645-654.
Mitchell, R. E., & Hodson, C. A. (1983). Coping with domestic violence: Social support and psychological health among battered women. *American Journal of Community Psychology, 11*, 629-654. doi:10.1007/BF00896600

Mooren, T. T. M., de Jong, K., Kleber, R. J., & Ruvic, J. (2003). The efficacy of a mental health program in Bosnia-Herzegovina: Impact on coping and general health. *Journal of Clinical Psychology, 59*, 57-69. doi:10.1002/jclp.10118

Nathanson, A. M., Shorey, R. C., Tirone, V., & Rhatigan, D. L. (2012). The prevalence of mental health disorders in a community sample of female victims of intimate partner violence. *Partner Abuse, 3*(1), 59-75. doi:10.1891/1946-6560.3.1.59

National Coalition Against Domestic Violence. (2015). *Factsheet about domestic violence and sexual abuse*. Available from www.ncadv.org

Nixon, R. D., Resick, P. A., & Nishith, P. (2004). An exploration of comorbid depression among female victims of intimate partner violence with posttraumatic stress disorder. *Journal of Affective Disorders, 82*, 315-320. doi:10.1016/j.jad.2004.01.008

Patel, V., Lund, C., Hatherill, S., Plagerson, S., Corrigall, J., Funk, M., & Flisher, A. J. (2010). Mental disorders: Equity and social determinants. In E. Blas & A. S. Kurup (Eds.), *Equity, social determinants and public health programmes* (pp. 115-134). Geneva, Switzerland: World Health Organization.

Petersen, R., Gazmararian, J., & Clark, K. A. (2001). Partner violence: Implications for health and community settings. *Women’s Health Issues, 11*, 116-125. doi:10.1016/S1049-3867(00)00093-1

Pico-Alfonso, M. A. (2005). Psychological intimate partner violence: The major predictor of posttraumatic stress disorder in abused women. *Neuroscience & Biobehavioral Reviews, 29*, 181-193. doi:10.1016/j.neubiorev.2004.08.010

Plichta, S. B., & Falik, M. (2001). Prevalence of violence and its implications for women’s health. *Women’s Health Issues, 11*, 244-258. doi:10.1016/S1049-3867(01)00085-8

Prosmans, G. J., Jansen, S. J., Lo Fo Wong, S. H., & Lagro-Janssen, A. L. (2011). Prevalence of intimate partner violence among migrant and native women attending general practice and the association between intimate partner violence and depression. *Family Practice, 28*, 267-271. doi:10.1093/fampra/cmq117

Radloff, L. S. (1977). The CES-D Scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement, 1*, 385-401. doi:10.1177/014662167700100306

Resick, P. A., Galovski, T. E., O’Brien Ulhmansiek, M., Scher, C. D., Clum, G. A., & Young-Xu, Y. (2008). A randomized clinical trial to dismantle components of cognitive processing therapy for posttraumatic stress disorder in female victims of interpersonal violence. *Journal of Consulting and Clinical Psychology, 76*, 243-258. doi:10.1037/0022-006X.76.2.243

Rodriguez, M. A., Heilemann, M. V., Fielder, E., Ang, A., Nevarez, F., & Mangione, C. M. (2008). Intimate partner violence, depression, and PTSD among pregnant Latina women. *Annals of Family Medicine, 6*, 44-52. doi:10.1370/afm.743

Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.

Rytwinski, N. K., Scur, M. D., Feeny, N. C., & Youngstrom, E. A. (2013). The co-occurrence of major depressive disorder among individuals with posttraumatic stress disorder: A meta-analysis. *Journal of Traumatic Stress, 26*, 299-309. doi:10.1002/jts.21814

Sandfort, T. G., de Graaf, R., & Bijl, R. V. (2003). Same-sex sexuality and quality of life: Findings from the Netherlands Mental Health Survey and Incidence Study. *Archives of Sexual Behavior, 32*, 15-22. doi:10.1023/A:1021885127560
Sato, R., & Heiby, E. (1992). Correlates of depressive symptoms among battered women. *Journal of Family Violence, 7*, 229-245. doi:10.1007/BF00979030

Saunders, D. G. (1994). Posttraumatic stress symptom profiles of battered women: A comparison of survivors in two settings. *Violence and Victims, 9*, 31-44.

Seidler, G. H., & Wagner, F. E. (2006). Comparing the efficacy of EMDR and trauma-focused cognitive-behavioral therapy in the treatment of PTSD: A meta-analytic study. *Psychological Medicine, 36*, 1515-1522. doi:10.1017/s0033291706007963

Sherer, M., Maddux, J. E., Mercandante, B., Prentice-Dunn, S., Jacobs, B., & Rogers, R. W. (1982). The Self-Efficacy Scale: Construction and validation. *Psychological Reports, 51*, 663-671.

Shostack, A. L. (2001). *Shelters for battered women and their children: A comprehensive guide to planning and operating safe and caring residential programs*. Springfield, IL: Charles C. Thomas.

Shrive, F. M., Stuart, H., Quan, H., & Ghali, W. A. (2006). Dealing with missing data in a multi-question depression scale: A comparison of imputation methods. *BMC Medical Research Methodology, 6*, Article 57. doi:10.1186/1471-2288-6-57

Stein, M. B., & Kennedy, C. (2001). Major depressive and post-traumatic stress disorder comorbidity in female victims of intimate partner violence. *Journal of Affective Disorders, 66*, 133-138. doi:10.1016/S0165-0327(00)00301-3

Sullivan, C. M., Bybee, D. I., & Allen, N. E. (2002). Findings from a community-based program for battered women and their children. *Journal of Interpersonal Violence, 17*, 915-936. doi:10.1177/0886260502017009001

Sullivan, T. P., McPartland, T., Price, C., Cruza-Guet, M. C., & Swan, S. C. (2013). Relationship self-efficacy protects against mental health problems among women in bidirectionally aggressive intimate relationships with men. *Journal of Counseling Psychology, 60*, 641-647. doi:10.1037/a0033406

Tan, C., Basta, J., Sullivan, C. M., & Davidson, W. S. (1995). The role of social support in the lives of women exiting domestic violence shelters: An experimental-study. *Journal of Interpersonal Violence, 10*, 437-451. doi:10.1177/08862605017009001

Thompson, M. P., Kaslow, N. J., Kingree, J. B., Rashid, A., Puett, R., Jacobs, D., & Matthews, A. (2000). Partner violence, social support, and distress among inner-city African American women. *American Journal of Community Psychology, 28*, 127-143. doi:10.1023/A:1005198514704

van der Linden, F. J., Dijkman, T. A., & Roeders, P. J. B. (1983). *Metingen van kenmerken van het persoonssysteem en sociale systeem* [Measures of characteristics of the personal and social system]. Nijmegen, The Netherlands: Hoogveld Instituut.

van der Ploeg, E., Mooren, T. T. M., Kleber, R. J., Van der Velden, P. G., & Brom, D. (2004). Construct validation of the Dutch version of the impact of event scale. *Psychological Assessment, 16*, 16-26. doi:10.1037/1040-3590.16.1.16

van Etten, M. L., & Taylor, S. (1998). Comparative efficacy of treatments for post-traumatic stress disorder: A meta-analysis. *Clinical Psychology & Psychotherapy, 5*, 126-144. doi:10.1002/(SICI)1099-0879(199809)5:3<126::AID-CPP153>3.0.CO;2-H

van Minnen, A., Hendriks, L., & Olff, M. (2010). When do trauma experts choose exposure therapy for PTSD patients? A controlled study of therapist and patient factors. *Behaviour Research and Therapy, 48*, 312-320. doi:10.1016/j.brat.2009.12.003

Wolf, J., Jonker, I., Nicholas, S., Meertens, V., & Te Pas, S. (2006). *Maat en baat van de vrouwenopvang. Onderzoek naar vraag en aanbod* [Refuge facilities for women: Availability...
and effectiveness: A study of supply and demand. Amsterdam, The Netherlands: BV Uitgeverij SWP.

Wolf, J., Jonker, I., Nicholas, S., & Putriss, E. (2007). Vervolg op de vrouwenopvang. De situatie van vrouwen een jaar na dato [Follow-up on refuge facilities for women: A study on the situation of women a year after exit]. Amsterdam, The Netherlands: BV Uitgeverij SWP.

Wong, J. Y., Tiwari, A., Fong, D. Y., Humphreys, J., & Bullock, L. (2011). Depression among women experiencing intimate partner violence in a Chinese community. Nursing Research, 60, 58-65. doi:10.1097/NNR.0b013e3182002a7c

Woodcock, K. M. (2007). The mental health help seeking experiences of female victims of intimate partner violence (Doctoral dissertation). University of Pittsburgh, PA.

Woodruff, S. L., & Cashman, J. F. (1993). Task, domain, and general efficacy: A reexamination of the Self-Efficacy Scale. Psychological Reports, 72, 423-432. doi:10.2466/ pr0.1993.72.2.423

Woods Cox, J. W., & Stoltenberg, C. D. (1991). Evaluation of a treatment program for battered wives. Journal of Family Violence, 6, 395-413. doi:10.1007/BF00980541

World Health Organization. (2014). Violence against women: Intimate partner violence and sexual violence against women (No. 239 ed.). Geneva, Switzerland: Author.

Wrangle, J., Fisher, J. W., & Paranjape, A. (2008). Ha sentido sola? Culturally competent screening for intimate partner violence in Latina women. Journal of Women’s Health, 17, 261-268. doi:10.1089/jwh.2007.0394

Zlotnick, C., Johnson, D. M., & Kohn, R. (2006). Intimate partner violence and long-term psychosocial functioning in a national sample of American women. Journal of Interpersonal Violence, 21, 262-275. doi:10.1177/0886260505282564

Author Biographies

Irene E. Jonker is a senior researcher at Impuls—Netherlands Center for Social Care Research at Radboud University Medical Center. She obtained her PhD in 2016 at the Radboud University, with a thesis on profiles, care needs, appropriate care, and effective interventions for abused women in women’s shelters in the Netherlands. She is coordinator of the Impuls Academy which offers training programs for professionals in (shelter) organizations (practitioners, managers, coaches, and ancillary staff) in Strength Work and Critical Time Intervention and is engaged in the implementation, monitoring, and maintenance of these interventions in several organizations throughout the Netherlands.

Danielle A. M. Lako is a PhD student at Impuls—Netherlands Center for Social Care Research, Radboud University Medical Center in Nijmegen, the Netherlands. She received a master’s degree in sociology from Erasmus University Rotterdam in Rotterdam, the Netherlands. Currently she works as a researcher and teacher at the Amsterdam University of Applied Sciences, Amsterdam, the Netherlands. She is interested in gender-based violence, poverty, and intervention research.

Mariëlle D. Beijersbergen obtained her PhD in 2008 at the Center for Child and Family Studies at Leiden University, with a thesis on the Adult Attachment Interview. Thereafter, she worked as a senior researcher at the Netherlands Center for Social Care Research at Radboud University Medical Center. Since 2015, she has been a senior researcher at the Department of Public Health of the municipality of Utrecht. The study described in this article was performed at Impuls of the Radboud University Medical Center.
Marit Sijbrandij is an associate professor at the Department of Clinical, Neuro and Developmental Psychology of VU University Amsterdam, the Netherlands. Her research interests include the etiology, prevention and treatment of common mental disorders following trauma and adversities. She is principal investigator and coordinator of several studies, including a European Union-funded multi-country implementation study of psychosocial task-shifting interventions to reduce psychological distress in Syrian refugees. Currently, she is also a board member of the International Society of Traumatic Stress Studies (ISTSS) and of the Dutch Society of Traumatic Stress.

Albert M. van Hemert is a professor and head of the department of psychiatry at Leiden University Medical Center in the Netherlands. Trained as a psychiatrist, his expertise includes psychiatric epidemiology, emergency psychiatry, and public mental health. Currently, he is leading a research group on stress-related psychiatric disorders across the life span. He has an active interest in bridging the gap between basic academic research and mental health care practices. In 2003, he set up the first Critical Time Intervention program at the Parnassia Group in The Hague, the Netherlands.

Judith R. L. M. Wolf is a professor of social care, head of the Netherlands Center for Social Care Research (Impuls) at Radboud University Medical Center, and director of the Academic Collaborative Center Impuls. She has more than 30 years of experience in designing and conducting both academic and applied research on socially vulnerable people (including homeless people and abused women) and on the social and health care services needed by these groups.