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# The experience of trauma in people with severe psychiatric conditions: A gender perspective

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ABSTRACT

Exposure to traumatic events is higher in people with severe psychiatric conditions (SPC) than those without, yet little is known about possible gender differences in the prevalence and type of trauma experienced as well as its relationship to subsequent psychological symptomatology. The present study aims to (1) examine the prevalence for both genders of trauma exposure and associated mental health outcomes in a SPC population, (2) explore possible patterns of exposure to traumatic events among men and women separately with SPC, and (3) explore the association between trauma patterns of each gender as associated with specific mental health outcomes (i.e., PTSD symptoms, general mental health, and well-being). Three hundred twenty-three participants with SPC were included (men n = 201 and women n = 122). PTSD symptoms, general mental health, and well-being were assessed. A Latent Class analysis (LCA) approach was used. Results indicated more events of physical violence by strangers in men than women, while women experienced more episodes of domestic violence. Regarding symptomatology, women showed significantly higher levels of PTSD re-experiencing symptoms, distress, and poorer mental health than men. LCA identified three different patterns of trauma exposure related with each gender. It is imperative to not only have trauma-focused interventions in front-line services for people with SPC, but also to tailor interventions to gender differences.

## 1. Introduction

Identified as a major public health problem (Purtle and Lewis, 2017), exposure to potentially traumatic events is, unfortunately, a common experience that affects a large proportion of people throughout the world (Kessler et al., 2017). Compared to the general population, lifetime exposure to traumatic events is even higher for people with severe psychiatric conditions (SPC; i.e., also referred to as "chronic and severe mental illness", typically includes people with a diagnosis of schizophrenia spectrum disorders, bipolar disorder, or major depression with psychotic features), ranging from 49 % to 100 % and with multiple traumas being the norm (Cusack et al., 2006; Grubaugh et al., 2011). While the variability of these prevalence rates may be associated with different ways of conceptualizing or assessing trauma, it is noteworthy that the study with the highest prevalence of trauma was reported among low-income women with SPC in intensive care services (Ford, 2008). Hence, for people with SPC, lifetime trauma is an almost universal phenomenon (especially so for women) and is considered to be a risk factor highly associated with re-victimization and vulnerability (Matheson et al., 2013).

Of note, research has yielded evidence of gender differences in both the prevalence and type of trauma experienced within the general population. For instance, there is evidence that women are much more likely to report childhood sexual abuse than men are (McAnee et al., 2019), and to experience physical and emotional neglect, household drug/alcohol abuse, and household mental illness (Haahr-Pedersen et al., 2020), while men are more likely to report higher levels of interpersonal violence (McAnee et al., 2019). Interestingly, results from Latent Class Analysis (LCA) studies have also revealed significant gender differences in patterns of childhood adversity, with women experiencing

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more complex and varied patterns of trauma-related manifestations than men (McAnee et al., 2019; Haahr-Pedersen et al., 2020). There is also some evidence suggesting that women, at a younger age, are exposed to more high-impact trauma than men, which is likely to differentially affect the trauma manifestations and symptomatology (van der Meer et al., 2017).

Unfortunately, research on gender differences on trauma experiences of individuals with SPC has shown some inconsistencies and empirical studies are quite scarce. For instance, while some studies conducted with people with SPC have found comparable rates of trauma exposure by gender (Lu et al., 2013), others indicate that women have higher rates of overall trauma exposure (Shack et al., 2004). Likewise, some evidence points to gender differences in relation to the types of traumas reported among individuals with SPC, suggesting that women are significantly more likely to experience sexual violence than men both during childhood and adulthood (see Grubaugh et al., 2011 for a review). Lu et al. (2013) reported in a large US sample of people with SPC that, whereas men suffered more frequently from interpersonal trauma such as being robbed, assaulted by strangers, threatened, or exposed to combat, women were more likely to experience domestic violence, childhood sexual abuse, sexual assault in adulthood, and stalking than were men.

Furthermore, research has shown strong evidence of gender differences in sequelae associated with traumatic exposure. For example, in the general population, findings suggest that women are at higher risk of developing (Ditlevsen and Elklit, 2012; Olff, 2017) and exhibiting (Christiansen and Hansen, 2015) post-traumatic stress disorder (PTSD) compared to men. A recent umbrella review found that the overall PTSD prevalence within the general population, regardless of the assessment method applied (structured interview vs. self-report), was 23.95 % (Schincariol et al., 2024), while these numbers are much higher in the overall SPC population, up to 53 % (Grubaugh et al., 2011). There are some data indicating that women with schizophrenia are more likely to meet diagnostic criteria for PTSD than men (Resnick et al., 2003). Similarly, within individuals with SPC on probation, Givens and Cuddeback (2021) found that women were more than twice as likely as men to meet diagnostic criteria for PTSD. Grubaugh et al. (2011), in a systematic review of the literature about trauma and PTSD, indicated that it is often assumed that rates of PTSD symptomatology among men and women are comparable because of the high overall incidence of trauma in people with SPC.

Some studies have suggested potential gender differences regarding PTSD symptom clusters (avoidance, re-reexperiencing or increased arousal). For example, Farhood et al. (2018), in a sample of war-exposed civilians in Lebanon, found that, although total scores across all trauma types were similar across both sexes, women scored higher in all symptom PTSD clusters than men. Charak et al. (2014) found that women have higher scores than men in symptom subgroups of re-experiencing and anxious arousal, while other investigators have pointed that avoidance might play a particularly important role in men. Schick et al. (2020) found no gender differences in terms of avoidance but, they revealed that PTSD symptom severity was significantly associated with positive emotional avoidance in men but not in women.

Despite these tentative efforts to determine gender differences in the phenomenology of PTSD, more research is needed to shed light on the gender perspective in the aftermath of trauma in general population. Similarly, there are no studies (to our knowledge) that have explored potential differences in PTSD symptom subgroups between men and women among individuals with SPC.

Phenomenology is certainly determined by multiple factors. However, given the gender differences in traumatic experiences among people with SPC and the finding that particular early life adversities appear to lead to specific symptoms of psychosis (Bentall et al., 2012; Gibson et al., 2016), it is likely that the type of traumatic event also influences the phenomenology of the resulting PTSD. Thus, it would be interesting to more closely examine gender differences in PTSD symptom clusters within this SPC population.

Interestingly, Gogos et al. (2019) have highlighted that while women with schizophrenia tend to show less overall impairment than men, women with PTSD are more affected by this psychiatric condition. In general, the presence of PTSD in people with SPC, regardless of gender, is associated with more severe symptomatology, poorer social functioning and involvement in rehabilitation services (Lysaker et al., 2005), as well as poorer cognitive performance and quality of life (Fan et al., 2008). The presence of PTSD in people with SPC has important clinical and morbidity implications, as it translates into more psychiatric hospitalizations and a higher burden of care (Mueser et al., 2010). These findings further highlight the need for integrative interventions (Hardy et al., 2024).

Despite the currently existing evidence for gender differences in the manifestations of trauma exposure, coupled with the high prevalence of trauma and PTSD in individuals with SPC, no study to date has explored potential differences in the type of trauma by gender or its repercussions. Thus, the objectives of the present study were three-fold: (1) to examine whether there are differences in endorsement rates of trauma exposure and mental health outcomes in a sample of men and women with SPC, (2) to explore potential patterns of adversity for both men and women, separately, in a sample of individuals with SPC, and (3) to examine whether mental health outcomes among men and women differ according to the trauma exposure patterns (i.e., PTSD symptoms, general mental health and well-being). Based on existing literature, we hypothesized that differences in prevalence (Aim 1) and distinct adversity patterns (Aim 2) would be identified for men and women. Additionally, we expected that, while more adversity would be associated with poorer mental health and poorer emotional well-being, there would be differences between men and woman regarding symptom severity.

## 2. Method

### 2.1. Participants and procedure

Participants were individuals receiving psychiatric services at the *Fundación Manantial*, a non-profit organization (NPO) within in the Spanish public network of psychosocial and mental health services. This NPO provides comprehensive and specialized care to people with severe and long-lasting psychiatric disorders around the metropolitan and surrounding areas of Madrid, Spain. Out of 609 service users, a total of 323 agreed to participate voluntarily (they received no payment). See Supplementary Table 1 with a sociodemographic and clinical description of the sample by gender.

The study was introduced to clinical staff from 28 clinic sites within the treatment network by the mental health centre director. Out of the 28 centres, 22 (78.6 %) accepted to participate in the study. Clinical staff from the participating sites were trained in the study protocol and how to initiate the client screening procedure. Sociodemographic and mental-health information was collected by a questionnaire designed ad hoc and was administered through staff-assisted agency software. In some cases, paper and pencil questionnaires were provided by staff and were available as an alternative if needed. Many participants (80.5 %) completed the questionnaires online, while 19.5 % preferred to complete the questionnaires on paper and pencil. Data collection took place between May 2016 and February 2017 (see Gottlieb et al., 2018). All participants provided informed consent to participate. The study was approved by the Clinical Research Ethics Committee of the University and was conducted in compliance with the 1964 Helsinki Declaration.

### 2.2. Measures

**Sociodemographic and mental health-related data** such as age, gender educational level, marital and employment status, and years of involvement with the local mental health system were collected. Primary psychiatric diagnoses (determined by the NHS at admission) were

extracted from clients' mental health records.

**Traumatic Life Events Questionnaire** (TLEQ; Kubany et al., 2000) was used to measure traumatic life experiences. We used the TLEQ abbreviated version with 16 commonly occurring traumatic event types, which has been effectively used in past studies with persons with SPC (i.e., Lu et al., 2013). For each event, participants indicated whether they had experienced it using a binary response format 0 (No) and 1 (Yes).

**Post-traumatic Stress Disorder Checklist** (PCL-5; Weathers et al., 2013) was used to measure symptomatology related to PTSD. This instrument includes 20 items aligned with the DSM–5 PTSD symptom criteria. Participants rated the severity of each symptom on a five-point Likert scale ranging from 0 (Not at All) to 4 (Extremely). A severity score was obtained by adding up all items. A total score of 33 or higher is considered "probable" PTSD (Bovin et al., 2016). Additionally, we calculated the four subscales scores: re-experiencing (cluster B, items 1–5), avoidance (cluster C, items 6–7), negative alterations in cognition and mood (cluster D, items 8–14) and hyperarousal (cluster E, items 15–20). This study uses the cutoff point of 33 or higher to determine the probable existence of PTSD (Weathers et al., 2013). In this study, the Cronbach's alpha for the severity score was excellent ($\alpha = .93$), as also was for the subscales B ($\alpha = .82$), C ($\alpha = .77$), D ($\alpha = .85$), and E ($\alpha = .84$).

**General Health Questionnaire** (GHQ-12; Goldberg and Williams, 1988) This self-response instrument provides a measure of general psychological health, as well as a score on three subscales: Social Dysfunction, Loss of Confidence, and Distress (Sánchez-López and Dresch, 2008). Participants indicated the frequency of experiencing six positive and six negative symptoms on a four-point Likert-type scale, ranging from 0 to 3. Higher scores indicate greater difficulties in all the subscales and the total score. In this study, the Cronbach's alpha for the total score was excellent (α = .90), as also for the subdomains Social Dysfunction ($\alpha = .82$), Loss of Confidence ($\alpha = .84$) and Distress ($\alpha = .74$).

**Pemberton Happiness Index** (PHI; Hervás and Vázquez, 2013) was used as an integrative measure of positive mental health. The PHI includes 11 items framed with no specific time window and covering different aspects of hedonic, eudaimonic, and social well-being, each rated on a scale from 0 (Totally disagree) to 10 (Absolutely agree). It includes 10 additional items related to experienced well-being, consisting of five positive and five adverse emotional events that may have occurred in the past 24 h, answered in a yes (1) or no (0) format. Two final scores can be obtained, an overall "well-being remembered" score on the positive mental health construct as defined in Keyes' model of complete health (Keyes, 2005), and a total score on "well-being experienced" composed of the presence of "positive experiences" and the absence of "negative experiences". In this study the Cronbach's alpha were good, PHI remember ($\alpha = .87$), PHI experiences ($\alpha = .69$).

### 2.3. Analysis procedure

To tackle Aim 1, we firstly conducted descriptive analyses of sociodemographic and clinical-related data using *SPSS 24 statistics* software. Additionally, we performed *t-test* and *Chi-square* tests to explore whether there were gender differences between the endorsement of traumatic events experienced and mental health outcomes.

To address Aim 2, we performed LCA using *Mplus version 8.2* (Muthén and Muthén, 2018). LCA identifies distinct classes based on similar patterns of responses to categorical data (Nylund et al., 2007). The optimal number of latent classes of the traumatic events reported among men and women was assessed separately using the robust maximum likelihood estimator (Yuan and Bentler, 2000). A total of 200 random sets of initial values and 20 end-stage optimizations were used to avoid solutions based on local maxima. The relative fit of the six models was compared using the following criteria: Bayesian information criterion (BIC) (Schwartz, 1978), BIC adjusted for sample size (Sclove, 1987), Akaike information criterion (AIC; Akaike, 1987), Lo-Mendell-Rubin adjusted likelihood ratio test (Lo et al., 2001) and entropy values.

To address Aim 3, the adversity patterns were subsequently examined for differences in general mental health and wellbeing variables with univariate statistics using *T*- Student (for continuous variables PTSD symptomatology and wellbeing) for men and woman.

## 3. Results

### 3.1. Gender differences: trauma exposure and mental health outcomes

Overall, the percentage of people with SPC reporting at least one traumatic life event was 84.2 % in the full sample. Findings revealed no significant differences in the total number of overall lifetime traumatic events between men and women, but there were gender differences in the type of traumatic event reported. While men have more significant episodes of physical violence by strangers than women, females have more significant episodes of domestic violence and experience more frequent loss of a loved one than men. Frequencies and gender differences in trauma exposure are shown in Supplementary Table 2.

Regarding differences between men and women in mental health outcomes (see Table 1), our results showed that women had significantly higher levels of re-experiencing symptoms of PTSD, higher levels of loss of confidence and distress, and poorer mental health than men. Finally, we found no significant differences between men and women in any dimension of well-being.

### 3.2. Patterns of adversity exposure by gender

Results from LCA for men and women data are reported in Supplementary Table 3. Within the men sample, the 3-class solution was the best fit for the data. Although this solution was less parsimonious than the 2-class solution, priority was given to the lowest BIC result since it is the optimal information criterion for determining the model fit. In addition, although the LMR-A test was not significant in the three-class model, the higher entropy value (0.89) in the 3-class solution indicated the good clustering of individuals in their class (see Supplementary Table 3).

Fig. 1 depicts the three classes or patterns of exposure to adverse events and the probability of endorsement for each event for all the

**Table 1**
Differences between males and females on PTSD, mental health, and well-being variables.

| Symptoms | Men (*N* = 201) | Women (*N* = 122) | *t* value | *p* value |
|---|---|---|---|---|
| | Mean (*S.D.*) | Mean (*S.D.*) | | |
| *PTSD* (PCL-5) | | | | |
| **Re-experiencing (cluster B)** | **6.78 (4.99)** | **8.17 (5.52)** | **2.163** | **0.04** |
| Avoidance (cluster C) | 3.28 (2.44) | 3.53 (2.60) | 0.802 | 0.42 |
| Negative Thoughts (cluster D) | 10.7 (7.27) | 11.3 (7.39) | 0.608 | 0.54 |
| Arousal (cluster E) | 8.09 (6.00) | 8.78 (6.72) | 0.882 | 0.38 |
| PCL-5 total | 28.9 (17.82) | 31.9 (19.3) | 1.340 | 0.18 |
| *General Mental Health* (GHQ-12) | | | | |
| Social Dysfunction | 11.1 (3.57) | 10.6 (3.91) | 1.327 | 0.18 |
| Loss of Confidence | 4.77 (3.24) | 5.47 (3.29) | −1.864 | 0.06 |
| **Distress** | **4.04 (2.39)** | **4.66 (2.41)** | **−2.246** | **0.02** |
| GHQ-12 Total | 18.6 (2.98) | 19.1 (3.50) | −1.490 | 0.13 |
| *Wellbeing* (PHI) | | | | |
| PHI-Remember | 6.04 (2.02) | 5.70 (2.06) | 1.486 | 0.14 |
| PHI-Positive 24hr. | 3.32 (1.42) | 3.45 (1.40) | −0.816 | 0.42 |
| PHI-Negative 24hr. | 2.91 (1.49) | 2.58 (1.64) | 1.845 | 0.07 |
| PHI-Experiences Total | 6.14 (1.91) | 5.87 (1.91) | 1.242 | 0.21 |

*Note.* PTSD = Posttraumatic Stress Disorder; PCL-5 = Post-traumatic Stress Disorder Checklist; GHQ-12 = General Health Questionnaire; PHI = Pemberton Happiness Index.

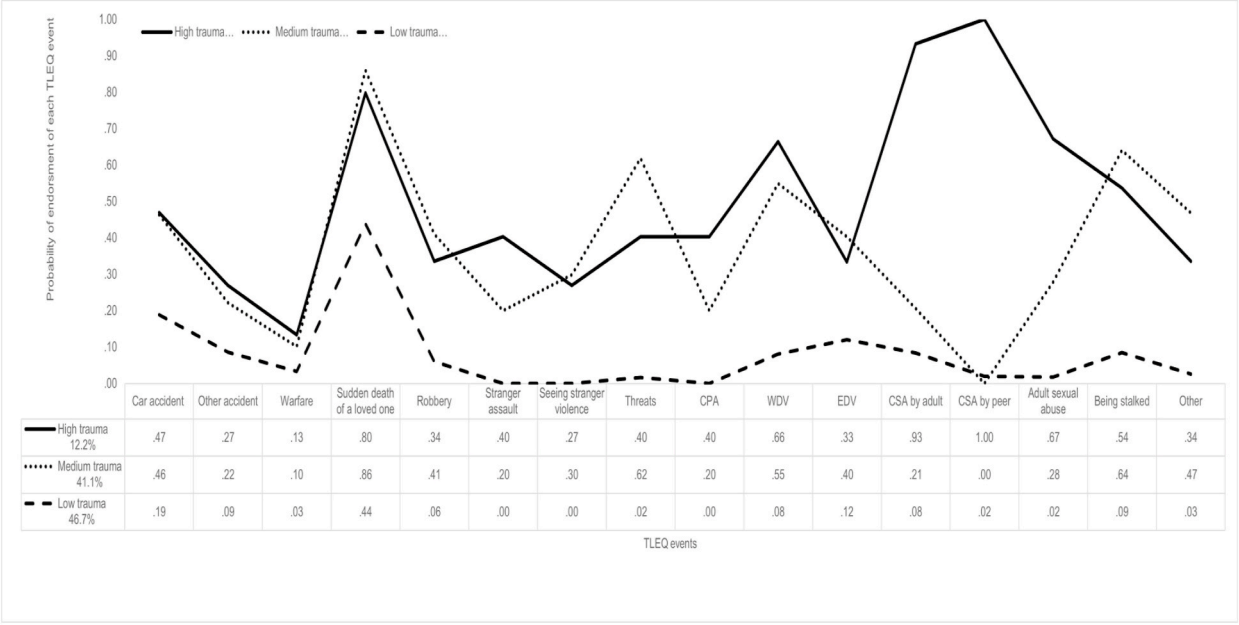

| | Car accident | Other accident | Warfare | Sudden death of a loved one | Robbery | Stranger assault | Seeing stranger violence | Being threatened | Childhood physical abuse | Witnessed domestic violence | Experience domestic violence | CSA by adult | CSA by peer | Adult sexual abuse | Being stalked | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| High trauma 6.1% | .68 | .59 | .32 | .88 | .52 | .88 | .76 | 1.00 | .75 | .76 | 1.00 | .81 | .65 | .72 | 1.00 | .83 |
| Medium trauma 48.7% | .45 | .28 | .12 | .66 | .44 | .35 | .26 | .53 | .16 | .49 | .20 | .23 | .14 | .18 | .55 | .32 |
| Low trauma 45.1% | .15 | .03 | .01 | .35 | .13 | .09 | .05 | .00 | .00 | .00 | .00 | .07 | .02 | .01 | .14 | .04 |

*Note*. TLEQ = Traumatic life events questionnaire; CPA = Childhood physical abuse; WDV = Witnessed domestic violence; EDV = Experience domestic violence. The sample percentages in each class are indicated under the class name.

**Fig. 1.** LCA profile plot for adverse events among men (n = 201)
*Note*. TLEQ = Traumatic life events questionnaire; CPA = Childhood physical abuse; WDV = Witnessed domestic violence; EDV = Experience domestic violence. The sample percentages in each class are indicated under the class name.

TLEQ items within the male sub-sample: (1) Low trauma class, showing low probabilities of endorsement of traumatic events; (2) Medium trauma class, which followed a similar pattern of events with medium probabilities of experiencing these events and (3) High trauma class characterized by high probabilities of endorsement.

Within the female sample, the fit statistics models showed the lowest BIC values for the 2-class and 3-class models (see Table 4). However, the LMR-A test indicated that the 3-class solution significantly differed from




| | Car accident | Other accident | Warfare | Sudden death of a loved one | Robbery | Stranger assault | Seeing stranger violence | Threats | CPA | WDV | EDV | CSA by adult | CSA by peer | Adult sexual abuse | Being stalked | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| High trauma 12.2% | .47 | .27 | .13 | .80 | .34 | .40 | .27 | .40 | .40 | .66 | .33 | .93 | 1.00 | .67 | .54 | .34 |
| Medium trauma 41.1% | .46 | .22 | .10 | .86 | .41 | .20 | .30 | .62 | .20 | .55 | .40 | .21 | .00 | .28 | .64 | .47 |
| Low trauma 46.7% | .19 | .09 | .03 | .44 | .06 | .00 | .00 | .02 | .00 | .08 | .12 | .08 | .02 | .02 | .09 | .03 |

*Note*. TLEQ = Traumatic life events questionnaire; CPA = Childhood physical abuse; WDV = Witnessed domestic violence; EDV = Experience domestic violence. The sample percentages in each class are indicated under the class name.

**Fig. 2.** LCA profile plot for adverse events among women (n = 122).
*Note*. TLEQ = Traumatic life events questionnaire; CPA = Childhood physical abuse; WDV = Witnessed domestic violence; EDV = Experience domestic violence. The sample percentages in each class are indicated under the class name.

the 2-class and not from the 4-class solution, and its entropy was higher, indicating that the 3-class model better represented the data. Fig. 2 shows the three classes of the TLEQ events within the female sample: (1) Low trauma class was characterized by a very low probability of experiencing all TLEQ events, except for experiencing a sudden death of a loved one, which showed a high probability in all classes; (2) Medium trauma class was characterized by a medium probability of experiencing the TLEQ events and, (3) High trauma class presented a different pattern from the other two classes with specific high probabilities of childhood/adult sexual abuse.

### 3.3. Patterns of adversity exposure and mental health for men and women

For both women and men, no differences were found in sociodemographic characteristics, diagnosis of schizophrenia, or years in mental health treatment between the trauma classes (see Table 2). However, in both men and women, individuals in the high-trauma class were more likely to have scores indicative of probable diagnosis of PTSD than those with low or medium trauma ($p < .01$; see Table 2).

Significant differences were found between men and women in the 3 patterns of adversity exposure (see Table 3). Overall, regardless of adversity profile, women exhibited more severe PTSD symptoms than men, except in the high trauma profile, where men had higher levels of avoidance than women. In general mental health, women showed lower scores than men in the medium trauma profile but equivalent levels of mental health in the low and high trauma profiles. However, in well-being, while men scored higher than women in the low and medium trauma profiles, women showed a greater ability to have positive experiences than men in the high trauma profile.

## 4. Discussion

The present study corroborates existing findings of the high prevalence of potentially traumatic events (PTEs) among people with SPC. Although there is evidence indicating that, overall, men are more likely to experience PTEs compared to women (Tolin and Foa, 2008; Valentine et al., 2019), current findings indicate no significant differences between men and women with SPCs in overall quantity of TLEQ lifetime traumatic events, which align previous empirical data (Lu et al., 2013). Generally, analyses of trauma exposure endorsement rates revealed that *unexpected death of a loved one* was the most frequent adverse event experienced for almost 60 % of the entire sample. This result is not surprising, given that the bereavement of a loved one is a common and unavoidable experience to which all human beings are exposed at some point in life.

However, our study revealed some gender differences in the type of traumatic events experienced by this population. Accordingly, the percentage of women identifying the loss of a loved one as a potentially traumatic event is significantly higher than men (see Table 2, supplementary material). This finding may be explained by a cultural factor, where gender socialization plays an important role in our society. Traditionally, women have had stereotypical roles such as caring for others and responsibilities related to the health of the people around them. It is possible then that women experience the event of losing a loved one as more disturbing than men and, therefore, identify it more frequently. In fact, a controlled study of opposite-sex twins has shown differences in pathways to psychopathology, suggesting that interpersonal loss plays a greater etiological role in females than in males (Kendler and Gardner, 2014). Moreover, our study also found that women suffer significantly more adversity associated with episodes of domestic violence than men. This seems consistent with the high incidence of intimate violence experienced by women worldwide (Haahr-Pedersen et al., 2020) as well as meta-analytic data that indicates that the lifetime prevalence of domestic violence ranges from 1.9 % to 70 % and, even higher in psychiatric populations (Alhabib et al., 2010). Men in our sample, nevertheless, suffered significantly

**Table 2**
Differences between LCA classes on sociodemographic and clinical characteristics.

| Characteristics | Low Trauma | Medium Trauma | High trauma | Total | $x^2$ | *p* |
|---|---|---|---|---|---|---|
| ***Men*** | *(n = 94)* | *(n = 95)* | *(n = 12)* | *(N = 201)* | | |
| Age *[Mean (SD)]* | 43.3 (0.97) | 43.2 (0.94) | 39.8 (2.51) | | 1.698 | 0.428 |
| Marital Status *[n (%)]* | | | | | 7.200 | 0.515 |
| Single | 77 (81.9) | 79 (83.2) | 12 (100) | 168 (83.6) | | |
| Married | 5 (5.3) | 9 (9.5) | 0 | 14 (7) | | |
| Divorced | 9 (9.6) | 7 (7.4) | 0 | 16 (8) | | |
| Widowed | 1 (1.1) | 0 | 0 | 1 (0.5) | | |
| Education *[n (%)]* | | | | | 5.381 | 0.864 |
| No Educational Attainment | 1 (1.1) | 4 (4.2) | 0 | 5 (2.5) | | |
| Primary School | 16 (17) | 18 (18.9) | 3 (25) | 37 (18.4) | | |
| High School | 53 (56.4) | 47 (49.5) | 8 (66.7) | 108 (53.7) | | |
| Vocational training | 17 (18.1) | 18 (18.9) | 1 (8.3) | 36 (17.9) | | |
| University | 6 (6.4) | 6 (6.3) | 0 | 12 (6) | | |
| Employment *[n (%)]* | | | | 1.995 | 0.737 | |
| Employed | 10 (10.6) | 16 (16.8) | 1 (8.3) | 27 (13.4) | | |
| Unemployed | 83 (88.3) | 78 (82.1) | 11 (91.7) | 172 (85.6) | | |
| Diagnosis *[n (%)]* | | | 2.253 | 0.689 | | |
| Psychosis-Spectrum Disorder | 66 (70.2) | 72 (75.8) | 7 (58.3) | 145 (72.1) | | |
| Non-Psychosis | 27 (28.7) | 22 (23.2) | 5 (41.7) | 54 (26.9) | | |
| Years in Mental Health:*[Mean (SD)]* | 17.0 (1.06) | 16.4 (1.06) | 14.8 (2.04) | | 0.926 | 0.629 |
| **Probable PTSD diagnosis [n (%)]** | **19 (20.2)** | **48 (50.5)** | **8 (66.7)** | **75 (37.3)** | **9.907** | **0.007** |
| ***Women*** | *(n = 58)* | *(n = 49)* | *(n = 15)* | *(N = 122)* | | |
| Age *[Mean (SD)]* | 45.0 (1.34) | 47.8 (1.38) | 44.4 (1.77) | | 2.926 | 0.232 |
| Marital status *[n (%)]* | | | 4.921 | 0.554 | | |
| Single | 38 (65.5) | 26 (53.1) | 8 (53.3) | 72 (59) | | |
| Married | 12 (20.7) | 9 (18.4) | 2 (13.3) | 23 (18.9) | | |
| Divorced | 7 (12.1) | 12 (24.5) | 4 (26.7) | 23 (18.9) | | |
| Widowed | 1 (1.7) | 2 (4.1) | 1 (6.7) | 4 (3.3) | | |
| Education *[n (%)]* | | | | 8.368 | 0.593 | |
| No Educational Attainment | 0 | 1 (2) | 0 | 1 (0.8) | | |
| Primary School | 12 (20.7) | 14 (28.6) | 2 (13.3) | 28 (0.23) | | |
| High School | 30 (51.7) | 21 (42.9) | 7 (46.7) | 58 (47.5) | | |
| Vocational training | 9 (15.5) | 8 (16.3) | 5 (33.3) | 22 (18) | | |
| University | 6 (10.3) | 4 (8.2) | 0 | 10 (8.2) | | |
| Employment *[n (%)]* | | | | | 2.454 | 0.653 |
| Employed | 6 (10.3) | 8 (16.3) | 1 (6.7) | 15 (12.3) | | |
| Unemployed | 51 (87.9) | 41 (83.7) | 14 (93.3) | 106 (86.9) | | |

(*continued on next page*)

**Table 2** (*continued*)

| Characteristics | Low Trauma | Medium Trauma | High trauma | Total | $x^2$ | *p* |
|---|---|---|---|---|---|---|
| Diagnosis *[n (%)]* | | | | 4.171 | 0.124 | |
| Psychosis-Spectrum Disorder | 35 (60.3) | 20 (40.8) | 7 (46.7) | 62 (50.8) | | |
| Non-Psychosis | 23 (39.7) | 29 (59.2) | 8 (53.3) | 60 (49.2) | | |
| Years in Mental Health:*[Mean (SD)]* | 17.6 (1.35) | 16.3 (1.49) | 21.4 (2.64) | | 2.821 | 0.244 |
| **Probable PTSD diagnosis [n (%)]** | **11 (19)** | **26 (54.2)** | **11 (73.3)** | **48 (39.7)** | **11.860** | **0.003** |

*Note*. SD = standard deviation.

more episodes of physical violence perpetrated by strangers compared to women, which could be related to men's habitual coping style and socialization. For instance, men tend to manage interpersonal conflicts with open and direct physical aggressive acts such as fighting; while women tend to use communicative skills more often to deal with problems (Hyde, 1984). Our findings suggest that gender roles and sociocultural issues in our society may mirror the type of traumatic events experienced by men and women in SPC populations.

A few relevant findings stand out from the LCA results regarding the patterns of exposure to adverse events in men and women. On the one hand, three different profiles were found in both men and women coincidentally with SPC: 1) a low trauma class (low probabilities of trauma reporting); 2) a medium trauma class (with medium probabilities of trauma reporting); and 3) a high trauma class (with high of trauma reporting). The number of LCA classes did not differ by gender, which is not in line with general population studies that have found that women experience more complex and varied patterns of adversity (McAnee et al., 2019; Haahr-Pedersen et al., 2020). However, this finding is consistent with the assertion that men and women are exposed to distinct adversities. A visual examination of the LCA patterns reveals that, although the low and medium profiles are similar for men and women with SPC, the high trauma profiles are different. For men with SPC in the high trauma profile, consistent with the literature, there is a higher likelihood of multiple adverse events (Frans et al., 2005). However, women with SPC in the high trauma profile have only two peaks of high probability, corresponding to bereavement and childhood sexual abuse.

Regarding the mental health outcomes associated with different patterns of exposure to adversity among men and women, our results indicate that individuals (both male and female) in the high-trauma classes were more likely to be diagnosed with PTSD than those with low or medium trauma. In line with previous LCA studies, for both genders, there is a clear exponential relationship indicating that the higher the trauma profile experienced, the higher the likelihood of having a probable diagnosis of PTSD.

Additionally, our results also reveal some gender differences in terms of mental health outcomes. Overall, women with SPC reported higher levels of re-experiencing and distress than men with SPC, but similar levels of well-being. Higher amounts of re-experiencing and distress in women have been found in previous studies (Holbrook et al., 2002; Søegaard et al., 2021), highlighting the importance of using psychotherapeutic strategies to help women feel safe, as well as attending to working within their specific window of emotional tolerance.

Although trauma exposure is significantly associated with the experiences and symptom severity in people with SPC (Newman et al., 2010; Bailey et al., 2018; Gibson et al., 2016; Varese et al., 2012), this is the first study to our knowledge, to explore patterns of adversity for men and women separately in a sample of individuals with SPC and to analyze gender differences in their corresponding general mental health

**Table 3**
Differences between the male and female for each LCA classes on PTSD, mental health and well-being variables.

| Symptoms | Class 1: Low trauma | | *t* value | Significance (*p* value) |
|---|---|---|---|---|
| | Mean (S.D.) Men (N = 91) | Mean (S.D.) Women (N = 57) | | |
| PCL-5: Cluster B | 5.31 (0.67) | 5.42 (0.75) | 0.898 | 0.194 |
| **PCL-5: Cluster C** | **2.59 (0.32)** | **2.91 (0.45)** | **4.678** | **0.000** |
| **PCL-5: Cluster D** | **7.97 (0.95)** | **8.35 (1.17)** | **2.062** | **0.020** |
| **PCL-5: Cluster E** | **6.26 (0.73)** | **5.99 (0.98)** | **−1.791** | **0.039** |
| PCL-5: Total | 22.1 (2.30) | 22.7 (3.02) | 1.113 | 0.130 |
| GHQ-12: Social Dysfunction | 11.5 (3.30) | 11.5 (3.00) | 0.111 | 0.912 |
| GHQ-12: Loss of confidence | 4.36 (3.09) | 4.27 (2.78) | 0.177 | 0.860 |
| GHQ-12: Distress | 3.70 (2.19) | 3.74 (2.11) | −0.108 | 0.914 |
| GHQ-12: Total | 18.2 (3.03) | 18.3 (3.16) | −0.054 | 0.957 |
| **PHI-Remember** | **6.47 (0.20)** | **6.07 (0.27)** | **−9.122** | **0.000** |
| **PHI-Positive Experiences 24hr.** | **3.57 (0.15)** | **3.46 (0.17)** | **−4.341** | **0.000** |
| **PHI-Negative Experiences 24hr.** | **3.16 (0.15)** | **2.62 (0.22)** | **−16.308** | **0.000** |
| **PHI-Experiences Total** | **6.73 (0.24)** | **6.09 (0.29)** | **−13.938** | **0.000** |
| **Symptoms** | **Class 2: Medium trauma** | | **t value** | **Significance (p value)** |
| | **Men (N = 98)** | **Women (N = 50)** | | |
| **PCL-5: Cluster B** | **7.33 (0.50)** | **9.43 (0.76)** | **17.683** | **0.000** |
| **PCL-5: Cluster C** | **3.55 (0.25)** | **3.84 (0.37)** | **4.991** | **0.000** |
| **PCL-5: Cluster D** | **12.0 (0.75)** | **12.4 (1.02)** | **2.148** | **0.018** |
| **PCL-5: Cluster E** | **8.68 (0.62)** | **9.57 (1.00)** | **5.754** | **0.000** |
| **PCL-5: Total** | **31.6 (1.76)** | **35.6 (2.62)** | **9.781** | **0.000** |
| GHQ-12: Social Dysfunction | 11.1 (3.61) | 10.1 (4.48) | 1.346 | 0.180 |
| **GHQ-12: Loss Of Confidence** | **5.03 (3.25)** | **6.38 (3.32)** | **−2.355** | **0.020** |
| **GHQ-12: Distress** | **4.14 (2.49)** | **5.55 (2.44)** | **−3.220** | **0.002** |
| **GHQ-12: Total** | **18.9 (2.87** | **20.2 (3.69)** | **−2.298** | **0.023** |
| **PHI-Remember** | **5.80 (0.23)** | **5.40 (0.33)** | **−7.672** | **0.000** |
| **PHI-Positive Experiences 24hr.** | **3.15 (0.16)** | **3.41 (0.23)** | **7.158** | **0.000** |
| **PHI-Negative Experiences 24hr.** | **2.74 (0.17)** | **2.63 (0.25)** | **−2.798** | **0.003** |
| **PHI-Experiences Total** | **5.89 (0.26)** | **6.04 (0.39)** | **2.455** | **0.008** |
| **Symptoms** | **Class 3: High trauma** | | **t value** | **Significance (p value)** |
| | **Men (N = 12)** | **Women (N = 15)** | | |
| **PCL-5: Cluster B** | **10.0 (1.65)** | **11.5 (1.65)** | **2.316** | **0.016** |

(*continued on next page*)

**Table 3** (*continued*)

| Symptoms | Class 1: Low trauma | | *t* value | Significance (*p* value) |
|---|---|---|---|---|
| | Mean (S.D.) | Mean (S.D.) | | |
| | Men (N = 91) | Women (N = 57) | | |
| **PCL-5: Cluster C** | **4.85 (0.77)** | **4.21 (0.59)** | **−2.375** | **0.014** |
| PCL-5: Cluster D | 14.8 (2.29) | 15.7 (1.78) | 1.130 | 0.138 |
| PCL-5: Cluster E | 12.9 (1.95) | 13.7 (1.55) | 1.230 | 0.121 |
| PCL-5: Total | 42.6 (5.54) | 45.2 (2.08) | 1.541 | 0.077 |
| GHQ-12: Social Dysfunction | 8.91 (4.68) | 8.66 (4.33) | 0.144 | 0.887 |
| GHQ-12: Loss Of Confidence | 6.00 (4.02) | 7.13 (3,56) | −0.776 | 0.445 |
| GHQ-12: Distress | 5.91 (2.35) | 5.33 (2.19) | 0.665 | 0.512 |
| GHQ-12: Total | 19.0 (3.37) | 19.2 (3.38) | −0.089 | 0.930 |
| PHI-Remember | 4.91 (0.58) | 5.26 (0.59) | 1.546 | 0.071 |
| **PHI-Positive Experiences 24hr.** | **2.74 (0.47)** | **3.53 (0.41)** | **4.590** | **0.000** |
| PHI-Negative Experiences 24hr. | 2.50 (0.49) | 2.26 (0.41) | −1.358 | 0.097 |
| **PHI-Experiences Total** | **5.24 (0.89)** | **5.80 (0.69)** | **1.791** | **0.046** |

*Note.* PCL-5 = Posttraumatic Stress Disorder Checklist, B= Re-Experiencing, C = Avoidance, D = Negative thoughts or feelings, E = Arousal and reactivity, GHQ-12 = General Health Questionnaire, PHI = Pemberton Happiness Index.

outcomes. Existing data on gender differences concerning PTSD symptoms have not proven to be consistent, with some pointing to greater re-experiencing or heightened arousal in women (Charak et al., 2014), others to greater levels of avoidance in men (Schick et al., 2020), and still others to similar PTSD symptom profiles across genders following exposure to stressors (King et al., 2013).

We've found significant differences on general mental health outcomes between men and women with SPC, associated with the type of adversity exposure profile. Within the low and medium trauma class, women presented more PTSD symptomatology than men in almost all domains. However, in the high trauma class, while women presented higher levels of re-experiencing, men reported greater avoidance. As measured by the GHQ-12, women and men showed equivalent levels of mental health in the low and high trauma profiles while women scored lower than men in the medium trauma profile.

Although well-being was significantly lower in women than in men in the low and medium trauma profiles, women with medium or high trauma had scores reflecting experiencing more daily positive emotions than men. Such resilience in positive emotions present in women with SPC and higher trauma exposure may be associated with meta-analytic data indicating that women consistently reported more posttraumatic growth than men (Vishnevsky et al., 2010). On the other hand, the decrease in positive emotions in men with SPC and higher trauma could be associated with the greater weight of avoidance in their adjustment (Schick et al., 2020).

Several study limitations should be mentioned. First, we used self-report measures and therefore the assessment could contain some social desirability biases. Second, psychiatric diagnoses and clinical features were provided by medical reports rather than clinical standardized interviews, which may be less accurate. In addition, the TLEQ scale only identifies the type and occurrence of the traumatic event and not relevant information such as the number of times the event has been experienced, nor the age at which the event took place. Another important issue was that the percentage of women receiving psychiatric rehabilitation services involved in the current study was relatively lower than that of men. Women with SPC are more likely to have a more manageable clinical course (Gogos et al., 2019), and this can prevent them from engaging in mental health treatment or resources. Thus, the gender differences detected in the current study may not be generalizable to all people with SPC. Finally, we had a high rate of participation refusal, which indicates that our results may only be representative of those interested in participating in a screening study. However, this rate of refusal also implies that the prevalence of trauma and PTSD may have been even higher, considering the possibility that those who declined participation may have done so related to anxiety about disclosing trauma exposure, and/or as a result of experiencing active PTSD symptoms (i.e., avoidance of trauma-related stimuli).

In conclusion, given the high incidence of trauma exposure and the high prevalence of PTSD symptoms in persons with SPC, it is imperative that trauma-focused intervention protocols are in place in front-line services for this population. The present study demonstrates the importance of tailoring interventions, given the relevance of gender differences. For example, while men experience more violence by strangers, women experience violence at a closer range, which may not only influence the type of symptoms (dissociation) but may also contribute to a greater sense of betrayal and may impact their ability to trust enough to engage in psychotherapy and build rapport with their clinicians. Finally, though assessment of well-being often takes a secondary role, well-being is essential for building personal resources and self-confidence. Thus, higher levels of positive emotions in women may represent a protective factor to ensure adaptation.

## CRediT authorship contribution statement

**C. Valiente:** Methodology, Writing – original draft, Conceptualization, Investigation, Project administration. **V. Peinado:** Writing – review & editing, Investigation, Formal analysis, Methodology. **A. Calvo:** Writing – review & editing, Formal analysis. **A. Trucharte:** Formal analysis, Writing – review & editing. **A. Contreras:** Formal analysis, Writing – review & editing. **R. Espinosa:** Writing – review & editing, Project administration, Formal analysis. **J.D. Gottlieb:** Conceptualization, Writing – review & editing.

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## Declaration of competing interest

None.

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## Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.jpsychires.2025.09.076.

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