EUROPEAN JOURNAL OF PSYCHOTRAUMATOLOGY
2022, VOL. 13, 2087967
https://doi.org/10.1080/20008198.2022.2087967

EUROPEAN JOURNAL OF PSYCHO-TRAUMATOLOGY
THE OFFICIAL JOURNAL OF THE EUROPEAN SOCIETY FOR TRAUMATIC STRESS STUDIES

Taylor & Francis
Taylor & Francis Group

BASIC RESEARCH ARTICLE

OPEN ACCESS Check for updates

# Prevalence and correlates of self-stigma in Post-Traumatic Stress Disorder (PTSD)

Catrin Lewis [a], Stan Zammit[a,b], Ian Jones [a] and Jonathan I. Bisson [a]

[a]National Centre for Mental Health (NCMH), Division of Psychological Medicine and Clinical Neurosciences, Cardiff University School of Medicine, Cardiff, UK; [b]Centre for Academic Mental Health, Bristol Medical School, University of Bristol, Bristol, UK

## ABSTRACT

**Background:** Self-stigma refers to the internalisation of negative societal views and stereotypes. Self-stigma has been well-characterised in the context of mental disorders such as schizophrenia but has received little attention in relation to post-traumatic stress disorder (PTSD).

**Objective:** This work aimed to determine the prevalence of self-stigma in a sample of adults with PTSD and to establish factors associated with the internalisation of stigma in this population.

**Method:** Participants were 194 adults (mean age 46.07 (*SD* = 12.39); 64.4% female; 96.6% white Caucasian; residing in the UK), who self-reported a diagnosis of PTSD and currently screened positive for the disorder according to the PTSD Checklist for DSM-5 (PCL-5). Structured interviews and validated self-report questionnaires were used to ascertain clinical and sociodemographic information for analysis.

**Results:** The prevalence of self-stigma measured by the Internalized Stigma of Mental Illness Scale (ISMIS) was 41.2% (95% CI 34.24–48.22). There was no evidence of an association between self-stigma and gender ($\beta = -2.975$ (95% CI −7.046–1.097) $p = .151$), age ($\beta = 0.007$ (95% CI −0.152–0.165) $p = .953$), sexual trauma ($\beta = 0.904$ (95% CI −3.668–5.476) $p = .697$), military trauma ($\beta = -0.571$ (95% CI −4.027–7.287) $p = .571$). Self-stigma was associated with lower income and higher levels of anxiety ($\beta = 5.722$ (95% CI 2.922–8.522) $p = <.001$), depression ($\beta = 6.937$ (95% CI 4.287–9.588) $p = <.000$), and traumatic stress symptoms ($\beta =$ 3.880 (95% CI 1.401–6.359) $p = .002$).

**Conclusions:** The results indicate that self-stigma may be a significant issue among people with a diagnosis of PTSD. Further work is needed to understand the long-term impact and to develop interventions to address the internalisation of stigma in this population.

## Prevalencia y correlatos del autoestigma en el Trastorno de Estres Postraumatico (TEPT)

**Antecedentes:** El autoestigma se refiere a la internalización de opiniones y estereotipos sociales negativos. El autoestigma ha sido bien caracterizado en los contextos de trastornos mentales como la esquizofrenia, pero ha recibido poca atención en relación al trastorno de estrés postraumático (TEPT).

**Objetivo:** Este trabajo tuvo como objetivo determinar la prevalencia del autoestigma en una muestra de adultos con TEPT y establecer los factores asociados con la internalización del estigma en esta población.

**Método:** Los participantes fueron 194 adultos (edad media 46,09 (*DE* = 12.39); 64.4% mujeres; 96.6% caucásicos blancos; que residían en el Reino Unido), quienes autoinformaron un diagnóstico de TEPT y que actualmente dieron positivo para el trastorno de acuerdo a la Lista de chequeo de TEPT para el DSM-5 (PCL-5). Se usaron entrevistas estructuradas y cuestionarios de auto-reporte validados para determinar la información clínica y sociodemográfica para el análisis.

**Resultados**: La prevalencia del autoestigma medido por la Escala de Estigma Internalizado de Enfermedad Mental (ISMIS por sus siglas en inglés) fue de 41,2% (95% IC 34.24–48.22). No hubo evidencia de asociación entre estigma y género (ß = −2.975 (95% IC −7.046–1.097) $p = .151$), edad (ß = 0.007 (95% IC −0.152–0.165) $p = .953$), trauma sexual (ß = 0.904 (95% IC −3.668–5.476) $p = .697$), trauma militar (ß = −0.571 (95% IC −4.027–7.287) $p = .571$). El autoestigma se asoció con menores ingresos y mayores niveles de ansiedad (ß = 5.722 (95% IC 2.922–8.522), $p = <.001$), depresión (ß = 6.937 (95% IC 4.287–9.588) $p = <.000$) y síntomas de estrés traumático (ß = 3.880 (95% IC 1.401–6.359) $p = .002$).

**Conclusiones:** Los resultados indican que el autoestigma puede ser un problema importante entre las personas con un diagnóstico de TEPT. Se necesita más trabajo para comprender el impacto a largo plazo y desarrollar intervenciones que se dirijan a la internalización del estigma en esta población.

## ARTICLE HISTORY
Received 10 February 2022
Revised 9 May 2022
Accepted 24 May 2022

## KEYWORDS
Stress disorders; post-traumatic; self-stigma; psychological distress; epidemiology

## PALABRAS CLAVE
Trastornos de estrés; postraumático; autoestigma; malestar psicológico; epidemiologia

## 关键词
应激障碍，创伤后，自我污名，心理困扰，流行病学

## HIGHLIGHTS

- The prevalence of self-stigma among a sample of participants with PTSD was 41.2%.
- There was no evidence of an association between self-stigma and gender, age or sexual / military trauma.
- Self-stigma was associated with lower income and higher levels of anxiety, depression, and traumatic stress symptoms.

**CONTACT** Catrin Lewis LewisCE7@Cardiff.ac.uk Division of Psychological Medicine and Clinical Neurosciences, Cardiff University School of Medicine, Hadyn Ellis Building, Maindy Road, Cardiff CF24 4HQ, UK

Supplemental data for this article can be accessed online at https://doi.org/10.1080/20008198.2022.2087967.

## 创伤后应激障碍(PTSD)中自我污名的流行率及相关因子

**背景**：自我污名是指负性社会观点和刻板印象的内化。自我污名在精神分裂症等精神障碍的背景下得到了很好的刻画，但很少有对创伤后应激障碍 (PTSD) 相关的关注。
**目的**：这项工作旨在确定 PTSD 成年患者样本中自我污名的流行率，并确定此群体中污名内化的相关因素。
**方法**：参与者是 194 名成年人（平均年龄 46.07 (SD = 12.39)；64.4% 为女性；96.6% 为白种人；居住在英国），他们自我报告具有 PTSD 诊断且根据 DSM-5 PTSD 检查表（PCL-5）筛查目前为阳性。使用结构化访谈和经过验证的自我报告问卷确定了临床和社会人口学信息以进行分析。
**结果**：通过精神障碍内化污名量表 (ISMIS) 测量的自我污名流行率为 41.2% (95% CI 34.24–48.22)。没有证据表明自我污名与性别 (β = −2.975 (95% CI −7.046–1.097) $p$ = .151)、年龄 (β = 0.007 (95% CI −0.152–0.165) $p$ = .953)、性创伤 (β = 0.904 (95% CI −3.668–5.476) $p$ = .697)、军事创伤 (β = −0.571 (95% CI −4.027–7.287) $p$ = .571)相关。自我污名与较低收入和较高焦虑水平相关 (β = 5.722 (95% CI 2.922–8.522) $p$ = <.001)、抑郁 (β = 6.937 (95% CI 4.287–9.588) $p$ = <.000 ) 和创伤性应激症状 (β = 3.880 (95% CI 1.401–6.359) $p$ = .002)相关。
**结论**：结果表明，在被诊断为 PTSD 的人中，自我污名可能是一个重要问题。需要进一步的工作来了解此群体中的长期影响并制定干预措施以解决污名内化问题。


## Introduction

The stigma of mental illness is multifaceted, consisting of public stigma, which describes negative stereotypic views and beliefs held by society about individuals with a mental illness, and self–stigma, which refers to the internalisation of these invalidating beliefs (Corrigan, Watson, & Barr, 2006). The internalisation of these views is contingent upon the individual identifying with a stigmatised group and believing the stereotype to be valid (Corrigan, 2004; Corrigan et al., 2006). Self-stigma is said to arise from three associated processes, stereotype agreement, self-concurrence, and self-esteem decrement (Corrigan et al., 2006). Stereotype agreement involves endorsing perceived stereotypic views. Self-concurrence occurs when a person believes the stereotypes applies to them personally. Finally, those who internalise the stigma respond with self-esteem decrement and diminished self-efficacy (Berge & Ranney, 2005; Corrigan et al., 2006; Mills et al., 2020; Mittal et al., 2013). The definition of self-stigma encompasses a form of identity transformation that results in the loss of previously held positive self-beliefs (Yanos, Roe, Markus, & Lysaker, 2008). It is one of a range of reactions to the stigma of mental illness, with other responses including energisation, righteous anger, or the absence of an observable response (Corrigan & Watson, 2002).

Research has shown evidence of self-stigma across many different populations with lived experience of a wide range of mental disorders (Chang, Wu, Chen, & Lin, 2016; Maharjan & Panthee, 2019). A high proportion of self-stigma studies related to mental illness have focused on psychotic disorders such as schizophrenia (Huang, Chen, Pakpour, & Lin, 2018; Lin, Chang, Wu, & Wang, 2016; Livingston & Boyd, 2010). The prevalence of self-stigma among those with schizophrenia spectrum disorders is in the region of 20%–50% (Brohan, Elgie, Sartorius, & Thornicroft, 2010; Gerlinger et al., 2013; Lien et al., 2018; Touriño et al., 2018) and among those with mood disorders, it has been estimated at around 22% (Brohan, Gauci, Sartorius, & Thornicroft, 2011). Self-stigma also appears to be an issue among those with drug and alcohol use disorders (Chang et al., 2019; Cheng et al., 2019; Hammarlund, Crapanzano, Luce, Mulligan, & Ward, 2018) and personality disorders (Dubreucq, Plasse, & Franck, 2021). Self-stigma has a significant negative impact on functional outcomes and leads to a marked increase in the societal burden of mental disorders (Tsang et al., 2016). It has been found to be associated with hopelessness (Dimitropoulos, McCallum, Colasanto, Freeman, & Gadalla, 2016; Lysaker, Roe, & Yanos, 2006; Touriño et al., 2018) and reduced quality of life (Livingston & Boyd, 2010; Yen et al., 2009). It undermines empowerment (Vauth, Kleim, Wirtz, & Corrigan, 2007), reduces the likelihood of help-seeking (Vogel, Wade, & Haake, 2006), and negatively impacts adherence to treatment (Carrara & Arena Ventura, 2018; Livingston & Boyd, 2010), thereby acting as a significant barrier to recovery (Dimitropoulos et al., 2016; Link, Struening, Neese-Todd, Asmussen, & Phelan, 2001). Understanding self-stigma is key to reducing its pervasive impact.

Despite the detailed characterisation of self-stigma in the context of disorders such as schizophrenia, we know little in relation to post-traumatic stress disorder (PTSD). To date, self-stigma studies in the traumatic-stress field have focused on military populations (Bonfils et al., 2018; Harris et al., 2015; Mittal et al., 2013). A qualitative study of treatment-seeking veterans with PTSD revealed some degree of self-stigma and a reluctance to seek treatment to circumvent a label of PTSD; however, study participants were predominantly able to resist the internalisation of stigma after engagement in therapy for their traumatic stress symptoms (Mittal et al., 2013). Another study collected data from 235 US veterans with a reduced level of functioning due to psychiatric disorder on

admission and discharge from a recovery-oriented programme that aimed to help veterans transition back into communities through increased support and empowerment (Harris et al., 2015). The programme included interventions targeting self-stigma and data was collected using the Internalized Stigma of Mental Illness Scale (ISMIS). The ISMIS consists of five subscales, measuring alienation (the perception of being devalued or excluded as a member of society); stereotype endorsement (the degree of agreement with negative stereotypic views about mental illness); discrimination experience (concerned with the perception of mistreatment attributed to the biases of others); social withdrawal (reflecting the avoidance of others due to mental illness); and stigma resistance (the degree to which an individual can deflect stigma). This study found that veterans with a diagnosis of PTSD had higher self-stigma scores than their peers without PTSD. More recently, a study that compared ISMIS data on veterans with PTSD ($n = 46$) to veterans with schizophrenia spectrum disorders ($n = 82$) found that the latter reported greater perceived discrimination on the basis of stigma; however, no other differences were found between the two groups in terms of the internalisation of stigma (Bonfils et al., 2018). There have been no studies of self-stigma among PTSD sufferers traumatised by events other than military exposure.

Given the robust findings of an association between self-stigma and poor functional outcomes in mental disorders such as schizophrenia, addiction, and the work on military veterans with PTSD, it is important to ascertain the degree to which stigma is internalised by other people with a diagnosis of PTSD. We, therefore, aimed to determine the prevalence of self-stigma among a cohort of adults with PTSD after a variety of traumatic events and to examine factors that may be associated with the internalisation of stigma in this population.

## Method

### Data source

Data were obtained from the National Centre for Mental Health (NCMH), a Welsh Government-funded Research Centre that investigates psychiatric disorders across the lifespan. The Centre is operated by Cardiff, Swansea, and Bangor Universities, in partnership with the National Health Service (NHS) across Wales and England. The cohort of participant volunteers primarily included individuals who have experienced a mental disorder, but some individuals without such a history have also been recruited into the cohort. Participants were recruited using a variety of systematic approaches in primary and secondary health care services, including (a) the identification of potential participants by clinical care teams; and (b) screening of clinical notes. Non-systematic recruitment approaches included advertising in local/national media and engaging third-sector organisations to support and promote the research. All adult participants with sufficient mental capacity provided written informed consent to participate. Trained researchers then administered a standardised interview assessment to ascertain sociodemographic information and details related to the participant's history of mental illness. Participants were given a pack of validated self-report questionnaires to complete and return to the research team after the initial assessment.

### Sample

The sample for analysis consisted of adults over the age of 18 years who: (1) endorsed having been given a diagnosis of PTSD by a health professional; (2) currently screened positive for the disorder according to the PTSD Checklist for DSM-5 (PCL-5) (Blevins, Weathers, Davis, Witte, & Domino, 2015); and (3) had completed the ISMIS (a validated measure of self-stigma [Ritsher, Otilingam, & Grajales, 2003]). Data on whether or not participants had received a diagnosis of PTSD (and/or any other psychiatric diagnosis) was collected at the time of the interview assessment. The PCL-5 and ISMIS were returned to the study team by post after the assessment.

### Measures

#### PTSD

Participants were asked whether they had ever experienced a 'major' traumatic event and, if so, were asked to provide more information. To anchor reported traumatic stress symptoms to a single traumatic event, exposure to trauma was assessed by means of the free-text question: 'What is the worst traumatic event you have experienced in your life?' The descriptions of traumatic events were coded against a list of traumas compiled from the Life Events Checklists for DSM-5 (LEC) (Weathers et al., 2013b). All participants who reported a traumatic event completed the PCL-5, a 20-item measure that assesses the 20 Diagnostic and Statistical Manual 5 (DSM-5) symptoms of PTSD (Blevins et al., 2015). Each set of questions reflects a symptom criterion according to the DSM-5; items (1–5) for criterion B, intrusive symptoms; items (6–7) for criterion C, avoidance symptoms; items (8–14) for criterion D, negative alterations in cognition and mood; and items (15–20) for criterion E, alterations in arousal and reactivity. The measure uses a Likert scale from *not at all* (0 points) to *extremely* (4 points). A total symptom severity score is acquired by summing the score for each of the 20 items. Participants were considered to screen positive

for probable PTSD if they described a DSM-5 fulfilling stressor for PTSD and a positive screening score (over 33) according to the PCL-5 was obtained.

### Self stigma

The ISMIS was used to measure self-stigma (Ritsher et al., 2003), which includes five subscales, measuring: alienation; stereotype endorsement; discrimination experience; social withdrawal; and stigma resistance. It consists of 29 items, including statements such as 'having a mental illness has spoiled my life' and 'I can't contribute anything to society because I have a mental illness'. The measure uses a 4-point Likert scale from *strongly disagree* (1 point) to *strongly agree* (4 points). Each item of the stigma-resistance sub-scale is reverse-scored so that higher scores reduce the overall total. Possible scores range from 29–116 (with scores on the subscales ranging from 6 to 24 for alienation; 7–28 for stereotype endorsement; 5–20 for discrimination experience; 6–24 for social withdrawal; and 5–20 for stigma resistance). In line with previous studies (Brohan et al., 2010; Lien et al., 2018; Ritsher & Phelan, 2004; Touriño et al., 2018), sub-scale and overall scores on the ISMIS were calculated as means and a cut-off of 2.5 of the mean score was selected to indicate the presence or absence of self-stigma for each of the sub-scales. The overall presence of self-stigma was indicated by a cut-off above the mid-point of 2.5 of the mean score across all items. The scale has been shown to have high internal consistency and test-retest reliability (Ritsher et al., 2003).

### Depression and anxiety

The Hospital Anxiety and Depression Scale (HADS) is a reliable and validated measure that includes two subscales to measure depression (HADS-D) and anxiety (HADS-A), each consisting of seven items (Zigmond & Philip Snaith, 1983). Participants were asked to rate the degree to which they experienced each symptom during the previous week. The scale uses a 4-point Likert scale from *not at all* (0 points) to *most of the time* (3 points) giving total scores of 0–21 for anxiety and depression.

### Statistical procedures

All analyses were conducted using STATA version 13.1 (StataCorp, 2013). The prevalence of self-stigma for each subscale (alienation; stereotype endorsement; discrimination experience; social withdrawal; and stigma resistance) and of the total score were calculated by using a mean cut-off of 2.5 to indicate whether it was present or absent. Sample characteristics were examined using descriptive statistics. Due to the high degree of comorbidity between PTSD and other disorders the prevalence of self-stigma on each subscale was additionally calculated for: (1) those who self-reported PTSD to be their primary diagnosis (rather than co-morbid to another primary psychiatric diagnosis); and (2) omitting those with a comorbid psychotic disorder. This aimed to give more conservative estimates of PTSD-related self-stigma. The association between sociodemographic/psychological variables and self-stigma was investigated by a series of univariate linear regression analyses, with total score on the ISMIS as the dependent variable. We looked at factors that were hypothesised to be associated with self-stigma, namely: age; gender; income; symptoms of depression, anxiety and PTSD; and whether or not the worst reported trauma was sexual or related to combat in a war zone. To facilitate interpretation of the results, scores on the HADS and PCL-5 were standardised to a mean of zero and a standard deviation of one.

## Results

### Sample characteristics

The mean age of participants was 46.07 ($SD = 12.39$) and 64.4% ($n = 125$) were female. The majority of participants were white Caucasian (96.6%) and all participants had at least one self-reported psychiatric comorbidity. Sample characteristics are presented in Table 1.

### Prevalence of self-stigma

When a cut-off of 2.5 was used to categorise the presence or absence of self-stigma, the prevalence overall was found to be 41.2% (95% CI 34.2–48.2). Using the same cut-off of 2.5 for each of the sub-scales gave the following estimates of prevalence: 68.6% (95% CI 61.9–75.2) alienation; 12.4% (95% CI 7.7–17.1) stereotype endorsement; 53.6% (95% CI 46.5–60.7) discrimination experience; 60.3% (95% CI 53.4–67.3) social withdrawal; and 28.9% (95% CI 22.4–35.3) stigma resistance. Limiting the sample to those who self-reported PTSD as their primary diagnosis ($n = 122$) gave an overall prevalence of 40.16% (95% CI 31.3–48.9). Including only participants without a co-morbid diagnosis of a psychotic disorder ($n = 162$) gave an overall prevalence of 38.9% (95% CI 31.3–46.5). Estimates of prevalence for each of the subscales were similar across the three groups (see supplementary Table 1).

### Associations between self-stigma and sociodemographic / clinical variables

Results are presented in Table 2. There was no evidence that self-stigma was associated with gender ($\beta = -2.975$ (95% CI −7.046–1.097) $p = .151$) or age ($\beta = 0.007$ (95% CI −0.152–0.165) $p = .953$). There was

**Table 1.** Sample characteristics.

| Variable | *N* (%) or mean (95% CIs) |
|---|---|
| Gender | |
| Male | 69 (35.6%) |
| Female | 125 (64.4%) |
| Age | 46.07 (12.39%) |
| Ethnicity | |
| White Caucasian | 185 (96.6%) |
| Mixed Ethnicity | 6 (3.1%) |
| Highest Educational Attainment | |
| None/less than equivalent to GCSE | 20 (11.1%) |
| GCSE or equivalent | 54 (30.2%) |
| A level or equivalent | 51 (28.5%) |
| Degree or above | 54 (30.2%) |
| Income | |
| Up to £10,000 | 66 (40.9%) |
| £10,000–£20,000 | 49 (30.4%) |
| £20,000–£30,000 | 21 (12.4%) |
| Over £30,000 | 25 (15.5%) |
| Psychiatric Co-morbidity | |
| Anxiety Disorder | 145 (74.74%) |
| Bipolar and Related Disorders | 29 (14.95%) |
| Depressive Disorder | 100 (51.5%) |
| Eating Disorder | 30 (15.46%) |
| Variable | *N* (%) or mean (95% CIs) |
| Personality Disorder | 24 (12.37%) |
| Schizophrenia and other Psychotic Disorders | 32 (16.49%) |
| Worst trauma | |
| Transportation accident | 13 (6.70%) |
| Other serious accident | 4 (2.06%) |
| Childhood physical abuse | 5 (2.58%) |
| Physical assault | 32 (16.49%) |
| Assault with a weapon | 10 (5.15%) |
| Sexual assault/abuse (child) | 15 (7.73%) |
| Sexual assault/abuse (adult) | 32 (16.49%) |
| Combat or exposure to a war zone | 27 (13.92%) |
| Life threatening illness or injury | 15 (7.73%) |
| Sudden or violent death (e.g. suicide, homicide) | 15 (7.73%) |
| Learning of child sexual abuse of a loved one | 4 (2.06%) |
| Other | 22 (11.34%) |

strong evidence of an association between self-stigma and income, with self-stigma being more common in individuals with a lower income. We were unable to examine whether prevalence of self-stigma varied by ethnicity since 96.6% of the sample were categorised as being White Caucasian. There was strong evidence that self-stigma was associated with higher scores on the HADS-D ($\beta = 6.937$ (95% CI 4.287–9.588) $p = <.000$); HADS-A ($\beta = 5.722$ (95% CI 2.922–8.522) $p = <.001$); and PCL-5 ($\beta = 3.880$ (95% CI 1.401–6.359) $p = .002$). There was no evidence that self-stigma was particularly associated with sexual trauma ($\beta = 0.904$ (95% CI −3.668–5.476) $p = .697$); or exposure to combat in a war zone ($\beta = -0.571$ (95% CI −4.027–7.287) $p = .571$).

## Discussion

### *Main findings*

Overall, the estimated prevalence of self-stigma was 41.2%. Looking at the specific subscales, 68.6% endorsed alienation; 12.4% stereotype endorsement; 53.6% discrimination experience; 60.3% social withdrawal. 28.9% endorsed stigma resistance. This is of a similar magnitude to that reported for schizophrenia spectrum disorders and substantially higher than the estimated prevalence for bipolar and depressive disorders (Brohan et al., 2010; Brohan et al., 2011; Gerlinger et al., 2013; Lien et al., 2018; Touriño et al., 2018). The prevalence on each sub-scale is slightly higher than those reported by previous studies looking at military related PTSD (Bonfils et al., 2018; Harris et al., 2015). These findings indicate that the internalisation of stigma among those with PTSD is a significant issue that warrants greater attention than received to date.

The results should be interpreted with caution given that all participants had at least one psychiatric comorbidity. The majority of participants in this sample were recruited via secondary care mental health services, which resulted in a sample of participants with a greater prevalence of comorbid psychotic and bipolar disorders than is characteristic of those with PTSD more broadly. To counteract the issue and to give a more conservative estimate of the prevalence of PTSD-related self-stigma, we derived estimates based on: (1) only those with a primary diagnosis of PTSD; and (2) those without a comorbid psychotic disorder. There were few differences between the estimates for these two groups and those based on the sample as a whole. Although it may be argued that an estimate of PTSD-related self-stigma should be based on participants without any other psychiatric diagnoses, it is estimated that approximately 80% of individuals with PTSD have at least one comorbid diagnosis (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). Excluding participants without additional psychiatric diagnoses would thereby result in small and unrepresentative samples of participants. Taking these factors into account, we can cautiously conclude that the findings give a reasonable indication of the prevalence of PTSD related self-stigma, although it may be argued that the estimate may be more likely to represent an over-estimation rather than an under-estimation.

The results of this study did not suggest that there were any particular sub-groups at significantly increased risk of self-stigma. This is consistent with the findings of a systematic review of 127 studies of participants with mood, anxiety or schizophrenia spectrum disorders, which failed to demonstrate any consistently significant relationships between self-stigma and sociodemographic variables including gender and age (Livingston & Boyd, 2010). The findings of the current study, together with the lack of consistency across the disparate studies included in the systematic review, may indicate that individuals with a wide-range of different characteristics are susceptible to the internalisation of stigma.

The highest prevalence of self-stigma was found among those with the lowest income. Although some previous studies have reported an association

**Table 2.** Results of univariable linear regressions.

| Variable | β | 95% CI | P |
|---|---|---|---|
| Age | 0.007 | −0.152–0.165 | .935 |
| Gender | −2.975 | −7.046–1.097 | .151 |
| Income | | | .002 |
| Up to £10,000 | Reference group | Reference group | |
| £10,000–£20,000 | −8.863 | −13.633 to −4.094 | |
| £20,000–£30,000 | −7.442 | −13.778 to −1.105 | |
| Over £30,000 | −12.914 | −18.853 to −6.474 | |
| HADS-D Score | 6.937 | 4.287–9.588 | <.001 |
| HADS-A Score | 5.722 | 2.922–8.522 | <.001 |
| PCL-5 Score | 3.880 | 1.401–6.359 | .002 |
| Worst trauma: sexual abuse or assault as a child or adult | 0.904 | −3.668–5.476 | .697 |
| Worst trauma: combat in a war zone | −0.571 | −4.027–7.287 | .571 |

Note. HADS-D: Hospital Anxiety and Depression Scale – Depression; HADS-A: Hospital Anxiety and Depression Scale – Anxiety; PCL-5: PTSD Checklist for DSM-5. Gender coded as 0 = male, 1 = female; worst trauma: sexual abuse or assault as a child or adult coded as 0 = worst trauma non-sexual, 1 = worst trauma sexual; Worst trauma: combat in a war zone: 0 = worst trauma not combat related, 1 = worst trauma combat related. To facilitate interpretation of the results, scores on the HADS and PCL-5 were standardised to a mean of zero and a standard deviation of one.

between income and self-stigma, this finding has not been consistent (Livingston & Boyd, 2010). Our finding may indicate a direct relationship between self-stigma and a person's ability to establish and maintain well-paid employment. Equally, both self-stigma and income may be underpinned by the severity of symptoms or other factors known to be associated with self-stigma, such as diminished self-efficacy, self-esteem, empowerment or hope (Berge & Ranney, 2005; Corrigan & Watson, 2002; Corrigan et al., 2006; Dimitropoulos et al., 2016; Livingston & Boyd, 2010; Lysaker et al., 2006; Mittal et al., 2013; Touriño et al., 2018; Vauth et al., 2007).

We found that self-stigma was associated with more severe symptoms of anxiety, depression and PTSD. This is consistent with studies conducted in other mental disorders such as schizophrenia and mood disorders, which collectively indicate a strong and robust negative association between self-stigma and other psychological variables (Livingston & Boyd, 2010). The finding may indicate that self-stigma is associated with a more severe course of mental illness. However, work to date has given little indication of the direction of effect or the pathways by which self-stigma and symptom severity are associated (Livingston & Boyd, 2010). The findings may be explained from multiple perspectives. Firstly, it has been suggested that cognitive distortions are associated with more severe symptoms leading to greater perceived stigma. On the other hand, individuals with more severe and complex symptoms may be/are probably more socially isolated from society than those with milder mental disorders and the observed associations may be based on accurate perceptions of stigma rather than cognitive distortions (Pyne et al., 2004). Alternatively, the associations may be mediated through other variables found to be associated with self-stigma, such as adherence to treatment and resistance to recovery (Carrara & Arena Ventura, 2018; Dimitropoulos et al., 2016; Link et al., 2001; Livingston & Boyd, 2010), which may serve to perpetuate or exacerbate symptoms. Individuals with trauma histories may develop negative schemas related to themselves other people and the world. These may influence the development of self-stigma, and simultaneously the experience of self-stigma may impact these schemas. It is also worth acknowledging that self-stigma, depression, anxiety and traumatic stress symptoms are all psychological constructs and conceptual overlap between these variables and self-stigma may partially account for the association. Measurement overlap between several items within the instruments may have contributed towards the observed correlations. For example, items of the ISMIS such as 'I avoid getting close to people who don't have a mental illness to avoid rejection' may tap into the similar constructs as those measured in the context of anxiety, depression and PTSD.

## Strengths and limitations

This study broadens our understanding of the self-stigma in PTSD beyond military veterans. A stringent approach was taken to the identification of PTSD, requiring that participants self-reported having received a diagnosis of the disorder by a health professional and also screened positive for probable PTSD at the time of assessment according to the PCL-5 (Blevins et al., 2015). However, we did not administer a standardised interview such as the Clinician Administered PTSD Scale (CAPS) (Weathers et al., 2013a). This said, the PCL-5 has been shown to be a valid and reliable way to screen for the disorder (Blevins et al., 2015; Bovin et al., 2016; Wortmann et al., 2016). Self-stigma was measured by the well-validated and commonly used ISMIS (Ritsher et al., 2003), which allowed comparisons to be drawn with other studies. We used a cut-off of 2.5 on the ISMIS to indicate the presence of self-stigma. Although this cut-off is widely used and advocated among experts, it does not have empirical support. Some research has suggested the stigma-resistance subscale of the ISMIS is conceptually different to the other sub-scales (Chang, Wu, Chen, Wang, & Lin, 2014; Sibitz, Unger,

Woppmann, Zidek, & Amering, 2011). On this basis, some previous studies have summed the average of the other four subscales and considered this as an overall measure of self-stigma (Brohan et al., 2010). Our overall scores and analyses that used these scores, were based on all five sub-scales, which may be considered a limitation. As discussed earlier, a high proportion of participants had one or more psychiatric comorbidity and additional estimates of the prevalence were made to better estimate the true extent of PTSD related self-stigma. The data collected was cross-sectional in nature and we are not therefore able to ascertain cause and effect. It may be argued that participants were not entirely representative of those with PTSD more generally on the basis of a high proportion of psychiatric comorbidities such as Bipolar Disorder and Schizophrenia. Finally, the wide-ranging recruitment strategies used to build the cohort make it difficult to estimate the non-response rate of the study.

## Clinical implications

The results of the current study combined with previous findings related to the burden of self-stigma, indicate that it may be an important area for intervention. Self-stigma may be reduced in one of two ways: by addressing public-stigma (Evans-Lacko, Brohan, Mojtabai, & Thornicroft, 2012); or by tackling the issue at an individual level by modifying self-beliefs (Mittal, Sullivan, Chekuri, Allee, & Corrigan, 2012). Although public-stigma is significantly associated with factors such as low levels of treatment utilisation and resistance to recovery, it has been indicated that self-stigma may fully mediate this relationship (Vogel, Wade, & Hackler, 2007). This implies that treatments may best succeed by directly targeting the internalised negative beliefs. Interventions have been developed that include psychoeducation and/or cognitive behavioural techniques to challenge and reappraise the validity of negative stereotypes, with the aim of reducing the degree to which they are internalised (Yanos, Lucksted, Drapalski, Roe, & Lysaker, 2015). Despite efforts to develop and evaluate suitable interventions, systematic reviews of the randomised controlled trial (RCT) evidence to date have found insufficient evidence to support the efficacy of interventions to reduce self-stigma among those with psychiatric diagnoses such as mood and psychotic disorders (Büchter & Messer, 2017; Griffiths, Carron-Arthur, Parsons, & Reid, 2014). This said, it is worth noting that the small effect sizes may be the result of a number of methodological flaws in addition to the possibility that existing interventions are not optimal. There is some evidence for the effect of Honest, Open, Proud (HOP) in the reduction of self-stigma (Corrigan et al., 2015; Corrigan, Kosyluk, & Rüsch, 2013; Rüsch et al., 2014). Previously known as Coming Out Proud (COP), the three-session programme facilitated by individuals with lived experience of mental illness supports decisions around mental health disclosure, with the aim of increasing self-efficacy in coping with stigma and supporting increased well-being (Scior, Rüsch, White, & Corrigan, 2020). Another option is to modify treatments for PTSD to address self-stigma. Therapies based on cognitive behavioural therapy have the strongest evidence of effect for the treatment of traumatic stress symptoms (Lewis, Roberts, Andrew, Starling, & Bisson, 2020) and these may lend themselves to augmentation with components that promote self-empowerment.

## Research implications

This study provides preliminary evidence of PTSD-related self-stigma, which gives a rationale for future research aimed at greater empirical understanding. There is a particular need for research to identify the key mechanisms by which stigma is internalised by those with PTSD and to establish the pathways that lead to poor functional outcomes. PTSD arises in different populations and there is a need to explore self-stigma specific to these. For example, the COVID-19 pandemic has precipitated traumatic stress symptoms among groups of people such as healthcare workers (Lu et al., 2021), and there is a need to understand self-stigma related to PTSD in these specific contexts. Our findings indicate a need to develop and evaluate interventions for PTSD-related self-stigma. Since previous research on stigma-reduction strategies has yielded disappointing effect sizes, there may be a need to develop novel interventions. Ideally, these would be underpinned by a more detailed theoretical understanding of self-stigma in the context of PTSD than is currently available. Development work should consider the existing evidence-base for stigma-reduction strategies and incorporate input from those with lived experience of PTSD-related self-stigma. These efforts combined would enhance our understanding of self-stigma in the context of PTSD and potentially mitigate the impact on functional outcomes.

## Acknowledgments

The National Centre for Mental Health (NCMH) is a collaboration between Cardiff, Swansea and Bangor Universities and is funded by Welsh Government through Health and Care Research Wales. We thank the NCMH study participants for their invaluable contribution to this project.

## Data availability statement

The National Centre for Mental Health (NCMH) welcome proposals for collaboration and data is available upon reasonable request.

## Disclosure statement

No potential conflict of interest was reported by the author(s).

## Funding

This work was supported by Welsh Government through Health and Care Research Wales. Grant number 517191. SZ is supported by the NIHR Biomedical Research Centre at University Hospitals Bristol and Weston NHS Foundation Trust and the University of Bristol.

## ORCID

*Catrin Lewis* http://orcid.org/0000-0002-3818-9377
*Ian Jones* http://orcid.org/0000-0001-5821-5889
*Jonathan I. Bisson* http://orcid.org/0000-0001-5170-1243

## References

Berge, M., & Ranney, M. (2005). Self-esteem and stigma among persons with schizophrenia: Implications for mental health. *Care Management Journals*, *6*, 139–144. https://doi.org/10.1891/cmaj.6.3.139

Blevins, C. A., Weathers, F. W., Davis, M. T., Witte, T. K., & Domino, J. L. (2015). The posttraumatic stress disorder checklist for DSM-5 (PCL-5): Development and initial psychometric evaluation. *Journal of Traumatic Stress*, *28*, 489–498. https://doi.org/10.1002/jts.22059

Bonfils, K. A., Lysaker, P. H., Yanos, P. T., Siegel, A., Leonhardt, B. L., James, A. V., … Davis, L. W. (2018). Self-stigma in PTSD: Prevalence and correlates. *Psychiatry Research*, *265*, 7–12. https://doi.org/10.1016/j.psychres.2018.04.004

Bovin, M. J., Marx, B. P., Weathers, F. W., Gallagher, M. W., Rodriguez, P., Schnurr, P. P., & Keane, T. M. (2016). Psychometric properties of the PTSD checklist for diagnostic and statistical manual of mental disorders–fifth edition (PCL-5) in veterans. *Psychological Assessment*, *28*, 1379–1391. https://doi.org/10.1037/pas0000254

Brohan, E., Elgie, R., Sartorius, N., Thornicroft, G., & GAMIAN-Europe Study Group. (2010). Self-stigma, empowerment and perceived discrimination among people with schizophrenia in 14 European countries: The GAMIAN-Europe study. *Schizophrenia Research*, *122*, 232–238. https://doi.org/10.1016/j.schres.2010.02.1065

Brohan, E., Gauci, D., Sartorius, N., Thornicroft, G., & GAMIAN–Europe Study Group. (2011). Self-stigma, empowerment and perceived discrimination among people with bipolar disorder or depression in 13 European countries: The GAMIAN–Europe study. *Journal of Affective Disorders*, *129*, 56–63. https://doi.org/10.1016/j.jad.2010.09.001

Büchter, R. B., & Messer, M. (2017). Interventions for reducing self-stigma in people with mental illnesses: A systematic review of randomized controlled trials. *GMS German Medical Science*, *15*.

Carrara, B. S., & Arena Ventura, C. A. (2018). Self-stigma, mentally ill persons and health services: An integrative review of literature. *Archives of Psychiatric Nursing*, *32*, 317–324. https://doi.org/10.1016/j.apnu.2017.11.001

Chang, C.-C., Wu, T.-H., Chen, C.-Y., & Lin, C.-Y. (2016). Comparing self-stigma between people with different mental disorders in Taiwan. *Journal of Nervous & Mental Disease*, *204*, 547–553. https://doi.org/10.1097/NMD.0000000000000537

Chang, C.-C., Wu, T.-H., Chen, C.-Y., Wang, J.-D., & Lin, C.-Y. (2014). Psychometric evaluation of the internalized stigma of mental illness scale for patients with mental illnesses: Measurement invariance across time. *PLoS ONE*, *9*, e98767. https://doi.org/10.1371/journal.pone.0098767

Chang, K.-C., Lin, C.-Y., Chang, C.-C., Ting, S.-Y., Cheng, C.-M., & Wang, J.-D. (2019). Psychological distress mediated the effects of self-stigma on quality of life in opioid-dependent individuals: A cross-sectional study. *PLoS ONE*, *14*, e0211033.

Cheng, C.-M., Chang, C.-C., Wang, J.-D., Chang, K.-C., Ting, S.-Y., & Lin, C.-Y. (2019). Negative impacts of self-stigma on the quality of life of patients in methadone maintenance treatment: The mediated roles of psychological distress and social functioning. *International Journal of Environmental Research and Public Health*, *16*, 1299. https://doi.org/10.3390/ijerph16071299

Corrigan, P. (2004). How stigma interferes with mental health care. *American Psychologist*, *59*, 614–625. https://doi.org/10.1037/0003-066X.59.7.614

Corrigan, P. W., Kosyluk, K. A., & Rüsch, N. (2013). Reducing self-stigma by coming out proud. *American Journal of Public Health*, *103*, 794–800. https://doi.org/10.2105/AJPH.2012.301037

Corrigan, P. W., Larson, J. E., Michaels, P. J., Buchholz, B. A., Del Rossi, R., Fontecchio, M. J., … Rüsch, N. (2015). Diminishing the self-stigma of mental illness by coming out proud. *Psychiatry Research*, *229*, 148–154. https://doi.org/10.1016/j.psychres.2015.07.053

Corrigan, P. W., & Watson, A. C. (2002). Understanding the impact of stigma on people with mental illness. *World Psychiatry*, *1*, 16.

Corrigan, P. W., Watson, A. C., & Barr, L. (2006). The self–stigma of mental illness: Implications for self–esteem and self–efficacy. *Journal of Social and Clinical Psychology*, *25*, 875–884. https://doi.org/10.1521/jscp.2006.25.8.875

Dimitropoulos, G., McCallum, L., Colasanto, M., Freeman, V. E., & Gadalla, T. (2016). The effects of stigma on recovery attitudes in people with anorexia nervosa in intensive treatment. *Journal of Nervous & Mental Disease*, *204*, 370–380. https://doi.org/10.1097/NMD.0000000000000480

Dubreucq, J., Plasse, J., & Franck, N. (2021). Self-stigma in serious mental illness: A systematic review of frequency, correlates, and consequences. *Schizophrenia Bulletin*, *47*, 1261–1287. https://doi.org/10.1093/schbul/sbaa181

Evans-Lacko, S., Brohan, E., Mojtabai, R., & Thornicroft, G. (2012). Association between public views of mental illness and self-stigma among individuals with mental illness in 14 European countries. *Psychological Medicine*, *42*, 1741–1752. https://doi.org/10.1017/S0033291711002558

Gerlinger, G., Hauser, M., De Hert, M., Lacluyse, K., Wampers, M., & Correll, C. U. (2013). Personal stigma in schizophrenia spectrum disorders: A systematic review of prevalence rates, correlates, impact and interventions. *World Psychiatry*, *12*, 155–164. https://doi.org/10.1002/wps.20040

Griffiths, K. M., Carron-Arthur, B., Parsons, A., & Reid, R. (2014). Effectiveness of programs for reducing the stigma associated with mental disorders. A meta-analysis of randomized controlled trials. *World Psychiatry*, *13*, 161–175. https://doi.org/10.1002/wps.20129

Hammarlund, R., Crapanzano, K. A., Luce, L., Mulligan, L., & Ward, K. M. (2018). Review of the effects of self-stigma and perceived social stigma on the treatment-seeking decisions of individuals with drug-and alcohol-use disorders. *Substance Abuse and Rehabilitation*, *9*, 115–136. https://doi.org/10.2147/SAR.S183256

Harris, J. I., Farchmin, L., Stull, L., Boyd, J., Schumacher, M., & Drapalski, A. L. (2015). Prediction of changes in self-stigma among veterans participating in partial psychiatric hospitalization: The role of disability status and military cohort. *Psychiatric Rehabilitation Journal*, *38*, 179–185. https://doi.org/10.1037/prj0000118

Huang, W.-Y., Chen, S.-P., Pakpour, A. H., & Lin, C.-Y. (2018). The mediation role of self-esteem for self-stigma on quality of life for people with schizophrenia: A retrospectively longitudinal study. *Journal of Pacific Rim Psychology*, *12*. https://doi.org/10.1017/prp.2017.18

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. https://doi.org/10.1001/archpsyc.1995.03950240066012

Lewis, C., Roberts, N. P., Andrew, M., Starling, E., & Bisson, J. I. (2020). Psychological therapies for post-traumatic stress disorder in adults: Systematic review and meta-analysis. *European Journal of Psychotraumatology*, *11*, 1729633. https://doi.org/10.1080/20008198.2020.1729633

Lien, Y.-J., Chang, H.-A., Kao, Y.-C., Tzeng, N.-S., Lu, C.-W., & Loh, C.-H. (2018). Insight, self-stigma and psychosocial outcomes in schizophrenia: A structural equation modelling approach. *Epidemiology and Psychiatric Sciences*, *27*, 176–185. https://doi.org/10.1017/S2045796016000950

Lin, C.-Y., Chang, C.-C., Wu, T.-H., & Wang, J.-D. (2016). Dynamic changes of self-stigma, quality of life, somatic complaints, and depression among people with schizophrenia: A pilot study applying kernel smoothers. *Stigma and Health*, *1*, 29–43. https://doi.org/10.1037/sah0000014

Link, B. G., Struening, E. L., Neese-Todd, S., Asmussen, S., & Phelan, J. C. (2001). Stigma as a barrier to recovery: The consequences of stigma for the self-esteem of people with mental illnesses. *Psychiatric Services*, *52*, 1621–1626. https://doi.org/10.1176/appi.ps.52.12.1621

Livingston, J. D., & Boyd, J. E. (2010). Correlates and consequences of internalized stigma for people living with mental illness: A systematic review and meta-analysis. *Social Science & Medicine*, *71*, 2150–2161. https://doi.org/10.1016/j.socscimed.2010.09.030

Lu, M.-Y., Ahorsu, D. K., Kukreti, S., Strong, C., Lin, Y.-H., Kuo, Y.-J., … Ko, N.-Y. (2021). The prevalence of post-traumatic stress disorder symptoms, sleep problems, and psychological distress among COVID-19 frontline healthcare workers in Taiwan. *Frontiers in Psychiatry*, *12*. https://doi.org/10.3389/fpsyt.2021.705657

Lysaker, P. H., Roe, D., & Yanos, P. T. (2006). Toward understanding the insight paradox: Internalized stigma moderates the association between insight and social functioning, hope, and self-esteem among people with schizophrenia spectrum disorders. *Schizophrenia Bulletin*, *33*, 192–199. https://doi.org/10.1093/schbul/sbl016

Maharjan, S., & Panthee, B. (2019). Prevalence of self-stigma and its association with self-esteem among psychiatric patients in a Nepalese teaching hospital: A cross-sectional study. *BMC Psychiatry*, *19*, 1–8. https://doi.org/10.1186/s12888-019-2344-8

Mills, H., Mulfinger, N., Raeder, S., Ruesch, N., Clements, H., & Scior, K. (2020). Self-help interventions to reduce self-stigma in people with mental health problems: A systematic literature review. *Psychiatry Research*, *284*, 112702. https://doi.org/10.1016/j.psychres.2019.112702

Mittal, D., Drummond, K. L., Blevins, D., Curran, G., Corrigan, P., & Sullivan, G. (2013). Stigma associated with PTSD: Perceptions of treatment seeking combat veterans. *Psychiatric Rehabilitation Journal*, *36*, 86–92. https://doi.org/10.1037/h0094976

Mittal, D., Sullivan, G., Chekuri, L., Allee, E., & Corrigan, P. W. (2012). Empirical studies of self-stigma reduction strategies: A critical review of the literature. *Psychiatric Services*, *63*, 974–981. https://doi.org/10.1176/appi.ps.201100459

Pyne, J. M., Kuc, E. J., Schroeder, P. J., Fortney, J. C., Edlund, M., & Sullivan, G. (2004). Relationship between perceived stigma and depression severity. *Journal of Nervous & Mental Disease*, *192*, 278–283. https://doi.org/10.1097/01.nmd.0000120886.39886.a3

Ritsher, J. B., Otilingam, P. G., & Grajales, M. (2003). Internalized stigma of mental illness: Psychometric properties of a new measure. *Psychiatry Research*, *121*, 31–49. https://doi.org/10.1016/j.psychres.2003.08.008

Ritsher, J. B., & Phelan, J. C. (2004). Internalized stigma predicts erosion of morale among psychiatric outpatients. *Psychiatry Research*, *129*, 257–265. https://doi.org/10.1016/j.psychres.2004.08.003

Rüsch, N., Abbruzzese, E., Hagedorn, E., Hartenhauer, D., Kaufmann, I., Curschellas, J., … Olschewski, M. (2014). Efficacy of coming out proud to reduce stigma's impact among people with mental illness: Pilot randomised controlled trial. *British Journal of Psychiatry*, *204*, 391–397. https://doi.org/10.1192/bjp.bp.113.135772

Scior, K., Rüsch, N., White, C., & Corrigan, P. W. (2020). Supporting mental health disclosure decisions: The honest, open, proud programme. *The British Journal of Psychiatry*, *216*, 243–245. https://doi.org/10.1192/bjp.2019.256

Sibitz, I., Unger, A., Woppmann, A., Zidek, T., & Amering, M. (2011). Stigma resistance in patients with schizophrenia. *Schizophrenia Bulletin*, *37*, 316–323. https://doi.org/10.1093/schbul/sbp048

StataCorp. (2013). *Stata Statistical Software: Release 13*. College Station, TX: StataCorp LP.

Touriño, R., Acosta, F. J., Giráldez, A., Álvarez, J., González, J. M., Abelleira, C., … Rodriguez, C. J. (2018). Suicidal risk, hopelessness and depression in patients with schizophrenia and internalized stigma. *Actas Espanolas de Psiquiatria*, *46*, 33–41.

Tsang, H. W., Ching, S. C., Tang, K. H., Lam, H. T., Law, P. Y., & Wan, C. N. (2016). Therapeutic intervention for internalized stigma of severe mental illness: A systematic review and meta-analysis. *Schizophrenia Research*, *173*, 45–53. https://doi.org/10.1016/j.schres.2016.02.013

Vauth, R., Kleim, B., Wirtz, M., & Corrigan, P. W. (2007). Self-efficacy and empowerment as outcomes of self-stigmatizing and coping in schizophrenia. *Psychiatry Research*, *150*, 71–80. https://doi.org/10.1016/j.psychres.2006.07.005

Vogel, D. L., Wade, N. G., & Haake, S. (2006). Measuring the self-stigma associated with seeking psychological help. *Journal of Counseling Psychology*, *53*, 325–337. https://doi.org/10.1037/0022-0167.53.3.325

Vogel, D. L., Wade, N. G., & Hackler, A. H. (2007). Perceived public stigma and the willingness to seek counseling: The mediating roles of self-stigma and attitudes

toward counseling. *Journal of Counseling Psychology*, *54*, 40–50. https://doi.org/10.1037/0022-0167.54.1.40

Weathers, F. W., Blake, D. D., Schnurr, P. P., Kaloupek, D. G., Marx, B. P., & Keane, T. M. (2013a). *The Clinician-Administered PTSD Scale for DSM-5 (CAPS-5)'*. Interview available from the National Center for PTSD at www.ptsd.va.gov.

Weathers, F. W., Blake, D. D., Schnurr, P. P., Kaloupek, D. G., Marx, B. P., & Keane, T. M. (2013b). The Life Events Checklist for DSM-5 (LEC-5)'.

Wortmann, J. H., Jordan, A. H., Weathers, F. W., Resick, P. A., Dondanville, K. A., Hall-Clark, B., … Hembree, E. A. (2016). Psychometric analysis of the PTSD Checklist-5 (PCL-5) among treatment-seeking military service members. *Psychological Assessment*, *28*, 1392. https://doi.org/10.1037/pas0000260

Yanos, P. T., Lucksted, A., Drapalski, A. L., Roe, D., & Lysaker, P. (2015). Interventions targeting mental health self-stigma: A review and comparison. *Psychiatric Rehabilitation Journal*, *38*, 171–178. https://doi.org/10.1037/prj0000100

Yanos, P. T., Roe, D., Markus, K., & Lysaker, P. H. (2008). Pathways between internalized stigma and outcomes related to recovery in schizophrenia spectrum disorders. *Psychiatric Services*, *59*, 1437–1442. https://doi.org/10.1176/ps.2008.59.12.1437

Yen, C., Chen, C., Lee, Y., Tang, T., Ko, C., & Yen, J. (2009). Association between quality of life and self-stigma, insight, and adverse effects of medication in patients with depressive disorders. *Depression and Anxiety*, *26*, 1033–1039. https://doi.org/10.1002/da.20413

Zigmond, A. S., & Philip Snaith, R. (1983). The hospital anxiety and depression scale. *Acta Psychiatrica Scandinavica*, *67*, 361–370. https://doi.org/10.1111/j.1600-0447.1983.tb09716.x