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# The psychological consequences of stalking: cross-sectional findings in a sample of Danish help-seeking stalking victims

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## ABSTRACT

**Background:** The experience of stalking presents a threat to the mental and physical health and wellbeing of victims. Although some studies have explored the impact of stalking on victims, few have gone into detail about specific mental health outcomes and their association with various types of stalking behaviour.

**Objective:** To investigate the psychological consequences among Danish help-seeking victims of stalking who have contacted and received help through the Danish Stalking Center (DSC).

**Methods:** We used survey-data from stalking victims who sought and received help from the DSC during 2015–2020 ( $N=591$ ). Descriptive statistics, correlation analysis, T-tests, and hierarchical logistic regression analysis were used to examine psychological distress symptoms and the relationship between psychopathological symptoms and stalking behaviour characteristics.

**Results:** Victims reported considerable levels of stalking and psychological distress. Almost 80% of victims reported symptom levels indicative of a diagnosable disorder of PTSD, depression, or anxiety. T-test showed that following behaviour had the greatest effect size for PTSD-symptoms ( $t(575)=-5.81, p<.01, d=-.58$ ), anxiety ( $t(576)=-4.21, p<.01, d=-.42$ ), and somatization ( $t(572)=-4.29, p<.01, d=-.43$ ). Hierarchical logistic regression analysis showed that stalking victims who experienced following had significantly higher odds of experiencing symptoms of PTSD (OR 2.869; 95% CI, [1.641–5.016]) and anxiety (OR 2.274; 95% CI [1.265; 4.090]).

**Conclusion:** Being stalked is associated with substantial PTSD-, affective and trauma-related symptoms and psychological distress in general. Together with the strikingly high levels of psychopathology and the particularly grave effects of being followed, it is indicated that stalking is a special type of trauma with many negative and harmful effects. Hence, further research into how to properly help stalking victims through preventive interventions and treatment is needed.

## Las consecuencias psicológicas del acecho: hallazgos transversales en una muestra de víctimas de acecho danesas que buscan ayuda

**Antecedentes:** La experiencia del acecho presenta una amenaza para la salud y el bienestar físico y mental de las víctimas. Aunque algunos estudios han explorado el impacto del acecho en las víctimas, pocos han entrado en detalles sobre resultados específicos de salud mental y su asociación con diversos tipos de conducta de acoso.

**Objetivo:** Investigar las consecuencias psicológicas entre las víctimas de acecho danesas que buscan ayuda y que se han puesto en contacto y han recibido ayuda a través del Centro Danés de Acecho (DSC en su sigla en inglés).

**Método:** Utilizamos datos de encuestas de víctimas de acecho que buscaron y recibieron ayuda del DSC entre 2015 y 2020 ( $N=591$ ). Se utilizaron estadísticas descriptivas, análisis de correlación, pruebas *T* y análisis de regresión logística jerárquica para examinar los síntomas de malestar psicológico y la relación entre los síntomas psicopatológicos y las características de la conducta de acecho.

**Resultados:** Las víctimas informaron niveles considerables de acecho y malestar psicológico. Casi el 80% de las víctimas informaron niveles de síntomas indicativos de un trastorno diagnosticable de trastorno de estrés postraumático, depresión o ansiedad. La prueba *T* mostró que la conducta de seguir tenía el mayor tamaño del efecto para los síntomas de TEPT ( $t(575)=-5.81, p<.01, d=-0.58$ ), ansiedad ( $t(576)=-4.21, p<.01, d=-.42$ ), y somatización, ( $t(572)=-4.29, p<.01, d=-.43$ ). El análisis de regresión logística jerárquica mostró que las víctimas de acecho que experimentaron seguimiento tenían probabilidades significativamente mayores de experimentar síntomas de trastorno de estrés postraumático (OR 2.869; IC del 95 %, [1.641, 5.016]) y ansiedad (OR 2.274; IC del 95 % [1.265, 4.090]).

**Conclusión:** Ser acechado se asocia con síntomas sustanciales de trastorno de estrés postraumático, síntomas afectivos y relacionados con el trauma y malestar psicológico en general. Junto con los niveles sorprendentemente altos de psicopatología y los efectos particularmente graves del seguimiento, se indica que el acecho es un tipo especial de

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Stalking; psychological violence; PTSD; psychopathology; trauma

## PALABRAS CLAVE

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## 关键词

跟踪; 心理暴力; PTSD; 创伤; 心理病理学

## HIGHLIGHTS

- Stalking is a special type of trauma with many negative and harmful effects.
- Being stalked is associated with substantial PTSD-, affective symptoms, functional impairment, general psychological distress, and strikingly high levels of psychopathology.
- Especially following behaviour has grave effects on victims' mental health.

trauma con muchos efectos negativos y dañinos. Por lo tanto, se necesita más investigación sobre cómo ayudar adecuadamente a las víctimas del acoso mediante intervenciones y tratamientos preventivos.

### 跟踪的心理后果：丹麦寻求帮助跟踪受害者样本的横断面调查结果

**背景：**跟踪的经历对受害者的身心健康和福祉构成威胁。尽管一些研究探讨了跟踪对受害者的影响，但很少有研究详细介绍特定的心理健康结果及其与各种类型的跟踪行为的关联。

**目的：**调查那些通过丹麦跟踪中心（DSC）联系并接受帮助的丹麦跟踪求助受害者的心理后果。

**方法：**我们使用了 2015 年至 2020 年期间向 DSC 寻求并获得帮助的跟踪受害者的调查数据 ( $N = 591$ )。采用描述性统计、相关分析、T 检验和层次逻辑回归分析来检验心理困扰症状以及心理病理症状与跟踪行为特征之间的关系。

**结果：**受害者报告了相当程度的跟踪和心理困扰。近 80% 的受害者报告的症状水平表明患有可诊断的创伤后应激障碍（PTSD）、抑郁或焦虑。T 检验表明尾随行为对 PTSD 症状 ( $t(575) = -5.81, p < .01, d = -.58$ )、焦虑 ( $t(576) = -4.21, p < .01, d = -.42$ )，以及躯体化 ( $t(572) = -4.29, p < .01, d = -.43$ ) 的影响最大。分层逻辑回归分析显示，经历过跟踪的跟踪受害者出现 PTSD (OR 2.869; 95% CI, [1.641–5.016]) 和焦虑 (OR 2.274; 95% CI [1.265; 4.090]) 症状的几率显著更高。

**结论：**被跟踪通常与严重的 PTSD、情感和创伤相关症状以及心理困扰有关。加上惊人的高水平精神病症状和被跟踪造成的特别严重的影响，这表明跟踪是一种特殊类型的创伤，具有许多负面和有害的影响。因此，需要进一步研究如何通过预防干预和治疗来正确帮助跟踪受害者。

## 1. Background

Both internationally and in Denmark, the concept of stalking is relatively new, although the phenomenon has been known for a long time. Already in the late 1980s the phenomenon was recognized as a societal problem in the USA. In 1990, California was the first state to introduce an anti-stalking law (Coleman, 1997). Since then, similar legislation has been adopted in the rest of the USA, Canada, Australia, and several European countries. In Denmark, the first anti-stalking law was passed in late 2021 (Justitsministeriet, 2021a; Larsen, 2010; Mullen et al., 2009). There is no unequivocal definition and operationalization that can define stalking as a phenomenon across different contexts. This is partly because stalking is a complex and heterogeneous phenomenon, and partly because there is a difference between whether the definition is used in connection with research, clinical support efforts, or legislation (Owens, 2016). Most legal definitions of stalking require three key elements: a pattern of conduct directed at a specific person, conduct intended to instil fear for the person's safety, and conduct that actually causes fear for the person's safety (Beatty, 2003). However, states and countries vary in terms of what behaviours constitute stalking, the level of threats or fear required, and the frequency of events. While fear is often considered a necessary element in defining stalking, the subjective nature of fear and individual reactions contribute to the ongoing debate. One perspective argues that fear is integral to stalking, making otherwise legitimate behaviour criminal (Melton, 2007), while others oppose this requirement, considering it unnecessary

and potentially excluding victims from legal protections (Dietz & Martin, 2007). The highly subjective nature of stalking and the lack of consensus on fear contribute to the difficulty in establishing a unified definition. In Denmark, fear is not required in order to recognize a series of behaviour as stalking. Specifically, the Danish Penal Code recognizes behaviour as stalking when a person 'systematically and continuously contacts, pursues or otherwise harasses another person in a manner likely to invade the privacy of the relevant person' (Justitsministeriet, 2021b). This conceptualization originates from the Danish Stalking Center (DSC), an NGO specialized in stalking. Founded in 2015, the DSC is the first and only specialized organization of its kind in the Nordic countries (The Danish Stalking Centre, 2023). Each year, the Centre's telephone helpline receives over 1.800 calls from people affected by stalking. In addition, the centre helps around 450 victims of stalking, practitioners and relatives in the form of conversation and counselling sessions in the Centre's specialized intervention. Since 2019, the Danish Stalking Center has received a permanent operating grant via the Finance Act. As a result of a collaborative project between the DSC and the National Centre for Psychotraumatology at the University of Southern Denmark, this paper incorporates the definition of stalking employed by the DSC: 'Stalking is a systematic series of contact attempts and behaviour which is unwanted and persistent and which is experienced as border transgressing and intimidating for the victim' (Dansk Stalking Center, 2021). According to this definition, stalking can manifest itself in many ways and through different approaches (Johansen et al.,

2013). In 2018, the Danish Ministry of Justice published the results of a national representative population survey that showed that 2% had been subjected to stalking within the past year. This corresponds to approximately between 67,000 and 98,000 Danes (Justitsministeriets Forskningskontor, 2018). Furthermore, a survey of stalking in Denmark from 2013 has estimated that 8.9% of the Danish population aged 18–74 have been exposed to stalking at one or more times during their lives (Johansen et al., 2013). Research shows that significantly more women than men are exposed to stalking. In a Danish population-based study, 5.6% of women and 3.5% of men reported being victims of stalking within the past five years (Justitsministeriets Forskningskontor, 2018). In the 2004 British Crime Survey, gender was identified as a significant risk factor for being exposed to interpersonal violence, including stalking (Walby & Allen, 2004). The most recent American National Crime Victimization Survey showed that women were stalked more than twice as often as men (Morgan, 2022). In the study by the Danish Ministry of Justice, it was also found that 43% of those exposed to stalking had been stalked for more than 6 months. In general the duration of the stalking can vary widely, from months to decades (Justitsministeriets Forskningskontor, 2018). An American meta-analysis from 2007 found that the average duration of stalking across 28 studies was just around 2 years (Spitzberg & Cupach, 2007), but with a wide range between 4 months and 7 years. The study also investigated the relationship between the stalker and the victim, and here they identified three overall relationship categories: (1) the intimate relationship, where the victim has had an intimate or close relationship with the stalker (28%), (2) the familiar relationship, where the victim has had a less close relationship with the stalker, for example in the form of a colleague or a friend (40%), (3) the stranger or unknown relationship (32%) (Spitzberg & Cupach, 2007).

### **1.1. The association between stalking characteristics and post-traumatic stress**

According to the World Health Organization (2013), trauma is defined as ‘an event or events that are perceived by an individual as physically or emotionally harmful or threatening, leading to lasting adverse effects on their functioning and mental health’. Based on this definition, stalking would in many instances qualify as a traumatic experience as it often entails repeated and prolonged exposure to fear, threat, and/or harm. Thus, it is reasonable to expect that stalking victims may exhibit symptoms consistent with other trauma victims, including depression, anxiety, and PTSD (World Health Organization, 2013). Due to this, previous research has made some

strides in examining the association between stalking characteristics and Post-Traumatic Stress Disorder (PTSD), but the results have been mixed. Studies have explored various stalking characteristics in relation to PTSD symptoms, including the duration of stalking (Bailey & Morris, 2021; Kamphuis et al., 2003; Purcell et al., 2012; Wolf et al., 2021), the variation in stalking behaviours experienced (number of and types of behaviours experienced) (Dardis et al., 2019; Kamphuis et al., 2003; Pathé & Mullen, 1997; Purcell et al., 2012; Purcell et al., 2005), and the victim-stalker relationship (Kamphuis & Emmelkamp, 2001; Pathé & Mullen, 1997; Purcell et al., 2005).

Victims of stalking have consistently shown an elevated risk of mental illness (Kuehner et al., 2007) and impaired social functioning (Blaauw et al., 2002). Research has also reported a high prevalence of depressive disorders and post-traumatic stress disorders among stalking victims, but no definitive conclusions have been reached regarding the relevance of the type and duration of stalking in these outcomes (Bailey & Morris, 2021; Logan & Walker, 2021; Pathé & Mullen, 1997; Vangsgaard et al., 2019). Amar (2006) found that college women who experienced stalking reported significantly more somatization, depression, and hostility symptoms compared to non-victims (Amar, 2006). Dreßing et al. (2020) similarly discovered that stalking victims exhibited lower levels of well-being and higher levels of anxiety and depression compared to non-victims, even after accounting for sociodemographic variables (Dreßing et al., 2020). The prevalence of at least one psychiatric disorder was significantly higher among stalking victims (46.5%) compared to non-victims (24.4%). Despite these consistent findings regarding the psychological and psychiatric consequences of stalking victimization as a whole, there remains a dearth of information concerning the specific associations between different stalking behaviours and the prevalence of distinct psychopathologies among victims.

### **1.2. Specific stalking behaviours and their associations with mental health outcomes**

The association between different types of stalking and psychiatric symptoms can be better understood by considering the nature of stalking experiences. Stalking, as defined in this study, encompasses various behaviours that can evoke extreme feelings of threat and terror in victims (Dansk Stalking Center, 2021). This includes concrete threats, acts of violence, and abuse experienced by stalking victims (Blaauw et al., 2002; Pathé & Mullen, 1997; Sheridan et al., 2001). Additionally, there is an implicit threat embedded within the stalking behaviour itself, which may not involve direct confrontation or violence. The unpredictable and uncertain nature of future contact attempts might create a

constant need for vigilance and alertness. The frequency and intensity of intrusive and disturbing contact attempts is likely to impose a significant burden on victims, further compounded by the uncertainty of when the stalking will cease (Blaauw et al., 2002). The enduring duration of stalking, which can persist for years (Pathé & Mullen, 1997), can exacerbate psychological distress and hence pose a threat to the victim's mental health and overall well-being.

Only a few studies have examined the relationship between different stalking behaviour characteristics and psychiatric symptoms among victims. Pathé and Mullen (1997) found that victims who experienced being followed or exposed to violence were more likely to exhibit post-traumatic stress symptoms. Similarly, Blaauw et al. (2002) reported that stalking behaviours involving following or theft/destruction of property were associated with higher levels of psychopathology symptoms. They also found that victims who experienced six or more stalking behaviours exhibited more symptoms. However, contrary to Pathé and Mullen, Blaauw did not find a significant association between symptom levels and the occurrence of physical assault. Furthermore, Purcell et al. (2012) observed that higher levels of general psychopathology were associated with experiencing both threats and physical assault among a community sample of stalking victims. Yet, only the experience of threats was linked to higher levels of post-traumatic stress symptoms (Purcell et al., 2012). Altogether, these findings highlight the complex relationship between stalking characteristics and psychiatric symptoms, indicating that the specific types of stalking behaviours experienced may have differential effects on victims' mental health.

The experience of stalking poses significant threats to the mental and physical well-being of victims, yet there is a dearth of research exploring the association between various stalking behaviour characteristics and specific mental health outcomes. Thus, the present study adopts an exploratory approach to investigate the psychological consequences of stalking victimization among Danish help-seeking stalking victims. Specifically, we aim to examine the psychological distress experienced by these victims in terms of affective symptoms, somatization, general functional disability, PTSD symptoms, negative affectivity, and dissociation. Additionally, we aim to explore possible associations between specific psychopathological symptoms and various stalking behaviour characteristics, such as threats, following, destruction of property/theft, and violence.

## 2. Method

### 2.1. Procedure and participants

Data was collected by the Danish Stalking Center (DSC) in the period 2015–2020 through a survey

questionnaire. Prior to the beginning of the project, DSC had an established procedure for securing informed written consent in connection with the collection and storage of questionnaire responses. All participants who filled in the questionnaire gave consent for the data to be used in connection with research. The questionnaire was sent to all victims of stalking who accepted the offer of therapy through the professional intervention in DSC from 2015 to 2020. The questionnaire was distributed via email where the participant received a link together with a unique user ID. All participants filled in the questionnaire prior to the first therapy session at the DSC. A total of 672 people participated. In order to minimize the number of partial and fragmented responses in the data set, all responses that had not completed the first question of the first psychological test were excluded ( $n = 36$ ). In addition, there were four responses where the psychological tests were completed, but where the initial information on e.g. gender and age was not completed. These four responses were also excluded from the analysis. The distribution method also resulted in several participants having answered the questionnaire twice, but where only one answer was complete. In these cases, the incomplete answer was excluded ( $n = 6$ ). In cases where the questionnaire was completed twice by the same person, the most recent response was excluded ( $n = 5$ ) due to the possibility of the respondent having already started treatment between the first and the last completion of the questionnaire. In cases where the form had been completed over several days or weeks, the responses were excluded ( $n = 24$ ) with the same reason as before mentioned. The remaining 591 responses were included in the analysis.

### 2.2. Material

Data on the participant's age, gender, occupation, number of children, if the stalker was a co-parent, and region of residence were collected as background variables. In addition, information about the characteristics of the stalking was collected. This included information about the relation between the victim and the stalker, the duration of stalking and whether the stalking was currently ongoing or had stopped.

*The Stalking Behavior Checklist* (SBC) was used to measure stalking behaviour. In the SBC (Coleman, 1997), the participant was presented with 26 different types of stalking behaviour and they were asked to indicate the average frequency of each type of stalking behaviour during the stalking process. Frequency was indicated on a 6-point Likert scale with response options 0 = 'Never', 1 = 'Once a month or less', 2 = 'Two to three times a month', 3 = 'Once or twice a week', 4 = 'Three to six times a week', and 5 = 'Once a day or more'. To calculate a separate measure of

the number of different types of stalking behaviours experienced – the variation in the stalking behaviour – each individual item of the SBC was converted so that a score of 1 indicated that the participant had originally scored 1 or higher, thus having experienced the stalking behaviour in question, and a score of 0 indicated that the participant had originally scored 0 and thus had not experienced this type of stalking behaviour. After this, a summation of these converted items was calculated to give a total variation score that indicated how many different types of contact attempts the individual participant had experienced, independent of the frequency. The SBC has two validated subscales: the Violent Behavior subscale (items 1–13), comprising of overtly violent actions, and the Harassing Behavior subscale (items 14–26), including harassing or threatening behaviours. We followed this categorization by Coleman's (1997) in our study. However, the subsequent division of stalking behaviours into five categories employed in this study was not directly derived from Coleman's original work, but rather drawn from existing literature (Jørgensen & Elklit, 2022) and developed by an independent process within our research group. Three researchers independently assigned each item to a specific behaviour group, and subsequent comparisons and discussions among the researchers resulted in the final establishment of the five behaviour categories, along with their respective constituent items. These categories encompassed violence (items 6, 7, and 26), threats (items 4 and 24), following (items 10, 15, and 19), calls/texts (items 13, 16, 17, 18, 21, 22, and 25), and theft/destruction of property (items 1, 3, 5, 8, and 11). If a participant had experienced any item within a specific category, they were classified as having experienced the corresponding behaviour category. In this study, Cronbach's alpha was .852 for the total scale.

*Harvard Trauma Questionnaire (HTQ)* was used to measure symptoms of PTSD. The HTQ (Mollica et al., 1992) is a trauma screening tool that originally consisted of four sections. This study included 17 questions from section III of the HTQ, which were used to measure symptoms of PTSD based on the three symptom clusters included in the DSM-IV's PTSD diagnosis: Re-experiencing (five items), Avoidance (seven items) and Hypervigilance (five items). Responses are given on a four-point Likert scale ranging from 1 = 'Not at all', 2 = 'Rarely', 3 = 'Some of the time' and 4 = 'Most of the time'. The total score for the scale, as well as the scores for the three subscales, can be used to indicate the severity of PTSD symptoms. To meet the DSM-IV criteria for PTSD, the participant must score three or higher on one item measuring reexperiencing symptoms, on three items measuring avoidance symptoms and on two items measuring vigilance symptoms. Criterion A2

in the DSM-IV was not measured in this study, although it is included in the DSM-IV criteria for meeting PTSD. Nor is a functional criterion included in the study, although it is also a requirement that the symptoms must be accompanied by a functional impairment. Due to the distinctive characteristics of stalking experiences, we have opted not to rely on a single index event when measuring PTSD symptoms. Stalking victimization involves a series of often fear inducing events likely to be traumatic, making it inadequate to centre our assessment solely on one event. In this study, Cronbach's alpha was .888 for the total scale.

*Trauma Symptom Checklist (TSC)* was used to examine trauma-related symptoms. The questionnaire was originally developed by Briere and Runtz (Briere & Runtz, 1989). In the current study, the TSC-26 (Krog & Duel, 2003) was used; a version with 26 items, which appeared to be a valid instrument with good psychometric properties to measure the effects of stressful events in three domains. Ten items described symptoms related to negative affectivity, 11 items described somatization symptoms, and five items dissociation symptoms. Participants had to indicate, how often they had experienced each symptom in the last month on a 4-point Likert-type scale with answers ranging from 1 (never) to 4 (very often). For each participant, a mean score was computed for the total TSC-26 as well as for the three subscales. In this study, Cronbach's alpha was .926 for the total scale.

*Hopkins Symptom Checklist-25 (HSCL-25)* was used to measure affective symptoms. The HSCL-25 consists of a list of 25 symptoms derived from Derogatis' symptom checklist (Derogatis et al., 1974) with 10 symptoms referring to anxiety and 15 symptoms referring to depression. Participants had to indicate on a 4-point Likert-type scale, how much each symptom had bothered them during the last week with answers ranging from 1 (not at all) to 4 (very much). For each subscale and the total questionnaire, mean scores were calculated to assess participants' affective symptoms. The HSCL-25 appeared to have good psychometric properties in other studies (Glaesmer et al., 2014). In this study, Cronbach's alpha was .947 for the total scale.

*Symptom Checklist-Somatization (SCL-S)* was used to examine somatization. The SCL-S is a 12-item subscale of the larger *Symptom Checklist-90* (Derogatis, 1977). Participants had to rate on a 5-point Likert-type scale, how much they were affected by each symptom during the last month with answers ranging from 0 (not at all) to 4 (very much) and a mean score was calculated. The SCL-90 is a widely used measure of psychological distress with good psychometric properties (Olsen et al., 2006). In this study, Cronbach's alpha was .904 for the total scale.

*Sheehan Disability Scale (SDS)* was used to examine functional disability that refers to an individual's

symptoms' impact and impairment at the workplace, in social and family life (Sheehan et al., 1996). Each domain consists of one question, thus SDS consists of three questions in total. Participants had to indicate on a 10-point Likert-type scale, how much their problem (i.e. the stalking) impaired them in these three domains, ranging from 0 (not at all) to 10 (very much). Each domain consists of one question, thus SDS consists of three questions in total. The participants' general functional disability was presented by a sum score of the three subscales. The SDS is a widely used, valid, and reliable measure of disability (Arbuckle et al., 2009). In this study, Cronbach's alpha was .670 for the total scale.

### 2.3. Analysis

Statistical analysis included descriptive statistics, correlation analysis and multiple regression analysis. Bivariate correlations were applied to measure the relationship between exposure to stalking behaviour characteristics (violence, harassment) and mental health outcomes (i.e. PTSD-symptoms, affective symptoms, negative affect, somatization, dissociation, and functional impairment). To assess the size of a correlation, the criteria proposed by Cohen were used where  $r = 0.1$  constitutes a small correlation,  $r = 0.3$  constitutes a medium correlation, and  $r = 0.5$  constitutes a large correlation. To investigate relationships between stalking behaviour (count, violent, harassing) and symptoms of psychopathology (HTQ, HSCL, SCL-S, SDS scores), t tests were conducted. Cohen's  $d$  was calculated for significant findings, where a Cohen's  $d$  value of 0.2 constitutes a small effect, 0.5 a moderate and 0.8 a large effect. A hierarchical logistic regression analysis was performed to examine the associations between stalking characteristics and measures of psychopathology, adjusting for covariates previous research have indicated might play a role in the development of psychopathology symptoms following stalking victimization (age and victim-stalker relationship). Predictor variables were separated into three blocks: stalking behaviours (violence, threats, following, theft/destruction of property); victimization factors (the number of stalking methods used, the stalking duration); and age and victim-stalker relationship. Odds ratios and 95% confidence intervals (CIs) were calculated. For all statistical tests, the significance level was set at 0.05. Analyses was carried out in Stata 17.0.

## 3. Results

### 3.1. Sample characteristics

Table 1 provides an overview of the sample characteristics. The mean age of the participants was 39.2

**Table 1.** Sociodemographic characteristics of 591 help-seeking stalking victims, Denmark 2015–2020.

|                               | <i>n/N</i>    | %     |
|-------------------------------|---------------|-------|
| Gender                        |               |       |
| Woman                         | 537/591       | 90.86 |
| Man                           | 51/591        | 8.63  |
| Other                         | 3/591         | 0.51  |
| Missing                       | 0             |       |
| Age                           |               |       |
| <25 years                     | 70/591        | 11.84 |
| 26–35 years                   | 158/591       | 26.73 |
| 36–45 years                   | 195/591       | 32.99 |
| 46–55 years                   | 123/591       | 20.81 |
| >55 years                     | 45/591        | 7.61  |
| Mean age (mean (SD))          | 39.26 (11.30) |       |
| Missing                       | 0             |       |
| Occupation                    |               |       |
| Employed                      | 261/565       | 46.19 |
| Unemployed/job seeking        | 46/565        | 8.14  |
| Student                       | 73/565        | 12.92 |
| Early pensioner               | 38/565        | 6.73  |
| Retired                       | 12/565        | 12.12 |
| On leave (maternity)          | 8/565         | 1.42  |
| On sick leave                 | 75/565        | 13.27 |
| Other                         | 52/565        | 9.2   |
| Missing                       | 26            |       |
| Number of children            |               |       |
| 0                             | 192/586       | 32.76 |
| 1                             | 123/586       | 20.99 |
| 2                             | 171/586       | 29.18 |
| 3                             | 84/586        | 14.33 |
| 4                             | 14/586        | 2.22  |
| 5 children or more            | 3/586         | 0.51  |
| Missing                       | 5             |       |
| Stalker is a co-parent        |               |       |
| Yes                           | 183/348       | 52.58 |
| No                            | 165/348       | 47.43 |
| Missing                       | 243           |       |
| Region of residence           |               |       |
| The Capitol Region of Denmark | 278/591       | 47.04 |
| Region Zealand                | 124/591       | 20.98 |
| South Region Denmark          | 28/591        | 4.74  |
| Central Region Denmark        | 63/591        | 10.66 |
| North Denmark Region          | 98/591        | 16.58 |
| Missing                       | 0             |       |

Note. SD = Standard Deviation.

( $SD_c = 11.3$ ) and 90.8% were women. Almost half of participants (46.1%) were currently employed and most lived in the Capitol Region of Denmark (47%). Regarding parental status, 67.2% of participants had children and 52.5% reported that their stalker was a co-parent. Stalking characteristics are displayed in Table 2. In 67.6% of the cases, there was an intimate relation between victim and stalker. The duration of stalking had for 61% of the cases lasted for 1 year or more. For 77 of respondents (14.4%), the stalking was no longer ongoing. Generally, victims were exposed to a large range of stalking behaviours: more than 80% of participants had been stalked in seven or more different ways ( $M = 9.94$ ,  $SD = 4.87$ ) with calls and text being the most frequent one (91.9%).

### 3.2. The impact of stalking

Means and standard deviations of stalking, trauma-related symptoms, affective symptoms, and psychological distress are presented in Table 3. On average,

**Table 2.** Stalking characteristics ( $N = 591$ ).

|                                     | <i>n/N</i>  | %     |
|-------------------------------------|-------------|-------|
| Relation between victim and stalker |             |       |
| Intimate                            | 399/590     | 67.63 |
| Acquaintance                        | 103/590     | 17.46 |
| Stanger                             | 88/590      | 14.92 |
| Missing                             | 1           |       |
| Duration of stalking                |             |       |
| 0–6 months                          | 117/478     | 24.47 |
| 6–12 months                         | 67/478      | 14.01 |
| 1–2 years                           | 102/478     | 21.33 |
| 3–5 years                           | 103/478     | 21.33 |
| More than 5 years                   | 89/478      | 18.61 |
| Missing                             | 113         |       |
| Stalking status a                   |             |       |
| Stopped                             | 77/534      | 14.42 |
| Ongoing                             | 457/534     | 85.58 |
| Missing                             | 57          |       |
| Stalking behaviour                  |             |       |
| Mean count (SD)                     | 9.94 (4.87) |       |
| Violence                            |             |       |
| No                                  | 267/584     | 45.72 |
| Yes                                 | 317/584     | 54.28 |
| Missing                             | 7           |       |
| Threats                             |             |       |
| No                                  | 199/585     | 34.02 |
| Yes                                 | 386/585     | 65.98 |
| Missing                             | 6           |       |
| Following                           |             |       |
| No                                  | 129/583     | 22.13 |
| Yes                                 | 454/583     | 77.87 |
| Missing                             | 8           |       |
| Theft/destruction of property       |             |       |
| No                                  | 344/584     | 58.90 |
| Yes                                 | 240/584     | 41.10 |
| Missing                             | 7           |       |
| Calls/texts                         |             |       |
| No                                  | 47/586      | 8.02  |
| Yes                                 | 539/586     | 91.98 |
| Missing                             | 5           |       |

Note. The duration of stalking is based on the participants' responses to when the stalking started. For those participants whose last contact attempt was more than 6 months ago, a duration of the stalking course has not been calculated, as stalking is considered here to have ended; a = Stalking was categorized as stopped when last contact was 6 months or more ago; *SD* = Standard Deviation.

victims reported considerable levels of stalking and on all symptom measures. Furthermore, the overall rate of psychopathology in the sample was notably high (Table 4). Almost 80% of victims reported symptom levels that indicated the presence of a diagnosable disorder of PTSD, depression or anxiety. More than half reported symptoms of somatization (50.8%) and functional impairment (62.9%) at levels that normally require treatment.

A bivariate correlation showed that both types of grouped stalking behaviour (violent, harassing) correlated positively with the psychological distress variables (i.e. PTSD, trauma-, affective symptoms, TSC subscales, somatization, and functional impairment). Effect sizes were small for all outcomes except avoidance which was moderately correlated with both violent ( $r = .34$ ) and harassing ( $r = .31$ ) stalking behaviour. In turn, all psychological distress variables were highly intercorrelated (Table 5).

T-tests showed that victims reported significantly higher symptom levels for all psychopathology measures when comparing total number of

**Table 3.** Percentages, question range, means and standard deviations of measures of stalking behaviour, PTSD-symptoms, affective symptoms, somatization, trauma-related symptoms and functional impairment symptoms.

| Scale                            | <i>n/N</i> (%)    | Range  | Mean   | <i>SD</i> |
|----------------------------------|-------------------|--------|--------|-----------|
| Stalking Behavior Checklist      |                   |        |        |           |
| Violent behaviour                | 568/591 (96.108)  | 1–6    | 3.600  | 1.186     |
| Harassing behaviour              | 572/591 (96.785)  | 1–6    | 4.794  | 1.770     |
| Total score                      | 560/591 (94.754)  | 26–110 | 50.383 | 12.316    |
| Harvard Trauma Questionnaire     |                   |        |        |           |
| Re-experiencing                  | 586/591 (99.155)  | 1–4    | 3.103  | .630      |
| Avoidance                        | 588/591 (99.492)  | 1–4    | 2.693  | .675      |
| Hyperarousal                     | 591/591 (100.000) | 1–4    | 3.253  | .571      |
| Total score                      | 583/591 (98.643)  | 17–68  | 50.608 | 9.391     |
| Hopkins Symptom Checklist-25     |                   |        |        |           |
| Anxiety                          | 585/591 (98.989)  | 1–4    | 2.367  | .698      |
| Depression                       | 581/591 (98.307)  | 1–4    | 2.354  | .668      |
| Total score                      | 579/591 (97.969)  | 25–100 | 59.027 | 15.983    |
| Symptom Checklist – Somatization |                   |        |        |           |
| Mean                             | 580/591 (98.138)  | 0–4    | 1.419  | .930      |
| Total score                      | 580/591 (98.138)  | 0–48   | 17.036 | 11.167    |
| Trauma Symptom Checklist-26      |                   |        |        |           |
| Negative affect                  | 587/591 (99.323)  | 1–4    | 2.249  | .599      |
| Somatization                     | 587/591 (99.323)  | 1–4    | 2.300  | .655      |
| Dissociation                     | 586/591 (99.153)  | 1–4    | 1.870  | .621      |
| Total score                      | 586/591 (99.1583) | 26–106 | 57.168 | 14.579    |
| Sheehan Disability Scale         |                   |        |        |           |
| Work                             | 584/591 (98.815)  | 0–10   | 5.464  | 3.169     |
| Social life                      | 584/591 (98.815)  | 0–10   | 6.532  | 2.923     |
| Family life                      | 578/591 (97.800)  | 0–10   | 5.359  | 3.734     |
| Total score                      | 578/591 (97.800)  | 0–30   | 17.366 | 7.681     |

Note. *SD* = Standard Deviation.

experienced stalking behaviours and whether the victim had experienced the specific stalking behaviour in question or not (Table 6). Noteworthy, following behaviour had the greatest effect size for PTSD-symptoms ( $t(575) = -5.81$ ,  $p < .01$ ,  $d = -.58$ ), anxiety, ( $t(576) = -4.21$ ,  $p < .01$ ,  $d = -.42$ ), and somatization, ( $t(572) = -4.29$ ,  $p < .01$ ,  $d = -.43$ ). Violence had the greatest effect size for psychological distress (SDS), ( $t(569) = -4.68$ ,  $p < .01$ ,  $d = -.39$ ), while having experienced 7 or more stalking behaviours had the greatest effect size for depression, ( $t(554) = -2.92$ ,  $p < .01$ ,  $d = -.32$ ). Generally, victims reported significantly higher symptom levels across all measures when stalking consisted of seven or more behaviours compared to six or less, ( $t(557) = -3.88$ ,  $p < .01$ ,  $d = -.42$ ).

**Table 4.** Share of participants reporting symptom levels above cut-off indicative of a diagnosable psychiatric disorder.

| Diagnosis                   | Cut-off |          |         |
|-----------------------------|---------|----------|---------|
|                             | Range   | Criteria | % above |
| PTSD (HTQ)                  | 1–4     | *        | 77.90   |
| Depression (HSCL-25)        | 1–4     | 1.75     | 79.11   |
| Anxiety (HSCL-25)           | 1–4     | 1.75     | 79.11   |
| Somatization (SCL-5)        | 0–4     | 1.29**   | 50.86   |
| Functional impairment (SDS) | 0–10    | > 5      | 62.97   |

Note: \* To meet the DSM-IV criteria for PTSD, the participant must score 3 or higher on at least one reexperiencing symptom, three avoidance symptoms, and two hyperarousal symptoms. \*\* cut-off for women in Denmark. The same cut-off was applied to the male participants for lack of better. HTQ = Harvard Trauma Questionnaire; HSCL-25 = Hopkins Symptom Checklist 25; SCL-5 = Symptom Checklist-Somatization; SDS = Sheehan Disability Scale.



**Table 5.** Spearman's rank correlation between stalking behaviour, PTSD-symptoms, affective symptoms, somatization, trauma-related symptoms and functional impairment symptoms.

| Scale   | Subscale              | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 11    | 12    | 13    | 14 |
|---------|-----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----|
| SBC     | 1 Violent behaviour   | 1     |       |       |       |       |       |       |       |       |       |       |       |       |    |
|         | 2 Harassing behaviour | .538* | 1     |       |       |       |       |       |       |       |       |       |       |       |    |
|         | 3 Re-experiencing     | .238* | .222* | 1     |       |       |       |       |       |       |       |       |       |       |    |
| HTQ     | 4 Avoidance           | .340* | .310* | .590* | 1     |       |       |       |       |       |       |       |       |       |    |
|         | 5 Hyperarousal        | .265* | .291* | .642* | .626* | 1     |       |       |       |       |       |       |       |       |    |
| HSCL-25 | 6 Anxiety             | .259* | .239* | .689* | .606* | .671* | 1     |       |       |       |       |       |       |       |    |
|         | 7 Depression          | .269* | .243* | .602* | .720* | .658* | .735* | 1     |       |       |       |       |       |       |    |
| SCL-5   | 8 SCL somatization    | .268* | .241* | .588* | .553* | .647* | .743* | .697* | 1     |       |       |       |       |       |    |
|         | 9 Negative affect     | .242* | .219* | .543* | .661* | .648* | .653* | .851* | .664* | 1     |       |       |       |       |    |
| TSC-26  | 10 Somatization       | .280* | .254* | .616* | .588* | .695* | .738* | .727* | .845* | .683* | 1     |       |       |       |    |
|         | 11 Dissociation       | .275* | .256* | .515* | .521* | .623* | .629* | .642* | .629* | .642* | .632* | 1     |       |       |    |
| SDS     | 12 Work               | .206* | .195* | .364* | .443* | .435* | .447* | .475* | .413* | .414* | .415* | .346* | 1     |       |    |
|         | 13 Social life        | .258* | .253* | .408* | .520* | .466* | .428* | .496* | .416* | .454* | .427* | .317* | .562* | 1     |    |
|         | 14 Family life        | .148* | .203* | .271* | .326* | .269* | .326* | .333* | .299* | .296* | .307* | .267* | .317* | .380* | 1  |

Note. Bivariate correlation. \*Sig. at the 0.1 level. PTSD = Post-Traumatic Stress Disorder; SBC = Stalking Behavior Checklist; HTQ = Harvard Trauma Questionnaire; HSCL-25 = Hopkins Symptom Checklist 25; SCL-5 = Symptom Checklist-Somatization; TSC-26 = Trauma Symptom Checklist-26; SDS = Sheehan Disability Scale.

The hierarchical logistic regression analysis showed that when adjusting for other types of stalking behaviour, number of experienced stalking behaviours, stalking duration, age and relation with the stalker, victims of stalking who experienced following, compared to those who did not, were almost three times as likely to experience symptoms of PTSD (OR, 2.869; 95% CI, [1.641–5.016]) (Table 7). Similarly, when controlling for all other included variables, having experienced following significantly increased the odds of indicating symptoms of anxiety (OR, 2.274; 95% CI, [1.265–4.090]). Victims, whose stalker was an acquaintance, were significantly less likely to report symptoms of PTSD (OR, .338; 95% CI, [.188–.608]), anxiety (OR, .497; 95% CI, [.272–.908]), depression (OR, .408; 95% CI, [.229–.727]) and somatization (OR, .491; 95% CI, [.288–.838]) compared to victims whose stalker was a former intimate relation. Finally, the odds of reporting symptoms of functional impairment was only significantly less when the stalking had lasted between 1 and 2 years compared to 0–6 months (OR, .389; 95% CI, [.163–.927]).

#### 4. Discussion

Our findings indicate that the experience of being stalked is associated with substantial PTSD-, affective-, TSC subscales-, and somatization symptoms together with psychological distress in general. More so, the present study reveals strikingly high levels of psychopathology among Danish stalking victims. Not only were their symptom levels found to be more in accordance with those of torture victims and refugees (Abu Suhaiban et al., 2019) than with those of general population samples, but up to eighty percent of the victims also displayed symptom levels that indicated the presence of a diagnosable psychiatric disorder.

The very high prevalence of PTSD symptoms mirrors that of previous studies that have investigated PTSD among stalking victims seeking treatment or support (Kamphuis et al., 2003; Pathé & Mullen, 1997; Elklit et al., 2019). The prevalence of PTSD in this study is also significantly much higher than in the general population, though prevalence rates vary widely across epidemiologic studies. No study of the prevalence of PTSD in the Danish general population exists, however national surveys from Sweden and Norway have found lifetime prevalence rates of PTSD to be 7.4% and 4.3% for women and 3.6% and 1.4% for men, respectively.

The experience of being followed appeared to be the most significant predictor of an increased likelihood of showing symptoms of PTSD and anxiety. This suggest that the chronic fear and hyperarousal which following generates can have a deteriorating effect on victims' both psychological and social

**Table 6.** T-test with psychopathology symptom outcome scores and stalking characteristics.

| Stalking characteristic       | Measure | N   | Total mean score (SD) | t      | DF  | Difference in mean | 95%CI for mean difference | d      |
|-------------------------------|---------|-----|-----------------------|--------|-----|--------------------|---------------------------|--------|
| HTQ                           |         |     |                       |        |     |                    |                           |        |
| Stalking behaviours           |         |     |                       |        |     |                    |                           |        |
| 7 types or more               |         | 460 | 51.444 (9.228)        | 3.880* | 557 | 3.978              | (1.964;5.992)             | .429   |
| 6 types or less               |         | 99  | 47.464 (9.378)        |        |     |                    |                           |        |
| Violence                      |         |     |                       |        |     |                    |                           |        |
| Yes                           |         | 312 | 52.269 (8.871)        | 4.653* | 576 | 3.596              | [2.078;5.114]             | .388   |
| No                            |         | 266 | 48.672 (9.695)        |        |     |                    |                           |        |
| Threats                       |         |     |                       |        |     |                    |                           |        |
| Yes                           |         | 383 | 51.738 (9.141)        | 4.171* | 577 | 3.402              | [1.800;5.003]             | .366   |
| No                            |         | 196 | 48.336 (9.563)        |        |     |                    |                           |        |
| Following                     |         |     |                       |        |     |                    |                           |        |
| Yes                           |         | 450 | 51.822 (8.756)        | 5.812* | 575 | 5.326              | [3.526;7.125]             | .584   |
| No                            |         | 127 | 46.49 (10.30)         |        |     |                    |                           |        |
| Theft/destruction of property |         |     |                       |        |     |                    |                           |        |
| Yes                           |         | 239 | 52.573 (8.813)        | 4.240* | 576 | 3.325              | [1.785;4.865]             | .358   |
| No                            |         | 339 | 49.247 (9.603)        |        |     |                    |                           |        |
| HSCL-25 Anxiety               |         |     |                       |        |     |                    |                           |        |
| Stalking behaviours           |         |     |                       |        |     |                    |                           |        |
| 7 types or more               |         | 459 | 24.202 (6.882)        | 3.061* | 555 | 2.355              | (0.844;3.866)             | .340   |
| 6 types or less               |         | 98  | 21.84 (7.05)          |        |     |                    |                           |        |
| Violence                      |         |     |                       |        |     |                    |                           |        |
| Yes                           |         | 313 | 24.654 (6.721)        | 3.761* | 577 | 2.169              | [1.036;3.303]             | .313   |
| No                            |         | 266 | 22.484 (7.142)        |        |     |                    |                           |        |
| Threats                       |         |     |                       |        |     |                    |                           |        |
| Yes                           |         | 384 | 24.218 (6.707)        | 2.792* | 578 | 1.703              | [0.505;2.901]             | .245   |
| No                            |         | 196 | 22.515 (7.398)        |        |     |                    |                           |        |
| Following                     |         |     |                       |        |     |                    |                           |        |
| Yes                           |         | 449 | 24.327 (6.899)        | 4.216* | 576 | 2.893              | [1.545;4.240]             | .421   |
| No                            |         | 129 | 21.434 (6.760)        |        |     |                    |                           |        |
| Theft/destruction of property |         |     |                       |        |     |                    |                           |        |
| Yes                           |         | 237 | 24.751 (6.634)        | 3.107* | 577 | 1.821              | [0.670;2.972]             | .262   |
| No                            |         | 342 | 22.929 (7.133)        |        |     |                    |                           |        |
| HSCL-25 Depression            |         |     |                       |        |     |                    |                           |        |
| Stalking behaviours           |         |     |                       |        |     |                    |                           |        |
| 7 types or more               |         | 459 | 35.993 (9.868)        | 2.926* | 554 | 3.271              | (1.075;5.467)             | .327   |
| 6 types or less               |         | 97  | 32.72 (10.62)         |        |     |                    |                           |        |
| Violence                      |         |     |                       |        |     |                    |                           |        |
| Yes                           |         | 312 | 36.788 (9.923)        | 3.805* | 574 | 3.155              | [1.527;4.784]             | .318   |
| No                            |         | 264 | 33.632 (9.907)        |        |     |                    |                           |        |
| Threats                       |         |     |                       |        |     |                    |                           |        |
| Yes                           |         | 383 | 36.109 (9.809)        | 2.696* | 575 | 2.372              | [0.644;4.101]             | .237   |
| No                            |         | 194 | 33.737 (10.328)       |        |     |                    |                           |        |
| Following                     |         |     |                       |        |     |                    |                           |        |
| Yes                           |         | 448 | 35.955 (9.956)        | 2.814* | 572 | 2.836              | [0.857;4.815]             | .283   |
| No                            |         | 126 | 33.119 (10.119)       |        |     |                    |                           |        |
| Theft/destruction of property |         |     |                       |        |     |                    |                           |        |
| Yes                           |         | 238 | 36.508 (9.885)        | 2.372* | 575 | 2.003              | [0.344;3.662]             | .200   |
| No                            |         | 339 | 34.504 (10.028)       |        |     |                    |                           |        |
| SCL-5                         |         |     |                       |        |     |                    |                           |        |
| Stalking behaviours           |         |     |                       |        |     |                    |                           |        |
| 7 types or more               |         | 454 | 17.770 (10.976)       | 3.548* | 551 | 4.326              | (1.931;6.721)             | .393   |
| 6 types or less               |         | 99  | 13.444 (11.058)       |        |     |                    |                           |        |
| Violence                      |         |     |                       |        |     |                    |                           |        |
| Yes                           |         | 311 | 18.829 (11.189)       | 4.266* | 572 | 3.936              | [2.124;5.748]             | .357   |
| No                            |         | 263 | 14.893 (10.800)       |        |     |                    |                           |        |
| Threats                       |         |     |                       |        |     |                    |                           |        |
| Yes                           |         | 379 | 17.686 (11.202)       | 2.111* | 573 | 2.063              | [0.144;3.983]             | .185** |
| No                            |         | 196 | 15.622 (10.921)       |        |     |                    |                           |        |
| Following                     |         |     |                       |        |     |                    |                           |        |
| Yes                           |         | 446 | 18.078 (11.107)       | 4.298* | 572 | 4.734              | [2.571;6.898]             | .431   |
| No                            |         | 128 | 13.343 (10.542)       |        |     |                    |                           |        |
| Theft/destruction of property |         |     |                       |        |     |                    |                           |        |
| Yes                           |         | 239 | 18.451 (11.173)       | 2.530* | 527 | 2.380              | [0.532;4.228]             | .214   |
| No                            |         | 335 | 16.071 (11.066)       |        |     |                    |                           |        |
| SDS                           |         |     |                       |        |     |                    |                           |        |
| Stalking behaviours           |         |     |                       |        |     |                    |                           |        |
| 7 types or more               |         | 453 | 17.922 (7.563)        | 3.322* | 549 | 2.820              | (1.153;4.488)             | .370   |
| 6 types or less               |         | 98  | 15.10 (7.87)          |        |     |                    |                           |        |
| Violence                      |         |     |                       |        |     |                    |                           |        |
| Yes                           |         | 307 | 18.727 (7.547)        | 4.685* | 569 | 2.972              | [1.726;4.218]             | .393   |
| No                            |         | 264 | 15.753 (7.572)        |        |     |                    |                           |        |
| Threats                       |         |     |                       |        |     |                    |                           |        |
| Yes                           |         | 375 | 17.893 (7.542)        | 2.482* | 570 | 1.675              | [0.349;3.000]             | .218   |
| No                            |         | 197 | 16.218 (7.901)        |        |     |                    |                           |        |
| Following                     |         |     |                       |        |     |                    |                           |        |
| Yes                           |         | 445 | 17.943 (7.658)        | 3.403* | 569 | 2.618              | [1.107;4.129]             | .343   |
| No                            |         | 126 | 15.325 (7.49)         |        |     |                    |                           |        |

(Continued)

**Table 6.** Continued.

| Stalking characteristic       | Measure | <i>N</i> | Total mean score ( <i>SD</i> ) | <i>t</i> | DF  | Difference in mean | 95%CI for mean difference | <i>d</i> |
|-------------------------------|---------|----------|--------------------------------|----------|-----|--------------------|---------------------------|----------|
| Theft/destruction of property |         |          |                                |          |     |                    |                           |          |
| Yes                           |         | 236      | 18.728 (7.777)                 | 3.594*   | 569 | 2.322              | [1.053;3.592]             | .305     |
| No                            |         | 335      | 16.405 (7.478)                 |          |     |                    |                           |          |

Note. *SD* = Standard Deviation; CI = Confidence Interval. \*  $p < .05$ , \*\* a Cohen's *d* of  $< 0.2$  indicates no effect. HTQ = Harvard Trauma Questionnaire; HSCL-25 = Hopkins Symptom Checklist 25; SCL-5 = Symptom Checklist-Somatization; SDS = Sheehan Disability Scale.

functioning. This was consistent with the findings by Pathe and Mullen where victims stated that it was the stalker's constant intrusions and menace that created most fear and distress (Pathé & Mullen, 1997). What is more, Pathe and Mullen did not find a significant association between what can be categorized as visible injuries, physical violence and theft/destruction of property, and symptoms of psychopathology. Neither did we. A possible explanation for this could be the nature of these behaviours. Visible injuries are often more tangible and easier for the outside world to understand, leading to more immediate attention and support from others. As a result, victims may be inclined to feeling more understood and validated, which could potentially mitigate the psychological impact of these visible injuries (Dye, 2020; Elklit, 1993; Follingstad et al., 1990).

Higher levels of both post-traumatic symptoms and general psychopathology were also associated with the stalker being an intimate relation compared to being an acquaintance. Surprisingly, neither age nor stalking duration predicted psychopathological symptoms in this sample. This is, however, consistent with the findings of Brewin et al. who found that demographic variables exerted a smaller effect on PTSD symptoms than peritraumatic risk factors among adults exposed to different types of potentially traumatic events (Brewin et al., 2000) and with Purcell et al. who have documented the same tendency among victims of stalking in a representative Australian community sample (Purcell et al., 2012).

Interestingly, none of the included demographic variables or features of stalking behaviour or stalking duration were significantly associated with victims' daily functioning at the workplace or in the social and family life as measured with the SDS. This contrasts with a study by Wolf et al. (2021) that found stalked mothers' daily functioning measured with the SDS to be significantly associated with their stalking experiences. The women in Wolf et al.'s study were recruited through a closed Danish Facebook group for mothers experiencing stalking by the fathers of their children. Our participants, on the other hand, were victims of stalking who had actively sought help through the Danish Stalking Center. Thus, a possible explanation of our different findings could be the difference in perceived resourcefulness in the two samples. Regardless, it should be noted that without data about victims' premorbid functioning and

detailed histories of other life events or traumas, one cannot be too definite in attributing the victims' current level of functioning to the impact of stalking on their lives. Individual vulnerability factors might provide a good explanation for the fact that a great deal of the variance remains unexplained. For example, the finding that stalking duration did not predict pathology may be explained by the idea that some of these victims had built up resilience to deal with their stalking. As victims who sought help from the Danish Stalking Center actively reached out for support, their proactive approach may reflect a level of resilience. This self-selected group might not represent those experiencing the most severe and prolonged stalking situations, potentially contributing to the absence of a significant association between stalking duration and psychopathology outcomes. Moreover, previous research on mothers stalked by the father of their child has demonstrated that the presence of parental responsibilities can prompt the mobilization of coping resources, fostering resilience in the face of stalking experiences (Løkkegaard et al., 2019; Wolf et al., 2021).

Even though some of the included stalking behaviours were not singlehandedly associated with symptoms of psychopathology, stalking behaviours should never be looked at in isolation, but rather collectively (Spitzberg & Cupach, 2007). It is not always a certain behaviour per se, but rather it is the co-occurrence, diversity, and unpredictability associated with these behaviours that result in distress especially when these harassing behaviours are accompanied by a violent act or threat.

#### 4.1. Limitations and future directions

Some limitations of this study deserve comment. First, our sample consisted of a group of Danish support-seeking victims of stalking, which may limit the generalizability of results across countries or towards other and more vulnerable groups of stalking victims. Thus, further studies are needed to investigate whether the psychological distress experienced by self-referred stalking victims differs in nature and magnitude from that in the community at large or among victims of forensic samples. Second, the cross-sectional design precludes definite conclusions about the etiology of psychopathology symptoms. Predictors were not assessed prospectively, leaving the direction of

**Table 7.** Hierarchical Logistical Regression analysis of associations between psychopathology symptom measures and various independent variables.

| Outcome           | Variables                                 | Model 1 |               |             |                       | Model 2 |               |             |                       | Model 3      |               |             |                       |
|-------------------|---|---------|---------------|-------------|-----------------------|---------|---------------|-------------|-----------------------|--------------|---------------|-------------|-----------------------|
|                   |   | OR      | 95%CI         | p-value     | pseudo-r <sup>2</sup> | OR      | 95%CI         | p-value     | pseudo-r <sup>2</sup> | OR           | 95%CI         | p-value     | pseudo-r <sup>2</sup> |
| PTSD (HTQ)        |   |         |               |             | .057                  |         |               |             | .117                  |              |               |             | .144                  |
|                   | Violence                                  |         |               |             |                       |         |               |             |                       |              |               |             |                       |
|                   | No  | 1       |               |             |                       | 1       |               |             |                       | 1            |               |             |                       |
|                   | Yes                                       | 1.238   | (.814;1.975)  | .292        |                       | 1.041   | (.604;1.792)  | .885        |                       | 1.048        | (.600;1.832)  | .867        |                       |
|                   | Threats                                   |         |               |             |                       |         |               |             |                       |              |               |             |                       |
|                   | No  | 1       |               |             |                       | 1       |               |             |                       | 1            |               |             |                       |
|                   | Yes                                       | 1.522   | (.986;2.349)  | .057        |                       | 1.484   | (.864;2.548)  | .152        |                       | 1.514        | (.871;2.630)  | .141        |                       |
|                   | Following                                 |         |               |             |                       |         |               |             |                       |              |               |             |                       |
|                   | No  | 1       |               |             |                       | 1       |               |             |                       | 1            |               |             |                       |
|                   | Yes                                       | 2.382   | (1.533;3.702) | <b>.000</b> |                       | 2.734   | (1.600;4.673) | <b>.000</b> |                       | 2.869        | (1.641;5.016) | <b>.000</b> |                       |
|                   | Theft/destruction of property             |         |               |             |                       |         |               |             |                       |              |               |             |                       |
|                   | No  | 1       |               |             |                       | 1       |               |             |                       | 1            |               |             |                       |
|                   | Yes                                       | 1.531   | (.973;2.410)  | .065        |                       | 1.266   | (.710;2.258)  | .423        |                       | 1.227        | (.676;2.233)  | .501        |                       |
|                   | Number of stalking behaviours experienced |         |               |             |                       |         |               |             |                       |              |               |             |                       |
|                   | Stalking duration                         |         |               |             |                       |         |               |             |                       |              |               |             |                       |
|                   | 0–6 months                                |         |               |             |                       | 1       |               |             |                       | 1            |               |             |                       |
|                   | 6–12 months                               |         |               |             |                       | 2.377   | (1.062;5.322) | <b>.035</b> |                       | 2.352        | (1.031;5.367) | <b>.042</b> |                       |
|                   | 1–2 years                                 |         |               |             |                       | 1.214   | (.626;2.355)  | .565        |                       | 1.296        | (.657;2.554)  | .453        |                       |
|                   | 3–5 years                                 |         |               |             |                       | 2.325   | (1.134;4.767) | <b>.021</b> |                       | 2.697        | (1.274;5.712) | <b>.010</b> |                       |
|                   | More than 5 years                         |         |               |             |                       | 1.200   | (.605;2.379)  | .601        |                       | 1.137        | (.562;2.298)  | .721        |                       |
| Age               |   |         |               |             |                       |         |               |             | 1.012                 | (.990;1.035) | .262          |             |                       |
| Relation          |   |         |               |             |                       |         |               |             |                       |              |               |             |                       |
| Intimate          |   |         |               |             |                       |         |               |             | 1                     |              |               |             |                       |
| Acquaintance      |   |         |               |             |                       |         |               |             | .338                  | (.188;.608)  | <b>.000</b>   |             |                       |
| Stranger          |   |         |               |             |                       |         |               |             | .774                  | (.381;1.571) | .479          |             |                       |
| Anxiety (HSCL-25) |   |         |               |             | .056                  |         |               |             | .078                  |              |               |             | .097                  |
|                   | Violence                                  |         |               |             |                       |         |               |             |                       |              |               |             |                       |
|                   | No  | 1       |               |             |                       | 1       |               |             |                       | 1            |               |             |                       |
|                   | Yes                                       | 1.617   | (1.019;2.568) | <b>.041</b> |                       | 1.616   | (.912;2.861)  | .100        |                       | 1.826        | (1.018;3.276) | <b>.043</b> |                       |
|                   | Threats                                   |         |               |             |                       |         |               |             |                       |              |               |             |                       |
|                   | No  | 1       |               |             |                       | 1       |               |             |                       | 1            |               |             |                       |
|                   | Yes                                       | 1.627   | (1.040;2.543) | <b>.033</b> |                       | 1.353   | (.767;2.388)  | .296        |                       | 1.322        | (.742;2.353)  | .342        |                       |
|                   | Following                                 |         |               |             |                       |         |               |             |                       |              |               |             |                       |
|                   | No  | 1       |               |             |                       | 1       |               |             |                       | 1            |               |             |                       |
|                   | Yes                                       | 1.878   | (1.184;2.979) | <b>.007</b> |                       | 1.951   | (1.108;3.435) | <b>.020</b> |                       | 2.274        | (1.265;4.090) | <b>.006</b> |                       |
|                   | Theft/destruction of property             |         |               |             |                       |         |               |             |                       |              |               |             |                       |
|                   | No  | 1       |               |             |                       | 1       |               |             |                       | 1            |               |             |                       |
|                   | Yes                                       | 1.430   | (.888;2.304)  | .141        |                       | 1.371   | (.741;2.536)  | .314        |                       | 1.422        | (.755;2.677)  | .275        |                       |
|                   | Number of stalking behaviours experienced |         |               |             |                       |         |               |             |                       |              |               |             |                       |
|                   | Stalking duration                         |         |               |             |                       |         |               |             |                       |              |               |             |                       |
|                   | 0–6 months                                |         |               |             |                       | 1       |               |             |                       | 1            |               |             |                       |
|                   | 6–12 months                               |         |               |             |                       | 1.037   | (.462;2.327)  | .929        |                       | .975         | (.428;2.222)  | .953        |                       |
|                   | 1–2 years                                 |         |               |             |                       | .681    | (.337;1.377)  | .286        |                       | .714         | (.350;1.458)  | .356        |                       |
|                   | 3–5 years                                 |         |               |             |                       | .984    | (.474;2.039)  | .965        |                       | 1.150        | (.545;2.428)  | .712        |                       |
|                   | More than 5 years                         |         |               |             |                       | 1.028   | (.475;2.224)  | .943        |                       | 1.154        | (.525;2.534)  | .720        |                       |

(Continued)

**Table 7.** Continued.

| Outcome              | Variables                                 | Model 1 |               |             |                       | Model 2      |              |             |                       | Model 3      |              |             |                       |
|----------------------|---|---------|---------------|-------------|-----------------------|--------------|--------------|-------------|-----------------------|--------------|--------------|-------------|-----------------------|
|                      |   | OR      | 95%CI         | p-value     | pseudo-r <sup>2</sup> | OR           | 95%CI        | p-value     | pseudo-r <sup>2</sup> | OR           | 95%CI        | p-value     | pseudo-r <sup>2</sup> |
| Depression (HSCL-25) | Age Relation                              |         |               |             |                       |              |              |             |                       | 0,978        | (.956;1.000) | .058        |                       |
|                      | Intimate                                  |         |               |             |                       |              |              |             |                       | 1            |              |             |                       |
|                      | Acquaintance                              |         |               |             |                       |              |              |             |                       | .497         | (.272;.908)  | <b>.023</b> |                       |
|                      | Stranger                                  |         |               |             |                       |              |              |             |                       | .787         | (.378;1.636) | .521        |                       |
|                      |   |         |               |             | .034                  |              |              |             | .076                  |              |              |             | .097                  |
|                      | Violence                                  |         |               |             |                       |              |              |             |                       |              |              |             |                       |
|                      | No  | 1       |               |             |                       | 1            |              |             |                       | 1            |              |             |                       |
|                      | Yes                                       | 1.246   | (.787;1.972)  | .347        |                       | 1.015        | (.593;1.736) | .956        |                       | 1.108        | (.639;1.920) | .714        |                       |
|                      | Threats                                   |         |               |             |                       |              |              |             |                       |              |              |             |                       |
|                      | No  | 1       |               |             |                       | 1            |              |             |                       | 1            |              |             |                       |
|                      | Yes                                       | 1.805   | (1.156;2.818) | <b>.009</b> |                       | 1.239        | (.721;2.129) | <b>.043</b> |                       | 1.223        | (.704;2.123) | .747        |                       |
|                      | Following                                 |         |               |             |                       |              |              |             |                       |              |              |             |                       |
|                      | No  | 1       |               |             |                       | 1            |              |             |                       | 1            |              |             |                       |
|                      | Yes                                       | 1.540   | (.963;2.462)  | .071        |                       | 1.328        | (.767;2.298) | .310        |                       | 1.502        | (.849;2.656) | .162        |                       |
|                      | Theft/destruction of property             |         |               |             |                       |              |              |             |                       |              |              |             |                       |
|                      | No  | 1       |               |             |                       | 1            |              |             |                       | 1            |              |             |                       |
|                      | Yes                                       | 1.273   | (.799;2.029)  | .309        |                       | .900         | (.508;1.595) | .072        |                       | .921         | (.509;1.166) | .786        |                       |
|                      | Number of stalking behaviours experienced |         |               |             |                       |              |              |             |                       |              |              |             |                       |
|                      | Stalking duration                         |         |               |             |                       |              |              |             |                       |              |              |             |                       |
|                      | 0-6 months                                |         |               |             |                       | 1            |              |             |                       | 1            |              |             |                       |
|                      | 6-12 months                               |         |               |             |                       | .627         | (.298;1.320) | .219        |                       | .587         | (.274;1.257) | .171        |                       |
|                      | 1-2 years                                 |         |               |             |                       | .711         | (.350;1.443) | .346        |                       | .741         | (.361;1.521) | .415        |                       |
| 3-5 years            |   |         |               |             | .807                  | (.402;1.619) | .546         |             | .913                  | (.447;1.867) | .805         |             |                       |
| More than 5 years    |   |         |               |             | .969                  | (.459;1.236) | .935         |             | 1.018                 | (.473;2.188) | .963         |             |                       |
| Age Relation         |   |         |               |             |                       |              |              |             | .990                  | (.968;1.011) | .366         |             |                       |
| Intimate             |   |         |               |             |                       |              |              |             | 1                     |              |              |             |                       |
| Acquaintance         |   |         |               |             |                       |              |              |             | .408                  | (.229;.727)  | <b>.002</b>  |             |                       |
| Stranger             |   |         |               |             |                       |              |              |             | .639                  | (.326;1.248) | .170         |             |                       |
|                      |   |         |               | .028        |                       |              |              | .054        |                       |              |              | .067        |                       |
| Somatization (SCL-S) | Violence                                  |         |               |             |                       |              |              |             |                       |              |              |             |                       |
|                      | No  | 1       |               |             |                       | 1            |              |             |                       | 1            |              |             |                       |
|                      | Yes                                       | 1.555   | (1.070;2.261) | <b>.020</b> |                       | 1.395        | (.895;2.174) | .141        |                       | 1.449        | (.932;2.277) | .107        |                       |
|                      | Threats                                   |         |               |             |                       |              |              |             |                       |              |              |             |                       |
|                      | No  | 1       |               |             |                       | 1            |              |             |                       | 1            |              |             |                       |
|                      | Yes                                       | 1.100   | (.751;1.612)  | .622        |                       | .842         | (.526;1.348) | .375        |                       | .815         | (.506;1.312) | .401        |                       |
|                      | Following                                 |         |               |             |                       |              |              |             |                       |              |              |             |                       |
|                      | No  | 1       |               |             |                       | 1            |              |             |                       | 1            |              |             |                       |
|                      | Yes                                       | 1.918   | (1.259;2.920) | <b>.002</b> |                       | 1.571        | (.948;2.602) | .079        |                       | 1.632        | (.972;2.740) | .064        |                       |
|                      | Theft/destruction of property             |         |               |             |                       |              |              |             |                       |              |              |             |                       |
|                      | No  | 1       |               |             |                       | 1            |              |             |                       | 1            |              |             |                       |
|                      | Yes                                       | 1.067   | (.740;1.539)  | .0727       |                       | .814         | (.513;1.291) | .383        |                       | .797         | (.497;1.279) | .349        |                       |
|                      | Number of stalking behaviours experienced |         |               |             |                       |              |              |             |                       |              |              |             |                       |
|                      | Stalking duration                         |         |               |             |                       |              |              |             |                       |              |              |             |                       |
|                      | 0-6 months                                |         |               |             |                       | 1            |              |             |                       | 1            |              |             |                       |
|                      | 6-12 months                               |         |               |             |                       | 1.281        | (.678;2.419) | .444        |                       | 1.198        | (.629;2.281) | .581        |                       |
|                      | 1-2 years                                 |         |               |             |                       | 1.168        | (.654;2.085) | .599        |                       | 1.213        | (.675;2.177) | .517        |                       |
|                      | 3-5 years                                 |         |               |             |                       | 1.376        | (.780;2.424) | .269        |                       | 1.502        | (.840;2.683) | .169        |                       |



|                             |   |       |               |             |       |              |             |      |       |              |             |      |
|-----------------------------|---|-------|---------------|-------------|-------|--------------|-------------|------|-------|--------------|-------------|------|
|                             | More than 5 years                         |       |               |             | 1.170 | (.645;2.119) | .604        |      | 1.238 | (.675;2.272) | .489        |      |
|                             | Age                                       |       |               |             |       |              |             |      | .994  | (.976;1.012) | .545        |      |
|                             | Relation                                  |       |               |             |       |              |             |      |       |              |             |      |
|                             | Intimate                                  |       |               |             |       |              |             |      | 1     |              |             |      |
|                             | Acquaintance                              |       |               |             |       |              |             |      | .491  | (.288;.838)  | <b>.009</b> |      |
|                             | Stranger                                  |       |               |             |       |              |             |      | 1.023 | (.576;1.817) | .937        |      |
| Functional impairment (SDS) |   |       |               |             | .029  |              |             | .074 |       |              |             | .086 |
|                             | Violence                                  |       |               |             |       |              |             |      |       |              |             |      |
|                             | No  | 1     |               |             | 1     |              |             |      | 1     |              |             |      |
|                             | Yes                                       | 1.743 | (1.003;3.031) | <b>.049</b> | 1.427 | (.710;2.867) | .317        |      | 1.415 | (.695;2.879) | .338        |      |
|                             | Threats                                   |       |               |             |       |              |             |      |       |              |             |      |
|                             | No  | 1     |               |             | 1     |              |             |      | 1     |              |             |      |
|                             | Yes                                       | 1.124 | (.656;1.924)  | .669        | .876  | (.435;1.765) | .712        |      | .890  | (.438;1.810) | .749        |      |
|                             | Following                                 |       |               |             |       |              |             |      |       |              |             |      |
|                             | No  | 1     |               |             | 1     |              |             |      | 1     |              |             |      |
|                             | Yes                                       | 1.530 | (.882;2.653)  | .130        | 1.361 | (.681;2.719) | .383        |      | 1.406 | (.691;2.860) | .347        |      |
|                             | Theft/destruction of property             |       |               |             |       |              |             |      |       |              |             |      |
|                             | No  | 1     |               |             | 1     |              |             |      | 1     |              |             |      |
|                             | Yes                                       | 1.316 | (.746;2.320)  | .342        | 1.342 | (.623;2.889) | .452        |      | 1.470 | (.671;3.221) | .335        |      |
|                             | Number of stalking behaviours experienced |       |               |             | 1.098 | (.993;1.215) | .067        |      | 1.082 | (.974;1.203) | .141        |      |
|                             | Stalking duration                         |       |               |             |       |              |             |      |       |              |             |      |
|                             | 0–6 months                                |       |               |             | 1     |              |             |      | 1     |              |             |      |
|                             | 6–12 months                               |       |               |             | .563  | (.220;1.441) | .232        |      | .592  | (.229;1.526) | .278        |      |
|                             | 1–2 years                                 |       |               |             | .399  | (.169;.940)  | <b>.036</b> |      | .389  | (.163;.927)  | <b>.033</b> |      |
|                             | 3–5 years                                 |       |               |             | .881  | (.340;2.279) | .794        |      | .844  | (.321;2.217) | .731        |      |
|                             | More than 5 years                         |       |               |             | 1.121 | (.382;3.284) | .835        |      | 1.121 | (.382;3.284) | .835        |      |
|                             | Age                                       |       |               |             | 1.201 | (.415;3.476) | .735        |      | 1.004 | (.977;1.032) | .741        |      |
|                             | Relation                                  |       |               |             |       |              |             |      |       |              |             |      |
|                             | Intimate                                  |       |               |             |       |              |             |      | 1     |              |             |      |
|                             | Acquaintance                              |       |               |             |       |              |             |      | .997  | (.443;2.243) | .994        |      |
|                             | Stranger                                  |       |               |             |       |              |             |      | .524  | (.241;1.141) | .104        |      |

Note. Pseudo- $r^2$  = McFadden's  $r$ -squared. OR = Odds Ratio; CI = Confidence Interval; HTQ = Harvard Trauma Questionnaire; HSCL-25 = Hopkins Symptom Checklist 25; SCL-S = Symptom Checklist-Somatization; SDS = Sheehan Disability Scale.

causality indefinite. Consequently, it would be possible that the victims' psychological distress was influenced by other factors, not examined in this study. A further limitation of our study is that we relied on self-report measures rather than conducting clinical interviews to diagnose psychiatric disorders. While self-report measures provide valuable insights into participants' experiences, they may not capture the full complexity of diagnosable disorders. Clinical interviews allow for a more in-depth assessment and a comprehensive understanding of individuals' mental health conditions. However, due to resource constraints and the large number of participants in our study, conducting clinical interviews was not feasible. As a result, there may be a potential for under-, over-, or misestimation of symptoms of psychiatric disorders. Additionally, as with any study relying on self-report measures, there is a potential for recall bias. Participants may inaccurately recall or underreport certain symptoms due to memory limitations or the sensitive nature of the experiences. It is important to acknowledge that self-report measures are subjective and may not capture the complete picture of participants' symptomatology. Furthermore, the lack of insight participants may have into their own symptomatology is another limitation. Stalking victims might not fully recognize or understand the extent of their psychological distress, which could impact their self-reporting of symptoms. This limitation highlights the importance of using multiple sources of information, e.g. clinician evaluations, to obtain a more comprehensive assessment of participants' symptomatology.

Another important limitation is that the study utilized the DSM-IV criteria for diagnosing PTSD. Since the publication of this study, the DSM-5 criteria have been introduced, which include some changes and updates to the diagnostic criteria for PTSD. The use of the DSM-IV criteria may limit the generalizability of our findings to the current diagnostic framework. Future studies should consider employing the DSM-5 criteria to ensure alignment with the most up-to-date diagnostic guidelines. An additional limitation is the lack of measurement for Criterion A2 in the DSM-IV. Criterion A2 involves the presence of subjective distress or functional impairment as a result of the traumatic event. While our study assessed the symptomatology of stalking victims, it did not explicitly measure the functional impairment associated with their symptoms. Including a functional criterion in future research would provide a more comprehensive understanding of the impact of stalking on victims' daily functioning. With respect to measuring functional impairment, another potential limitation of our study is the use of Sheehan's Disability Scale to assess functional impairment in stalking victims. The SDS primarily examines major and serious functional impairments, which may not fully capture the more

nuanced impairments and challenges experienced by stalking victims. Despite displaying diagnosable levels of symptoms, stalking victims in our study demonstrated minimal functional impairment as measured by the SDS. This could be attributed to the scale's coarse-grained nature and its focus on severe deteriorations in functioning. Consequently, a more comprehensive and nuanced functional impairment assessment might be necessary to capture the broader spectrum of challenges faced by stalking victims and provide a more comprehensive understanding of their functional outcomes. Thus, future research should consider employing additional measurement tools to assess functional impairment in this population effectively.

To our knowledge, this is the first Danish study to investigate the association between different types of stalking behaviour and psychopathology symptoms in a broader sense. Our use of various validated measures of affective, PTSD, trauma-related and psychological distress symptoms produces new and important insights into the complex and often distressful mental state of Danish help-seeking stalking victims. The finding that the psychological consequences of stalking resemble in extent those of torture requires more attention going forward. Together with the high frequency of PTSD symptoms and the particularly grave effects of being followed, it is indicated that stalking is a special type of trauma with many negative and harmful effects. Consequently, the findings of this study underscore the critical need for increased awareness in the Danish society of the devastating impact of stalking on victims' psychological well-being and overall functioning. To effectively address this issue, specialized treatment programmes and support systems tailored to the unique needs of stalking victims are essential. Furthermore, a multidisciplinary approach involving enhanced cooperation between the police, relevant authorities, and other stakeholders is crucial for providing comprehensive protection and effective intervention for those affected by stalking. By recognizing the severity of stalking and implementing targeted measures, societies can take significant strides towards safeguarding victims and mitigating the long-term consequences of this form of victimization.

### **Data availability**

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

### **Disclosure statement**

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

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