

The wheel of change moves on: Assessing the severity of stalking behaviour

Author Note

Abstract

Stalking is a significant social issue. The inconsistency as to what defines stalking has resulted in the creation of different methods to measure the crime. However, there has been minimal work done that assesses the severity of individual stalking behaviours. The aim of the present study was to assess the level of stalking behaviour in terms of severity within a randomly selected sample of 924 cases from the database of the National Stalking Helpline. Item response theory analyses were used to assist in developing a scale that displays the ranking order of each stalking behaviour. These analyses were also used to examine whether the stalking behavioural items created a single continuum of severity of stalking. Results indicated that 16 stalking behavioural items of the 28 items present in the National Stalking Helpline, best represented the severity of stalking. Unwanted communication behaviours such as text messages and phone calls were located at the lower end of the severity scale whereas criminal damage and death threats were mapped on the higher end of the continuum. The findings also revealed that the 16 items categorised under 6 factors. The findings of the present study provide many implications for stalking agency professionals and criminal justice responses.

Keywords: Stalking, severity, violence, scale, behavioural indicators.

Introduction

The term stalk refers to the act of pursuing prey and walking stealthily (Mullen et al., 2009). Historically, stalking was used by the media to describe the intrusion of fans (Marazziti et al., 2015). Over the years, however, it has come to light that stalking is not simply a crime solely related to celebrities and their obsessed followers and stalking is a significant social issue (Chan & Sheridan, 2019). While definitions vary, overall, the literature describes the phenomenon as persistent unwanted attentions, communications and contacts (Galeazzi & De Fazio (2006). Although it is assumed that obsession is a key factor driving stalking behaviour, the function of this is yet to be empirically tested (Birch et al., 2018; Dixon & Bowen, 2012).

Stalking Behaviours and Tactics

A body of research examining stalking has focused on perpetrators' tactics i.e. stalking behaviours that perpetrators used on their victims (e.g. McEwan et al., 2009; Roberts et al., 2016; Sheridan et al., 2019), perpetrators' approach and escalation in stalking (e.g. McEwan et al., 2012; Thompson et al., 2020) and perpetrators/ victims relationship (e.g. Kamphuis et al., 2003; White et al., 2020). Although a victim's stalking experience is unique, and the motivations of stalkers vary significantly, the methods or tactics employed by stalkers share the same underlying characteristics (White et al., 2020). While some of the behaviours may appear "acceptable", for example sending a text message and thus may not be perceived as a serious action, it is the persistence by the stalker that makes the behaviour criminal (Metropolitan Police Service, 2018). Research indicates a number of various stalking behaviours. The most common include persistent following, telephoning, personal appearances, surveillance, threatening and assaults (e.g. Chan & Sheridan, 2019; Roberts et al., 2016). Relative to males, females experienced significantly longer duration of many unwanted behaviours (Chan et al., 2020).

Overall, studies indicate that, in most cases, stalking is a crime of surveillance and unwanted communication. However, in some cases stalking behaviours are acts that foreshadow serious violence or homicide (James & Farnham, 2003; Miller, 2012).

Stalking Instruments and Inventories

Heterogeneity of stalking has resulted in the development of various methods to measure and assess the crime (Fox et al., 2011). This includes the development of stalking inventories, scales and checklists. Such instruments frequently assist individuals in the criminal justice system and stalking agencies with identifying whether someone should be considered as a victim of the crime, what behaviours these victims have experienced and, in some scales, the risk level of the victim (Nobles et al., 2009). One frequently used stalking scale is the Stalking Behaviour Checklist (SBC; Coleman, 1997) that aids with identifying the stalking behaviours experienced by the victims. However, the checklist is limited to behaviours in the context of intimate relationships and does not generalise to the wider population of stranger stalkers or acquaintance stalking. The Stalking: International perceptions and prevalence questionnaire (SIPPQ; Sheridan et al., 2001) consists of 47 intrusive incidents and has been used in many academic studies (Chan et al., 2020). The questionnaire has four aims: (1) collects demographic information related to raters; (2) measures raters' perception of what constitutes intrusive stalking behaviour; (3) measures raters' lifetime experiences of stalking and intrusive behaviours; (4) map the behavioural content of stalking.

Some instruments focus on the risk identification of stalking as it enables one to determine the seriousness of the offence and prosecute accordingly (MacKenzie et al., 2009). For example, the Stalking Risk Profile (SRP; MacKenzie et al., 2009) is a stalking instrument used by professionals to evaluate the risk related to stalking behaviour, focusing particularly on

factors related to the risk of violence in stalking and future related offences. While the SRP focuses on the characteristics of stalkers, other risk assessments assess stalking risks from a victim's perspective (Richards, 2009). One in particular is the S-DASH (stalking version of the Domestic Abuse, Stalking and Harassment risk assessment), a stalking screening tool that stems from the Domestic Abuse, Stalking and Harassment (DASH) risk model (Richards, 2009). While the DASH produces a level of risk (standard, medium and high), it is important to note that the S-DASH may not itself be a risk assessment tool and instead could be considered as an instrument that measures how likely it is for the stalking behaviours to continue (HMICFRS, 2019). Although using these scales allowed a standardised measurement of stalking, there are a few limitations to take into consideration such as the specific behaviours incorporated in stalking scales and how to assess other aspects related to stalking such as "severity" as the current scales limit their focus to fear levels, duration or frequency. Nobles et al. (2009) note that recognising the seriousness or severity of stalking behaviours in an instrument allows individuals to gain in-depth knowledge on the aetiology of stalking, which could potentially be beneficial for responses from policy and public health professionals. A recent model, The Integrated Theoretical Model of Stalking Violence (ITMSV; Thompson et al., 2013, 2020), is offering a holistic explanation of risk factors (i.e., predisposing & contextual) that lead to moderate or severe stalking violence. However, few empirical studies were conducted to assess the severity ranking of stalking behaviours using appropriate latent analytical strategy (i.e., Item-Response Theory), which limits the application of holistic models such as the ITMSV.

Severity of Stalking

Each victim may experience completely different encounters with their stalker where the behaviours can differ in their intensity and nature (Turmanis & Brown, 2006). James and

Farnham (2003) postulates that violence varies in severity which could also be said for stalking. The varied legal definitions of stalking have suggested there is a continuum of severity amongst stalking behaviours often determined by the number of incidents experienced by the victim (Infield & Platford, 2002). Mullen et al. (2009) aver that it is the persistence and the potential harms that indicate the level of severity whereas Purcell et al. (2004) suggest there is an approximately two-week threshold which indicates the point at which harassment turns to a more persistent pattern of behaviour which becomes stalking. Police and prosecution agencies usually determine the severity of stalking by how “physical” behaviours are (Lynch, 2015), while ignoring the severity of the psychological impacts on the victims (Acquadro Maran et al., 2020; Kamphuis et al., 2003). This creates a conundrum because physical assault is rarely seen as a stalking behaviour given that stalking is considered a crime of surveillance (McEwan et al., 2012; Rosenfeld, 2004) and surveillance-oriented stalking behaviours are more likely to be reported (Chan & Sheridan, 2019).

Research indicates that violent assaults in stalking cases occurred after the stalker had engaged in non-physical stalking behaviours (McEwan et al., 2011; White et al., 2020), and that stalking is usually evolving throughout an escalation along the continuum of severity (McEwan et al., 2012; Thompson et al., 2020). In their study, James and Farnham (2003) revealed that violent assaults were linked to personal appearances by the stalker, particularly when the stalker visited the victim’s home. Although Campbell et al. (2003) found that behaviours displayed by stalkers prior to a homicide were spying and following their victim, victim target might have occurred immediately prior to the homicide act thus it would not constitute stalking. Indeed, stalking has not been measured in most homicide studies so that the extent of the association has not been well established nor researched (Campbell et al., 2007). More recently Stefanska et al.

(submitted) examined the prevalence of stalking in sexual homicide perpetrated by intimate partners and noted that approximately one quarter of their sample engaged in the behaviour. The authors noted, however, that these were the cases where sufficient evidence existed to include stalking details in the prosecution files and thus, they assumed that most likely many stalking behaviours were undetected. This is in line with Miller (2012) who noted that perpetrators with a history of intimate partner stalking are not often charged for a stalking offence, but an offence linked to physical and/or sexual violence or indeed a homicide.

Overall, these results suggest that stalking behaviours considered as lower in severity by the criminal justice system may hide or leads to severe behaviours given that these non-physical stalking behaviours may escalate to more serious acts. Although it is acknowledged in the literature that stalking is on a continuum of severity (Scott & Sheridan, 2011), research has not yet established a scale that measures this continuum. Establishing empirical-based scales that rank stalking behaviours on a continuum of severity will provide a perspective that is essential in our understanding of the nature of stalking (Nobles et al., 2009). To our knowledge, the Screening Assessment for Stalking and Harassment (SASH; McEwan et al., 2015) is the only scale that incorporates some level of severity. The SASH assesses the victims' level of concern, ranging from low, to moderate, to high, and comprises information regarding the offender's history, the behaviours experienced by the victim and the victim's perception of the situation (e.g. fear of violence). Hehemann et al. (2017) have tried to categorise stalking behaviours using the victims' level of concern derived from the SASH. For low severity, they included behaviours such as phone calls, social media and text messages; for moderate severity, they included behaviours such as loitering, following and making personal appearances; and for the high severity, they included behaviours such as making threats and physical violence. However,

Hehemann et al.'s categorisation was not empirically based, but was rather a subjective judgement of the researchers. Therefore, this categorisation is subject to type I and II errors.

As noted, stalking comprises a variety of behaviours, including domestic violence, sexual assault and homicide (Purcell et al., 2004). Norris et al. (2011) note that there is a strong relationship between domestic violence and stalking, as stalking occurs more frequently between ex-intimates. It is suggested that ex-intimates stalking is the most pernicious and violent form of stalking (Kamphuis et al., 2003; White et al., 2020). Although research into the severity of stalking is limited, literature examining partner violence commonly distinguishes two levels of partner abuse i.e., minor and severe (Allen-Collinson, 2009). Minor acts comprise behaviours that are perceived to have a low potentiality of causing the victim serious harm. These include behaviours ranging from shoving to slapping. Severe behaviours, on the other hand, include acts that have a high likelihood of causing serious harm to the victim, such as choking, kicking or assault with an object (NCFV, 2007). However, Allen-Collinson (2009) purports that this distinction in severity level may be problematic as "minor" level of abuse could possibly result in serious injury. This is consistent with the stalking literature given that stalking behaviours which are perceived to be less severe may escalate to serious acts of violence (Miller, 2012). Assessing the severity of partner violence, like stalking, is often determined by subjective perception and not by empirically-based measures. Of note is the study by Regan et al. (2006) who aimed to accurately measure a concept of violence by developing a scale that quantified and assessed the severity of partner violence by utilising items of the physical violence subscale from the conflict tactics scale. A two-parameter logistic item response theory (2PL IRT) model was employed for determining the severity ranking of the items. Their analysis revealed that the items displayed a theoretically consistent information set across the continuum. The use of IRT

analyses to assess severity ranking in terms of partner violence is encouraging and could possibly be applied to stalking.

The present study

Although research establishes that there is a continuum of severity among stalking behaviours, assessment is commonly based on subjective perceptions. Few studies have examined which risk factors are associated with moderate and severe outcomes (Thompson et al., 2013), and none, to our knowledge, have used appropriate analytical strategies to study the latent structure of stalking. While the escalating nature of stalking is documented (e.g., McEwan et al., 2012; Thompson et al., 2020), and the dynamic nature of stalking is recognized (Thompson et al., 2020), few empirical studies were conducted to assess the severity ranking of stalking behaviours using appropriate latent analytical strategy (i.e., Item-Response Theory). Therefore, research should focus on the development of empirically-based measure of stalking, and research on domestic violence has shown that 2PL IRT is an effective analytical strategy.

The National Stalking Helpline of the Suzy Lamplugh Trust, a well-established non-profit organisation in the United Kingdom, provides victims with advice on their stalking situation. In most cases, staff at the helpline also conduct an assessment of the victims' risk of harm. Although the National Stalking Helpline Trust assesses the risk of harm of victims through the SASH, and previously the S-DASH, they have not yet a measure to establish the "severity" of stalking behaviours. Therefore, the current research aims to develop an inventory that assesses the severity amongst a list of behavioural indicators that are routinely noted by the National Stalking Helpline in the attempt to create an empirically-based scale that will assess the severity of stalking behaviours. The current study will use a similar analytical strategy to that of Regan et al. (2006) to determine the severity ranking of stalking by using 2PL IRT.

Methods

Sample

The study used a random sample of 924 stalking cases of victims who contacted the National Stalking Helpline via email or telephone. Due to the sensitivity nature of the crime, and the confidential nature of the National Stalking Helpline, some victims did not disclose all their personal information. Therefore, some demographic information was not obtained. The mean age of the sample was 38.6 years, ranging from 7 – 86 years ($SD = 12.2$). The majority of the victims were white British/Irish (61%) female (65%) (see Table 1 for full demographics). All cases were provided with a unique ID number to ensure anonymisation of their data. The Ethical approval for this study was received from the Department of Psychology of an England & Wales University.

Procedure and Data Collection

The research collected de-identified data from the National Stalking Helpline database. When victims contact the helpline for advice, their demographics, the experienced stalking behaviours, and information on their stalkers are recorded by the staff and kept in a database. Then, the staff use their professional judgement to determine whether this individual is a victim of stalking. Using the information that the victim provided, the staff check off the stalking behaviours that the victim had experienced on a behavioural item checklist on the database. The staff then respond to the victim with advice on their situation.

Permission was granted by the National Stalking Helpline to use their data for this research. A consent form was given to a senior caseworker at the National Stalking Helpline, requesting the use of their data for the study. The consent form detailed what the research would entail and how the victim's data would be used.

Measures

Twenty-eight stalking behavioural indicators that are routinely noted and coded by the staff and volunteers were used to the development of the stalking scale. These stalking behaviours included gang stalking, hacking technology, harassment, in/through workplace, loitering, revenge porn, spying, stalking behaviours unclear, threats, use of tracking device, watching, phone calls, emails, text messages, social networking sites, letters, gifts, third party contact, vexatious complaints, threaten suicide, following, visit house/work, break in, criminal damage, physical assault, sexual assault, death threats and other. The stalking behaviour items were coded dichotomously (0 = no, 1 = yes) with 0 indicating that the victim did not report the item and 1 indicating that the victim had reported the item.

Analytical Strategy

Prior to conducting the analyses, the data was cleaned. Out of the 28 Stalking items, 11 were removed and 2 were merged. First, the item “*stalking behaviours unclear*” was removed as no victim endorsed this item. This was similar for the items “*spying*,” “*watching*” and “*sexual assault*” where victims endorsing these items was relatively low (*spying*, $n = 30$ [3.2%]; *watching*, $n = 72$ [7.8%]; *sexual assault*, $n = 23$ [2.5%]). The items “*gang stalking*” and “*other*” were removed as these items were too broad and it was unclear as to what behaviours were measured. The items “*in/through workplace*” and “*visit house/work*” were merged together as they are similar in nature. The items “*vexatious complaints*”, “*revenge porn*”, “*harassment*”, “*hacking technology*” and “*tracking device*” were removed in preliminary analyses as they did not discriminate well. Table 2 displays the final variables included for analysis.

Statistical Analyses

Exploratory factor analysis. Exploratory factor analysis (EFA) with principal axis factoring and OBLIMIN rotation was performed using SPSS version 25 (SPSS, Chicago, IL) to assess the unidimensionality of the data. EFA was also used to determine whether the stalking behaviours could be defined within groups or factors and inform the degree of correlation between the factors (Tabachnick & Fidell, 2007). For categorising prominent loadings for an item on the factor, theoretical considerations were made.

Item response theory. Item response theory (IRT) analyses were conducted using *Mplus* (version 6.12; Muthén & Muthén, 1998-2010) to assist with the scale development by deriving the latent severity trait and to report the psychometric properties. IRT shows many advantages over classical testing theory as it examines the relationship between the item response patterns or patterns of endorsing an item and the latent trait (Embretson & Reeise, 2000). If it is revealed that the model fit is acceptable, IRT analyses allow reporting severity of the stalking behaviours, considering the items differences in discriminating between trait levels.

To assess the severity ranking of stalking behaviours, a two-parameter logistic (2PL) IRT was conducted. The difficulty (b) parameter or threshold parameter reflects the position of the items in terms of severity. Items that have a value below 0 on the difficulty parameter are considered as least severe, where items above 0 are classed as more severe. The discrimination (a) parameter, assesses the ability of the item to discriminate individuals who are higher and lower on the continuum of severity. The study used a large sample size and was therefore deemed as appropriate to produce clear parameter estimates.

Results

Exploratory Factor Analysis

Unidimensionality is the most important assumption to respect before conducting IRT (Bertrand & Blais, 2004). The violation of model assumptions may lead to unstable IRT parameter estimates. EFA with principal axis factoring and OBLIMIN rotation is one of the recommended analysis to assess the unidimensionality of a construct (Bertrand & Blais, 2004). Prior to conducting EFA, assumptions were considered to establish the data's factorability. Examination of the correlation matrix indicates that correlations were high enough for EFA to be suitable. Additionally, the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) and the Bartlett's Test of Sphericity were checked for factorability. The results indicated that the KMO was over the .6 threshold and the Bartlett's Test of Sphericity revealed a statistically significant value ($p < .001$). These results indicate that the data are factorable.

The unidimensionality assumption postulates that item covariations arise predominantly from a single underlying dimension, and, therefore, the first eigenvalue should be considerably larger than the remaining eigenvalues (de Ayala, 2009). The EFA with OBLIM rotation and principal axis factoring found six factors explaining 54.83% of the total variance, where the eigenvalue for the first factor explained 13.7% of the total variance (See Table 3). According to Hattie (1985), the greater the first eigenvalue, the better the items reflect a single underlying dimension. Although thresholds can always be found using EFA, the resulting subgroups are sometimes better conceptualised as differing along a continuum (Longpré et al., 2020 a,b) rather than as having natural boundaries (Ruscio et al., 2006). Therefore, it can be suggested that the model is unidimensional and is distributed as a unidimensional higher-order factor (g).

As shown in Table 3, the first factor, labelled “*intrusive communications*” was comprised of 3 items (*phone calls, text messages & emails*) that explained 13.67% of the variance. Factor 2, labelled “*violent behaviours*”, included 3 items (*criminal damage, break in & physical assault*) that explained 11.71% of the variance. Factor 3, labelled “*physical acts of unwanted communication*”, included two items (*sent gifts & sent letters*) that explained 8.69% of the variance. Factor 4, labelled “*unwanted personal appearances*”, included three items (*visit house/work, following & loitering*) that explained 7.26% of the variance. Factor 5, labelled “*proxy stalking behaviours*”, included items (*third party contact & social networking sites*) that explained 6.96% of the variance. Finally, factor 6, labelled “*implied threats*”, comprised of three items (*death threats, threats & threaten suicide*) that explained 6.55% of the variance.

Item Response Theory

There are no absolute criteria for model-fit data in IRT (Templin, 2007). The internal consistency for scale was good. The nonsignificant chi-square is an indication that the model fits the data. Both Akaike information criteria (AIC) and Bayesian information criteria (BIC) also indicate a good fit between the data and the model. Finally, we also looked at the standardised residual for univariate and bivariate model fit. No indicator reached the problematic threshold of ± 3 . These results are indicating a stable unidimensional model and corroborating the prior conclusion supporting unidimensionality from EFA.

The item parameter estimates from the 2PL IRT analysis (see Table 4) indicates that the difficulty (*b*) parameters ranged between .11 and 5.17 with items nearest to 0 indicating least severe and items falling near 6 indicating severe. The ranking of the items indicated that *death threats* (*b*= 5.17), *sending letters* (*b*= 4.73) and *break in* (*b*= 4.27) were among the items on the higher end of the continuum. These items were therefore more difficult to employ by the stalker

and reported less frequently by the victim. The discrimination (a) parameters ranged from .21 to 1.21, with *text messages* ($b = .11$) and *phone calls* ($b = .16$) on the lower end of severity.

External Correlation

The severity scale was correlated with an external measure, the S-DASH, to establish the concurrent validity. As the S-DASH is the closest inventory to measuring similar construct as the present scale, it was used for external correlation. The S-DASH consists of 11 questions related to the victim's stalking situation, such as “*has the stalker made any threats of physical or sexual violence?*”. Of the 924 stalking cases, 316 had data on the S-DASH risk assessment in the helpline’s database. Pearson's correlation indicated a significant positive correlation between the current severity scale and the S-DASH, $r(316) = .12, p < .05$.

Discussion

To date, empirical knowledge related to the severity of stalking has been limited, nor have been subject to IRT analyses in the construction of a stalking severity scale. This is the first study to develop a scale that measures the severity of stalking behaviours using 2PL IRT analyses. Out of the 28 initial items, analyses revealed that a 16-item scale possessed the best psychometric properties. Although some model fit indicators were slightly below acceptable, the model supported a stable and unidimensional measurement of stalking. The IRT analyses at an item-specific level indicated that the variables reflect various levels of severity of stalking. The difficulty parameter measurements (i.e. how likely the specific item will be endorsed by the sample across the latent-trait continuum of the severity of stalking behaviours) revealed that death threats, sending letters and break-in experienced by stalking victims had the highest difficulty parameters and therefore presented at the severe end of the continuum. The lowest difficulty parameters comprised of more unwanted communication behaviours such as text

messages and phone calls, thus mapped on the least severe end of the continuum. Further, the lower end of the scale revealed better discrimination than items at the higher end of the scale which could possibly be a result of victims reporting the lower end behaviours more often.

Consistent with other research (e.g., Chan et al., 2020; Hehemann et al., 2017; Spitzberg & Cupach, 2007), majority of the least severe stalking behaviours were reported more frequently by victims whereas most of the severe stalking behaviours were uncommon. Theoretically, this could have been a factor in determining the severity ranking of the behaviours. Text messages and phone calls are relatively easy behaviours for stalkers to engage in and thus are common for victims to experience. This may indicate why these behaviours are located at the lower end of the scale, in relation to the other items measured. What is specifically challenging to intimate partners stalking is the fact that many seemingly non-severe/non-violent behaviours could be classified as ‘normal’ courtship behaviours following a relationship breakdown (Spitzberg & Cupach, 2014). Although the behaviour might be distressing to the victim (Chan & Sheridan, 2019; Kamphuis et al., 2003), police might not view it as severe given the lack of physical contact (Lynch, 2015). Under such circumstances the victim might be more likely to seek support from victim helplines which is where the data for the current study derived from. Death threats located at the higher end of the continuum could be a result of the behaviour being more uncommon and often leading to violence (McEwan et al., 2009). Indeed, prior death threats is a known risk factor in intimate partner killings (Campbell et al., 2007). In addition, Jagessar and Sheridan (2004) factor analysed 42 stalking behaviours and categorised death threats under “severe stalking”, which parallels the placement of death threats on the present study’s continuum.

What was surprising, however, was that physical assault, although perceived as the most severe act of stalking behaviour through research (Rosenfeld, 2004), did not locate on the highest

end of the continuum. One explanation for this could possibly be that physically violent behaviours need spatial proximity between the stalker and the victim and this is more achievable when the relationship is still existent. Having said that, once the perpetrator is convicted of a physical assault, the victim might not be as likely to seek support from a helpline feeling that the case found some sort of resolution. This is despite the evidence suggesting that sentence length does not reflect the severity of the perpetrator's persistency of behaviour against the same victim when compared to the stalking conviction title and associated sentence length (Wheatley, 2019). Another surprising result was that sending gifts and sending letters loaded at the higher end of the scale. This finding may reflect the changes in the face of stalking behaviours where since advancements in technology, stalkers rely on novel methods to stalk their victim rather than engaging in "older" stalking behaviours such as sending gifts, cards or letters (Buhi et al., 2009). Therefore, those who engage in these behaviours could possibly be considered as more dangerous and have other underlying problems such as mental health issues, explaining its position on the higher end of the scale. This is supported by James et al. (2010) who found that victims who had persistent stalkers, were more likely to experience receiving unwanted communication through letters and gifts.

From the EFA, the data fit best into a six-factor model, and the factors were labelled as "intrusive communications," "violent behaviours," "physical acts of unwanted communication," "unwanted personal appearances," "proxy stalking behaviours," and "implied threats." The factor structure of our study is similar to that of Spitzberg and Cupach (2007), who uncovered eight factors. These factors included *intimacy tactics* (e.g. severe courtship behaviours); *mediated contacts* (e.g. communication through technology- emails, telephone calls, use of the internet); *pursuit and surveillance tactics* (e.g. following, loitering and watching); *invasion*

tactics(e.g. break into property); *harassment and intimidation tactics*(e.g. insults and spreading rumours); *coercion and threat*(e.g. threats against victims and people they know and threatening suicide); *physical aggression and violent tactics*(e.g. assault, vandalism, rape, suicide and homicide). However, their factor structure contained two extra factors that consisted of behaviours related to sexual assault (e.g. rape). Nevertheless, the factors derived from the EFA of the current study are overall consistent with the results of Spitzberg and Cupach (2007), which suggest good reliability.

Additionally, the factor correlations indicated that the greatest correlation was between intrusive communications which included behaviours such as emails, phone calls and text messages and proxy stalking behaviours which consisted of social networking sites and third-party contact. This suggests that when victim report having experienced behaviours of intrusive communications, they are also more likely to report having experienced behaviours within the factor of proxy stalking behaviours. This appears true as both factors consist of behaviours that incorporate the use of technology. When stalkers exploit one type of technological platform such as phone calls, text messages or emails shown on “intrusive communications”, they are likely to use others (Truman, 2010) such as social networking sites shown in “proxy stalking behaviours”.

The internal consistency reliability estimate of the scale is encouraging as it was revealed to be acceptable, indicating that the items on the scale are considered to be consistent with its severity. Further, in the current study, the construct validity for the severity of stalking behaviour scale revealed value of the total scale scores to the S-DASH scores. The statistical findings could have possibly been attenuated by the victims underreporting that they had experienced severe stalking acts. It is likely that higher reliability and validity coefficients would have been obtained if more victims had reported experiencing more severe items.

The present study's findings compared with previous scales of stalking is difficult to discuss, as mentioned above, although several stalking scales exist, none has established a severity ranking among stalking behaviours using IRT analyses and therefore research is limited. Compared with other constructed stalking scales used in research (Coleman, 1997; Cupach & Spitzberg, 2000; Wright et al., 1996) and the S-DASH risk assessment, the current scale provides a visual objective measure of the severity of stalking behaviours by considering a wide range of behaviours. At a descriptive level, the scale provides more information than only indicating if a behaviour is present or absent. In addition, as the scale is IRT-derived, it provides an accurate measure of the severity of stalking behaviours that some scales have yet to do.

As noted previously, stalking is a difficult crime for professionals working in the criminal justice system due to the lack of consensus on what constitutes stalking (Blauw et al., 2002); some non-violent behaviours being assumed 'normal' courtship behaviours following a relationship breakdown (Spitzberg & Cupach, 2014); perpetrators not being charged for a stalking offence but rather an offence linked to physical and/or sexual violence (Miller, 2012). The severity of stalking is often subjectively determined rather than an objective measure. As a consequence, some victims have no support to their situation and legal intervention may seem inappropriate to those who have experienced "less severe behaviours" (Kamphuis et al., 2003). The ambiguity in responding to stalking could also extend to the responses from professionals in the victim services who often prioritise high risk cases based on professional judgements (Hehemann et al., 2017). Therefore, the development of the current severity of stalking behaviour scale could possibly help victims who have not experienced threatening behaviours to be taken seriously through criminal justice processes as it is shown on the high end of the scale that threats are not the only behaviours to be severe in stalking.

Limitations

Although the study has many implications, the stalking behaviour scale is in its early developmental stages and therefore has its limitations. The results of the present study may not be generalisable to the population of convicted stalkers, as the sample, although large, was limited to a predominantly non-forensic population of stalking victims, whose self-reported information may not be as accurate as if there was police evidence. In addition, as the findings were obtained from self-reports of victims at the helpline, usually before the stalker had been convicted, the stalking behaviours that victims report may not be as accurate as having evidence gathered by police once the stalker is convicted of the crime. Further, it would be expected that the use of a convicted stalker sample would show slightly better psychometric properties of the scale, specifically regarding the model fit. This is because a stalker sample could have potentially reported more behaviours that were uncommon in the results of the current study, thus, mitigating the need to merge variables and omit important stalking behaviours such as “revenge porn.” Therefore, it would be of some future interest to assess the severity of stalking behaviours of a forensic sample, specifically adjudicated stalkers. Nevertheless, stalking is primarily a victim-defined crime therefore, the developed severity scale would be more useful to victims of stalking than using a sample from the forensic population.

Another limitation is that the scale includes 16 behaviours from the stalking helpline database, and therefore, might not include all stalking behaviours that victims' experience compared to other inventories. Therefore, the scale may not generalise to the entire population of stalking victims who have experienced behaviours that are not included on the scale. However, the stalking behaviours that were omitted from the study did not discriminate well with the data, therefore could have possibly negatively influenced the results. Behaviours such as sexual

assault may have not discriminated well as they could be classed as a crime themselves (Miller, 2012; Sheridan et al., 2001).

Implications

Despite some limitations, the current study has a number of implications. The nature and severity of stalking make it difficult for those in the criminal justice system and stalking agencies to determine who is the most need for services and whom to prioritise. The creation of the current scale should assist professionals to establish which cases need prioritisation to prevent serious outcomes. In addition, as reported by Canter and Ioannou (2004), stalkers after their conviction are usually not inclined to discuss their offences. Thus, there is significant value in assessing the behaviours that occur in incidents of stalking from the victim's view as they are more willing to report on the stalking behaviours that they have experienced. Further, obtaining a severity ranking of these behaviours may also help in deciding whether specific stalking behaviours have a greater likelihood of leading to violence or homicide so that stalking agency professionals such as staff at the National Stalking Helpline are able to take action from the onset. Regarding help-seeking behaviours, some studies show that stalking victims seek help from police at low rates (Buhi et al., 2009). Therefore, victims themselves may also benefit from this severity scale as knowing that a behaviour they might have considered as "normal" or not severe is on the higher end of the continuum may encourage them to report to the police, thus increases the prosecution of more stalkers.

Conclusion

This is the first study to use IRT analyses to develop a scale that assesses the severity among behaviours of stalking experienced by victims of the crime. Although the psychometric

properties of the scale are not perfect as the scale is clearly in its early stages of development, the initial reliability and validity findings were satisfactory. This suggests that the scale accurately measures the severity aspect of stalking behaviours.

The current study should be perceived as a first step toward further instrumental research of the severity of stalking. Future research should incorporate extra stalking behaviours such as sexual assault to the scale, as although this act is rare in stalking cases, some victims do experience these types of behaviours, therefore should be accounted for. Furthermore, idiosyncratic features such as gender, personality structures and duration should be considered in the assessment the severity of stalking (Acquadro Maran et al., 2020; Thompson et al., 2020).

Compliance with Ethical Standards

Conflict of interest: The authors declare that they have no conflict of interest.

Ethical Approval: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards.

Informed Consent: For this type of study, formal consent is not required.

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