



THE EXPLORATION OF THE
RELATIONSHIP BETWEEN
CYBER-SEXUAL HARASSMENT
AND PSYCHOLOGICAL
DIFFICULTIES IN WOMEN





Doctoral Thesis

The exploration of the relationship between Cyber-sexual Harassment and Psychological difficulties in women

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Declaration:

The work presented for this doctoral thesis is my own, except where reference is made. The work has not been submitted for any other academic award.

Name: Marvin Iroegbu

Signature

Date: 30th May 2020

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I thank my God for every success I have in life. I really appreciate the guidance God has given me in such a difficult year. Praise be to God.

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Word Count Table

Section	Main Text	References	Appendices	Total including References	Total excluding References
Abstract	136	NA	N/A		
Systematic Review	11486	2977	276		
Empirical Paper	6032	1344	105		
Introductory chapter	411	196	N/A		
Total	20088	4517	381	22963	18446

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Section One: Introductory Chapter

Introducing

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Introductory Chapter

Social media and communication technology has completely transformed the way that individuals, communities and organizations share and create information. The interactivity, accessibility and usability of social media in particular has made it an extremely popular utility. Political campaigns, celebrity promotions and news disseminations have utilised social media to share important information and raise the awareness of key social issues. Despite this, social media and communication technology also has a great deal of potential to do harm. For example, in 2013, Reddit admitted that their platform had contributed to online witch hunts when groups of users had wrongly named people as suspects in the Boston bombing (Messing & Westwood, 2012).

The ease at which individuals can share content also poses risks, with a large potential for the sharing of undesirable material. A survey of 10,000 European children between the ages of 9 and 16 years, reported that 40% of children expressed shock and disgust after being sent violent or pornographic content (Livingstone, Kirwil, Ponte, & Staksrud, 2013). Social media can also contribute to acts of cyberbullying, stalking, and online harassment (Kwan & Skoric, 2013); estimates suggest that 10-40% of youth are victims of cyberbullying (Kowalski, Giumetti, Schroeder, & Lattanner, 2014), and 40% of those who cyberbully report they do so for fun (Raskausas & Stoltz, 2007; Chou & Edge, 2012).

Campaigners have called for greater guidance concerning the way communication technology is used, with calls for stricter legislation (NSPCC, 2017). However, at present there is limited research exploring the association between cybervictimization and mental health, particularly in adults. Cybervictimization experiences have many different components. This thesis aims to further explore this and add to the existing evidence base, with a particular focus on cyber

harassment of a sexual nature. This review will consist of two chapters. The first chapter will be a systematic review, aimed at exploring the psychological impact of all forms of cybervictimization in adults. The second chapter will specifically explore the effects of cyber-sexual harassment, with a view to better understanding its associations with anxiety, depression, body image, and trauma.

Journal submission

The empirical study will be submitted to the Journal of Computers in Human Behaviour.

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Section Two: Systematic Review

A systematic review of the Psychological impact of Cybervictimization experiences in adults

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Introduction to Cybervictimization Research

Traditional face-to-face bullying in childhood has been associated with increased levels of anxiety (Lereya, Copeland, Costello, & Wolke, 2015), psychosomatic difficulties (Gini & Pozzoli, 2009), depression (Bowes, Joinson, Wolke, & Lewis, 2015), psychotic experiences (Van Dam, et al., 2012) and substance misuse (Radliff, Wheaton, Robinson, & Morris, 2012; Van Ouwtsel, Ponnet, Walrave, & Temple, 2016). Some experiences of bullying have been so severe that those victimised have reported increased levels of suicidal ideation (Klomek, Sourander, & Elonheimo, 2015).

In efforts to better understand what is now termed traditional bullying, research completed over the last four decades has attempted to establish a clear definition of the phenomena (Olweus & Limber, 2018). Although there is not a consensus concerning the definition of traditional bullying, there are three components that are deemed necessary before an act can be termed bullying. These are that bullying must involve a purposeful intent to cause harm, the harm caused must be repeated, and the harm must occur in the context of a relationship characterized by an imbalance of power (Olweus, 2001).

In recent years, social media has transformed the way people build their social networks, communicate with each other and stay connected to their communities (Vorderer & Kohring, 2013). However, technological advancements have also reshaped the way bullying is understood, as individuals can also have experiences of cybervictimization (Olweus, 2013). Within existing literature, cybervictimization refers to the experience of being subjected to offensive messages online, having private information shared online and receiving unwanted contact via a digital platform (Fisher, Gardella, & Teurbe-Tolon, 2016). One of the challenges involved in applying the definition of face to face bullying to the digital world is that a single experience of

cybervictimization can be shared and viewed by multiple people at different times (Kowalski, Morgan, Drake-Lavelle, & Allison, 2016). Cyberbullying is also a form of cybervictimization. The use of electronic text to wilfully and repeatedly harm another person has typically been categorized as cyberbullying (Li, 2005; Patchin & Hinduja, 2006), with some researchers applying the key criteria for the definition of traditional bullying to cyberbullying (Olweus & Limber, 2018). Yet, the definition of bullying may have to change for a cyber world, as motivations to harm are difficult to assess and power imbalances are hidden or vague.

Prevalence rates in Cybervictimization research

The ambiguity surrounding the definition of cyberbullying and other forms of cybervictimization has led to researchers questioning its true prevalence and subsequent impact (Olweus, 2012; Olweus & Limber, 2018). Determining the prevalence of cyberbullying has been impacted by the way researchers have used the term, with some researchers using cyberbullying to describe a single cybervictimization experience (e.g. receiving an aggressive email). However, for cyberbullying to occur, there must be a power imbalance between the victim and perpetrator and the cybervictimization experiences must be frequent and occur over an extended period of time (Leymann, 1996; Schoffstall & Cohen, 2011). The uncertainty around definitions has also impacted on the methods used to measure cybervictimization experiences (Kowalski, Giumetti, Schroeder, & Lattanner, 2014; Patchin & Hinduja, 2015; Pieschl, Kuhlmann, & Porsch, 2015). Conceptually, the diverse methodology used to study cybervictimization outside of the context of traditional bullying, has contributed to the large variance in prevalence estimates generated in cybervictimization research (Olweus, 2012). For example, methodologies differ in the following ways: The demographic differences across studies, the differences in terminology, the time period studied, the regularity of incidents, and how the data is collected (Bauman, Cross, & Walker, 2013; West, 2015). However,

establishing the accurate prevalence rate of cybervictimization is essential for understanding its impact, particularly in relation to its link with psychological difficulties. The prevalence rate gives some indication of how common it is for people to experience an act of cybervictimization as well as the possible psychological impact of cybervictimization experiences. Previous research has shown that people that report more experiences of cybervictimization, also report increased rates of depression, anxiety, post-traumatic stress, low self-esteem, suicidal ideation and suicide attempts (Ansary, 2019; Vaillancourt, Faris, & Mishna, 2017).

Psychological effects of Cybervictimization

Research conducted in adolescent populations shows that social media usage can have an adverse impact on mental and emotional health (Young Minds, 2018). Previously, the relationship between age and cybervictimization was viewed as a linear one, with cybervictimization appearing to decrease with age (Sevcikova & Smahel, 2009). However, the relationship between age and cybervictimization may be more complex. Younger people may have greater desires and intentions to use technology than older people and subsequently spend more time online (Venkatesh, James, & Thong, 2012), with time spent online being positively correlated with cybervictimization experiences (Mishna, Khoury-Kassabri, Gadalla, & Daciuk, 2012). Recent research has shown an inverted quadratic relationship between age and cybervictimization, where bullying increases from adolescence and into emerging adulthood and then decreases in older adulthood (Barlett & Chamberlin, 2017). Yet, the frequency of cybervictimization at different ages may be unrelated to the effects it has, since people may react to cybervictimization experiences differently at different ages.

Research indicates the psychological impact of cybervictimization may be more severe in older age groups (Almenayes, 2017). Previous researchers have also suggested that bullying experiences in childhood may be reinforced in the family context and beyond. This may impact on an individual's self-perception and their childhood perception of bullying may also be carried into adulthood, significantly impacting on their mental health (Stapinski, et al., 2014; Takizawa, Maughan, & Arseneault, 2014; Wolke, Copeland, Angold, & Costello, 2013; Wolke & Lereya, 2015). Amongst university students and in workplaces, cybervictimization has been associated with greater levels of job dissatisfaction and ill health (Balakrishnan, 2015; Rajalakshmi & Naresh, 2018). While the impact of cybervictimization in adolescent populations is relatively well documented, the relational and psychological damage is less well understood in adult populations (Vaillancourt, Faris, & Mishna, 2017). Little is known about cybervictimization in adult populations outside of a compulsory education setting (West, 2015).

The way cybervictimization experiences have been conceptualised is also impacted by its highly variable and unique content. Cybervictimization is often experienced through different mediums, as individuals can be victimized through social media, websites, blogs, email and text messages (Ortega, Elipe, Mora-Merchan, Calmaestra, & Vega, 2009). There are also a wide variety of ways that people can be negatively impacted online. Willard (2005) described seven cybervictimization categories: flaming, online harassment; cyberstalking, denigration (put-downs), masquerade, outing, and exclusion. Additionally, Rivers and Noret (2010) described the content of abusive text messages and emails in a British sample. Ten main categories were identified: Threat of physical violence, abusive or hate-related, name calling (including homophobia), death threats, ending of platonic relationship(s), sexual acts,

demands/instructions, threats to damage existing relationships, threats to home/family, and menacing chain messages.

Within the literature investigating the content in cyber-aggression, there is great variation as there is both sexual and non-sexually aggressive online acts (Rivers & Noret, 2010). This creates difficulty within research as much of what we know about cybervictimization has emerged from the literature on traditional bullying. However, current knowledge of online harassment of a sexual nature has largely been generated through sexual harassment research (Arafa, Elbahrawe, Saber, Ahmed, & Abbas, 2018; Barak, 2005; Eisenberg, Lust, Hannan, & Porta, 2016). This creates difficulties for researchers attempting to gain a foothold in understanding the impact and variation of online forms of abuse and harassment. There are real challenges when attempting to coherently synthesise existing information due to the conceptual, definitional and methodological differences.

One example of how online harassment is explored through differing academic traditions is in research concerning non-consensual pornography (Wiederman, 2005). Non-consensual pornography is a relatively new phenomena and involves uploading nude or semi-nude images/videos of a person online without their consent (Lageson, McElrath, & Palmer, 2018). There are also examples of 'sextortion.' This is broadly referred to as online sexual coercion, involving the threat to publish sexually explicit pictures, if the targeted individual does not fulfil certain demands. This includes sending further explicit pictures or paying money to have the photos removed (Humelnicu, 2016). Existing research highlights the impact of sextortion and non-consensual pornography on adolescents (Nilsson, Tzani-Pepelasis, Ioannou, & Lester, 2019; Walker & Sleath, 2017). Additionally, research has also highlighted the severe impact of non-consensual pornography on adults (Citron & Franks, 2014). The experience can

generate feelings of shame and humiliation and negatively affect their ability to form new romantic relationships, whilst also hindering their employment prospects. Individuals can also experience further distress by becoming victims of both cyberstalking and in-person stalking and harassment, negatively impacting on their psychological wellbeing (Bates, 2016).

In addition to online abuse of a sexual nature, anti-social behaviour in the form of trolling has also increased in prominence (Buckels, Trapnell, & Paulhus, 2014). Researchers have defined trolling as communicating in a provocative or offensive way with the intention to cause distress and without any apparent purpose (Buckels, Trapnell, & Paulhus, 2014). There are four elements that are considered common in trolling behaviour: Deception, aggression, disruption, and success, which is achieved when the troll elicits their desired response (Hardaker, 2010). Acts of trolling can also include racial and homophobic comments concerning another individual (Hilvert-Bruce & Neill, 2020). The act of trolling can have a pernicious impact, since previous research has shown that the negative psychological outcomes of being harassed online are similar to the psychological outcomes of harassment experienced in person (Feinstein, et al., 2013).

Despite what is already known, the varied nature of cybervictimization has made it difficult to form a cohesive narrative to understand the psychological impact of cybervictimization in adults. The synthesis of current empirical knowledge could provide an objective account of cybervictimization in adult populations outside of compulsory education settings. This article aims to fill the gaps in the current knowledge base on this topic by synthesising the existing research.

Aim of the systematic review

The aim of this review is to identify the psychological impact of any form of cyber victimization. If individuals experienced any intentional or overt act of aggression through digital or online means, they were classified as having had experiences of cybervictimization (Ybarra & Mitchell, 2004). This definition also includes individuals that have experienced cyberbullying. However, for individuals to be considered as victims of cyberbullying, the frequency, chronicity and severity of their experiences must be considered.

Method

A quantitative systematic literature review was undertaken. This was guided by the recommendations provided by the NHS Centre for Reviews and Dissemination (2009). The review was both reported and conducted in compliance with the guidelines for preferred reporting items for systematic reviews (Moher, Liberati, & Altman, 2010). A protocol for this review was registered with PROSPERO (ID: CRD42020141007).

Study selection and Review criteria

Studies were included in the review if they were (a) peer reviewed; (b) utilised quantitative research methods of data collection to explore the cyber harassment of adults; (c) included participants over the age of 18 years; (d) was published in English; (e) used a validated measure of psychological distress (f) the method of analysis used allowed for the extraction of data that showed the relationship between cyber harassment and psychological distress.

Studies were excluded from this review if: (a) participants were aged 18, but still in compulsory education (e.g. high school) (b) studies did not explore cyberbullying or cyber-harassment; (c) studies were systematic reviews or a meta-analysis of existing data.

In the event that there was a study that included individuals both over and under the age of 18 years, the study was included if the data analysis was completed separately for the different age groups. If the results did not display the data separately, authors were emailed for this information and given two weeks to respond. If authors did not respond, the paper would still be included if at least fifty percent of the sample were over the age of 18 years and were not in a compulsory education setting. If the sample included both university and high school students (non-compulsory and compulsory educational settings), the paper would be included in the

review if the data was separately reported. If this data was not reported separately, the authors were emailed asking for this data and given two weeks to respond. In the event of a non-response from authors, at least 50% of the sample must be in a non-compulsory educational setting, and the sample must have a mean age over 18 years old.

Literature Searches

A subject specialist librarian was consulted to plan the search strategy and identify the appropriateness of databases and concept search terms. The aim of this was to improve the quality of searches and avoid errors. The databases were searched on the 1st February 2020. The databases searched included PsycINFO, Medline and Cumulative Index to Nursing and Allied Health (CINAHL). The MeSH database was consulted to identify the concepts and choose appropriate terms for each database. Both the descriptors and synonyms of search terms were used. Following this, terms entered into the free-text field were appropriately truncated to retrieve all of their variants (Salvador-Olivan, Marco-Cuenca, & Arguero-Aviles, 2019). The same search terms were entered into all databases after all databases were searched for the relevant mesh terms. Psychological terms were not included in the search terms to increase the probability that eligible articles were found. The following terms were searched in free text or keywords:

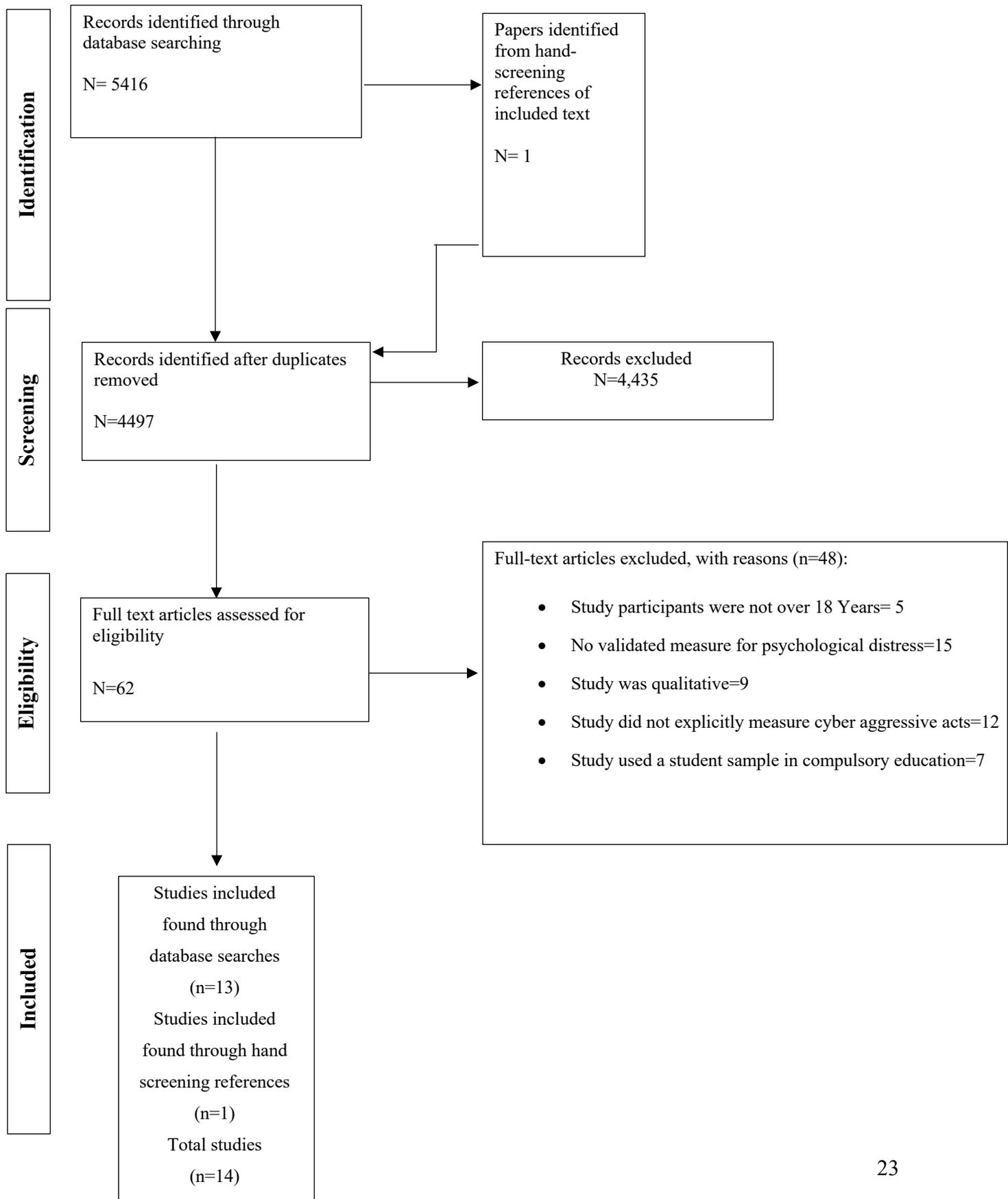
[harass* OR stalk* OR bullying or “bullied” OR “bully” OR troll* OR “cyberbullying”] AND [texting OR myspace* OR bebo or tweet* OR “twitter” OR “grindr” OR “tinder” OR “instagram” OR “facebook” OR “snapchat” OR “cyber” OR “online” OR “social media” OR “text messag*” OR blog OR website OR internet OR whatsapp OR “whats app”].

No limits were set on the date or language of publication, although papers were later excluded if they were not written in or translated into English. Each concept was searched for separately

before being combined by “AND” Boolean operators, resulting in a total of 5,416 papers (CINAHL Plus = 1296; MEDLINE = 2298; PsycInfo = 1822). Duplicate papers were automatically identified and removed, resulting in 4,497 papers (see Figure 1 for flowchart).

Abstracts and titles of all 4,497 papers were reviewed for the above criteria. Thirty percent of these papers were cross checked by a peer. This amounted to 1349 papers. From these papers, there was agreement as to which papers should be further reviewed in 90% of the papers screened. This resulted in 134 papers where the researcher and peer disagreed. The differences were resolved through discussion. Following the discussion, consensus was reached on all papers regarding whether they should be further reviewed. Following this process, 4435 papers were excluded. The remaining 62 papers were then examined in full as it was unclear whether they met the inclusion criteria. All of these papers were cross-checked with a peer, where there was 100% agreement in which papers should be included in the review. Following peer-discussion, in three of the papers it was not clear whether the study sample included adults or investigated psychological difficulties using a psychometric test. Emails were sent that requested clarification about the psychometric tests used, the age group sampled and details of how the cyber-based forms of aggression were included. One author replied with details that meant the paper was not included in the systematic review and two of the studies were excluded from the review as the authors did not reply. A total of 48 papers were deleted after reading the full text and emailing relevant authors for clarification of the study sample characteristics. One paper was found through hand screening the text. In total, this resulted in 14 papers to be included in the review.

Figure 1: Flow diagram for preferred reporting items for systematic reviews and meta-analyses (PRISMA Flow Diagram)



Quality Appraisal

At present, there is no 'gold standard' for the assessment of quality in qualitative or quantitative research (Greenhalgh & Brown, 2014). The research papers included in the review were largely cross sectional, however one of the studies utilised longitudinal methods (Gardner, et al., 2016). Consequently, the National Institute of Health's quality assessment tool for observational cohort and cross-sectional studies (2014) was used. The aim of this tool is to identify and evaluate potential flaws in study methodology, including sources of bias, confounders and the overall strength of the study. The tool is comprised of 14 items that are rated as "yes", "no", or "cannot determine/not reported/not applicable". The tool requires for each evaluated study to consider the risk of potential bias that each "no" response could introduce. Following consideration of each item, a rating of 'good', 'fair' or 'poor' is given for each paper (see table 1).

Data Extraction and Synthesis

Information regarding the questionnaires used to measure psychological distress and cybervictimization was extracted from each study (see table 2). The publication dates, country of research, methodological design, sample size, participants' demographic information (mean age, gender and sexuality) and the prevalence rate of cybervictimization, was also extracted from each study (see table 3). The study design, statistical analyses and a summary of the results of the statistical analyses was also extracted from the studies included in this review (see table 4). The findings were also summarised using a box-score approach, in which the direction and significance of correlations were calculated (Green & Hall, 1984) (see table 5).

The study data was not sufficiently homogenous for the results to be combined into a meta-analysis (Blundell, 2017). This is because the participants across the studies were dissimilar with regard to the settings they were sampled in and the population they represented.

Consequently, a narrative synthesis of the literature was completed, integrating and summarising the key findings of each paper to provide an overarching understanding of the psychological impact of cybervictimization experiences in adults.

Results

Study Characteristics

A total of 14 papers met the inclusion criteria. Publication dates for all papers ranged between 2014 and 2019. The studies were conducted across eight different countries (Germany, Greece, Israel, Sweden, Taiwan, United Kingdom and United States of America). All studies were cross-sectional, except for one longitudinal study. Due to varied population settings and variables being explored, a number of demographic variables were collected such as age, gender, employment level and sexuality. The differences in demographic variables collected between the studies is related to the varied populations that were sampled and the specific focus of the study. Sample sizes ranged from 158 to 6379. The studies included examined cyber victimization and psychological difficulty across different contexts and populations.

Quality Appraisal

Only one out of the 14 papers were given a quality rating of 'good' (Rosenthal, Buka, Marshall, Carey, & Clark, 2016) with the other thirteen receiving a rating of 'fair' (see table 1). The Rosenthal et al (2016) study specified the social media platform (Facebook) it was using to explore participant experiences of cybervictimization. The authors also reported on the severity, frequency and the exact nature of the cybervictimization experience. In contrast, other studies were less clear about the platform that individuals experienced acts of cybervictimization through (Chen & Huang, 2015; Coyne, et al., 2017; Cripps & Stermac, 2018; Dardis, Strauss, & Gidycz, 2019; Drebing, Bailer, Anders, Wagner, & Gallas, , 2014; Farley, Coyne, Sprigg, Axtell, & Subramanian, 2015; Gardner, et al., 2016; Kokkinos &

Antoniadou, 2019; Moran, Chen, & Tryon, 2018) or did not apply the necessary criteria for an act to be classified as cyberbullying (Peled, 2019). All papers included in the review had a clear rationale and uniformly applied the eligibility criteria and the quality of the papers reviewed were generally fair, with no paper receiving a 'poor' rating. The implication of this, is that the studies included in this review did not contain methodological flaws that were significant enough to undermine the confidence in the overall findings in this review.

Table 1. Quality Assessment Tool for Observational Cohort and Cross-Sectional Studies

Authors	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Rating
Chen & Huang, 2015	Yes	Yes	NR	Yes	Yes	No	No	Yes	Yes	N/A	Yes	N/A	N/A	Yes	Fair
Coyne, et al., 2017	Yes	Yes	No	Yes	Yes	No	No	Yes	Yes	N/A	Yes	N/A	N/A	Yes	Fair
Cripps & Stermac 2018	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	N/A	Yes	N/A	N/A	Yes	Fair
Dardis, Strauss, & Gidycz, 2019	Yes	Yes	NR	Yes	Yes	No	No	Yes	Yes	N/A	Yes	N/A	N/A	Yes	Fair
Drebing, Bailer, Anders, Wagner, & Gallas, 2014	Yes	Yes	NR	Yes	Yes	No	No	Yes	Yes	N/A	Yes	N/A	N/A	Yes	Fair
Farley, Coyne, Sprigg, Axtell, & Subramanian, 2015	Yes	Yes	No	Yes	Yes	No	No	Yes	No	N/A	Yes	N/A	N/A	Yes	Fair
Gardner, et al., 2016	Yes	N/A	No	Yes	Fair										
Kokkinos & Antoniadou, 2019	Yes	Yes	NR	Yes	Yes	No	No	Yes	Yes	N/A	No	N/A	N/A	No	Fair
Kowalski, Toth, & Morgan, 2018	Yes	Yes	NR	Yes	Yes	No	No	Yes	No	N/A	Yes	N/A	N/A	Yes	Fair
Moran, Tryon, & Chen, 2018	Yes	Yes	No	Yes	Yes	No	No	Yes	Yes	N/A	Yes	N/A	N/A	Yes	Fair
Muhonen, Jonsson, & Backstrom, 2017	Yes	Yes	No	Yes	Yes	No	No	Yes	Yes	N/A	Yes	N/A	N/A	Yes	Fair
Peled, 2019	Yes	Yes	NR	Yes	Yes	No	No	Yes	No	N/A	No	N/A	N/A	No	Fair
Rosenthal, Buka, Marshall, Carey, & Clark, 2016	Yes	N/A	N/A	Yes	Good										
Selkie, Kota, Chan, & Moreno, 2015	Yes	Yes	NR	Yes	Yes	No	No	Yes	Yes	N/A	Yes	N/A	N/A	Yes	Fair

Note. The following criteria was used to determine the quality of papers (1) Was the research objective in this paper clearly stated (2) Was the study population clearly defined (3) Was the participation rate of eligible persons at least 50% (4) Were all the subjects selected or recruited from the same or similar populations (including the same time period)? Were inclusion and exclusion criteria for being in the study prespecified and applied uniformly to all participants? (5) Was a sample size justification, power description, or variance and effect estimates provided (6) For the analyses in this paper, were the exposure(s) of interest measured prior to the outcome(s) being measured? (7) Was the timeframe sufficient so that one could reasonably expect to see an association between exposure and outcome if it existed? (8) For exposures that can vary in amount or level, did the study examine different levels of the exposure as related to the outcome (e.g., categories of exposure, or exposure measured as continuous variable)? (9). Were the exposure measures (independent variables) clearly defined, valid, reliable, and implemented consistently across all study participants? (10). Was the exposure(s) assessed more than once over time? (11) Were the outcome measures (dependent variables) clearly defined, valid, reliable, and implemented consistently across all study participants? (12) Were the outcome assessors blinded to the exposure status of participants? 13. Was loss to follow-up after baseline 20% or less? (14) Were key potential confounding variables measured and adjusted statistically for their impact on the relationship between exposure(s) and outcome

Cybervictimization measures used in University and general populations

Seven studies explored cybervictimization experiences in a university population and adopted a variety of strategies to measure these acts. One study provided participants with a definition of cyberbullying before asking them to answer questions relating to their online experiences (Chen & Huang, 2015). In contrast to this, another paper directly asked whether participants had ever experienced, witnessed or participated in cyberbullying, rather than providing a definition (Selkie, Kota, Chan, & Moreno, 2015). If participants answered yes, they were then asked to give more details about the type of cyberbullying acts they had been involved in. Three papers used a validated questionnaire to measure cybervictimization experiences (Kokinos & Antoniadou, 2019; Moran, Chen, & Tyron, 2018; Peled, 2019).

In contrast, the study by Dardis et al. (2019) explored cyber-harassment, and, in particular, examined the impact of cyber unwanted pursuit behaviours. The controlling partners inventory was used to measure cyber unwanted pursuit behaviours. Cripps and Stermac (2018) specifically explored cyber-facilitated sexual violence. The authors examined the relationship between cyber sexual violence and negative emotional states and developed their own scale to measure cyber sexual violence. The measures used by the different studies in university populations largely showed good reliability ($\alpha=0.67-0.94$). Drebing, Bailer, Anders, Wagner and Gallas (2014) examined cyberstalking specifically. They used an adapted version of the stalking survey (Dressing, Kuhner, & Gass, 2005) to measure cyberstalking. In contrast, Rosenthal et al. (2016) asked participants questions related to their experiences of cybervictimization on Facebook (see table 2 for a list of measures used in studies included in the review and the reported alpha level of the measurement).

Cybervictimisation measures used in Workplace settings

Five papers explored the psychological impact of cybervictimization within the workplace (Coyne, et al., 2017; Farley, Coyne, Sprigg, Axtell, & Subramanian, 2015; Gardner, et al., 2016; Kowalski, Toth, & Morgan, 2018; Muhonen, Jonsson, & Backstrom, 2017). Amongst the papers, there was significant variation in the methods used to measure cybervictimization experiences. This was related to whether the paper was measuring personal (e.g. relating to personal appearance) or work-specific (e.g. relating to work performance) forms of cybervictimization. Three of the five studies focussing on cybervictimization in the workplace included both work and person-specific experiences of cybervictimization (Coyne, et al., 2017; Farley, Coyne, Sprigg, Axtell, & Subramanian, 2015; Gardner, et al., 2016). The studies by Coyne et al. (2017) and Farley et al. (2015) adapted the Negative Acts Questionnaire, which is a measurement of work-related, person-related, and physically intimidating ways of bullying (Einarsen, Hoel, & Notelaers, 2009). In contrast, Gardner et al. (2016) created and validated their own scale to specifically measure workplace cybervictimization (Cronbach's $\alpha=0.82$). To determine whether cybervictimization experiences could be classified as bullying, all three papers used Leymann's criteria (1996). Leymann's criteria (1996) requires individuals to have experienced one negative behaviour on at least a weekly basis over the last six months before they are classified as a cyber-bullying target.

The other two studies measured personal cybervictimization experiences within the workplace. Muhonen, Jonsson and Backstrom (2017) used the short version of the cyberbullying behaviour questionnaire (Cronbach's $\alpha=0.88$) and also used Leymann's criteria to classify participants as targets of cyberbullying. Kowalski, Toth and Morgan (2018) provided participants with the Hinduja and Patchin (2016) definition of cyberbullying. They then asked participants questions related to the frequency and severity of the bullying they experienced.

All five studies conducted with workplace populations used a set criterion to determine whether cybervictimization experiences could be classified as cyberbullying.

Table 2: Table showing questionnaires used to measure Cybervictimization and psychological difficulties in the studies included in the review

Author and year of publication	Measurements used for cyberbullying and psychological difficulty	Alpha level of measurement
Chen & Huang, 2015	Patient health questionnaire 9	0.83
	Health related quality of life scale	0.82
	Definition of cyberbullying given, followed by filter questions	NA
Coyne, et al., 2017	General health questionnaire-12	0.81
	Cyber negative acts questionnaire-Revised	Not reported
Cripps & Stermac, 2018	Cyber sexual Violence experience Questionnaire	Alpha levels not reported for the sample
	Depression, Anxiety and Stress Scale	Alpha levels not reported for the sample
	PTSD Check List	Alpha levels not reported for the sample
Dardis, Strauss, & Gidycz, 2019	Controlling partners inventory-self	0.90
	Centre for Epidemiologic scale for depression (CES-D)	0.91
	Impact of events scale	0.97
Drebing, Bailer, Anders, Wagner, & Gallas, 2014	World health organization-5 well-being index	No alpha levels were reported for this measure
	filter questions to screen for cyberstalking victimization; and questions were asked relating to the methods, duration, frequency, and consequences of cyberstalking	N/A
Farley, Coyne, Sprigg, Axtell, & Subramanian, 2015	General health Questionnaire	0.90
	Adapted cyber negative acts questionnaire	0.85

Author and year of publication	Measurements used for cyberbullying and psychological difficulty	Alpha level of measurement
Gardner, et al., 2016	General health Questionnaire	0.86
	Study devised own cyber victimization measure	0.82
Kokkinos & Antoniadou, 2019	Cyber Victimization experiences questionnaire	0.83
	UCLA loneliness scale	0.92
	Brief symptom inventory (depression)	0.80
	Brief symptom inventory (anxiety)	0.79
Kowalski, Toth, & Morgan, 2018	CES-D	0.94
	Self-esteem inventory	0.93
	Interaction anxiousness scale	0.92
Moran, Chen, & Tryon, 2018	CES-D	0.94
	Cyber questions in the bully victimization scale	0.67
Muhonen, Jonsson, & Backstrom, 2017	Cyberbullying Behaviour Questionnaire (CBQ-S)	0.88
	GHQ-12 (Goldberg & Williams, 1988)	0.76
Peled, 2019	Revised cyberbullying scale	Not reported
	College adjustment scale (Anton & Reed, 1991)	0.80
Rosenthal, Buka, Marshall, Carey, & Clark, 2016	Centre for epidemiologic scale of depression (CES-D) (Radloff, 1977)	Not reported
	Participants were asked about their Facebook use and cybervictimization experiences on Facebook	N/A
Selkie, Kota, Chan, & Moreno, 2015	Patient Health questionnaire 9	Not reported

Main findings

A summary of all relevant findings from included studies can be found in Table 3. Only key outcomes and considerations will be described. In total, twelve of the fourteen studies included in this review showed a relationship between cybervictimization and psychological distress (see table 4 and table 5).

The issue of Prevalence in Cybervictimization research

Prevalence estimates are important to consider when reviewing cybervictimization research, and they varied amongst the studies included in this review. Ten of the fourteen studies reviewed reported on the prevalence of cybervictimization, which ranged from as little as 2.8% (Gardner, et al., 2016) to as much as 82% (Rosenthal, Buka, Marshall, Carey, & Clark, 2016). One reason for the variation in prevalence estimates may be due to the definitional differences between the studies. Although the studies included in the review were similar in overall quality, the quality assessment highlighted the need for studies to specify whether they are using set criteria to examine the persistence, consistency and emotional impact of cyberaggressive acts. Studies in workplace settings tended to be more stringent in their definition of cyberbullying. For example, Coyne et al. (2017) reported that 80-88% of individuals experienced at least one negative cyber act in the past year. However, when Leymann's (1996) operational definition of cyberbullying was applied, only 13.6% of participants could be categorised as targets of cyberbullying. Additionally, outside of workplace settings, the study by Drebing et al. (2014) reported that 43% of their sample would have been considered as being harassed online if it was defined by at least one unwanted online contact. However, when participants were required to have experienced fear inducing negative cyber acts over a two week period, this reduced the prevalence of cyberstalking victims in their sample to 6.3%. Additionally, some studies also

reported on the prevalence of both in-person and cyber forms of victimization, with between 72% and 87% experiencing both (Dardis, Strauss, & Gidycz, 2019; Gardner et al., 2019).

In studies where participants are asked to consider the frequency, chronicity and emotional impact of their cybervictimization experiences (Chen & Huang, 2015; Drebing, Bailer, Anders, Wagner, & Gallas, 2014), they must meet a particular threshold before being classified as a target of cyberbullying or cyberstalking. However, where participants are solely asked about whether they have experienced a particular act of cyberaggression, the study is measuring the prevalence of cyber-aggressive acts without considering its chronicity or frequency (Peled, 2019).

The Psychological Impact of Cybervictimization experiences

Most studies examined psychological difficulties or distress; one study included in the review examined the association between personal cybervictimization experiences, and quality of life (Chen & Huang, 2015). Chen and Huang (2015) explored pre-university cybervictimization experiences, as well as experiences that occurred within university. The experience of bullying was determined by providing participants with the Olweus (1994) definition of bullying and then asking whether the experiences occurred prior to university enrollment.

Chen and Huang (2015) then used multivariate linear regression modelling to investigate the association between bullying experiences and the psychological domain of the quality of life scale. Within their analysis, the authors controlled for depression. Cyberbullying did not show a statistically significant association with the psychological domain of the health-related quality of life scale. A potential reason for the non-significant association could be the control of depression in the statistical analysis. The authors reported that when depression was removed from the regression models, greater verbal victimization experiences had a

statistically significant association with lower psychological quality of health. Although the authors did not report whether this was the case with cybervictimization, it highlighted the possible effect that depression may have on psychological well-being more generally.

In a University population, Kokkinos and Antoniadou (2019) found cybervictimization experiences to be correlated with anxiety ($r=0.25$, $p<.01$), depression ($r=0.26$, $p<.01$) and loneliness ($r=0.40$, $p<.01$); according to Cohen (1988), these effect sizes were moderate (loneliness) and small (anxiety and depression). In addition to showing the relationship between cybervictimization and psychological difficulty, Kokkinos and Antoniadou also showed that compulsive online use ($r=0.23$, $p<.01$) and a preference for online interaction ($r=0.48$, $p<.01$) were both significantly correlated with loneliness. Moran, Chen, and Tryon (2018) helped to further the understanding of personal cybervictimization experiences in sexual minority students. The study used two adapted items from the cyberbullying and online aggression survey to measure cybervictimization experiences (Hinduja & Patchin, 2009). The authors found that cybervictimization experiences were significantly associated with depressive symptomatology, as measured by the centre of epidemiologic scale for depression (Radloff, 1977) ($r=0.32$, $p<.001$). These findings support the relationship between cybervictimization experiences and depression, with both studies reporting a moderate effect size. However, it should be noted that the quality appraisal highlighted limitations with the sample, as the study's recruitment methods may mean that the study sample did not reflect the larger population of LGBTQ university students.

To better understand the psychological impact of cybervictimization in adults, workplace settings are also important to explore. Five studies included in this review involved a working adult sample. The results were generally consistent as the majority of studies reported a relationship between the experience of cybervictimization and psychological difficulty.

Gardner et al (2016) conducted bivariate correlations which showed that cybervictimization experiences in the workplace were positively correlated with psychological difficulty ($r=0.21$, $p<0.01$). However, Muhonen, Jonsson, and Backstrom (2017) found only a weak correlation ($r=-0.14$) between psychological difficulty, and experiences of cybervictimization that occur within the workplace. Although this correlation was statistically significant, the authors reported that the low correlation indicated a non-direct relationship between psychological well-being and cybervictimization experiences.

Farley et al. (2015) examined the association between the experience of personal and work related cybervictimization among trainee doctors. Personal cybervictimization experiences involve hostile acts against the targeted individual (e.g name calling, rumour spreading), whereas work related cybervictimization experiences involve individuals being targeted by hostile acts that deliberately impact their work output (e.g withholding information) (Einarsen, Hoel, & Notelaers, 2009). The authors also explored how attributions of blame influence individual and work-related outcomes. Their results showed positive correlations between psychological difficulty, work-related cybervictimization experiences ($r= .43$, $p <.001$) and cybervictimization experiences of a personal nature ($r= .44$, $p <.001$). This was supported by Coyne, et al. (2017), who found that cybervictimization was positively correlated with psychological difficulty ($r=0.36$) and negatively correlated with job satisfaction ($r= -0.33$). Kowalski, Toth and Morgan (2018) examined whether personal cybervictimization experiences were associated with psychological distress: specifically, they examined depression, anxiety or loneliness in the workplace. They found that people who reported experiences of cybervictimization had higher levels of depression, loneliness and anxiety, in comparison to those without these experiences. The effect sizes were moderate suggesting robust associations between cybervictimization and psychological difficulty across workplace and personal domains.

Farley et al. (2015) and Coyne et al. (2017) also conducted mediation analyses to explain the relationship between job satisfaction, mental strain and cybervictimization experiences. Farley et al. (2015) identified that cybervictimization impacts on mental strain and job dissatisfaction via two separate routes. People who have internal blame attributions related to their cybervictimization experiences may feel disempowered, which contributes to greater levels of psychological distress (Coyne, et al., 2017; Zahn, et al., 2015). However, where external blame attributions are made, individuals are more likely to interpret experiences of cybervictimization as a violation of their dignity. Individuals may experience reduced job satisfaction as a result rather than psychological distress,. Thus, how people attribute blame can act as an important factor to whether people feel distressed or agrieved.

Gender, Cyberstalking and Cyber-sexual harassment experiences

Within cybervictimization research, gender has been viewed as a significant factor; with women being deemed as being more likely to be distressed by cyberaggressive acts (Selkie., 2015). However, studies included in this review provide an indication as to why it is reported that women experience greater negative psychological effects from cybervictimization. Two studies included in this review assessed the impact of cyberstalking and unwanted cyber pursuit behaviours. Dardis, Strauss and Gidycz (2019) assessed the unique impact of cyber unwanted pursuit behaviours on post-traumatic stress and depression symptoms in women aged 18-24, whereas Drebing et al. (2014) determined the impact of cyberstalking on both male and female victims.

Drebing et al. (2014) found no difference in psychological distress between genders following cyberstalking. Instead, victims' fear levels were shown as the best predictor of physical and psychological health consequences, mediating the relationship between the gender of the

victim and the consequences of cyberstalking. Drebing et al (2014) also found that victims of cyberstalking reported significantly poorer mental well-being on the WHO-5 well-being index questionnaire (mean=11.47, SD=5.18) than those who were not victims (mean=13.38, SD=4.94). Of the participants who identified as victims of cyberstalking, only 2.5% reported no negative consequences for themselves. More than half of the victims reported feelings of anger and aggression as well helplessness. Two thirds reported sleep disturbances and distrust toward other people, and almost 80% reported a feeling of inner unrest. These findings were supported by Dardis, Strauss and Gidycz (2019) who found that experiencing excessive or threatening cyber-unwanted pursuit behaviours was significantly associated with both trauma and depression symptoms. Cripps and Stermac's (2018) research specifically explored cyber sexual violence. They examined unwanted sexual messages, requests for sexual solicitation and derogatory comments regarding the recipient's gender within a university sample (Tynes, Rose, & Williams, 2010). They found that experiences of cyber sexual violence had a strong association with depression ($r=.51, p<.01$), anxiety ($r=.57, p<.01$) and trauma ($r=.58, p<.01$). The psychological impact of experiencing cybervictimization of a sexual nature was also noted by Selkie et al. (2015) as harmful. Thus, these studies show cybervictimization experiences are associated with a negative impact on mental health and highlights the need to account for the sexual nature of cybervictimization experiences.

Selkie et al. (2015) calculated odds ratios based on the type of cybervictimization experienced in young women (aged 18-25 years) within a University setting. Although nonsignificant, participants who identified as victims of general cybervictimization had 2.1 times the odds of meeting the clinical criteria for depression. However, the authors also noted that the most frequent form of cybervictimization experienced by the sample was unwanted sexual advances. People who experienced unwanted online sexual advances were 6.1 times more likely to meet the clinical criteria for depression. In contrast, people who experienced general acts of cyber-

aggression were 2.9 times more likely to meet the clinical criteria for depression. Additionally, people who experienced acts of cyber aggression through text message were 4.2 times more likely to meet the clinical criteria for depression. These findings add to the above reviewed studies by showing that experiencing unwanted online sexual advances can be clinically significant. Although, these studies fail to show causation over time, which the quality assessment highlighted as a limitation of the majority of the studies included in this review.

Technological mediums and experiences of cybervictimization

Two studies included in this review focussed primarily on the technological medium that individuals experienced acts of cybervictimization through. Rosenthal et al. (2016) specifically explored the association between negative Facebook experiences and depression. The study found that life time experiences of bullying and meanness (OR=2.75, $p<0.05$), unwanted contact (OR=2.08, $p<0.05$), misunderstandings (OR=2.25, $p<0.05$) and any negative experience (OR=2.54, $p<0.05$) on Facebook meant that the individual had greater odds of exhibiting depressive symptoms. This is supported by existing research that shows when social media communications are misunderstood by friends, family members and even employers, this can lead to difficulties within relationships (Christofides, Muise, & Desmarais, 2012).

Peled (2018) looked more comprehensively at the different technological methods that are used in acts of cybervictimization. A regression analysis was used to examine the technological means used to perpetrate acts of cyberaggression, and identify which technological medium had the strongest association with each of the following psychological difficulties: Anxiety, depression, suicidal ideation, and self-esteem.

Being victimized via instant messaging applications (e.g. Whatsapp messenger) had the strongest association with anxiety ($\beta=0.188$, $p<.05$), self esteem difficulties ($\beta=0.148$, $p<.05$) and increased levels of suicide ideation ($\beta=0.258$, $p<0.001$); it was also associated with

depression ($\beta = 0.198, p < 0.01$). Amongst the remaining methods that individuals experienced acts of general cybervictimization through, social media (e.g. Facebook) was the medium that showed the next strongest association. Being victimized via social media was associated with higher levels of anxiety ($\beta = 0.136, p < 0.05$), and self esteem difficulties ($\beta = 0.137, p < 0.05$); it also had the strongest association with depression ($\beta = 0.218, p < 0.001$). This finding supported those of Rosenthal et al. (2016). Further to this, experiencing acts of general victimization via text message, also statistically predicted higher rates of depression ($\beta = 0.116, p < 0.05$). These findings provide evidence that cybervictimization can occur through multiple digital means, and this can contribute to the psychological distress experienced.

The role of disclosure, peer and family support following cybervictimization experiences in university settings

Within a university setting, certain protective factors may reduce the psychological impact of cybervictimization experiences. Moran, Chen and Tryon (2018) explored the mediating effects of family, peer and campus support on depression in individuals that identified as bisexual. The results showed that when family ($B = -.13, p = <.01$) and peer support ($B = -.20, p = <.01$) was added to the model, it made a significant contribution to explaining depressive symptoms for individuals that identified as bisexual. The results showed that the statistically significant relationship between cyber victimization and depression became non-significant when family support and peer support were added to the model. This indicated that when people who identify as bisexual do not have support from family members or peers, they are more likely to experience depressive symptoms as a result of cybervictimization.

In comparison, Cripps and Dardis (2018) conducted a hierarchical regression analysis to determine whether disclosing cyber-sexual victimization experiences reduced feelings of depression, anxiety or trauma. The study showed that disclosure did not help alleviate any form

of psychological distress in women who had experienced acts of cyber-sexual violence. This finding indicates that disclosing cybervictimization experiences may have mixed outcomes.

The mediating role of organizational support in Workplace settings

Two papers explored the mediating role of organizational support in the association between cybervictimization and psychological difficulty. Muhonen, Jonsson, & Backstrom (2017) found that support from colleagues ($r=-0.034$, $p<0.001$) and senior staff ($r=-0.080$, $p<0.001$) mediated the association between cybervictimization and psychological well-being through organisational climate. Organizational climate is a multidimensional construct; it generally refers to employee evaluations of the safety, communication and leadership of the organization (James & McIntyre, 1996). Muhonen, Jonsson, & Backstrom (2017) also reported that organisational climate mediated the relationship between psychological difficulty and cybervictimization ($r=-0.161$, $p<0.001$).

Similarly, Gardner et al. (2016) examined how individual and organisational factors were related to workplace cyberbullying at two time points three months apart. The results showed that perceived organisational support ($\beta=-0.021$, $p<0.01$) and the effectiveness of organisational support ($\beta=-0.016$, $p<0.01$), was related to lower levels of cybervictimization. The authors also reported that in comparison to non-managers, individuals in managerial positions were more likely to experience acts of cyberaggression that met the criteria to be classified as cyberbullying. Thus, experiences of cybervictimization within the workplace may benefit from organizational strategies that aim to address cybervictimization experiences (Gardner, et al., 2016).

Summary of Results

The results of the papers included in this review indicate that the experience of cybervictimization occurs across different settings and are associated with a range of psychological difficulties in adulthood (see table 5 for box score summary). The different social media platforms and technological devices that people experience acts of cybervictimization through, may also impact on the level of psychological distress experienced (Peled, 2019). Additionally, cybervictimization of a sexual nature may require more nuanced support strategies, whilst experiences of cybervictimization within the workplace may benefit from organizational strategies that aim to address cybervictimization experiences (Gardner, et al., 2016).

Table 3*Study characteristics of the papers included in the Review*

Author and year of publication	Country of sample	Sample size	Mean age (SD)	Gender	Sexuality	Prevalence estimates
Chen & Huang, 2015	Taiwan	1452	20.51 (1.82)	58.4% female 41.6% male	Not reported	<ul style="list-style-type: none"> • Not reported
Coyne, et al., 2017	UK	331	42.4 (10.5)	75% women 25% Men	Not reported	<ul style="list-style-type: none"> • 13.6% of respondents could be classified as cyberbullying targets after meeting the criteria. • 19.7% faced at least one offline bullying act on at least a weekly basis.
Cripps & Stermac, 2018	USA	80 people fully completed the survey	21 (2.7)	All female	Heterosexual (<i>N</i> = 80; 78%), bisexual (<i>N</i> = 11; 11%), homosexual (<i>N</i> = 5; 5%), asexual (<i>N</i> =3; 3%), pansexual (<i>N</i> = 2; 2%), other (<i>N</i> =1; 1%).	<p>Participants reported the following experiences as occurring at least once in the past year:</p> <ul style="list-style-type: none"> • online gender-based hate speech:58% (<i>N</i>= 46) • online sexual harassment (<i>N</i>= 42; 53%) • cyber-stalking (<i>N</i>= 41; 52%). • non-consensual pornography (<i>N</i>= 16; 20%) • Sexual assault image distribution (<i>N</i>= 8; 10%) • The use of a carriage service to arrange/attempt to arrange a victim's sexual assault (<i>N</i>= 6; 8%) • virtual rape (<i>N</i>= 6; 8%)

Table 3 (continued)

Author and year of publication	Country of sample	Sample size	Mean age (SD)	Gender	Sexuality	Prevalence estimates
Dardis, Strauss, & Gidycz, 2019	USA	318	19.02 (1.190)	All female	All heterosexual	Not reported
Drebing, Bailer, Anders, Wagner, & Gallas, 2014	Germany	6379	24.4 (SD not reported)	42% female	Not reported	More than 40% of the participants stated that they have experienced online harassment at least once. However, adding the other two criteria—duration >2 weeks and harassment causing fear—the prevalence estimate strongly decreased down to 6.3%.
Farley, Coyne, Sprigg, Axtell, & Subramanian, 2015	UK	158	27 (4.79)	104 women 54 men	Not reported	46.2% of participants experienced at least one act of CB in the workplace.
Gardner, et al., 2016	New Zealand	826	50	At Time 2, there were 349 men (42%) and 477 women (58%).	Not reported	Using the criterion of having experienced two or more negative acts at least weekly for at least six months, 23 (2.8%) participants had been cyberbullied.
Kokkinos & Antoniadou, 2019	Greece	175	19.56 (2.36)	83 males 92 females	Not reported	Not reported
Kowalski, Toth, & Morgan, 2018	USA	3,699	35.52 (10.77)	51% Female 49% male	Not reported	58% of participants experienced cyberbullying in their lifetime. 20% said their most recent experience of cyberbullying was in adulthood.

Table 3 (continued)

Author and year of publication	Country of sample	Sample size	Mean age (SD)	Gender	Sexuality	Prevalence estimates
Moran, Chen, & Tryon, 2018	USA	347	21.30 (4.04)	female (<i>n</i> = 163, 47%) male (<i>n</i> = 124, 36%). 58 (17%) reported other genders (e.g., nonbinary, gender-fluid, gender-queer, a-gender, trans-man/trans-woman, unsure) 2 (1%) did not report their gender.	lesbian (<i>n</i> = 78, 23%), gay (<i>n</i> = 98, 28%), bisexual (<i>n</i> = 96, 28%), transgender (<i>n</i> = 53, 15%), questioning (<i>n</i> = 22, 6%).	Not reported
Muhonen, Jonsson, & Backstrom, 2017	Sweeden	3371	50 (9.63)	49% women, 51% Men	Not reported	9.7% of participants had at least one cybervictimization experience on a basis during the last six months.
Peled, 2019	Israel	388	Not reported; however, inclusion criteria was individuals over 18	76% female 24% male	71% were straight women, 23.5% straight men, 4% bisexual, 1% lesbians, and 0.5% gay males	57% of the undergraduate students who participated in this study had experienced cybervictimization at least once during their time in university.

Table 3 (continued)

Author and year of publication	Country of sample	Sample size	Mean age (SD)	Gender	Sexuality	Prevalence estimates
(Rosenthal, Buka, Marshall, Carey, & Clark, 2016)	USA	264	All participants were between 21-30, however there were no reports of the average age of the sample	More than half of the sample was female (59%) and white, non-Hispanic (90%)	Not Reported	<p>The prevalence of participants that reported experiencing the following negative Facebook experiences in their lifetime:</p> <p>bullying or meanness N=115 (44%), Unwanted contact N=161 (61%), Misunderstandings N=161 (61%), Any negative experience N=217 (82%)</p> <p>Prevalence estimates over the last year:</p> <p>bullying or meanness N=44 (18%) Unwanted contact N=94 (37%), Misunderstandings N=95 (38%), Any negative experience N=143 (55%)</p>
(Selkie, Kota, Chan, & Moreno, 2015)	USA	265	20.2 (1.7)	All female sample	96.6% identified as heterosexual	57.4% (366), of the respondents reported experiencing cyber victimization at least once and 3.4% (22) reported having cybervictimization experiences at least once a week.

Table 4: Table showing the correlations between cybervictimization and Psychological measures

Author and year of publication	Design	Significant correlations between cyber harassment or cyberbullying and psychological variables	Regression/path/mediation analysis and significant regression findings
Coyne, et al., 2017	Cross Sectional	Correlation between mental strain and: work related cyber negative acts (p=.43***) Person related (p=.44***)	Full regression model indicated a significant positive relationship between cyberbullying and general mental strain. Experiencing cyber negative acts predicted greater mental strain ($\beta = 0.31^{**}$) Experiencing cyber negative acts predicted less job satisfaction ($\beta = -0.40^{**}$)
Chen & Huang, 2015	Cross sectional	No significant associations found	No regression analyses conducted
Cripps & Stermac, 2018	Cross sectional	Cyber-sexual victimization was correlated with: Depression(r=0.51**) Anxiety(r=0.57**) Stress(r=0.55**) PCL score(r=0.58**)	Within the model, cyber-sexual violence accounted for 18.57% of the variance in depression scores Cyber-sexual violence accounted for 22.40% of the variance in anxiety scores. Cyber-sexual violence accounted for 20.20% of the variance in stress scores. Within the model, cyber-sexual violence accounted for 27.98% of the variance in stress scores, Cyber-sexual violence accounted for 28.00% of the variance in posttraumatic stress scores. Cyber-sexual violence significantly uniquely accounted for 24.90% of the variance in posttraumatic stress scores above and beyond the contributions of disclosure helpfulness

Table 4 continued

Author and year of publication	Design	Significant correlations between cyber harassment or cyberbullying and psychological variables	Regression/path/mediation analysis and significant regression findings
Dardis, Strauss, & Gidycz, 2019	Cross sectional	No reported correlational analysis	The overall regression model showing that cybervictimization predicted trauma was significant: $(F(7, 300) = 12.15, p < .001, R^2 = .224,$ The overall regression model showing that cybervictimization predicted depressive symptoms was also significant: $F(7, 300) = 7.80, p < .001, R^2 = .157.$
Drebing, Bailer, Anders, Wagner, & Gallas, 2014	Cross sectional	No reported correlational analysis	A 2 x 2 ANOVA with the factors “cyberstalking” and “gender” showed a highly significant main effect of cyberstalking on the WHO-5 total score, $F(1, 6,375) = 43.8, p < 0.001^{***}$
Farley, Coyne, Sprigg, Axtell, & Subramanian, 2015	Cross sectional	cyberbullying was correlated with mental strain as measured by the GHQ-12 ($r=0.37^*$)	Analysis of the impact of cyberbullying on mental strain and job satisfaction found that negative affect showed a large mediation effect in the relationship between cyberbullying and mental strain ($K^2 = 0.28$).
Gardner, et al., 2016	Cross sectional	Correlation between mental strain and cyberbullying ($p=0.21^{**}$)	Regression analyses did not show cyberbullying to be a predictor of increased mental strain Effectiveness of organisational relationship predicted less cyberbullying ($\beta = -0.16^{**}$)
Kokkinos & Antoniadou, 2019	Cross sectional	Cyber victimization was correlated with: Anxiety ($r=0.25^{**}$) Depression ($r=0.26^{**}$) Loneliness ($r=0.40^{**}$)	Hierarchical regression showed that loneliness, anxiety, depression and hostility were part of a model that predicted cybervictimization over and above the big 5 personality factors ($r^2=0.30^{***}$, $\beta = -0.19^{**}$)
Kowalski, Toth, & Morgan, 2018	Cross sectional		Manova showed that in comparison to non-victims, victims of cyberbullying reported higher levels of: Depression ($p < .001^{***}$) Social anxiety ($p < .001^{***}$) Loneliness ($p < .001^{***}$) and lower levels of self-esteem, ($P < .001^{***}$)
Moran, Chen, & Tryon, 2018	Cross sectional	cyber victimization was associated with higher levels of depressive symptomatology: $r_s(346) = .32 (ps < .001),$	Hierarchical regressions showed cyberbullying was a significant predictor of depressive symptoms ($\beta = 0.24^*$) in individuals that identified as being bisexual. This became insignificant in model 2 where family ($\beta = -0.13^*$) and peer support $\beta = -0.20^*$) were included in the model.

Table 4 continued

Author and year of publication	Design	Significant correlations between cyber harassment or cyberbullying and psychological variables	Regression/path/mediation analysis and significant regression findings
Muhonen, Jonsson, & Backstrom, 2017	Longitudinal	Correlation between wellbeing and cyberbullying (r=-0.14*)	<p>cyberbullying behaviour can have a negative influence on the social organisational climate and this in turn can affect the mental health of employees</p> <p>The indirect effect of cyberbullying through social climate on wellbeing ($\beta = -0.161^{**}$)</p> <p>The indirect effect of cyberbullying through support from colleagues and the impact of this on social climate ($\beta = -0.034^{**}$)</p> <p>The impact of support from superiors on social climate ($\beta = -0.080^{**}$)</p>
Peled , 2019	Cross sectional	<p>Correlations of different modes of cyberbullying with:</p> <p>Anxiety Instant messenger (r=.216, p<.001), text messaging (r=0.159, p<.001), social networking sites (r=0.194, p<.001).</p> <p>Depression: Instant messenger (r=0.210, p<.001), internet chat rooms (r=0.122, p<.01) text messaging, (r= 0.159, p<.001), Social networking (r=.172 ,p<.001).</p> <p>Suicidal ideation: instant messenger (r=.230, p<.001), internet chat rooms (r=0.148, P<.001) Social networking sites (r=.130<.001).</p>	<p>Being victimized through social networking sites resulted in increased levels of anxiety (beta=0.136, P<0.05*), depression (beta=0.218, P<0.001***) and self esteem difficulties (beta=0.137, p<0.05*).</p> <p>Being victimized through instant messaging predicted higher levels of anxiety (beta=0.188, p<.05*), depression (beta=0.198, P<0.01**), self esteem difficulties (beta=0.148, p<.05*) and increased levels of suicide ideation (beta=0.258, p<0.001***).</p> <p>Being victimized by text message predicted higher rates of depression (beta=0.116, p<0.05*).</p>

Table 4 continued

Author and year of publication	Design	Significant correlations between cyber harassment or cyberbullying and psychological variables	Regression/path/mediation analysis and significant regression findings of EI on burnout
Rosenthal, Buka, Marshall, Carey, & Clark, 2016	Cross sectional	No reported correlational analysis	<p>Lifetime experiences of:</p> <p>Bullying and meanness (OR=2.75, $p<0.05^*$), unwanted contact (OR=2.08, $p<0.05^*$), misunderstandings (OR=2.25, $p<0.05^*$), negative experience (OR=2.54, $p<0.05^*$)</p> <p>Four or more experiences: bullying or meanness (OR=2.54, $p<0.05^*$), unwanted contact (OR=2.46, $p<0.05^*$), misunderstandings (OR=2.33, $p<0.05^*$), any other negative experience (OR=3.15, $p<0.05^*$)</p> <p>When these experiences happened over the past year,</p> <p>unwanted contact (OR=1.86, $P<0.05^*$), misunderstandings (OR=2.12, $p<0.05^*$) and any other negative experience (OR=2.21, $p<0.05^*$)</p>
Selkie, Kota, Chan, & Moreno, 2015	Cross sectional	No reported correlational analysis	<p>Logistic regression analysis</p> <p>Among those who experienced cyberbullying as a bully/ victim, the odds for depression were also higher (OR 3.2 [95% $p<0.05^*$]).</p>

Notes: $*=p<.05$, $**=p<.01$, $***p=<.001$

Table 5: Table showing Box score summary of correlations between different measures of psychological wellbeing and cybervictimization

Correlation	Number of studies that explored the correlation	Whether study reported a statistically significant relationship
Depression and cybervictimization	9	+++++++-
Loneliness and cybervictimization	1	+
Anxiety and cybervictimization	5	+++++
Suicidal ideation and cybervictimization	1	+
Self-esteem and cybervictimization	3	+++
General mental strain	4	+++/*+
general mental-well being	2	-+
Trauma and cybervictimization	2	++

Notes: += a statistically significant relationship, -= Study did not report a statistically significant relationship

**The correlation observed was statistically significant, however its weakness suggested an indirect relationship between general mental strain and cybervictimization.*

Discussion

The world is becoming increasingly digital. Within educational and employment settings, digital media is valued in its ability to connect people to each other and technology is continuously advancing and transforming the way people are connected (Ming-Hsiang, 2015). The dynamic exchange of online messages is constant, and it can be difficult to identify the impact of negative online communications on mental health. The present review highlighted the negative impact of cybervictimization. Cybervictimization experiences have largely been conceptualised as an issue for adolescents in compulsory school settings (Nixon, 2014). However, the findings of this review, indicate that negative psychological effects of cybervictimization are also observed in adulthood. This review also highlighted the complexity of the relationship between cybervictimization and psychological difficulty.

The prevalence estimates varied between the different studies included in the review. As the review included papers from various countries this is not unexpected. Cybervictimization experiences may be significantly influenced by cultural contexts, as culture may impact on how individuals use and respond to the internet (Barlett, et al., 2014). For example, when considering the findings of Muhonen et al., (2017), the correlation between psychological difficulty and the experience of cybervictimization was weaker when compared to other studies conducted in the workplace (Coyne, et al., 2017; Farley, Coyne, Sprigg, Axtell, & Subramanian, 2015; Gardner, et al., 2016; Kowalski, Toth, & Morgan, , 2018). The difference in correlation may reflect the cultural differences between the study samples. The study by Muhonen et al., (2017) was conducted in Sweden where the prevalence of workplace bullying is lower compared with other European and non-European countries (Nielsen, Matthiesen, & Einarsen, 2010).

Additionally, the variation in instruments used to measure and define cyber-aggressive acts may have contributed to variances in prevalence. The findings highlighted a distinction between personal, workplace and sexually specific cyber-aggressive acts. The findings also showed that to determine whether an individual can be classified as being a victim of cyberstalking or cyberbullying, stringent criteria needs to be applied (Leymann, 1996). To be classified as a target of cyberbullying, individuals must have consistently been subjected to cyber-aggressive acts over a prolonged period of time, and there must be a power imbalance between the victim and perpetrator. However, the anonymous nature of online communications has made it difficult to establish power differentials. The findings of this review suggest that the amount of fear or life-interference that cyber-aggressive acts generate, may give a greater indication of the power imbalance in online communications (Dardis, Strauss, & Gidycz, 2019). This also has implications for the role of gender.

Traditionally, gender has been viewed as having a significant role in how acts of cyber aggression are experienced (Selkie, 2019). Previous reports have indicated that girls are more likely to report that social media has a negative impact on how they feel about themselves in comparison to boys (Young Minds, 2018), and women are more likely to score higher on measures of anxiety and depression (Bjerkeset, Romundstad, & Gunnell, 2008). However, it may be that fear mediates the role of gender in cyber-aggressive communications (Drebing, Bailer, Anders, Wagner, & Gallas, 2014). The positioning of sexual violence against women as a major public health concern highlights the very real threat that abusive online communications can pose to others (Gidycz, Linqvist, Warner, Fisher, & Martin, 2007). Previous research has shown that in comparisson to men, women are more likely to experience sexual forms of cybervictimization, whereas men are more likely to experience cybervictimization in relation to their sexuality (Brody & Vangelisti, 2017).

The nature of the cybervictimization experience may also impact on the support an individual requires. The findings of this review showed that experiences of cyber-sexual violence were associated with symptoms of depression, anxiety, stress, and PTSD (Cripps & Stermac, 2018). However, disclosing experiences of cyber-sexual violence did not improve well-being. This contrasted with the findings of Moran, Chen and Tryon (2018) who found that participants who identified as bisexual were less likely to experience depressive symptoms if they had support from peers and family members. The difference in findings may be related to the nature of the cybervictimization experience. The lack of helpfulness from disclosing acts of cyber-sexual victimization experiences may reflect the reluctance of victims to have their social networks being made aware of potentially shame inducing material (Newheiser & Barretto, 2014). The acts of disclosure may in itself lead to the generation of feelings of shame and guilt for individuals that have experienced cyber-sexual violence (Ahern & Mechling, 2013).

Within the workplace, the results of this review suggested that organizations may have a role in supporting employees that experience acts of cyberaggression. The results indicated that employees may feel that there are greater levels of organizational support if they are supported by senior members of staff. The papers in the review indicated that support from senior staff members is associated with lower levels of psychological distress (Gardner, et al., 2016; Muhonen, Jonsson, & Backstrom, 2017). In contrast, individuals that experience cyberbullying at work may perceive the organizational climate to be more hostile.

The findings of the review also highlighted the potential impact of the technological platform that people experience cybervictimization through. Previous research shows that instant messaging applications may be the most common technological medium used to commit acts of cyber-aggression (Kowalski & Limber, 2007). The findings by Peled (2019) also indicated that cybervictimization experiences through instant messaging applications may have a

stronger association with psychological difficulty than when it is experienced through text message, chat rooms or email. From a practical standpoint, instant messaging is cheaper to use than text messaging. Instant messaging allows users to send voice-clips, photos and videos with relative ease; it is also better than text messaging at supporting group discussions (Flanagin, 2005). These features contribute to the uniqueness of cybervictimization experiences via instant messenger, as this method allows for the rapid dissemination and sharing of embarrassing, cyber-aggressive material (Flanagin, 2005). In comparison, cybervictimization experiences through social networking sites may have a slightly different quality. Individuals bullied through social networking sites such as Facebook may be more likely to know the identity of their aggressor (Chi en Kwan & Skoric, 2013). This could be why the experience of cybervictimization through social media sites such as Facebook, had the strongest relationship with depression (Peled,2018). Across the studies, there was evidence to indicate that cybervictimization is associated with negative psychological health in adults.

The review also showed the overlap between cybervictimization and in-person victimization. Of the papers that explored both in-person and cybervictimization experiences, between 72% and 87% of individuals experienced both in-person and cyber forms of victimization (Dardis, Strauss, & Gidycz, 2019; Gardner et al.,2019). The large overlap between in-person and cybervictimization experiences indicates that experiences of cybervictimization may often just be one part of abusive experiences. Existing literature shows that fear of being rejected in a social setting can make individuals more anxious and therefore reluctant to initiate in-person social contact (Huan, Ang, chong, & Chye, 2014). This can also contribute to an individual's decision to engage more frequently online, where they may perceive it as easier to build social connections. However, people are more likely to be exposed to cyber aggressive acts when they are online more frequently.

The findings of this review also support existing literature that shows that experiences of cybervictimization can contribute feelings of depression and anxiety (Cross, Lester, & Barnes, 2015; O'Donnell, Creamer, & Pattison, 2004). However, the findings of this review also showed that although cyber victimization may be correlated with depressive symptoms; the experience of depressive symptoms may not always lead to a reduction in quality of life (Chen & Huang, 2015). The relationship between depression and quality of life could be dependent on the specific depression symptoms and the individual cognitions an individual has relating to their difficulties (Smith, Gomm, & Dickens, 2003).

Strengths and Limitations

This systematic review was performed in line with published guidelines (National Health Service Centre for Reviews and Dissemination, 2009). However, time constraints and the practicality of a doctoral thesis meant that there were some recommendations that were not adhered to. For example, it is advisory to conduct a systematic review as a team. Although this review was discussed with supervisors at its various stages, the majority of the review was completed by the lead researcher independently. This included screening the papers that were included in the review, data extraction and the analysis of the data. This increases the risk that some papers that were eligible for the review were not included, and also makes it more difficult to replicate the review.

A further limitation of this review was that only peer reviewed data was included in the systematic review, and studies were required to be in English. This means that studies that may have contributed to existing knowledge may not have been included in the review. Through only utilising studies written and translated in English, there may be a cultural bias that limits the inclusion of studies from particular regions.

However, there were also strengths in the methodological approach undertaken in this study. These strengths served to reduce the bias and increase the ability to reproduce the reviews findings. One of these strengths was that a subject specialist librarian was consulted in the search strategy. All papers in the study were quality appraised and 30% of papers were cross checked by a peer. This review also makes a valuable contribution to the understanding of cyberbullying and its psychological impact. Studies from a number of countries were included in the review, indicating that this review covers individuals from a wide range of cultures, populations and professions. Additionally, across studies the correlation between psychological difficulties and cybervictimization was consistent. The review also highlighted the range of different mediums used to perpetrate acts of cyberaggression, and the types of cybervictimization experiences people have.

Future Research and the challenges in comparing studies that explore Cybervictimization

The large variations in study characteristics can make it difficult to make direct comparisons between studies that explore experiences of cybervictimization. Due to its pervasive nature, individuals can be impacted by multiple experiences in a variety of different settings. A real challenge in synthesising the research literature on cybervictimization is related to the large differences in measures used and the populations studied. Existing research indicates that problems such as racism, homophobia and sexual harassment occur within the workplace (Okechukwu, Souza, Davis, & Butch De Castro, 2014). However, studies that explore cybervictimization experiences do not often specify whether the cybervictimization experiences of the participants was related to their race, gender, sexuality or any other protected characteristics (Coyne, et al., 2017; Farley, Coyne, Sprigg, Axtell, & Subramanian, 2015; Gardner, et al., 2016; Kowalski, Toth, & Morgan, 2018; Muhonen, Jonsson, & Backstrom, 2017).

To help further existing knowledge, future research should ensure it distinguishes between cyberbullying, cyber-harassment and isolated cybervictimization experiences. Researchers should also aim to develop tools that measure specific forms of online victimization (e.g. Sexual, homophobic or racial). Through using measurements that specify the nature of cybervictimization experiences, this will help to develop an understanding of how different types of cybervictimization experiences can impact people. Additionally, future research should aim to capture the level of fear that is induced by these cybervictimization experiences. This may give a greater indication of the power imbalance between the victim and the perpetrator. Future research should also report the technological medium and the relationship between the victim and perpetrator. This will help to better understand the role that different forms of technology have in cybervictimization.

Clinical Implications

Employment, relationships, sexual identity and university experiences are central to identity formation (Berzonsky & Kuk, 2000). Within these settings, the evidence shows that cybervictimization can have a negative impact on an individual's mental health. However, the mechanisms by which an individual's self-esteem, depression, anxiety, loneliness and trauma are impacted as a consequence of cybervictimization, are yet to be explored. Despite this, clinicians should take a more active role in speaking with people about their online experiences. When completing assessments, clinicians should ask clients about any negative online experiences they may have had. Clinicians should then explore the impact of these experiences and whether they contributed to feelings of anxiety, depression or trauma. The way cybervictimization is experienced may vary between individuals, however, through specifically asking about the feelings it generates with each client, clinicians and clients will

be able to co-produce formulations that help individuals to cope with negative cybervictimization experiences. Clinicians should also speak to individuals about the amount of time they spend online and promote a healthy balance in the use of social media. Online communications may form an important part of a person's social network and may be a useful means to understand how a person's various relationships, contribute to their mental health.

Additionally, although the prevalence rates of cyberbullying are highly variable, it is clear that a significant proportion of people experience unwanted online interactions of a discriminatory, abusive or sexual nature. Therefore, it is important that organizations and educational institutions have appropriate programs to support individuals that are experiencing online forms of abuse. This will help to promote positive cultures that can address cyberbullying and harassment. Organizations and individual victims should be made aware of how the anonymity of the offender, the permanence of material with a digital footprint, and the subsequent shame of cybervictimization experiences contribute to psychological distress.

Conclusion

The purpose of this review was to establish the potential psychological impact of cybervictimization in adults. This review fits with the existing knowledge which suggests that cyber-harassment and bullying is an issue in both adult and child populations (Watts, Wagner, Velasquez, & Behrens, 2017). This review also highlights the complexity of cybervictimization. Cybervictimization experiences may take place in the context of the workplace, university or even a relationship. However, it may also cause significant distress when experienced without more physical forms of abuse. The experience of multiple different people commenting on a single online post for a sustained period, may lead to an individual exhibiting depressive or trauma symptoms; however, the formulation of how that impacts on

an individual's distress may be qualitatively different. This review aims to highlight the complex nature of cybervictimization and its potentially harmful effect on mental health.

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Appendices

Appendix A: Search strategies used

Appendix A

Search Strategies

Search Strategies for PsycINFO, Medline and Cumulative Index to Nursing and Allied Health

Search Terms	Search Options
S1	AB harass*
S2	AB Stalk*
S3	AB bullying
S4	AB bullied
S5	AB bully
S6	AB trol*
S7	S1 OR S2 OR S3 OR S4 OR S5 OR S6
S8	DE "Cyberbullying"
S9	DE "Harassment" OR DE "Sexual Harassment" OR DE "Stalking" OR DE "Bullying"
S10	S7 OR S9
S11	AB texting
S12	AB myspace
S13	AB bebo
S14	AB tweet*
S15	AB twitter
S16	AB tinder
S17	AB grindr
S18	AB instagram
S19	AB facebook
S20	AB snapchat
S21	AB cyber
S22	AB online
S23	AB "social media"
S24	AB "text messag*"
S25	AB blog
S26	AB website

S27	AB internet
S28	AB whatsapp
S29	AB "whats app"
S30	S11 OR S12 OR S13 OR S14 OR S15 OR S16 OR S17 OR S18 OR S19 OR S20 OR S21 OR S22 OR S23 OR S24 OR S25 OR S26 OR S27 OR S28
S31	S30 AND S10



Section Three: Empirical Paper

**Investigating the association between Cyber-sexual harassment and
Psychological distress in Women**

By Marvin Iroegbu

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Abstract

The impact of sexual harassment and abuse in online environments is largely under-researched, yet the topic has attracted much media and public concern. Communication technologies have provided novel means for people to threaten, communicate and even harass others. The present study was conducted to explore the psychological impact of cyber-sexual harassment in women. The study aimed to determine whether cyber sexual harassment statistically predicts psychological difficulties, after controlling for the experience of offline sexual harassment. A total of 136 participants were included in the regression analysis. The results indicated that people who reported experiencing cyber-sexual harassment, reported higher levels of depression, anxiety, trauma, and body image dissatisfaction. Hierarchical regression analyses showed that cyber-sexual harassment statistically predicted levels of depression, anxiety, trauma and body image dissatisfaction after controlling for relevant demographic measures. These findings and their potential implications are discussed.

Introduction

At present, few studies have investigated the psychological impact of cyber-sexual harassment. The majority of sexual harassment research has focussed on the physical perpetration of the act and its psychological sequelae (Fitzgerald, Gelfand, & Drasgow, 1995). Those subjected to sexual harassment can feel disempowered, embarrassed and humiliated, with victims of sexual harassment also reporting higher levels of anxiety, depression, post-traumatic stress disorder, negative body image and disordered eating (Friborg, et al., 2017; Mushtaq, Sultana, & Imtiaz, 2015; Reyns, Henson, & Fisher, 2012). However, sexual harassment is also prevalent in online spheres. The growth in technological advancement has coincided with concerns for how people interact with and utilise online spaces (Craker & March, 2016).

Early research of online sexual harassment had largely focussed on adolescent and student populations (Mitchell, Ybarra, & Korchmaros, 2014). However, high-profile reports of sexual misconduct in politics and the entertainment industry, has prompted greater interest in technologically facilitated sexual violence in adults (Krook, 2018). Women have been particularly targeted by such harassment (Henry & Powell, 2016), and previous research has shown experiences of cyber-sexual harassment to be more prevalent in female populations (Barak, 2005; Citron, 2009). Conceptually, cyber-sexual harassment has been viewed as an extension of offline sexual harassment (Li, 2005), with three related but conceptually distinct dimensions (Fitzgerald, Gelfand, & Drasgow, 1995; Li, 2005):

- 1) Gender harassment: This can be verbal or graphic and involves the harasser sending gender humiliating comments or images towards another individual.
- 2) Unwanted online sexual attention: This is the use of direct personal communication to convey sex-related messages that are not wanted by the recipient.

3) Sexual coercion: This involves pressuring another individual to perform sexual acts online.

The in-person experiences of sexual harassment can be wholly or partly facilitated by technology. Therefore, rather than sexual harassment purely occurring in face-to-face contacts, sexual harassment can also be partly or wholly facilitated via communication technologies (Henry & Powell, 2016). Recent research has highlighted the multifaceted nature of technology-facilitated sexual violence (Cripps & Stermac, 2018). Consequently, seven distinct categories have emerged: (1) non-consensual pornography or revenge porn, which is the unauthorized creation and/or distribution of sexually explicit images of the victim, (2) the actual or threatened creation and/or distribution of sexual assault images, (3) attempting to arrange a victim's sexual assault, (4) online sexual harassment, which involves asking someone intimate questions or sending them unwanted pornographic material via the internet, (5) cyber-stalking, which involves the repetitive pursuit of an individual through electronic or internet-enabled devices (Reyns, Henson, & Fisher, 2012), (6) online gender-based hate speech, which involves offensive and degrading comments directed at a person or a group of people based on their gender, and (7) virtual rape, which is when a person's avatar is subjected to simulated sexual violence by other avatars (Boyd, 2009).

The psychological consequences of cyber-sexual harassment

People who have been victimised by technologically facilitated sexual violence or harassment, have reported both psychological and material consequences (Bates, 2016). Existing research also shows that forms of cyber-sexual harassment, such as non-consensual pornography, may have similar health consequences to the ones seen in victims of in-person sexual assault (Bates, 2016). One of these consequences is in relation to body image. Experiences of sexual harassment can lead to individuals viewing their body as an object for other people to look at and evaluate (Menziel, et al., 2010).

The cognitive model of body image disturbance proposes that individuals with a negative body image are more likely to harshly judge their own appearance and interpret the behaviour of others based on their own beliefs about their body (Lewis-Smith, Diedrichs, & Halliwell, 2019). Previous research has shown that negative-appearance-related feedback can lead to consistent levels of dissatisfaction about one's own body (Menziel, et al., 2010). From as early as adolescence, women report greater negative consequences to negative comments relating to their appearance in comparison to men (Beckman, Hagquist, & Hellstrom, 2012). This also supports more recent research that shows individuals that have been sexually harassed can develop longstanding and damaging perceptions of their own body (Fisher, Lindner, & Ferguson, 2019). Thus, body image is an important concept to explore in relation to cyber-sexual harassment.

Additionally, the diathesis stress model could explain why sexual harassment experiences are associated with depressive and anxious symptoms (Duncan, Zimmer-Gimbeck, & Furman, 2019). The diathesis stress model proposes that interpersonal stressors (e.g. Sexual harassment experiences) can lead to individuals feeling coerced, rejected and less autonomous, making them more susceptible to mental health difficulties (Duncan, Zimmer-Gimbeck, & Furman, 2019). This theory is supported by previous research which shows that more severe sexual harassment experiences, lead to more severe post-traumatic stress symptoms (Bendixen, Davernois, & Kennair, 2018). Therefore, not only do people experience distress about their own body, they also exhibit symptoms that indicate that sexual harassment is traumatic.

When harassment is online, it may be pervasive enough to have consequences that are at least similar to those who experience in-person assault. One potential reason for this is the permanence and speed at which online material is shared. Threatening messages can be instantaneously communicated through online means and sent to an unlimited number of

people, causing significant distress and provoking anxiety (Straude-Muller, Hansen, & Voss, 2012). Previous research showed that people who receive threatening calls or texts from former partners, experienced similar levels of depressive and trauma symptoms as those who experienced in-person stalking behaviours (Dardis, Strauss, & Gidycz, 2019). This indicates that there could be both personal and relational factors that influence how traumatic a cyber-sexual harassment experience is.

The association between demographic variables and experiences of Cyber-sexual harassment

Much of the existing cyberbullying research indicates that younger individuals are more likely to experience acts of cyberaggression (Ybarra & Mitchell, 2004). This may be partly related to technological use, as younger people are likely to spend more time online, more time on social media sites and tend to have a greater number of social media followers (Zia & Amber, 2019). The amount of time spent online has also been correlated with cyber victimization experiences (Cross, Lester, & Barnes, 2015). Considering this, it is likely that younger women may encounter more acts of cyber-sexual harassment than older women (Selkie, Kota, Chan, & Moreno, 2015). Additionally, research by Dir, Coskunpinar, Steiner and Cyders (2013), showed that relationship status may influence the likelihood of individuals being exposed to acts of cyber-sexual harassment. Individuals who are not in relationships, or in newly formed relationships, may be more likely to use online platforms for romantic pursuits, increasing the likelihood of experiencing sexually aggressive online communications (Dir, Coskunpinar, Steiner, & Cyders, 2013; Powell & Henry, 2019).

Despite this existing research, the psychological impact of cyber-sexual harassment is still largely unexplored. The extent to which individuals are impacted by cyber-sexual harassment has also been complicated by the variation in the way it's measured, the lack of clarity in definitions, and associated terminology. To add to the existing knowledge, the present study

explored two specific elements of cyber-sexual harassment: sexual coercion and unwanted sexual attention. These dimensions were explored because they primarily focus on behaviours that are aimed at facilitating sexual cooperation, whereas gender harassment often refers to behaviours aimed at exerting power over women (Beck, Epstein, Brown, & Steer, 1988). The Cyber-Sexual Experiences questionnaire was used to measure sexual coercion and unwanted sexual attention experienced online (Parsons, 2017).

The present study

The present study recruited a sample of women via online advertisements to examine the following questions: 1) Do women who report experiencing cyber sexual harassment also report higher levels of anxiety/depression, in-person sexual harassment, trauma and body image dissatisfaction? (2) Does cyber sexual harassment predict psychological difficulties while controlling for relevant demographic measures (i.e., age, length of current relationship, general online victimization experiences, number of social media followers, education level and how often someone checks social media)? (3) Does cyber sexual harassment predict psychological difficulties after controlling for the experience of in-person sexual harassment, since in-person sexual harassment may already be a strong predictor of psychological distress.

Method

Participants

A total of 265 individuals were recruited. The inclusion criteria was that participants had to be female and over the age of 18. Forty-eight participants were immediately excluded from the data analysis as they did not complete at least one of the questionnaires. Of the 217 women who completed at least one of the psychometric questionnaires, 172 provided their age ($M=28.7$, $SD=6.84$). Participants were also asked about the length of time they were in a relationship and this was measured in months. If participants were not in a relationship, this was recorded as zero. Participants were also required to report on the frequency of their social media use (never uses social media, checks social media daily, checks social media hourly and the number of followers they have (0-200, 201-500, 501-1000, 1001+)) (full demographic details in table 1).

Table 1: Demographic data of the study population

	n	%
<i>Age (years)</i>		
18-21	21	12
22-29	87	51
30-39	51	29
40+	13	8
Total	172	100
<i>Marital Status</i>		
Married	23	15
single	39	26
cohabiting	46	30
In a relationship but not cohabiting	45	29
Total	153	100
<i>Ethnicity</i>		
White British	123	72
Asian	11	7
White European	11	7
Black	14	8
Arab/North African	4	2
Mixed descent	7	4
Total	170	100
<i>Educational attainment</i>		
No qualifications/GCSE's	2	1
GCSE	8	5
A levels/vocational qualification	19	11
Undergraduate	63	37
Post-Graduate	78	46
Total	170	100
<i>Frequency of social media use</i>		
Never uses social media	2	1
Checks social media daily	94	55
Checks social media hourly	74	44
Total	170	100
<i>Number of social media followers on your most followers account</i>		
0-200	47	28
201-500	64	38
501-1000	26	16
1001+	31	18
Total	168	100

Measures

Cyber sexual harassment: The Cyber-Sexual Experiences Questionnaire (CSEQ) (Schenk, 2008) was used to measure experiences of cyber-sexual harassment. The CSEQ contains 14 questions pertaining to unwanted sexual attention and sexual coercion. These two components make up the construct of cyber sexual harassment. The questionnaire was adapted from the sexual experiences questionnaire (Fitzgerald, Gelfand, & Drasgow, 1995). The CSEQ was used in previous research but had not been validated (Schenk, 2008); Parsons (2017) aimed to validate the questionnaire in an undergraduate sample prior to its inclusion in this study (Parsons, 2017). To validate the questionnaire, females currently attending University, aged between 18-65 were asked to complete the CSEQ. The participant responses were then analysed using Confirmatory Factor Analysis. The Confirmatory factor analysis showed that the measure was able to discriminate between the two different types of cyber-sexual harassment; unwanted sexual attention and sexual coercion and that the CSEQ was a valid questionnaire to measure online sexual harassment experiences in women (Parsons, 2017). In the present study, nine of the questions on the CSEQ related to unwanted sexual attention and five questions related to sexual coercion. Participants were asked whether they have experienced an act of cyber sexual harassment never, once or more than once (Parsons, 2017). This was coded as 0, 1 and 2 in the analysis and an average of the total score was used. The internal consistency of this measure with the study sample was $\alpha=0.88$. (See Appendix I).

In-person sexual harassment: The original Sexual Experiences Questionnaire (Fitzgerald, Gelfand, & Drasgow, 1995) was used to measure the in-person sexual harassment experiences of the sample. The questionnaire is comprised of 20 questions and participants respond on a 3-point likert scale (0=never, 1=once, 2=more than once). The questionnaire showed good internal consistency ($\alpha=0.91$) within the study sample (See appendix H).

Anxiety and Depression: The hospital anxiety and depression scale (HADS) (Zigmond & Snaith, 1983) is a questionnaire comprised of seven questions for anxiety and seven questions for depression. The HADS questionnaire has been validated in many languages, countries and settings including general practice and community settings (Zigmond & Snaith, 1983). The scores of the anxiety and depression subscales were added together and then averaged to create a composite score. The cronbach's alpha for the HADS was $\alpha=0.80$ (See appendix G).

Trauma: Trauma was measured using the post-traumatic stress disorder checklist (PCL) (Weathers, Litz, Herman, & Huska, 1993), a self-report rating scale used for assessing symptoms of PTSD. The PCL can be modified to fit specific assessment needs (e.g. the time frame can be changed from past week to past month) and has been adapted for use in a variety of research and clinical contexts (Blevins, Weathers, Davis, Witte, & Domino, 2015). The scale was a reliable measure of trauma symptoms within the study population ($\alpha=0.94$). The participants were instructed to rank their endorsement of posttraumatic symptoms based on a 5-point Likert scale (1= *not at all* and 5= *extremely*). The overall scores of participants were then averaged and used for the statistical analysis. (See appendix E).

Body Image: The body esteem scale (BES) (Franzoi & Shields, 1984) was used to measure body image satisfaction. The BES is a multidimensional measure of body esteem used in an adult population. The BES is also gender specific, with different dimensions for body esteem for men and women. The three dimensions for women are: Sexual Attractiveness, Weight Concern, and Physical Condition (Franzoi & Shields, 1984). The test involves participants completing a 35-item questionnaire where they are asked to rate their degree of satisfaction with various body parts and functions on a 5-point Likert scale (1=strong negative feeling, 5=strong positive feelings). Within the current sample, the scale was reliable and Cronbach's alpha for body image was $\alpha=0.93$. The scores of participants were summed and then averaged to create a composite score for body image

dissatisfaction (See appendix F).

General Online Victimization: The online victimization questionnaire (Tynes, Rose, & Williams, 2010) contains 21 questions relating to four domains of cyber victimization (sexual, general, individual racism, vicarious racism). Only the general online victimization subscale was used in the study as sexual victimization was measured by the CSEQ and the general victimization subscale allowed non-sexual forms of cyber victimization to be captured and controlled for in the statistical analysis. The General Online Victimization questionnaire was normed on an adolescent population however it showed good internal consistency within the current sample ($\alpha = .78$). The scores on the online victimization scale were based on a 6 point likert scale (0=never, 5=everyday), (See appendix J).

Procedure

Ethical approval was granted by the Central University Research Ethics Committee for Physical Interventions at the University of Liverpool (see appendix A). To maintain confidentiality, no identifiable information was collected from participants. All data was anonymised, and participants were given an information sheet outlining the details of the study. Within the information sheet, participants were informed about the sensitive nature of the study prior to participation. Participants were then asked to complete the study online, via a Qualtrics survey.

Before completing the study, participants were given two screening questions to confirm whether they were over the age of 18 and identified as a female. The two screening questions were the only questions that were compulsory. Once participants had completed the screening questions, they were able to discontinue the study at any time and omit any questions they did not want to answer. The order that the questionnaires were administered was randomized to reduce order effects. After completing the questionnaires, participants completed demographic

details such as their age and relationship status, which were not compulsory questions. In the demographic section of the questionnaire, participants were also asked whether they had experienced cyber sexual harassment in their lifetime with a yes or no question. This was a way of measuring their perspective in a clear, dichotomous way. At the end of the study, participants were provided with a debrief regarding the nature of the study and given the opportunity to enter a prize draw for an Amazon voucher worth £50. All identifying information required for the prize draw was stored separately from survey responses.

Data Analysis

A priori power calculation was completed to estimate the sample size required for the regression analysis. Through estimating that the independent variables (Age, relationship length (months), frequency of checking social media, number of social media followers, highest level of education attainment, online cybervictimization experiences, cyber-sexual harassment and in-person sexual harassment) will account for 10% of the variance of the dependent variable (trauma, body image dissatisfaction and anxiety/depression) and an alpha level of 0.05, a sample of 108 cases was the minimum needed to generate statistical power >0.8 (Shieh & Kung, 2007). This was broadly consistent with previous research which provided a formula for a medium effect size to be detected in a regression analysis (Green, 1991), $n > 104 + m$ (m refers to the number of independent variables). When all control variables and variables of interest are entered into the regression model, the calculation by Green (1991) suggested that the minimum number of participants needed to generate a medium effect size would be 116. Based on this guidance, the researchers aimed for a minimum of 116 full data sets.

Little's test of Missing Completely at Random (MCAR) was undertaken. The results were not significant ($\chi^2=63.54$, $df = 73$, $p > 0.05 = .78$) (Li, 2013). This indicates that the missing data

was missing completely at random and was not missing in a systematic way. As the missing data met the MCAR assumption, the data set can be viewed as a random sample of the complete data. As the assumption of MCAR was satisfied, listwise deletion was deemed as a reasonable strategy to produce conservative results and unbiased estimates (Kang, 2013). The resulting full data sets of 136 participants were included in the regression analysis.

Boxplots, histograms and Q-plots were used to determine normality assumptions and identify whether outliers could potentially influence the results of the analysis. A preliminary analysis of the results indicated that no outliers were influential, consequently they were not excluded from the analysis.

T-tests were undertaken to test for between differences in anxiety/depression, body image, offline sexual harassment experiences and trauma. One of the questions in the study asked participants whether they had experienced cyber-sexual harassment in their lifetime and required either a yes or no response. The participants were grouped depending on whether they had reported experiencing cyber-sexual harassment in their lifetime (yes or no). Following this, Pearson's correlations were conducted to examine associations between cyber-sexual harassment and the psychological measures, as well as to test for multicollinearity of the predictors. Finally, a hierarchical regression analysis was undertaken. This was completed to identify whether there was a statistically significant association between cyber-sexual harassment and the psychological variables of interest, even after controlling for offline sexual harassment and demographic measures. All statistical analyses were undertaken using JAMOVİ version 1.2 (jamovi, 2020).

Results

Do women who report experiencing cyber sexual harassment also report higher levels of anxiety, depression, in-person sexual harassment, trauma and body image dissatisfaction?

The average score on the questionnaires used to measure cyber-sexual harassment ($M=1.49$, $SD=0.54$), in-person sexual harassment experiences ($M=1.65$, $SD=0.47$), anxiety/depression ($M=2.16$, $SD=0.44$), trauma ($M=2.33$, $SD=0.90$) and body image dissatisfaction ($M=3.08$, $SD=0.65$) was taken for the entire sample. The results of the study showed that 44% ($n=74$) of the sample reported that they had experienced cyber-sexual harassment within their lifetime, whilst 56% ($n=94$) reported that they had never been cyber-sexually harassed. The results were then compared between those who answered “yes” with those who answered “no”. On average, women who reported they had experienced cyber sexual harassment had higher depression/anxiety scores ($M=2.27$, $SD=0.45$) than women who had not experienced cyber-sexual harassment ($M=2.06$, $SD=0.39$). These differences were significant ($t(166)=3.15$, $p<0.05$). Women who experienced cyber-sexual harassment also reported significantly higher trauma ($M=2.58$, $SD=0.88$) than those who did not ($M=2.14$, $SE=0.83$), $t(205)=3.31$, $p<0.05$. The Levene’s test for equality of variances was significant for body image and offline sexual harassment. Consequently, the violation of this assumption was corrected by using an adjustment to the degrees of freedom, through use of the Welch-Satterthwaite method (Pallant, 2010). Those who reported cyber-sexual harassment experienced higher levels of in-person sexual harassment ($M=1.86$, $SD=0.50$) than those who did not ($M=1.48$, $SD=0.35$); $t(127)=5.56$, $p<0.001$). Differences were also found for body image. Individuals who reported experiencing cyber-sexual harassment, also reported lower levels of body image satisfaction ($M=2.93$, $SD=0.53$); in comparison to those who did not report cyber-sexual harassment ($M=3.21$, $SD=0.69$), $t(166)=-2.98$, $p=0.003$).

The correlations between demographic Variables, Psychological difficulties and Cyber-sexual Harassment

A Pearson's correlation was completed to better understand the association between cyber-sexual harassment, psychological difficulties and demographic variables (see table 2 for the full correlations between variables). The correlation matrix included the length of time people were in a relationship, their age, number of social media followers, the frequency which they checked their social media account, their highest level of educational attainment, their experience of general cybervictimization, psychological difficulties and both in-person and cyber forms of sexual harassment. The correlation matrix showed that cyber-sexual harassment was positively correlated with in-person sexual harassment, anxiety/depression and trauma symptoms, and negatively correlated with body image satisfaction. Cyber-sexual harassment was also negatively correlated with age, the length of time a person was in a relationship and a person's highest level of educational attainment. However, cyber-sexual harassment was positively correlated with the number of social media followers a person has and the frequency that they check their social media account. These significant relationships showed that there were associations that needed to be statistically controlled in the regression analysis and as a result, were added to step 1 of the regression analyses.

Table 2: Pearson's correlation for demographic variables and psychological variables associated with Cyber-sexual Harassment

	1	2	3	4	5	6	7	8	9	10	11
1 Age	—										
2 Relationship length (months)	.399***	—									
3 Frequency of checking social media	-.062	-.024	—								
4 Number of social media followers	-.246**	-.139	-.042	—							
5 Highest level of education	.140	.052	-.146	-.007	—						
6 online cyber victimization	-.156*	-.211*	.051	.215**	-.112	—					
7 Anxiety and depression	-.196**	-.105	.115	.055	-.227**	.302***	—				
8 Body Image	-.103	-.136	-0.98	-.020	.149	-.208**	-.433***	—			
9 Trauma	-.249**	-.217*	.170*	.092	-.292***	.365***	.750***	-.438***	—		
10 offline sexual harassment	-.199**	-.354***	.122	.180*	-.218**	.307***	.308***	-.272***	.420***	—	
11 Cyber-sexual harassment	-.155*	-.322***	.217**	.223**	-.368***	.381***	.362***	-.227**	.412***	.686***	—

Note. * p < .05, ** p < .01, *** p < .001

Does cyber sexual harassment predict psychological difficulties while controlling for relevant demographic measures?

Prior to completing the hierarchical regression, tests for multicollinearity were conducted. The VIF values and tolerance values were within accepted limits and checks for normality using residual plots suggested no problems.

Three separate hierarchical multiple linear regressions were conducted to examine the association between trauma, body image, depression/anxiety and cyber-sexual harassment (using scores on the Cyber-Sexual Experiences Questionnaire); the associations were examined while also accounting for potential confounds and finally examining how offline sexual harassment might change the associations once entered into the model. The psychological variables of interest were examined separately. In step 1 of each model, age, the length of the participant's current relationship, their number of social media followers, their frequency of social media use and their level of general online victimization was entered into the regression model. The number of social media followers, the level of general online victimization and the frequency of social media use were entered as categorical variables. In contrast, age and the length of relationship were entered as continuous variables. Cyber-sexual harassment was then entered into step 2, so we could examine the incremental variance that cyber-sexual harassment added to the model predicting trauma, body image, and depression/anxiety. Offline sexual harassment was entered into step 3 to see if cyber-sexual harassment would continue to add unique variance to the model. The order that these variables were entered was based on existing guidance for conducting a hierarchical regression analysis (Pallant, 2010). The regression analysis then compared the models generated from each of the steps to determine if cyber-sexual harassment predicted each psychological variable over and above demographic variables. If the model with offline sexual harassment was significant when

entered into the model, this would indicate that offline sexual harassment was an important factor to explaining variance in trauma, body image, or depression/anxiety over and above the effect of cyber-sexual harassment. Thus, this would suggest that offline sexual harassment (which is correlated with cyber-sexual harassment) should be prioritized in mental health interventions along with cyber-sexual harassment. Additionally, if cyber-sexual harassment's unique predictive power was reduced upon entering offline harassment, then this would indicate that offline harassment took significant variance away from cyber-sexual harassment.

Anxiety and Depression

The step including the covariates explained 18.4% of the variance in anxiety and depression. Table 3 reports the individual beta coefficients and standard errors for each of the predictors. The addition of cyber-sexual harassment in step two accounted for a significant increase of 4% in the variance for the model explaining anxiety/depression, $\Delta R^2 = .038$, $F(1, 128) = 6.314$, $p = 0.013$. When offline sexual harassment was added to the model, it was not significant, $\Delta R^2 = .002$, $F(1, 127) = 0.379$, $p = 0.539$. This means that cyber-sexual harassment was a significant predictor and offline harassment did not add to our understanding of anxiety/depression over and above cyber-sexual harassment. Although cyber-sexual harassment's beta dropped to non-significance in the final model, the effect was still trending to significance ($p = .07$).

Body Image

The step including the covariates explained 12.8% of the variance in body image. Table 4 reports the individual beta coefficients and standard errors for each of the predictors. The addition of cyber-sexual harassment in step two accounted for an increase of 3.8 % in the variance for the model explaining body image. The change in R^2 was significant, $\Delta R^2 = .038$, $F(1, 128) = 5.81$, $p = 0.017$. When in-person sexual harassment was included in the model, it

became a significant predictor of body image, $\Delta R^2 = .030$, $F(1, 127) = 4.82$, $p = 0.03$. However, at step 3 cyber-sexual harassment was no longer a statistically significant predictor of body-image dissatisfaction. This indicates that in-person sexual harassment is more important than cyber-sexual harassment in explaining body image dissatisfaction.

Trauma

The step including the covariates explained 32.2% of the variance in trauma. Table 5 reports the individual beta coefficients and standard errors for each of the predictors. Adding cyber-sexual harassment in step two resulted in a 3.4% increase in variance, $\Delta R^2 = .034$, $F(1, 128) = 6.69$, $p = 0.011$. In step three, when in-person sexual harassment was included in the model, cyber-sexual harassment ceased to be a significant predictor of trauma and the change in R^2 was not statistically significant, $\Delta R^2 = .015$, $F(1, 127) = 3.10$, $p = 0.081$. This indicates that the contribution of in-person sexual harassment did not significantly account for additional variance in trauma. In the final model, cyber-sexual harassment ceased to be a significant predictor of trauma. Thus, as with anxiety/depression, cyber-sexual harassment adds significant variance to the understanding of trauma when including covariates, but in competition with in-person sexual harassment, it becomes nonsignificant, possibly due to their covariance.

Table 3: Summary of hierarchical multiple regression model predicting anxiety/depression

Predictor Variables	beta	SE B	Lower CI	Upper CI	β	P
Intercept	2.59	.24	2.12	3.07		< .001***
Social media followers	-0.02	.03	-.08	.05	-.04	.62
Education level	-0.09	.03	-.16	-.02	-.22	.009**
Length of current relationship	9e-5	6.6e-4	-.001	.001	.01	.89
Age	-.01	.01	-.02	6.6e-4	-0.167	0.06
How often you check social media	.09	.06	-.04	.20	.11	.17
General online victimization	.17	0.06	0.06	0.28	0.26	.003**
Step 2						
Intercept	2.16	.29	1.58	2.73		< .001***
Social media followers	-.04	0.04	-.11	.03	-0.11	.223
Education level	-.05	0.04	-.12	.02	-0.12	.177
Length of current relationship	5.75e-4	6.78e-4	-7.66e-4	.002	.08	.398
Age	-.01	.006	-.023	.001	-.16	.079
How often you check social media	.06	.06	-.06	.18	.08	.318
General online victimization	0.116	.059	-.002	.233	.174	.053
Cyber-sexual harassment	.24	.09	.05	.42	.27	.013*
step 3						
Intercept	2.12	.30	1.52	2.71		< .001***
Social media followers	-.04	0.03	-.11	.03	-.11	.216
Education level	-0.05	.04	-.12	.02	-.12	.170
Length of current relationship	6.29e-4	6.85e-4	-7.270e-4	.002	.08	.361
Age	-.01	.01	-.02	0.001	-.16	.080
How often you check social media	.05	0.06	-.07	0.17	0.07	.403
General online victimization	.11	.06	-.003	.232	.17	.056
Cyber-sexual harassment	.20	.11	-.01	.42	.23	.067
In-person sexual harassment	.06	.10	-.14	.27	.07	.539

Note. * $p < .05$, ** $p < .01$, *** $p < .001$; Step 1: $R^2 = .184$, $F(6, 127) = 4.84$, $p < .001$; Step 2: $R^2 = .222$, $F(7, 128) = 5.22$, $p < .001$; step 3: $R^2 = .225$, $F(8, 129) = 4.60$, $p < .001$

Table 4: Summary of hierarchical multiple regression model predicting for body image

Predictor Variables	beta	SE B	Lower CI	Upper CI	β	P
Intercept	3.18	.35	2.50	3.87		< .001
Social media followers	.02	.05	-.08	.12	.03	.709
Education level	.12	.05	.02	.21	.20	.019
Length of current relationship	-.002	9.63e-4	-.004	1.31e-4	-.17	.068
Age	-.004	.009	-.02	.01	-.05	.620
How often you check social media	-.09	.09	-.27	.08	-.09	.267
General online victimization	-0.229	0.081	-.39	-.68	-.24	.006**
Step 2						
Intercept	3.78	.43	2.94	4.62		< .001***
Social media followers	.05	.05	-.05	.16	.09	.290
Education level	.06	.05	-.04	.17	.10	.255
Length of current relationship	-0.002	9.88e-4	-.004	-4.87e-4	-.23	.015
Age	-.006	.009	-.023	.012	-.057	.527
How often you check social media	-.06	.008	-.24	0.11	-.06	.461
General online victimization	-.15	.09	-.32	.020	-.16	.082
Cyber-sexual harassment	-.32	.14	-.59	-.05	-.27	.020*
step 3						
Intercept	3.99	.43	3.14	4.84		< .001***
Social media followers	.06	.05	-.04	.16	.10	.250
Education level	.07	.05	-.04	.17	.11	.210
Length of current relationship	-.003	9.8e-4	-.005	-7.77e-4	-.26	.006*
Age	-.006	.009	-.02	.01	-.06	.521
How often you check social media	-.02	.09	-.20	0.15	-.02	.813
General online victimization	-.15	.09	-.31	.02	-.16	.090
Cyber-sexual harassment	-.15	.16	-.45	.16	-.12	.352
In-person sexual harassment	-.33	.15	-.62	-.04	-.25	.027*

Note. * $p < .05$, ** $p < .01$, *** $p < .001$ Step 1: $R^2 = .128$, $F(6, 129) = 3.15$, $p < .01$; Step 2: $R^2 = .166$, $F(7, 128) = 3.63$, $p < .001$; step 3: $R^2 = .196$, $F(8, 127) = 3.88$, $p < .001$

Table 5: Summary of hierarchical multiple regression model predicting Trauma

Predictor Variables	beta	SE B	Lower CI	Upper CI	β	P
Intercept	3.58	.42	2.74	4.41		< .001***
Social media followers	-.027	.06	-.14	.09	-.03	.658
Education level	-.22	.06	-.34	-.11	-.28	< .001***
Length of current relationship	-9.81e-4	.001	-.003	.001	-.067	.403
Age	-.03	.01	-.05	-.01	-.24	.004**
How often you check social media	.22	.11	.011	.43	.15	.039
General online victimization	.37	.09	.17	.56	.29	< .001***
Step 2						
Intercept	2.79	.51	1.77	3.80		< .001
Social media followers	-.07	.06	-.19	.05	-.09	.233
Education level	-.151	.06	-.28	-.03	-.19	.019*
Length of current relationship	-1.02e-4	.001	.002	.002	-.007	0.932
Age	-.03	.011	-.051	-.009	-.228	.005**
How often you check social media	.18	.11	-.03	.39	.12	.094
General online victimization	.27	.10	.06	.47	.21	.012*
Cyber-sexual harassment	.43	.17	.10	.75	.26	.011*
step 3						
Intercept	2.59	.52	1.55	3.62		< .001***
Social media followers	-.08	.06	-.20	.04	-.01	.208
Education level	-.156	.06	-.28	-.03	-.20	.015*
Length of current relationship	1.62e-4	.001	-.002	.003	.011	.892
Age	-.030	.011	-.051	-.010	-.23	.005**
How often you check social media	.14	.11	-.07	.35	.09	.207
General online victimization	.26	.10	.06	.46	.20	.013*
Cyber-sexual harassment	.26	.19	-.12	.63	.16	.180
In-person sexual harassment	.31	.18	-.04	.67	.17	.081

Note. * $p < .05$, ** $p < .01$, *** $p < .001$. Step 1: $R^2 = .322$, $F(6, 129) = 10.2$, $p < .001$; Step 2: $R^2 = .355$, $F(7, 128) = 10.08$, $p < .001$; step 3: $R^2 = .371$, $F(8, 127) = 9.35$, $p < .0$

Discussion

At present, very little is known about the psychological impact of cyber-sexual harassment on women. Even less is known about the relationship between in-person and cyber sexual harassment. However, the overall study findings were consistent with existing literature (Cripps & Stermac, 2018; Drebing, Bailer, Anders, Wagner, & Gallas, 2014). Women that reported cyber-sexual harassment, reported higher levels of trauma, anxiety and body image dissatisfaction than those that did not. Women that reported experiencing cyber-sexual harassment also had more in-person sexual harassment experiences, perhaps reflecting the pervasive nature of cyber-sexual harassment.

The correlational analysis helped to better understand how demographic variables may influence the way cyber-sexual harassment is understood. In contemporary society, the access, affordability and anonymity of the internet has contributed to changing societal trends (Rosenfield & Thomas, 2012). Within younger populations, social media and dating sites do not have the same stigma attached to it, as with previous generations (Rosenfield & Thomas, 2012). A person's online social presence can often be a marker of their social popularity and influence, reflected by the number of followers they have (Drenten, Gurrieri, & Tyler, 2019). Within this sample, this was supported as younger people tended to have more social media followers. However, existing research shows that women with larger social media followings are often subjected to greater levels of objectification and sexually aggressive comments (Drenten, Gurrieri, & Tyler, 2019; Megarry, 2014).

The results also showed that cyber-sexual harassment consistently explained 3-4% of the variance in psychological distress, over and above demographics. However, there was little evidence to suggest that cyber-sexual harassment predicts trauma, depression, anxiety or body esteem over and above offline sexual harassment. The findings of the regression analyses

largely showed that the relationship between cyber sexual harassment and anxiety/depression, trauma and body image dissatisfaction became statistically non-significant when in-person sexual harassment was added to the model. The high correlation observed between offline sexual harassment and cyber-sexual harassment could potentially explain this. Individuals who experience cyber-sexual harassment may also experience in-person acts of sexual harassment. Therefore, sexual harassment may be multi-faceted and involve a combination of individuals being harassed both online and in person.

Although cyber-sexual harassment ceased to be a significant predictor for trauma, anxiety/depression and body image once in-person sexual harassment was added to the model, in-person sexual harassment experiences was a statistically significant predictor of body image dissatisfaction when added to the model. One explanation for this could be related to culture. Within western culture, the persistent objectification of the female body can lead to women perceiving their bodies in terms of their outward appearance; as opposed to having a more internal, subjective experience of their body (Lindberg, Grabe, & Hyde, 2007). In-person sexual harassment experiences may therefore serve to reinforce negative views people hold about their own body. Such experiences may also strengthen the belief that other people see their body in the same way. This differs from the experience of trauma or anxiety/depression, where the individual's cognitions are deeply personal and hidden (Abo-Zena, 2017). Therefore, although the experience of cyber-sexual harassment and in-person sexual harassment are highly correlated, the way they impact on a person's body image may operate along different psychological pathways.

Interestingly, general experiences of online victimization were significantly associated with trauma in step 3 of the model in addition to age, with younger participants also reporting higher levels of trauma. This may indicate that in younger populations, non-sexual negative online

experiences can be experienced as traumatic. Younger populations may be more impacted by negative online communications due to their greater usage of social media platforms, the importance of online social networks and the frequency by which they are exposed to negative online comments (Ybarra & Mitchell, 2004).

Limitations

The current study contributed to a growing corpus of literature concerning cyber-sexual harassment and its psychological impact. However, the cross-sectional nature of the study means it is not able to determine causality, and as the study relies on a self-report, there is the possibility of recall bias. This means that individuals that experienced acts of cyber-sexual harassment who are anxious/depressed, may find it easier to recall these instances in comparison to a person who is not experiencing the same psychological difficulties (Sanz, 1996). Additionally, the study did not ask participants questions related to the severity of the cyber harassment experienced. The omission of this makes it difficult to ascertain the fear generated by specific experiences of cyber-sexual harassment. This makes it more challenging to identify whether there are specific experiences that are more strongly correlated with the psychological distress associated with cyber-sexual harassment (Drebing, Bailer, Anders, Wagner, & Gallas, 2014).

A further limitation of this study was that the sample of participants was largely white and heterosexual. Previous research has indicated that individuals from LGBT communities and minority ethnic groups may be more likely to experience online victimization (Lenhart, Ybarra, Zickuhr, & Price-Feeney, 2016). Furthermore, women who embody a marginalized identity may experience a wide variety of cyber-negative acts that reflect their overlapping identities (Lenhart, Ybarra, Zickuhr, & Price-Feeney, 2016). The generalisability of the study findings could have been improved if it contained a more diverse sample.

Despite these limitations, a strength of the study was that it explored offline sexual harassment, in addition to cyber-sexual harassment. This enabled for a more complete understanding of sexual harassment to emerge. Although there was a high level of collinearity between offline and online cyber-sexual harassment, the hierarchical regression models allowed for the observation of the incremental changes in variance when cyber sexual harassment and offline sexual harassment were added to the model.

Clinical Implications and Future research

The findings of this study has significant clinical implications. As the world becomes increasingly digital, many interactions will take place over an online format or will supplement in-person contacts. Whilst the current findings showed that cyber-sexual harassment ceased to be a significant predictor when in-person sexual harassment was entered into the model, individuals that experienced cyber-sexual harassment tend to report higher levels of trauma, body image dissatisfaction and anxiety/depression. The findings highlighted the negative impact that cyber-sexual harassment can have, particularly on young women and individuals that may be experiencing other forms of harassment. As social media is becoming increasingly important in how people connect with others, technological communication may have a significant impact on the quality of people's relationships (Deady, et al., 2017). Therefore, individuals accessing mental health services should be routinely asked about their online interactions and whether this is a source of distress for them. In situations where individuals report having difficulties with their body image, clinicians may want to specifically ask individuals about more general experiences of cybervictimization (e.g. when online, do people say mean things about the way you look?). Clinicians may also want to ask participants about the different social media sites clients used and the type of material they see whilst online. This can help to identify whether clients are being exposed to online materials that increase their

level of distress or contributes to negative perceptions they may have of themselves (e.g. body dissatisfaction). Through asking individuals about their online use, the negative impact which online interactions may have could be explored and validated in a safe setting.

Cyber-sexual harassment research is still in its infancy and future research should seek to measure cyber forms of harassment using criteria to examine its persistence, consistency and emotional impact. This will help to improve the specificity of interventions when working with those that experience cybervictimization. More specifically, future research should aim to conduct longitudinal studies that ask individuals to report their online cyber-sexual harassment experiences, in addition to other forms of victimization that occur online and in-person, in addition to questionnaires that measure an individual's psychological well-being. Participants should also be asked to complete follow-up measures to help examine the short and long-term effects of cyber-sexual harassment. Future research that aims to explore cyber-sexual victimization should also ask participants about the platforms through which they have such experiences, as previous research has shown that the medium cybervictimization is experienced through, impacts on the severity of the distress experienced (Peled, 2019). Future research could explore whether the intrusiveness of specific technological mediums affect psychological well-being.

Conclusion

Cyber-sexual harassment can disrupt the normal interactions people have in their everyday lives. The trauma and shame that accompany severe cyber-sexual harassment experiences (Cripps & Stermac, 2018; Selkie, Kota, Chan, & Moreno, 2015), may cause women to avoid digital spaces (Megarry, 2014). This can potentially limit the opportunity for women to develop meaningful relationships and can also inhibit their financial opportunities (Citron, 2009). Based on these findings, the present study highlights the need to understand the nuances of cyber-

sexual harassment that make it a unique form of victimization. This will enable a contextual understanding of how different forms of cyber victimization impact on the individual.

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Appendices

- Appendix A: Copy of ethical approval
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- Appendix D: Participant consent form
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- Appendix F: Body esteem scale
- Appendix G: Hospital, anxiety and depression scale
- Appendix H: The sexual experiences Questionnaire
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- Appendix J: The General Cybervictimization scale

Appendix A: Copy of ethical approval



Central University Research Ethics Committee for Physical Interventions

8 April 2019

Dear Dr O'Brien

I am pleased to inform you that your application for research ethics approval has been approved. Application details and conditions of approval can be found below. Appendix A contains a list of documents approved by the Committee.

Application Details

Reference: 4413
Project Title: Investigating Cyber-sexual harassment in female University Students
Principal Investigator/Supervisor: Dr Freya O'Brien
Co-Investigator(s): Mr Marvin Iroegbu, Dr Luna Centifanti
Lead Student Investigator: -
Department: School of Psychology
Approval Date: 08/04/2019
Approval Expiry Date: Five years from the approval date listed above

The application was **APPROVED** subject to the following conditions:

Conditions of approval

- All serious adverse events must be reported to the Committee (ethics@liverpool.ac.uk) in accordance with the procedure for reporting adverse events.
- If you wish to extend the duration of the study beyond the research ethics approval expiry date listed above, a new application should be submitted.
- If you wish to make an amendment to the study, please create and submit an amendment form using the research ethics system.
- If the named Principal Investigator or Supervisor leaves the employment of the University during the course of this approval, the approval will lapse. Therefore it will be necessary to create and submit an amendment form within the research ethics system.
- It is the responsibility of the Principal Investigator/Supervisor to inform all the investigators of the terms of the approval.

Kind regards,

Central University Research Ethics Committee for Physical Interventions

ethics@liverpool.ac.uk

0151-795-8355



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Appendix C: Consent form



Participant consent form

Version number & date: Version 3, 28/2/2019

Research ethics approval number:

Title of the research project: Investigating the Psychological Impact of Cyber-Sexual Harassment

Name of researcher(s): Marvin Iroegbu & Freya O'Brien

Please initial box

1. I confirm that I have read and have understood the information sheet dated **28.2.2019** for the above study, or it has been read to me. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.
2. I understand that taking part in the study involves completing online questionnaires about my mood, body image and online sexual harassment behaviours that I may or may not have experienced.
3. I understand that my participation is voluntary and that I am free to stop taking part and can withdraw from the study at any time without giving any reason and without my rights being affected. In addition, I understand that I am free to decline to answer any particular question or questions. If I choose to withdraw from the study after the study has begun, I understand that my responses up until the point of withdrawal will be used. As the data has been anonymised, I also understand that my responses cannot be withdrawn once the fully completed survey has been submitted.
4. I understand that I can request for the destruction of information if I wish at any time prior to anonymization. I understand that following anonymization, I will no longer be able to request access to or withdrawal of the information I provide.
5. I understand that the information I provide will be held securely and in line with data protection requirements at the University of Liverpool until it is fully anonymized and then deposited in the secure archive for sharing and use by other authorised researchers to support other research in the future.
6. I understand that signed consent forms and questionnaires will be retained in University of Liverpool's school of psychology and stored in the secure M-drive in line with the University of Liverpool's policy. Only the supervisor (Dr Freya O'Brien) and student investigator (Marvin Iroegbu) will have access to the data. The data collected may be used in relevant future research but will be deleted from the M-Drive after 10 years.
7. I agree to take part in the above study.

Appendix D: Participant information sheet



Version 5
21.12.2019

Investigating the experiences of Online Cyber-Sexual Harassment

You are being invited to participate in a research study. Before you decide whether to participate, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and feel free to ask us if you would like more information or if there is anything that you do not understand. Please also feel free to discuss this with your friends or relatives if you wish. We would like to stress that you do not have to accept this invitation and should only agree to take part if you want to.

Thank you for reading this.

1. What is the purpose of the study?

The purpose of this study is to explore the experiences of women that have experienced cyber-sexual harassment. Participants will be asked to complete questionnaires exploring their experiences and their mood. Some of these questions do use explicit sexual language. Due to the sensitive nature of the study, if you think this could be potentially too distressing for you, you do not need to participate.

2. Why have I been chosen to take part?

You have been asked to take part in this experiment because you fulfil the participant requirements of the study (female adult aged over 18 and fluent in English).

3. Do I have to take part? Participation in this study is voluntary and you can withdraw at any time without explanation or incurring a disadvantage. This study asks questions around online sexual harassment which may upset and distress people who have had such experiences. If you decide to participate and feel uncomfortable or distressed at any time during the study, please do not hesitate to withdraw and to contact the Student Investigator(s) or Supervisor if you wish.

4. What will happen if I take part?

This study is carried out by a trainee clinical Psychologist (supervised by Dr Freya O'Brien) as part of their thesis project (Student Investigator is named at the bottom of this form). They will be carrying out the following test.

If you choose to take part, you will be asked to complete a number of online questionnaires related to experience of cyber-sexual harassment, mood and your body image. The study also

asks questions about your use of social media and some personal demographic information. Please note, you do not have to answer any questions you do not want to. The study will take no longer than 25 minutes to complete.

5. How will my data be used?

All data will be collected via a computer programme called Qualtrics and will be transferred to desktop PCs in the School of Psychology and stored on the secure M-Drive (in line with the University of Liverpool policy). Therefore, the data will be kept secure and each computer file will be coded only with a participant number so that the data is confidential and anonymous. Only the Supervisor (Dr Freya O'Brien) and Student Investigator (Marvin Iroegbu) will have access to the data. The data collected may be used in relevant future research but will be deleted from the M-Drive after 10 years.

If you gave consent to share your email address for a link to the study to be provided, the email address would not be in any way attached to the responses given in the questionnaire. The email addresses will be saved and stored in a separate database on the M-drive on University of Liverpool computers. This data will not be shared and will not be capable of being reused as it relates to personal identifiable data. This database will be held for ten years before being deleted in line with the data handling procedures.

The Supervisor acts as the Data Processor for this study, and any queries relating to the handling of your personal data can be sent to Supervisor Freya O'Brien (flobrien@liv.ac.uk)

Further information on how your data will be used can be found in the table below.

How will my data be collected?	Through a series of online questionnaire
How will my data be stored?	On a secure, Password protected file on a secure University of Liverpool computer.
How long will my data be stored for?	Data will be held for 10 years.
What measures are in place to protect the security and confidentiality of my data?	The following steps have been taken to protect the security and Confidentiality of your data: <ul style="list-style-type: none"> • To ensure data remains secure • To use anonymised data whenever possible • To make clear why and how the data is being used. • To respect your decision if you decide to opt out
Will my data be anonymised?	All data will be anonymised.
How will my data be used?	Your data will be used to identify your experiences of cyber-sexual harassment. The results from the data will be presented in

	the doctoral thesis of the student researcher and potentially in an academic journal.
Who will have access to my data?	Only the Student Investigator and the Supervisor can access the data.
Will my data be archived for use in other projects in the future?	This data will be archived and stored and may be used for research in the future. The data collected will be analysed and disseminated through publication of the doctoral thesis of the student researcher and potentially in an academic journal.
When will my data be destroyed?	All data electronic files will be deleted after 10 years.

6. Are there any risks in taking part?

The study involves of a series of questions based on potential online sexual harassments behaviours you may have encountered in the last twelve months, the study also asks questions relating to general online victimization experiences. These topics may be sensitive for you. If this is the case, please feel free to withdraw from the study at any time. Although it is not predicted that adverse effects will occur at any stage, if you should experience any distress or disadvantage as part of this research, please make this clear to the Student Investigator immediately. If you need further support, please contact any of the support services listed
Rape Crisis Helpline (0808 802 999)
Bullying UK, Part of Family lives (0808 800 2222)
Victim support (0808 168 9111)
Merseyside and Chester Rape and Sexual abuse centre (0330 363 0063)

Individuals that attend the University of Liverpool are also able to contact the University counselling service (counserv@liverpool.ac.uk).

7. Are there any benefits in taking part?

Although you may not receive any individual benefit, contributing to this research could help to better understand the psychological impact of cyber sexual harassment.

8. What will happen to the results of the study?

Once the study has been completed and you wish to see the results, please contact one of the Student Investigator or Supervisor. It is hoped that the results of this study will be published in a scientific journal, so if you would like to be notified of when it is accessible, please contact us. The results will also be presented in the doctoral thesis of the student and a potential publication in an academic journal. You will not be identifiable from the results presented in the publication.

9. What will happen if I want to stop taking part?

Participation is entirely voluntary and you may withdraw at any time without having to give a reason and without detriment to you. If you withdraw from the study after the study has begun, we will use the results up until the withdrawal. As data is anonymised it cannot be withdrawn once the fully completed survey has been submitted.

10. What if I am unhappy or if there is a problem?

If you are unhappy, or if there is a problem, please feel free to let us know by contacting Dr Freya O'Brien (f.obrien@liv.ac.uk or 0151 794 1408) and she will try to help. If you remain unhappy or have a complaint which you feel you cannot come to us with then you should contact the Research Integrity and Governance Officer (0151 794 8290 or at ethics@liverpool.ac.uk). When contacting the Research Integrity and Governance Officer, please provide details of the name or description of the study (so that it can be identified), the researcher(s) involved, and the details of the complaint you wish to make.

The University strives to maintain the highest standards of rigour in the processing of your data. However, if you have any concerns about the way in which the University processes your personal data, it is important that you are aware of your right to lodge a complaint with the Information Commissioner's Office by calling 0303 123 1113.

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Under UK data protection legislation, the University acts as the Data Controller for personal data collected as part of the University's research. The Supervisor acts as the Data Processor for this study, and any queries relating to the handling of your personal data can be sent to Dr Freya O'Brien (contact details below).

11. Who can I contact if I have further questions?

If you have any questions regarding this information, or regarding this research in general, please do not hesitate to contact the Principal Investigator (Supervisor) or Student Investigator:

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Appendix E: PTSD checklist

Instruction to patient: Below is a list of problems and complaints that veterans sometimes have in response to stressful life 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 last month*.

No.	Response	Not at all (1)	A little bit (2)	Moderately (3)	Quite a bit (4)	Extremely (5)
1.	Repeated, disturbing <i>memories, thoughts, or images</i> of a stressful experience from the past?					
2.	Repeated, disturbing <i>dreams</i> of a stressful experience from the past?					
3.	Suddenly <i>acting or feeling</i> as if a stressful experience <i>were happening again</i> (as if you were reliving it)?					
4.	Feeling <i>very upset</i> when <i>something reminded</i> you of a stressful experience from the past?					
5.	Having <i>physical reactions</i> (e.g., heart pounding, trouble breathing, or sweating) when <i>something reminded</i> you of a stressful experience from the past?					
6.	Avoid <i>thinking about or talking about</i> a stressful experience from the past or avoid <i>having feelings</i> related to it?					
7.	Avoid <i>activities or situations</i> because they <i>remind you</i> of a stressful experience from the past?					
8.	Trouble <i>remembering important parts</i> of a stressful experience from the past?					
9.	Loss of <i>interest in things that you used to enjoy</i> ?					
10.	Feeling <i>distant or cut off</i> from other people?					
11.	Feeling <i>emotionally numb</i> or being unable to have loving feelings for those close to you?					
12.	Feeling as if your <i>future</i> will somehow be <i>cut short</i> ?					
13.	Trouble <i>falling or staying asleep</i> ?					
14.	Feeling <i>irritable</i> or having <i>angry outbursts</i> ?					
15.	Having <i>difficulty concentrating</i> ?					
16.	Being <i>"super alert"</i> or watchful on guard?					
17.	Feeling <i>jumpy</i> or easily startled?					

PCL-M for DSM-IV (11/1/94) Weathers, Litz, Huska, & Keane National Center for PTSD - Behavioral Science Division

This is a Government document in the public domain.

Appendix F: Body esteem scale

The Body-Esteem Scale (Franzoi & Shields, 1984)

Instructions: On this page are listed a number of body parts and functions. Please read each item and indicate how you feel about this part or function of your own body using the following scale:

- 1 = Have strong negative feelings
- 2 = Have moderate negative feelings
- 3 = Have no feeling one way or the other
- 4 = Have moderate positive feelings
- 5 = Have strong positive feelings

			Factor Loading (see below)	
			Male	Female
1.	body scent	_____		SA
2.	appetite	_____	PC	WC
3.	nose	_____	PA	SA
4.	physical stamina	_____	PC	PC
5.	reflexes	_____	PC	PC
6.	lips	_____	PA	SA
7.	muscular strength	_____	UBS	PC
8.	waist	_____	PC	WC
9.	energy level	_____	PC	PC
10.	thighs	_____	PC	WC
11.	ears	_____	PA	SA
12.	biceps	_____	UBS	PC
13.	chin	_____	PA	SA
14.	body build	_____	UBS	WC
15.	physical coordination	_____	UBS, PC	PC
16.	buttocks	_____	PA	WC
17.	agility	_____	PC	PC
18.	width of shoulders	_____	UBS	
19.	arms	_____	UBS	
20.	chest or breasts	_____	UBS	SA
21.	appearance of eyes	_____	PA	SA
22.	cheeks/cheekbones	_____	PA	SA
23.	hips	_____	PA	WC
24.	legs	_____		WC
25.	figure or physique	_____	UBS, PC	WC
26.	sex drive	_____	UBS	SA
27.	feet	_____	PA	
28.	sex organs	_____	PA	SA
29.	appearance of stomach	_____	PC	WC

30.	health	_____	PC	PC
31.	sex activities	_____		SA
32.	body hair	_____		SA
33.	physical condition	_____	PC	PC
34.	face	_____	PA	SA
35.	weight	_____	PC	WC

A factor analysis indicated that three factors emerged for males and females. These factors are (1) Physical Attractiveness (PA) for males or Sexual Attractiveness (SA) for females, (2) Upper Body Strength (UBS) for males or Weight Concern (WC) for females and (3) Physical Condition (PC) for both males and females. Means for these three factors can be computed for males and females but please note that these means cannot be compared because they are not based on the same items. Also note that two items load on two factors for males. The information under the Factor Loading heading should be deleted before the test is given - the information is provided for experimenters who wish to analyse the three factors separately.

To determine a subject's score for a particular subscale of the Body Esteem Scale, simply add up the individual scores for items on the subscale. For example, for female sexual attractiveness, you would add up the subject's ratings of the items comprising the sexual attractiveness subscale (13 items).

References

- Franzoi, S.L. (1994). Further evidence of the reliability and validity of the body esteem scale. *Journal of Clinical Psychology, 50*, 237-239.
- Franzoi, S.L. & Shields, S.A. (1984). The Body-Esteem Scale: Multidimensional structure and sex differences in a college population. *Journal of Personality Assessment, 48*, 173-178.

Appendix G: Hospital, anxiety and depression scale

Hospital Anxiety and Depression Scale (HADS)

Tick the box beside the reply that is closest to how you have been feeling in the past week.
Don't take too long over you replies: your immediate is best.

D	A		D	A	
		I feel tense or 'wound up':			I feel as if I am slowed down:
	3	Most of the time	3		Nearly all the time
	2	A lot of the time	2		Very often
	1	From time to time, occasionally	1		Sometimes
	0	Not at all	0		Not at all
		I still enjoy the things I used to enjoy:			I get a sort of frightened feeling like 'butterflies' in the stomach:
	0	Definitely as much	0		Not at all
	1	Not quite so much	1		Occasionally
	2	Only a little	2		Quite Often
	3	Hardly at all	3		Very Often
		I get a sort of frightened feeling as if something awful is about to happen:			I have lost interest in my appearance:
	3	Very definitely and quite badly	3		Definitely
	2	Yes, but not too badly	2		I don't take as much care as I should
	1	A little, but it doesn't worry me	1		I may not take quite as much care
	0	Not at all	0		I take just as much care as ever
		I can laugh and see the funny side of things:			I feel restless as I have to be on the move:
	0	As much as I always could	3		Very much indeed
	1	Not quite so much now	2		Quite a lot
	2	Definitely not so much now	1		Not very much
	3	Not at all	0		Not at all
		Worrying thoughts go through my mind:			I look forward with enjoyment to things:
	3	A great deal of the time	0		As much as I ever did
	2	A lot of the time	1		Rather less than I used to
	1	From time to time, but not too often	2		Definitely less than I used to
	0	Only occasionally	3		Hardly at all
		I feel cheerful:			I get sudden feelings of panic:
	3	Not at all	3		Very often indeed
	2	Not often	2		Quite often
	1	Sometimes	1		Not very often
	0	Most of the time	0		Not at all
		I can sit at ease and feel relaxed:			I can enjoy a good book or radio or TV program:
	0	Definitely	0		Often
	1	Usually	1		Sometimes
	2	Not Often	2		Not often
	3	Not at all	3		Very seldom

Please check you have answered all the questions

Scoring:

Total score: Depression (D) _____ Anxiety (A) _____

0-7 = Normal

8-10 = Borderline abnormal (borderline case)

11-21 = Abnormal (case)

Appendix H: The sexual Experiences Questionnaire

The sexual Experiences Questionnaire

In the past 12 months have you ever been in a situation where someone has....			
1. Told Suggestive stories	Never	Once	More than once
2. Made unwanted attempts to draw you into a discussion of personal or sexual matters.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Made crude/offensive remarks, either publicly or in private.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Treated you "differently" because of your sex	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Gave you unwanted attention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Displayed, used or distributed sexist or suggestive materials	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Made sexist remarks about your gender	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Attempt to establish a romantic relationship with you, despite you efforts to discourage them.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Put you down or was condescending to you because of your sex	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Continued to ask you for dates etc even though you said no.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Made you feel like you were being subtly bribed with some sort of special treatment to engage in sexual behaviour.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Made you feel subtly threatened with some sort of retaliation for not being sexually cooperative	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Touched you in a way that made you feel uncomfortable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Made unwanted attempts to stroke or fondle you	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Made unwanted attempts to have sex with you that resulted in your protesting or physically struggling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Implied better treatment if you were sexually cooperative	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Made it necessary for you to respond to sexual or social invitations in order to be well treated	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Made you afraid you would be poorly treated if you did not cooperate sexually	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Treated you badly for refusing to have sex	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Sexually harassed you	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Appendix I: The cyber sexual experiences questionnaire

YOUR INTERNET EXPERIENCES

The following questions ask about your experiences on the Internet. Some of the questions may seem very personal. We ask them because people are not always treated with respect on the Internet. Cyber sexual harassment can take various forms and in order to understand what is happening on the Internet, we have asked some very frank questions. It is important for you to take your time and to answer as honestly as possible. Remember that you can skip any questions that you do not want to answer and that YOUR ANSWERS ARE COMPLETELY CONFIDENTIAL.

In your experiences on the Internet DURING THE PAST 12 MONTHS, has anyone...

	Never	Once	More than once
1...tried to get you to talk about personal or sexual things? Usa			
2. ...said crude or gross sexual things to you? usa			
3. ...tried to have a romantic or sexual relationship even though you let him know you didn't want to? usa			
4. ...kept asking you to meet or go on a date even after you said "no"? usa			
5. ...sent you an offensive "dirty" video or picture/image that made you feel uncomfortable? usa			
6. ...left a sexual comment or posted a picture of you? usa			
7. ...tried to get you to watch him masturbate on a webcam? usa			
8. ...tried to get you to have cyber-sex over instant messenger? usa			
9. ...threaten to break into your computer and cause damage if you did not conduct the sexual act requested (for example describing giving the person oral sex)? sc			
10. ...sent frightening e-mails, viruses, flooded e-mail inbox to get you to perform sexual acts (for example cyber-sex)? sc			
11. ...bribed you to conduct sexual acts (for example offering to send you money if you send him/her sexual pictures)? sc			
12. Threatened to upload intimate pictures or videos of you? sc			
13. Threatened to harm you physically if you did not perform a sexual act online? sc			
14. Threatened to share personal details if you did not perform a requested sexual act? sc			

Note: USA=unwanted sexual attention, SC= Sexual coercion

Appendix J: The General Online Victimization Scale

General Online Victimization Scale

Please answer the following statements using the response that corresponds best with your experiences

Scoring

- 1 Never
- 2 Less than a few times a year
- 3 A few times per year
- 4 Once or twice a month
- 5 once or twice per week
- 6 Every day

General Online Victimization

People have said negative things (like rumours or name calling) about how I look act or dress online

People have said mean or rude things about the way that I talk (write) online

People have posted mean or rude things over the internet?

I have been harassed or bothered online for no apparent reason?

I have been harassed or bothered because of something that happened at work or school?

I have been embarrassed or humiliated online?

I have been bullied online?

I was threatened online because of the way I look, act or dress