The Impact of Cyberstalking

Emma Short[1,] Andrew Guppy[1], Jacqui A. Hart[1], James Barnes[1]

[1]National Centre for Cyberstalking Research, University of Bedfordshire, UK

Correspondence: Emma Short, National Centre for Cyberstalking Research, University of Bedfordshire, UK

Abstract

To access the diversity of the population who define themselves as having been cyberstalked and to assess the levels of anxiety and trauma that victims reported. Participants who were self-defined cyberstalking victims (N = 353) were asked to complete an online survey, which consisted of items relating to the experience of offline harassment and cyberstalking, general anxiety and post-traumatic stress symptoms. Participants were also asked to report on the type of relationship they had with the harasser, changes in working life, relationships, finance and third parties subsequent to the experience of being stalked. Overall, the findings revealed that victims of harassment may suffer high levels of psychological distress as a consequence of the experience, with victims of cyberstalking experiencing psychological effects which are broadly comparable to the symptoms seen in PTSD, leaving the victim experiencing feelings of isolation, irritability and guilt. In addition, as with other research on the effects of adverse experiences on mental health outcomes, the respondents of the survey reported much higher levels of psychological distress than levels that have been reported in the general population. It is suggested that both offline and cyberstalking victims suffer comparable high levels of psychological distress as a consequence of the experience and, despite the wide variation in individual experience and reactions to being cyberstalked, this study was able to determine patterns of psychological distress which were comparable to the symptoms associated with PTSD. Individuals displaying symptoms of PTSD find themselves experiencing adverse effects in major domains of life activity, such as social relations and occupational activities.

Keywords: PTSD, trauma, cyberstalking, cyberharassment, harassment, quality of life, anxiety

1. Introduction

1.1 Introducing the Problem

Stalking has not only been the subject of much media attention in recent years, but it has also become an area of scientific scrutiny over the last two decades. Behaviours that constitute stalking, the variety of stalker types and the impact of stalking on victims have all received considerable attention in the academic press. Another topic of discussion that has emerged recently is the comparison of cyberstalking and stalking (Sheridan & Grant, 2007) and indeed whether or not there is a distinction to be made between them in any aspect. Cyberstalking has been the subject of some speculation but, at present, little empirical data exists to categorically support the various opinions. For instance, it is unknown whether cyberstalking constitutes a separate criminal phenotype or if the use of technology has just been added to the armaments of the traditional stalker. As a result, the definitions of cyberstalking vary and are sometimes wide-reaching depending on the context and whether a clinical or legal definition is required.

1.2 Stalking

The Protection from Harassment Act (PHA) 1997 (OPSI, 1997) states that it is necessary to prove a course of conduct occurring on a minimum of two occasions amounting to harassment (Section 2) or stalking (Section 2a) or fear of violence (Section 4) or stalking, which causes serious alarm or distress that has a substantial adverse effect on the victim's usual day-to-day activities (Section 4a) and which the perpetrator knows, or ought to know, amounts to harassment or stalking or fear of violence (Richards & Fletcher, 2012).   The psychiatric literature has defined stalking in similar terms where it has been defined as a course of conduct by which one person repeatedly inflicts on another unwanted intrusions to such an extent that the recipient fears for his or her safety (Mullen, Pathé, & Purcell, 2004). In addition, repetition and persistence are characteristics of this behaviour. In an effort to define when repeated intrusion becomes problematic behaviour, an accepted cut-off point for "normal/abnormal" contact is suggested with criteria for persistence and repetition behaviour being defined as occurring over a period of four weeks and/or on more than 10

occasions (Pathe, Mullen, & Purcell, 2000).

1.3 Cyberstalking

While there are no reliable prevalence figures for cyberstalking, there can be no doubting the increasing speed in the uptake of innovation and technology. A recent report by the UN's International Telecommunication Union (ITU) stated that, in 2013 over 2.7 billion people were using the Internet, which corresponds to 39% of the world's population. Clearly, the advances and growth in information and communications technology present an exciting opportunity for society. However, it is not without drawbacks. The amount of electronic data and communication has given opportunity for areas of society to act unethically or unlawfully. The Internet also provides a new venue for criminal activities, such as cyberstalking and, with the vast volume of users, an almost endless supply of potential victims. There is no definite means by which to establish the prevalence and incidence of cyberstalking because of the diversity of definitions and the variety of methods used in research. Harassment accounted for 20% of police-recorded violent crimes in 2005/2006 in the UK. However, a breakdown of types of harassment has not been recorded (Walker, Kershaw, & Nicholas, 2006). Therefore, for the purposes of this paper, previous research into the prevalence of cyberstalking has been reviewed. In general, previous literature has classified cyberstalking into two different groups according to the samples that were collected: samples of self-reported stalking victims and the incidence of stalking behaviours (both online and offline) reported in normative samples.

In their research, Sheridan and Grant found that almost half of the sample (47.5%) of self-defined stalking victims reported harassment via the Internet, and 7.2% of this group were considered to have been cyberstalked using persistence and incidence definitions (Sheridan & Grant, 2007). Individuals harassed by ex-intimates were found to represent the most common stalking type, which is consistent with accounts of proximal stalking (Sheridan & Boon, 2002). In addition, a meta-analysis of 175 studies to identify the prevalence of stalking gender differences, origins of stalking, and type of threat revealed that a quarter of the studies reported extended periods of victimisation lasting for up to two years with the majority of victims, between 60-80% being female (Spitzberg & Cupach, 2007). Furthermore, in terms of the prevalence of stalking in normative samples between 25% and 50% of participants reported that they had been harassed at some time. However, the authors stated that in their view this may underestimate online forms of harassment such as mobile phone behaviour. Therefore, it is suggested that the risk of harassment may be increased when additional channels of communication are also observed.

Research, which has observed Internet use specifically by children aged between 10 and 17, found that 6% of regular Internet users reported that they had experienced repeated online intrusions that had caused them to feel threatened, worried, or embarrassed (Finkelhor, Mitchell, & Wolak, 2000). The incidence was similar for males and females with 28% of the group knowing their harasser. In a survey exploring negative Internet experiences reported to mental health professionals, levels of harassment were identified in 10% of cases (Mitchell, Becker-Blease, & Finkelhor, 2005), while 18% of undergraduates reported that they had been "undesirably and obsessively" communicated with online (Spitzberg & Hoobler, 2002).

The perception of being cyberstalked has also been investigated. In their study, Alexy and colleagues found that 28 students (3.7% of the complete sample) had experienced cyberstalking. Most of the cyberstalkers were either schoolmates or previous intimate partners; hence, the harasser was known to the victim (Alexy, Burgess, Baker, & Smoyak, 2005). The authors also identified some differences between the groups. Women were more likely to report having been stalked (offline) while men were more likely to report being cyberstalked. In addition, compared with stalked victims, cyberstalked victims responded less to communications and were less likely to report it to the police.

Ofcom published a report "Being online: an investigation of people's habits and attitudes" which showed that there was a lack of awareness of how to stay safe online and that there were misconceptions of what constituted "safe" online behaviour (Ofcom, 2013). A Pew Internet report found that "one in six online teens say they have been contacted online by someone they did not know in a way that made them feel scared or uncomfortable" (Smith et al., 2013). However, in order to establish that harassment or stalking has occurred in law, fear of violence or serious alarm or distress which has had a substantial adverse effect on the victim's usual day-to-day activities must be proven. To demonstrate this in psychological terms, self-reported measures of fear or clinical measures that identify general anxiety or a more specific diagnosis linked to the experience of trauma have been used. Trauma has been defined as an "event or situation of an exceptionally threatening or catastrophic nature, which is likely to cause pervasive distress in almost anyone" (NICE, 2005).

1.4 Trauma

Psychological definitions of trauma generally include the criteria of experiencing or witnessing a disturbing event, or events, which include exposure to life threats or to the perception of danger. Secondly, this experience violates the integrity of the individual's psychological defences and produces the "state of fear, helplessness or horror, which results

in significant distress or impairment in some realm of functioning". Currently, there are few studies on the psychological impact on victims. However, Westrup and colleagues studied the psychological effects of 232 female offline stalking victims and found that the majority of victims had symptoms of PTSD, depression, anxiety and experienced panic attacks (Westrup, Fremouw, Thompson, & Lewis, 1999).

The diagnosis of PTSD rests on criteria derived from the DSM-IV (APA, 1994). The symptoms of PTSD are clustered into three groups: Firstly the re-experiencing of events often manifesting as involuntary intrusions triggered by apparently neutral stimuli and disturbing memories. The second cluster of symptoms relate to hyperarousal. These may be observed as physical symptoms such as insomnia, irritability, poor concentration and hypervigilance, headaches, nausea, muscle aches/pains and increased startle responses. Other symptom clusters are the experiencing of avoidance and numbing, often linked to withdrawal or dependence behaviours such as alcohol or drug misuse (Avant, Davis, & Cranston, 2011). Comorbidity with disorders such as generalised anxiety disorder, as well as with substance dependence or misuse is common among individuals who have screened positive for PTSD (Freeman, 2006). It has been argued that the conflicting findings relating to symptom combination and factor structure (O'Hare, Shen, & Sherrer, 2007; Palmieri & Fitzgerald, 2005) might suggest that PTSD should be considered a spectrum disorder with symptoms distributed along a continuum (Friedman, Resick, & Keane, 2007). However, previous research has linked different trauma-types to unique PTSD cluster and symptom variants (Kelley, Weathers, McDevitt-Murphy, Eakin, & Flood, 2009) thus, the present research utilises both an overall severity score and an analysis of clusters based on the DSM-IV criteria.

Previous trauma research has identified unfavourable mental health outcomes (such as PTSD, anxiety, depression) for individuals who have experienced adverse events such as war (Hoge et al., 2004), natural disasters (Benight & Harper, 2002) or negative events in childhood (Afifi et al., 2008; Widom, 1999). However, exposure to other forms of adverse experience, such as workplace harassment (Lewis, Coursol, Khan, & Wilson, 2000) and stalking (Basile, Arias, Desai, & Thompson, 2004)   have also been associated with PTSD. Indeed, there is accumulating evidence to suggest that victims of stalking often experience post-traumatic stress (PTS) symptoms (Kamphuis & Emmelkamp, 2001; Kamphuis, Emmelkamp, & Bartak, 2003) as well as general psychological distress (Purcell et al., 2012). For example, stalking contributed a unique effect on PTSD in a sample of women (N = 413) who had been exposed to intimate partner abuse (Mechanic, Weaver, & Resick, 2008). Similarly, stalking was the only significant predictor of PTS in a study conducted by Fleming and colleagues; significant relationships between several intimate partner abuse variables (psychological aggression, physical assault and sexual coercion) and PTS became insignificant when stalking was added to the model (Fleming, Newton, Fernandez-Botran, Miller, & Ellison Burns, 2012). Interestingly, this study also found that hyperarousal symptoms of PTSD were increased twofold by stalking that was defined in terms of fear and threat. Although a growing body of research has examined offline stalking and psychological distress, the examination of cyberstalking and mental health outcomes is rare.

1.5 Current Study

This current work forms part of the Electronic Communication Harassment Observation (ECHO) project, the primary aim of which is to contribute to an understanding of the emerging norms of behaviour and the meaning of those behaviours in online environments. A consequence of this will be to more clearly define the "cyberstalking relationship"; specifically to identify the particular communications and technology-mediated actions performed and directed at another, that are likely to be "interpreted as threatening, frightening, intrusive or otherwise unwelcome by that party" (Maple, Short, Brown, Bryden, & Salter, 2012). This work sets out to examine the diversity of the population who define themselves as having been cyberstalked and the levels of anxiety and trauma that have been reported. Ultimately, this work will use the comments of stalking victims to raise awareness of behaviours that can be classified as cyberstalking and of the impact they have on those who are subjected to them.

2. Method

2.1 Ethics

The questionnaire web link initially brought respondents to a consent form assuring them of their anonymity and the confidentiality of any identifying information. It also provided the National Stalking Helpline phone number and NSS website and advised that the questionnaire should be completed when at least one form of support was available to the respondent. The proposal was approved by the University Ethics Committee.

2.2 Participants

A total of 353 self-defined victims of stalking anonymously completed a questionnaire on their victimisation experience. The mean victim age when the stalking commenced was 38 years (SD 14.849), range 14-74 years. A majority were female (N=240).

2.3 Instruments

The stalking and cyberstalking questionnaire was devised with reference to Sheridan's original stalking questionnaire, as well as an iterative process of communication with the Network for Surviving Stalking (NSS), technical advisors and researchers. The ECHO survey (see Appendix A) was designed to capture demographic information, online behaviour and experiences of cyberstalking. Respondents were given text boxes to respond to with qualitative information about their experience, as well as Likert scale type questions. Mental health was assessed by two standardised measures: Generalised anxiety disorder was assessed by the GAD-7 (Spitzer, Kroenke, Williams, & Lowe, 2006). This scale consists of 7 items, each of which has a number value (0-3). Scores range from 0 to 21. A score of 10 or higher indicates the presence of significant anxiety. Scores over 15 are said to be severe. The measure has been described as a valid and efficient tool to screen for anxiety and to assess "its severity in clinical practice and research". Post-traumatic stress symptoms were assessed by the PTSD Checklist, Civilian version (PCL-C)   (Weathers, Litz, Huska, & Keane, 1994). This measure is a standardised scale consisting of 17 items, corresponding to the key symptoms of post-traumatic stress disorder. The scores can be totalled for an overall severity score and scored according to the DSM criteria, the key symptoms of which are: re-experiencing of events, avoidance and numbing, and hyperarousal. The scale compares favourably with other measures (e.g. Clinician-Administered PTSD Scale) for predicting PTSD and has very good internal consistency (Keen, Kutter, Niles, & Krinsley, 2008). A cut-off score of 50 demonstrates good sensitivity (0.78 to 0.82) and specificity (0.83 to 0.86) in the assessment of combat-related PTSD (Weathers et al., 1994). On the other hand, in a study that examined PTSD in motor vehicle accident victims, better sensitivity (0.94), specificity (0.86) and overall diagnostic efficiency (0.90) was obtained by using a lower cut-off score of 44 (Blanchard, Jones-Alexander, Buckley, & Forneris, 1996). In the current study, a cut-off score of 50 was used to assess severity in order to minimise the likelihood of type 1 error.

2.4 Procedure

The survey was made available through a link on the website of the Network for Surviving Stalking (NSS). The survey was promoted via the NSS newsletter and local and national broadcasts and print media in news stories linked to cyberstalking due to the release of new CPS prosecution guidelines on the prosecution of stalking.

3. Results

3.1 Self-reported Cyberstalking Victims, by Gender and Age

The number of survey respondents, expressed in percentages, who reported the experience of being 'cyberstalked' are shown in Table 1. Two thirds of respondents to the survey were female indicating a higher prevalence of male victimisation, (approximately one third), which is a greater proportion than the 17% that some studies of offline stalking have indicated (Sheridan and Grant 2007). The age group most represented in the current 'cyberstalked' group was 20-39 yrs, although ages ranged from 14-74 yrs.

3.2 The prevalence of Anxiety and PTSD Symptoms within the ECHO Survey

The incidence of generalised anxiety disorder and post-traumatic stress symptoms in self-reported cyberstalking victims can be seen in Table 2. By applying the threshold of 50 to the survey scores, 32.7% of respondents who reported harassment were indicated to have symptoms of PTSD according to the PCL-C (Weathers et al., 1994). Those respondents who were classified as having PTSD symptoms had significantly ($p < 0.05$) higher scores for GAD-7. They also reported significantly ($p < 0.05$) higher levels of fear. The scores of individuals with PTSD symptoms were split into groups according to whether they had experienced physical harassment in addition to online harassment, or harassment had remained solely online. The triad of symptoms was investigated within the traumatised group. The major fears of those experiencing harassment were damage to reputation at 34.8% (46.6% for males, 28.9% for females) and physical injury to self with 23.6% (14.8% for males and 27.9% for females).

3.3 PTSD Caseness

Using the multi-criteria method for defining caseness on the PCL-C, it was found that 44.9% of respondents met the criteria for PTSD. This seems to be closely matched by the results for the GAD-7 where, using a threshold score of ten, 51% of the sample had scores indicating moderate to severe anxiety. Clearly, on both of the measures, these results indicate levels of distress well above what might be expected within the general population.

Chi-square analyses were used to examine if the type of stalking experience influenced the incidence of caseness scores within the sample. The participants were grouped into cyberstalking only and cyberstalking plus physical encounter groups. This grouping was then compared against the caseness variables created for both PCL-C and GAD-7. The results of the chi-square analyses are shown in Table 3 for the GAD-7 and Table 4 for the PCL-C. The results of the comparisons between the groups and caseness variables are shown in Table 5.

As can be seen from Table 3, there was a significant association between type of stalking and caseness on the GAD-7 ($\chi2 = 5.64$, df = 1, $p < 0.05$). A significantly higher proportion of those experiencing physical threat (63.4%) had scores

above the threshold on the GAD-7 compared to those experiencing online harassment only (48.6%). A different picture emerges when caseness on the PCL-C is considered (see Table 4).

In this instance, the association between type of stalking experience and PTSD caseness was not significant ($\chi2 = 2.56$, df = 1, p > 0.05). This indicates that similar levels of PTSD caseness were experienced by those receiving physical threats as by those receiving online harassment only.

Further exploration of the experience of anxiety and PTSD symptoms in relation to participant and experience characteristics was undertaken using ANOVA. Four 3-way ANOVAs were performed examining for group differences in PTSD sub-scale scores and GAD-7 total score against independent variables of age (grouped into under 30, 30-39 and 40 years and over) and gender and harassment experience (physical vs. cyber-only). The results of these analyses are shown in Table 5. As can be seen from Table 5, there was a significant main effect for harassment type on GAD-7 and the intrusive thoughts sub-scale of PCL-C. In both instances, physical harassment experience showed higher symptoms.

There was also a significant age x stalking type effect for the hyperarousal sub-scale. From the means, it would seem that for the younger age groups, the addition of a physical component to the harassment meant more symptoms reported, whereas for the older age group this was not the case (and indeed for males, cyberstalking provided higher symptom scores). There were no significant group differences at all for the avoidance/numbness sub-scale.

3.4 Victim-harasser Relationship

Data was also collected regarding the relationship of the harasser to the respondents; these data are presented in Table 6. The categories shown in Table 6 represent the general categories identified in the stalking literature; however, a significant number of respondents (35%) listed the stalker as being in another category. These individuals were then asked to describe their relationship with the stalker; these were coded and produced six more categories. All the categories that were identified by respondents can be seen in Table 7 below.

The results indicated that 21.7% of cases (23.9% for males, 20.7% females) report that their harasser was a stranger, while 27.9% (20.7% males, 31.6% females) say the harasser was someone they either dated or were married to. The other significant category was made up of work colleagues (6.3%). It is difficult to determine serial offenders from this survey, but 8.4% (10.2% for males, 7.4% for females) of reported cases ended due to the harasser switching their attentions to someone else. The relationship/context of the perpetrator to the victim had a significant effect on the degree of impact on the victim. On the GAD-7, a workplace relationship had a significantly greater impact than a close friend or someone the victim had lived with or had been married to.

Table 1. Percentages of self-reported cyberstalking victims by gender and age

Age	Total ($N = 353$)	Male ($n = 109$)	Female ($n = 240$)
14-19	7.7%	5.6%	7.9%
20-29	25.7%	22.4%	27.2%
30-39	32.9%	29.0%	35.1%
40-49	22.9%	32.7%	18.4%
50-59	8.9%	7.5%	9.6%
60-69	1.7%	1.9%	1.7%
70-74	0.3%	0.9%	0.0%

Table 2. Self-reported cyberstalking victims and the incidence of PTSD

	Cyber Stalking Mean (SD)	Physical Stalking Mean (SD)	T-Test Significance
GAD7 Score	12.46 (6.32)	12.29(6.40)	0.3602
PTSD Total Score	49.10 (18.85)	39.19(20.61)	0.0003
PTSD B Re-experiencing	2.70 (1.97)	1.82(2.00)	0.0002
PTSD C Avoidance/numbing	3.26 (2.51)	2.43(2.54)	0.0047
PTSD D Hyper arousal	2.02 (2.08)	1.73(2.07)	0.2315

Table 3. Stalking type and GAD-7 caseness showing Mean and Standard Deviations

Type of stalking experience	All respondents (n = 276)	Within GAD-7 cut-off (n = 127)	GAD-7 caseness (n = 149)
Physical threat and cyberstalking	101 (36.6)	37 (36.6)	64 (63.4)
Cyberstalking only	175 (63.4)	90 (51.4)	85 (48.6)

Chi-square per stalking type, p < .05

Table 4. Stalking type and PCL-C caseness showing Mean and Standard Deviations

Type of stalking experience	All respondents (n = 302)	Within PCL-C cut-off (n = 175)	PCL-C caseness (n = 127)
Physical threat and cyberstalking	108 (35.8)	56 (51.9)	52 (48.1)
Cyberstalking only	194 (64.2)	119 (61.3)	75 (38.7)

Chi-square per stalking type, p > .05

Table 5. Group differences in PTSD sub-scale and GAD-7 scores by age, gender and harassment experience

			GAD7 Mean (SD)	PTSD Intrusive Mean (SD)	PTSD avoid/ numbing Mean (SD)	PTSD Hyperarousal Mean (SD)
Age <30	Male	Phys stalk	2.07 (1.17)	2.90 (1.56)	2.79 (1.43)	2.99 (1.83)
Age <30	Male	Cyber stalk	1.02 (1.09)	2.08 (1.41)	2.13 (1.24)	2.21 (1.57)
Age <30	Female	Phys stalk	1.76 (0.91)	2.91 (1.14)	2.68 (1.08)	3.18 (1.07)
Age <30	Female	Cyber stalk	1.14 (1.10)	2.24 (1.25)	2.03 (1.25)	2.22 (1.36)
Age 30-39	Male	Phys stalk	1.64 (1.25)	3.18 (1.06)	2.77 (1.05)	3.48 (1.23)
Age 30-39	Male	Cyber stalk	1.37 (0.93)	2.63 (1.35)	2.58 (1.22)	2.88 (1.56)
Age 30-39	Female	Phys stalk	1.73 (1.01)	3.13 (1.12)	2.75 (0.88)	3.32 (1.01)
Age 30-39	Female	Cyber stalk	1.66 (1.01)	2.67 (1.18)	2.57 (1.22)	2.93 (1.20)
Age 40+	Male	Phys stalk	1.53 (1.22)	2.63 (1.47)	2.17 (1.10)	2.89 (1.49)
Age 40+	Male	Cyber stalk	1.76 (1.01)	2.78 (1.30)	2.57 (1.21)	2.82 (1.50)
Age 40+	Female	Phys stalk	2.11 (0.89)	3.02 (1.38)	2.58 (1.28)	3.05 (1.16)
Age 40+	Female	Cyber stalk	1.76 (0.93)	2.96 (1.11)	2.54 (0.93)	2.86 (1.15)

GAD 7 - F (stalking type) = 5.82 df 1,260, p<0.05

PTSD Intrusive - F (stalking type) = 5.07 df 1,268, p<0.05

PTSD avoid /numbing = Non significant

PTSD Hyperarousal - F (Age x stalking type)=3.55 df 2,254, p<0.05

Table 6. The general categories of relationship identified in the stalking relationship

Harasser	Total	Male	Female
A stranger	15.4%	18.9%	13.8%
An acquaintance	16.0%	10.5%	17.8%
A close friend	2.8%	1.1%	3.6%
A work colleague	4.9%	7.4%	4.0%
Someone I dated casually for a while	17.9%	11.6%	20.9%
Someone I lived with or was married to or have children with	6.5%	3.2%	8.0%
Estranged spouse I am still married to	0.3%	0.0%	0.4%
Other	35.2%	46.3%	30.7%

Table 7. Categories of harasser identified by respondents and percentages

Harasser	Total	Male	Female
An acquaintance	20.4%	14.1%	22.5%
A stranger	21.7%	23.9%	20.7%
A pupil	0.3%	1.1%	0.0%
Someone I dated casually for a while	18.2%	12.0%	21.2%
A close friend	3.8%	1.1%	5.0%
Business	0.3%	1.1%	0.0%
Someone I lived with or was married to or have children with	9.7%	8.7%	10.4%
Unknown – identity not established	16.4%	25.0%	13.1%
A work colleague	6.3%	10.9%	4.5%
Relative	0.9%	1.1%	0.9%
Partner's ex	1.3%	1.1%	1.4%
Politics	0.3%	0.0%	0.0%
Estranged spouse I am still married to	0.3%	0.0%	0.5%

4. Discussion

The aim of this study was to examine the diversity of the population who define themselves as having been cyberstalked, and the levels of anxiety and trauma that have been reported. Overall, the findings provide a picture that indicates that the victims of harassment (both online and offline) may endure high levels of psychological distress as a consequence of

the experience. Unlike previous findings in the literature that have identified harassment by ex-intimates to be the most common relationship between the victim and the harasser in both cyberstalking (Sheridan & Grant, 2007) and proximal stalking (Sheridan & Boon, 2002), the relationship category most identified by respondents in this study was a stranger, closely followed by an acquaintance. It seems significant that more than 38% of cyberstalking victims did not know the identity of their harassers, but still reported high levels of psychological disturbance. This has significance for two reasons: not only do victims have troubling psychological symptoms in the absence of physical contact with their stalker, but also there is a high proportion of cyberstalking cases where the stalker does not know the victim. This is divergent to what is known about offline stalking, where studies have revealed that the majority of stalkers know their victims (McGrath & Casey, 2002) and contradicts the view held by some who argue for the assumption of parallelism between online and offline harassment (Sheridan & Grant, 2007).

The results in our study indicate that the prevalence of PTSD following cyberstalking is comparable to other specific traumatic events such as sexual assault and combat. Moreover, what is clear is that the victims' reactions are of a negative nature and include fear, depression, stress, anxiety, lowered self-esteem and a loss of trust in other people (Mechanic, Uhlmansiek, Weaver, & Resick, 2000).

The picture changes somewhat on examination of the category identified by gender-type. One unexpected finding derived from the data was the fact that the prevalence of male victimisation (approximately one third of respondents) was higher than has been reported previously in offline stalking studies (Sheridan & Grant, 2007) and in the meta-analysis (Spitzberg & Cupach, 2007). In addition, one quarter of males reported that they didn't know who their harasser was and nearly as many said that they had been harassed by a stranger. The three highest categories identified by female participants were an acquaintance, someone they had dated casually for a while and a stranger; all of which were identified by approximately one fifth of respondents.

When it comes to the psychological effects of cyberstalking, the results are broadly comparable to previous findings that have linked PTSD with harassment in the workplace (Lewis et al., 2000) and offline stalking (Basile et al., 2004; Fleming et al., 2012; Kamphuis & Emmelkamp, 2001; Kamphuis et al., 2003) and more general psychological distress with the experience of being stalked (Purcell, Pathe, & Mullen, 2005). Moreover, in common with other research that has investigated the effect of adverse experiences such as childhood trauma (Afifi et al., 2008; Widom, 1999) natural disasters (Benight & Harper, 2002) and war (Hoge et al., 2004) on mental health outcomes, the respondents of the survey reported much higher levels of psychological distress than levels that have been reported in general population studies (McManus, Meltzer, Brugha, Bebbington, & Jenkins, 2009). Therefore, just as offline stalking has psychological and physical effects on the victim, so does cyberstalking. Altered behaviours that victims of cyberstalking could experience include changes in sleeping and eating patterns, anxiety, stress and fear. These are many of the same symptoms involved in PTSD, leaving the victim experiencing feelings of isolation, irritability and guilt.

Freeman's claim that PTSD is commonly comorbid with other mental health disorders was also supported by the findings in the present study, as respondents who were classified as having PTSD symptoms also had significantly higher scores for generalised anxiety disorder (Freeman, 2006). However, the relationships between type of stalking and psychological distress gave a more complex picture. Specifically, respondents who had experienced both physical threat and cyberstalking were more likely to score above the GAD-7 threshold for caseness than those who had experienced cyberstalking only. On the other hand, there was no significant difference between the two groups in terms of levels of post-traumatic stress symptoms, indicating that similar levels of PTSD caseness were experienced by those who had experienced cyberstalking with physical threat as by those receiving online harassment only.

Previous research has found that cyberstalking victims feel threatened, worried and embarrassed (Finkelhor et al., 2000), but the findings of this study suggest that negative effects may be more far-reaching. Cyberstalking also makes it simpler to pursue the victim at the workplace and at home without any inconvenience to the perpetrator. The stalker's anonymity and continuous presence in a victim's phone, e-mail, social networking website, etc. is not only associated with emotional distress, but also affects the personal aspects of life associated with day-to-day living. For example, a majority of respondents in this study reported adverse effects on at least one aspect of their lives such as relationships, work and finance. In addition, those who reported more life changes due to the harassment were significantly more likely to present with anxiety and fear. The sense of not knowing who the culprit is or when the offender may make a face-to-face appearance can also be extremely intimidating. This is highlighted in the suggestion that cyberstalking victims are equally frightened and anxious when compared to victims of offline stalking (Glancy, 2008).

Analysis of the relationships between each of the DSM-V clusters of PTSD symptoms and stalking (both online and offline) found effects of age and stalking type on the hyperarousal sub-scale. Only the respondents in the younger age group, who had experienced both physical and cyberstalking, reported more hyperarousal symptoms than those who had experienced cyberstalking alone. However, higher symptom scores were found for the older age group of male

respondents in the cyberstalking category. There were no significant group differences for the avoidance/numbness sub-scale. Although the aim of this work was not to assess the PCL's factorial validity, the view that PTSD might be considered a spectrum disorder (O'Hare et al., 2007; Palmieri & Fitzgerald, 2005) was not supported by these results. On the contrary, the findings provide further evidence to support the suggestion that different trauma types may be associated with unique PTSD cluster and symptom variants (Kelley et al., 2009). However, it must be noted that the DSM-IV symptom clusters may not reflect the full clinical phenomena in this particular group. In line with this view and also with the results presented here, Cordova suggested that numbing and avoidance symptoms represent separate symptom clusters within the PTSD scale, and that symptoms may be confounded with certain conditions and, therefore, fail to represent PTSD symptom dimensions (Cordova, Studts, Hann, Jacobsen, & Andrykowski, 2000) .

These results also provide evidence that PTSD symptoms reported by cyberstalking victims do not merely reflect global, non-specific distress, but rather are structurally consistent with PTSD as detailed in DSM-IV. The diagnostic criteria for DSM-V draw a clearer line when detailing what constitutes a traumatic event, and sexual assault is specifically included. In addition, DSM-V pays more attention to the behavioural symptoms that accompany PTSD and proposes four distinct diagnostic clusters instead of three. They are described as re-experiencing, avoidance, negative cognitions and mood, and arousal. While the factor structure of PTSD differs from one diagnostic manual to the next, it is clear that victims of cyberstalking potentially meet the PTSD stressor criterion. This also has clinical implications, given that suitable management for PTSD is different to that appropriate for other conditions (Chambless et al., 1996). Given the recent changes in diagnosis, the extent to which the factor structure of cyberstalking-related PTSD differs from that of PTSD in other trauma populations remains a question for future research.

This study contributes to the extant literature on cyberstalking in several conceptual areas. Firstly, although cyberstalking is a stalking problem in a new domain overall, the findings provide support for the suggestion that both offline and cyberstalking victims suffer comparable high levels of psychological distress as a consequence of the experience. It also identified that a large number of cyberstalking cases are perpetrated by total strangers, indicating a significant difference between offline and online stalking. Such a view would also suggest that a number of specific 'behaviours' can be identified and classified as 'cyberstalking behaviours'. Although further research is needed to identify and classify these behaviours, they include behaviour to create a criminal level of intimidation, predominantly on the Internet, e-mail, or other electronic devices. We have also shown that 'cyberstalking behaviours' demonstrate specific adverse psychological, financial and emotional consequences on those against whom they are directed.

Finally, despite the wide variation in individual experience and reactions to being cyberstalked, we are able to discern patterns of psychological distress which are comparable to the symptoms associated with PTSD, e.g. hypervigilance and flashbacks of frightening incidents. These symptoms and problems associated with PTSD are not only distressing and frightening, but can become difficult to control and interfere with a person's life resulting in adverse effects in major domains of life activity, such as social relations and occupational activities. In conclusion, this study, as part of the ECHO project, has demonstrated that there is considerable potential for further work in refining our understanding of cyberstalking. In particular, this survey has laid the foundations for identifying and classifying both the behaviours of cyberstalkers and the behavioural and psychological responses of their victims. This will, in turn, enable the development of a much clearer process of 'managing' cyberstalking by providing clear guidance to third parties (police, legal bodies) who can increasingly expect to find themselves responsible for deciding a course of action.

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Apprendix A

ECHO PROJECT (Electronic Communication Harassment Observation)

Part 1 - Demographics

Your Age _____ Male/Female (circle one)

Your general use of communication through technology

1) How often do you make calls from your mobile phone?
a. more than 5 times a day
b. up to five times a day
c. every few days
d. weekly or less
e. Almost never
2) How often do you text from your mobile phone?
a. more than 5 times a day
b. up to five times a day
c. every few days
d. weekly or less
e. Almost never
3) How often do you use your personal or work email account?
a. more than 5 times a day
b. up to five times a day
c. every few days
d. weekly or less
e. Almost never
4) How often do you use social networking sites?
a. more than 5 times a day
b. up to five times a day
c. every few days
d. weekly or less
e. Almost never
5) How often do you use instant messaging?
a. more than 5 times a day
b. up to five times a day
c. every few days
d. weekly or less
e. Almost never

A) Your experience of cyber harassment

1. Do you consider that you have experienced some form of harassment through electronic communication (cyber harassment)?
    a. Yes   b. No
2. Have you have ever felt fear   as a result of being cyber harassed?
    a. Yes   b. No
3. Have you ever felt distress as a result of being cyberharassed?
    a. Yes   b. No
4. When did the cyber harassment start? (month/year)_____
5. Are you still being harassed?
    a. Yes   b. No
6. If no, when did the harassment end? (month/year)_____
7. If it is over now, why did it end?
    a. Police warning to harasser
    b. Solicitor's letter sent to harasser
    c. Harasser formally warned or imprisoned
    d. Harasser warned off by others (friends, family etc – not police)
    e. Harasser switched attention to someone else
    f. Don't know
    g. Other_____

In which environments have you experienced harassment? (tick all that apply)

1) Social networking sites (e.g. Facebook, Twitter, Linkedin)
2) Instant messaging services (e.g. windows live messenger, yahoo messenger, trillion, skype)
3) Webmail (e.g. gmail, hotmail, yahoo)
4) Work email
5) Mobile phone calls
6) Mobile texts
7) Physical environment (being approached in person by the harasser)
8) Other_____

Who is your harasser? (tick all that apply)
1) A stranger
2) An acquaintance.
3) A close friend
4) A work colleague
5) Someone I dated casually for a while
6) Someone I lived with or was married to or have children with
7) Estranged spouse I am still married to
8) Other_____

In case you have been harassed by more than one person please provide some information about the situation.

How did it all begin? When did you realize that this was becoming a problem? Briefly describe.

Where is this person contacting you from? (tick all that apply)
1) Local (same town)
2) Nearby town
3) UK
4) Europe
5) Unknown
6) Elsewhere_____

Frequency of contact on your mobile phone (texts or calls)
During the harassment, approximately how many times did/do they attempt to contact you via your phone?
1) once per day or more
2) If more please specify_____-
3) more than three times a week
4) once per week
5) less than once in each month

Frequency of contact online (emails, messaging)
Approximately how many times did /do they attempt to contact you via email?
1) once per day or more
2) If more please specify_____-
3) more than three times a week
4) once per week
5) less than once in each month

Type of harassment (tick all that apply)
Which of the following harassment behaviours have you experienced, either currently or in the past? (tick all that apply).
Please also rank your fear level for each harassment behaviour from a scale of 1 to 4. (1: Not at all frightened, 2: A little frightened, 3: Somewhat frightened, 4: Very frightened)
1) One individual seeking and compiling information about me and using it to harass, threaten and intimidate me on- or off-line (1 2 3 4)
2) Repeated unsolicited e-mailing from one individual (1 2 3 4)
3) Repeated unsolicited Instant Messaging from one individual (1 2 3 4)
4) Electronic sabotage such as spamming and sending of viruses by one individual (1 2 3 4)
5) Theft of my identity by one individual (1 2 3 4)
6) One individual has impersonated you online (1 2 3 4)
7) One individual subscribing me to services without my knowledge or permission (1 2 3 4)
8) One individual purchasing goods and services in my name without my knowledge or permission (1 2 3 4)
9) One individual using different identities in an attempt to contact me on-line (1 2 3 4)
10) One individual sending or posting hostile material, misinformation and false messages about me (e.g. to use net groups) (1 2 3 4)
11) One individual tricking other internet users into harassing or threatening me (e.g. by posting my personal details on a bulletin board) (1 2 3 4)

12) One individual making frequent (more than once a day) mobile phone calls or texts (1 2 3 4)
13) Face to face harassment by one individual, either in my home, my place of work, a public place. Please specify_____ (1 2 3 4)
14) Other behaviours – please describe_____ (1 2 3 4)

Using the box below please give examples (where possible) for each of the harassment behaviours above that apply to you. For example, what was being said to you or what was being asked of you?

During the behaviours, what was your main fear? (tick all that apply)
1) Physical injury to self
2) Injury to feelings
3) Damage to reputation
4) Financial loss
5) Physical injury to significant others
6) Other_____

What did you do to stop or prevent the harassing behaviours? (Tick all that apply)
1) Reported to an authority. Please specify_____
2) Contacted your service provider or mobile phone company to report the harasser
3) Contacted the administrators of chatrooms to report the harasser.
4) Contacted your internet provider to report the harasser.
5) Did not respond to harasser
6) Responded to harasser (e.g. Confronted /threatened /Asked harasser to desist/Asked harasser to explain
7) Permitted unofficial third parties to respond on your behalf). Please specify _____
8) Changed email address
9) Left social networking sites
10) Changed mobile phone number
11) Turned off your phone or put on silent/ only answered calls where you knew the number. Please specify _____

Did any of these actions improve the situation? Please specify_____
Did any of these actions make the situation worse? Please specify_____
Are there any actions that you feel would have protected you better if they were available to you (i.e. intervention from network providers, notification to your harasser/stalker by an independent anti-stalking organisation, other police actions)
What else could have helped improve the situation? _____

Have you received any support to help you cope with the situation?
1. Yes
2. No

If yes what type of support did you receive and where from?
If no, what prevented it?
B) The effects of these experiences
What direct effects do you think this had on your life? Tick all that apply
Have you experienced any changes in your working life?
1) Cut working hours
2) Changed employment/course of study
3) Performance at work adversely affected
4) Changed job/place of study
5) Been fired /demoted
6) Other _____

Have you experienced any changes in your relationships?
1) Lost touch with friends/family
2) Gave up social activities
3) Relationship break-up
4) Other _____

Have you experienced any changes in your financial situation? Tick all that apply
1) Lost money
2) Expense of security measures
3) Legal expenses
4) Annual leave used up on stalking related problems
5) Changed/sold car
6) Moved home

7) Expense of therapy
8) Expense of fixing property damaged by harasser (e.g. buying a new computer, buying a new phone). Please specify_____
9) Other_____

Has this experience adversely affected other people in your life? If yes, which of the following? Tick all that apply

1) Affected my children
2) Affected my partner
3) Affected other members of my family
4) Affected my acquaintances
5) Affected my friends
6) Affected my work colleagues
7) Affected my neighbours
8) Affected people I know through chat rooms and networking sites
9) Other_____

Have you experienced any adverse changes in your general health? Please read each statement carefully and indicate how often have you been bothered by the following problems over the last 2 weeks

GAD-7

Over the last 2 weeks, how often have you been bothered by the following problems? (Use "✔" to indicate your answer)	Not at all	Several days	More than half the days	Nearly every day
1. Feeling nervous, anxious or on edge	0	1	2	3
2. Not being able to stop or control worrying	0	1	2	3
3. Worrying too much about different things	0	1	2	3
4. Trouble relaxing	0	1	2	3
5. Being so restless that it is hard to sit still	0	1	2	3
6. Becoming easily annoyed or irritable	0	1	2	3
7. Feeling afraid as if something awful might happen	0	1	2	3

We are also interested in the kind of thoughts which you may have had after the traumatic experience of cyberharassment. Below are a number of statements that may or may not be representative of your thinking. Please read each statement carefully and tell us how much you AGREE or DISAGREE with each statement. People react to traumatic events in many different ways. There are no right or wrong answers to these statements.

Totally disagree **2** Disagree very much **3** Disagree slightly **4** Neutral **5** Agree slightly **6** Agree very much **7** Totally agree

1. The event happened because of the way I acted
2. I can't trust that I will do the right thing
3. I am a weak person
4. I will not be able to control my anger and will do something terrible
5. I can't deal with even the slightest upset
6. I used to be a happy person but now I am always miserable
7. People can't be trusted
8. I have to be on guard all the time
9. I feel dead inside
10. You can never know who will harm you
11. I have to be especially careful because you never know what can happen next
12. I am inadequate
13. I will not be able to control my emotions, and something terrible will happen
14. If I think about the event, I will not be able to handle it
15. The event happened to me because of the sort of person I am
16. My reactions since the event mean that I am going crazy
17. I will never be able to feel normal emotions again
18. The world is a dangerous place
19. Somebody else would have stopped the event from happening
20. I have permanently changed for the worse
21. I feel like an object, not like a person
22. Somebody else would not have gotten into this situation
23. I can't rely on other people
24. I feel isolated and set apart from others
25. I have no future
26. I can't stop bad things from happening to me
27. People are not what they say
28. My life has been destroyed by the trauma
29. There is something wrong with me as a person
30. My reactions since the event show that I am a lousy coper
31. There is something about me that made the event happen
32. I will not be able to tolerate my thoughts about the event, and I will fall apart
33. I feel like I don't know myself anymore
34. You never know when something terrible will happen
35. I can't rely on myself
36. Nothing good can happen to me anymore

We are also interested in the kind of problems and complaints that you might have had in response to stressful experiences. Please read each one carefully, put an X in the box to indicate how much you have been bothered by that problem in the past month.

		Not at all	A little bit	Moderately	Quite a bit	Extremely
1.	Repeated, disturbing *memories, thoughts,* or *images* of a stressful experience?	1	2	3	4	5
2.	Repeated, disturbing *dreams* of a stressful experience?	1	2	3	4	5
3.	Suddenly *acting* or *feeling* as if a stressful experience *were happening again* (as if you were reliving it)?	1	2	3	4	5
4.	Feeling *very upset* when *something reminded you* of a stressful experience?	1	2	3	4	5
5.	Having *physical reactions* (e.g., heart pounding, trouble breathing, sweating) when *something reminded you* of a stressful experience?	1	2	3	4	5
6.	Avoiding *thinking about* or *talking about* a stressful experience or avoiding *having feelings* related to it?	1	2	3	4	5
7.	Avoiding *activities* or *situations* because *they reminded you* of a stressful experience?	1	2	3	4	5
8.	Trouble *remembering important parts* of a stressful experience?	1	2	3	4	5
9.	*Loss of interest* in activities that you used to enjoy?	1	2	3	4	5
10.	Feeling *distant* or *cut off* from other people?	1	2	3	4	5
11.	Feeling *emotionally numb* or being unable to have loving feelings for those close to you?	1	2	3	4	5
12.	Feeling as if your *future* will somehow be *cut short*?	1	2	3	4	5
13.	Trouble *falling* or *staying asleep*?	1	2	3	4	5
14.	Feeling *irritable* or having *angry outbursts*?	1	2	3	4	5
15.	Having *difficulty concentrating*?	1	2	3	4	5
16.	Being *"super-alert"* or watchful or on guard?	1	2	3	4	5
17.	Feeling *jumpy* or easily startled?	1	2	3	4	5