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The Measurement and Impact of Workplace Cyberbullying

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Abstract

This thesis investigates workplace cyberbullying, defined as a situation where over time, an individual is repeatedly subjected to perceived negative acts conducted through technology (for example, phone, email, web sites, social media) which are related to their work context. In this situation the target of workplace cyberbullying has difficulty defending him or herself against these actions. The thesis has two broad aims: (1) to develop a workplace cyberbullying measurement scale; and (2) to investigate the impact of workplace cyberbullying on employees. Workplace cyberbullying is conceptualised in this thesis by drawing on the traditional workplace bullying and cyberbullying literature. A rationale is presented for investigating it as a distinct form of workplace bullying and four separate studies address the development of the workplace cyberbullying measure (WCM).

The first study generated measurement items by asking employees to describe cyberbullying behaviours. The behaviours were sorted into categories using content analysis and converted into measurement items. In the second study, the relative severity of each item was assessed so that the measure could be weighted according to severity. In the third study, the 34 item WCM was completed by a sample of 424 employees. A two factor structure (comprising work-related cyberbullying and person-related cyberbullying) was compared to a unidimensional factor structure and the measure was refined into a 17 item instrument. During the fourth study the nomological network of the WCM was constructed and further reliability and validity evidence was obtained.

The fifth and final study then used the WCM to investigate the impact of workplace cyberbullying within a theoretical framework. The theoretical and practical contributions of the studies are discussed along with directions for future research.

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List of Abbreviations

AVE	Average Variance Extracted
BPS	British Psychological Society
BRAT	Bullying Risk Assessment Tool
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CIT	Critical Incident Technique
CMC	Computer-Mediated Communication
CMV	Common Method Variance
DWLS	Diagonally Weighted Least Squares
EFA	Exploratory Factor Analysis
FIML	Full Information Maximum Likelihood Estimation
HR	Human Resources
HRP	Human Resources Professional
ICT	Information and Communication Technology
IPA	Interpretative Phenomological Analysis
KMO	Kaiser-Meyer-Olkin
LC	Latent Class Cluster
LCI	Lower Confidence Interval
LIPT	Leymann Inventory of Psychological Terror
LMX	Leader Member Exchange
MLFA	Maximum Likelihood Factor Analysis
NAQ	Negative Acts Questionnaire
NHS	National Health Service
ONS	Office for National Statistics
PAF	Principal Axis Factoring
PCA	Principal Components Analysis
PE	Point Estimate
RMSEA	Root-Mean-Square Error of Approximation

SD	Standard Deviation
SME	Subject Matter Expert
SRMR	Standardised Root-Mean-Square Residual
UCI	Upper Confidence Interval
VIF	Variance Inflation Factor
WCM	Workplace Cyberbullying Measure
WLS	Weighted Least Squares

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Chapter 1 – Overview of Thesis

The aim of this thesis is to investigate workplace cyberbullying, which broadly refers to bullying conducted through technology that occurs in the working context. Investigating this alternate form of workplace bullying is increasingly important due to the spread of information and communication technologies (ICTs) in modern work settings and home life. In 2013, 36 million UK adults accessed the internet every day, whilst 90% of UK businesses had installed internet connections by 2009 (Office for National Statistics, 2009). A similar trend is apparent across other Western countries as nearly 100% of Canadian public sector organisations use email for work purposes (Statistics Canada, 2009) and 62% of U.S. employees could be considered networked workers, a term coined to describe employees who use the internet or email in their workplace (Madden & Jones, 2008). Due to the prevalence of ICTs within modern organisations, it was suggested as early as 2007 that cyberbullying had evolved into one of the most common methods of employee harassment (Borstoff, Graham & Marker, 2007). It is therefore important to identify how ICTs are being used to perpetrate bullying within the work context. This thesis seeks to identify the behaviours that reflect workplace cyberbullying in order to create a measurement scale which will be used to examine the impact it exerts on employees.

Much of the current cyberbullying research has been conducted in school and youth settings. Comparatively, little research has been conducted in the working context, although this is starting to change as organisational scholars are beginning to investigate the phenomenon as it relates to working adults. Cyberbullying has been defined as “*An aggressive, intentional act carried out by a group or individual, using electronic forms of contact, repeatedly and over time against a victim who cannot easily defend him or herself*” (Smith, Mahdavi, Carvalho, Fisher, Russell & Tippett, 2008, p. 376). There are certain

features that differentiate it from offline or traditional bullying. Cyberbullying can be experienced at any time or place (Slonje & Smith, 2008), it is possible for perpetrators to remain anonymous (Smith, 2012) and some cyberbullying acts exist indefinitely, often remaining visible to a large audience (Van Cleemput, Vandebosch & Pabian, 2014). Due to these features, some researchers contend that it exerts a stronger negative impact than offline bullying (Dooley, Pyżalski & Cross, 2009).

One of the barriers facing researchers who wish to examine workplace cyberbullying is a lack of validated measurement tools. Several multiple-item measures have been developed to assess offline workplace bullying, including the Negative Acts Questionnaire (NAQ; Einarsen, Hoel & Notelaers, 2009), the Leymann Inventory of Psychological Terror (LIPT; Leymann, 1989) and the EAPA-T workplace bullying scale (Escartín, Rodríguez-Carballeira, Gómez-Benito & Zapf, 2010). These scales allow researchers to measure workplace bullying exposure by asking how often employees have experienced a range of bullying behaviours (for example, gossip, unfair criticism, physical intimidation). These measures can assess the nature, frequency and duration of bullying, while item scores can be summed to create an overall score that can be used during statistical analysis (Nielsen, Notelaers & Einarsen, 2011).

At present, a validated workplace cyberbullying measure has not been established. Measures have been developed to assess related constructs including cyber incivility (Lim & Teo, 2009) and cyberaggression (Weatherbee, 2007). Yet these measures are inappropriate for measuring cyberbullying because they do not measure the full cyberbullying domain and do not consider the definitional aspects of the construct (which will be discussed in more detail during Chapter 2). Therefore a tailored measure is needed that can capture how workplace cyberbullying is conceptually distinct from other harassment constructs. This is the first aim of the thesis.

The second aim involves investigating the impact of cyberbullying on employees using an established theoretical framework. In the youth context, cyberbullying has been associated with depression, social anxiety and low self-esteem (Didden et al., 2009; Juvonen & Gross, 2008). Less research has been conducted on the impact of workplace cyberbullying, although initial findings suggest it is related to anxiety, stress, intention to quit, mental strain, job dissatisfaction and low confidence (Baruch, 2005; Coyne, Farley, Axtell, Sprigg, Best & Kwok, in review; Association of Teachers and Lecturers [ATL], 2009). It has been noted that much of the current work on the impact of cyberbullying has been conducted without theoretical underpinnings (Rivers, Chesney & Coyne, 2011). Therefore future research needs to be guided by theory to organise the variables already tested and to provoke new hypotheses and empirical research (Runions, Shapka, Dooley & Modecki, 2013).

The second part of this thesis will therefore investigate the impact of cyberbullying using the attributional model of workplace harassment (Bowling & Beehr, 2006). This model suggests that the way targets attribute blame for harassment influences its subsequent impact. Attributions refer to the causal explanations that individuals make for a specific event (Martinko, Harvey & Dasborough, 2011). Cognitive appraisal theories argue that attributions are made whenever people experience psychological distress (Smith & Lazarus, 1990). Therefore people who experience cyberbullying are likely to make an attribution regarding the cause of cyberbullying acts.

Compared to offline bullying, blame attributions regarding the cause of cyberbullying may be made with less clarity as computer mediated communication transmits fewer social, contextual and verbal cues than face-to-face communication (Berry, 2011). Therefore people have less information at their disposal when making an attribution on the cause of negative interpersonal communication received via technology. This has implications for interpersonal relations as employees may attribute negative behaviour to their communication partner's

personality, rather than to situational factors (Cramton, Orvis & Wilson, 2007). Furthermore, the dispute exacerbating elements of email (DEME) framework (Friedman & Currall, 2003) argues that ambiguous actions experienced in the virtual environment are likely to be attributed according to how much an individual likes their communication partner. The virtual context therefore represents a unique environment in which to study attributions and how they influence the impact of cyberbullying.

1.1 Research Aims

This thesis addresses two broad research aims:

1. To develop a behavioural workplace cyberbullying measurement tool.
2. To investigate the impact of cyberbullying on employees.

To achieve these aims, the thesis is split into two sections. Chapters 5-8 address the first aim: the development of a workplace cyberbullying measure. Two research questions underpin this aim: (1) what behaviours do employees interpret as acts of cyberbullying; and (2) what is the underlying structure of workplace cyberbullying. Section Two (Chapter 9) addresses the second aim: the investigation of the impact of workplace cyberbullying. Two research questions are also developed to address this aim: (1) how does workplace cyberbullying relate to behavioural, attitudinal and health outcomes; and (2) what role do blame attributions play in the relationship between cyberbullying and outcomes.

1.2 Thesis Structure

Measure Development

The thesis has been structured to meet the two broad research aims. To develop the workplace cyberbullying measure an established measure development methodology outlined by Hinkin (1998) was adopted. Hinkin's (1998) framework is presented in detail during

Chapter 4, however it is briefly summarised here alongside the thesis structure. Measure development begins with the advancement of a clearly articulated construct definition and a delineation of how the construct differs from related constructs. Chapter 2 provides this foundation as literature on offline workplace bullying and computer mediated communication is reviewed to provide contextual understanding of workplace cyberbullying. A definition of workplace cyberbullying is then presented after reviewing its definitional components. Following this, the unique features of workplace cyberbullying are discussed and the construct is differentiated from related cyber harassment constructs. Theoretically conceptualising a construct in this manner is a necessary precursor to measure development (MacKenzie, Podsakoff & Podsakoff, 2011).

Chapter 3 reviews the measurement methods used in bullying research. Specifically, the chapter reviews methods that take an inside approach to bullying measurement whereby victimisation is measured from the target's perspective. Existing cyber harassment scales are also reviewed to provide a rationale for developing a workplace cyberbullying measure. The chapter ends with the contribution that a fully researched measure would make to research and practise.

The thesis methodology is presented in Chapter 4. Hinkin's (1998) measure development methodology is followed to produce a workplace cyberbullying measure. Chapter 4 elaborates on the methodology and describes how it is implemented and integrated within the thesis. The chapter also discusses the epistemological assumptions and ethical considerations of the research.

The first empirical stage of measure development is item generation (see Figure 1.1), which involves producing items that clearly link to the construct of interest. This is the focus of Study 1 (in Chapter 5) which is the first of four studies that underpin the development of the workplace cyberbullying measure. Study 1 addresses the first research question (what

behaviours do employees interpret as acts of cyberbullying) by inductively and deductively unearthing workplace cyberbullying behaviours. Chapter 5 first examines how behavioural descriptions of workplace cyberbullying were collected and converted into items using procedures that built in content validity. Following this, the chapter details the procedure that was used to assess face validity. The chapter ends with information on the response scale and the initial version of the workplace cyberbullying measure is presented.

Chapter 6 introduces the second measure development study. The chapter initially describes a criticism associated with workplace harassment measures that fail to account for severity. This provides the rationale for Study 2 which involved obtaining severity ratings of the cyberbullying items so that the final measure could be weighted for severity. The methodology, results and discussion of this study are then presented in this chapter.

Chapter 7 describes Study 3 which addresses the four middle stages of Hinkin's (1998) six step process (questionnaire administration, initial item reduction, confirmatory factor analysis and convergent/discriminant validity assessment). After item generation, a measure should be administered to a population of interest which facilitates psychometric analysis of its statistical properties. Chapter 7 describes how data was collected from the working population. This is followed by the procedures used to determine the psychometric properties of the measure, its underlying factor structure and refinement. The refined workplace cyberbullying measure is presented before the results of the study are discussed.

Chapter 8 describes the final measure development study (Study 4) which addresses the repetition stage of Hinkin's (1998) methodology. During repetition, the refined measure is distributed to a separate sample and the resulting data is subjected to the same psychometric analysis that was conducted on the previous version of the measure. Study 4 was also conducted to construct the measure's nomological network and to assess whether it can

explain incremental variance in criterion variables over and above existing workplace harassment variables. The chapter concludes with a discussion of the findings.

Investigating the Impact of Workplace Cyberbullying

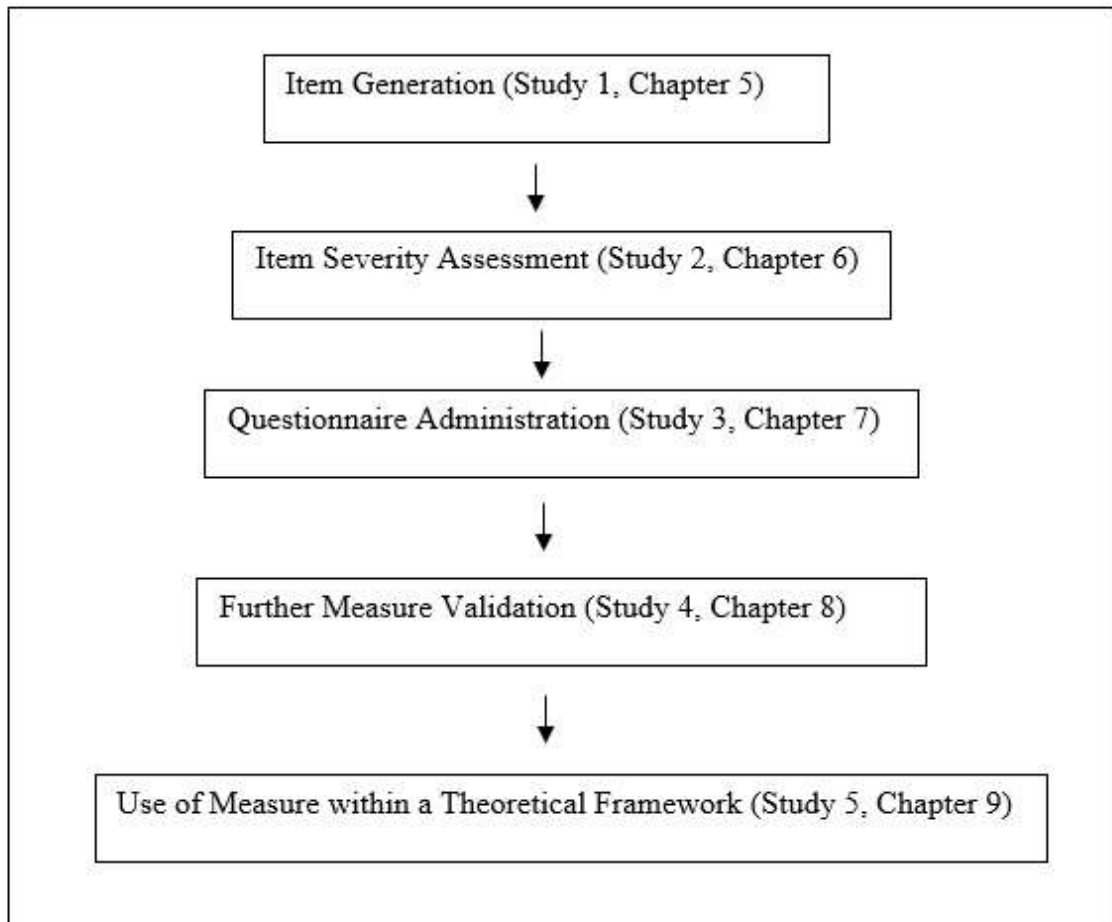
Chapter 9 introduces the final empirical study (Study 5). During this study, the measure developed in the first four studies was used to assess the impact of workplace cyberbullying within a theoretical model. This was conducted to address the second aim of the thesis on the impact of workplace cyberbullying. The study uses the attributional model of workplace harassment (Bowling & Beehr, 2006) to explore the impact of cyberbullying from an attributional perspective. The model states that there are three attributional categories for the cause of workplace harassment: (1) the organisation; (2) the perpetrator; and (3) the victim (i.e. the target themselves). The perpetrator is perhaps the most obvious target for attributional blame. However victims could blame their organisation, which may foster bullying by allowing it to occur (for example, lack of bullying policy) or through the systems in place. A self-attribution is also possible. For example, an employee may perceive that they are a target of harassment due to their poor work performance or individual characteristics. The model proposes that the way individuals attribute blame for harassment influences fairness perceptions and subsequently well-being, attitudes and behaviours.

Bowling and Beehr (2006) argue that victims who mostly blame themselves for being harassed are likely to experience reduced well-being. Comparatively, targets who attribute blame for harassment to the perpetrator are predicted to experience feelings of interactional injustice. Interactional justice refers to the quality of interpersonal treatment (Cohen-Charash & Spector, 2001) and interactional violations are believed to lead to negative reciprocal behaviour and unfavourable attitudes aimed at the perpetrator. The norm of reciprocity (Gouldner, 1960) is used to explain why harassment attributed externally leads to negative

attitudes and behaviours, as it states that those who experience perceived mistreatment seek to 'get even' with the source deemed responsible. Targets who mostly blame their organisation for harassment are hypothesised to experience procedural injustice which refers to the unfairness of processes and decision making within an organisation (Colquitt, 2001). Procedural injustice perceptions are hypothesised to reduce organisational engagement and they may also lead to emotional exhaustion if they serve as a continuous stressor (Halbesleben & Buckley, 2004). The propositions outlined by Bowling and Beehr (2006) are tested in Study 5. Chapter 9 reports the findings of this investigation.

The final part of the thesis consists of Chapter 10 which brings together the findings of each of the five studies. The results of each study are summarised and the wider theoretical and practical contributions of the studies are discussed. The thesis ends with the research limitations, directions for future research and a few concluding remarks.

Figure 1.1: Overview of the studies conducted within the thesis



Chapter 2 – Positioning Workplace Cyberbullying

The previous chapter introduced workplace cyberbullying as a form of workplace bullying which is channelled exclusively through technology. The chapter also outlined the focus of the thesis and explained how it will address the research aims. The following chapter will build on the information contained in Chapter 1 to explore workplace cyberbullying as a research construct in greater detail. Specifically, the aims of Chapter 2 are to (1) conceptualise workplace cyberbullying and (2) to provide justification for treating it as a distinct form of bullying, worthy of investigation throughout this thesis.

To achieve these aims, the chapter opens with a brief overview on the development of workplace bullying research. This is followed by a description of the definitional criteria associated with traditional workplace bullying, as this is the ground from which workplace cyberbullying has stemmed. Theories of computer mediated communication are then described to provide a backdrop for understanding the unique nature of communication channelled through technology. This enables an exploration of the definitional criteria associated with workplace cyberbullying, which subsequently facilitates the conceptualisation of the construct.

Following on from this, the behaviours that embody cyberbullying are described and the unique features that distinguish cyberbullying from offline bullying are reviewed. This provides the rationale for treating cyberbullying as a separate form of workplace bullying. The final section of the chapter then examines how workplace cyberbullying is conceptually distinct from related cyber harassment constructs.

2.1 The Development of Workplace Bullying Research

Although most people learn about bullying during their school years and associate it with this time, bullying can be experienced at any stage of a person's life. Indeed, bullying has been investigated in schools, prisons, care homes and the workplace (Monks & Coyne, 2011). As a research concept, workplace bullying was introduced in the mid-1980s by the Swedish psychologist Heinz Leymann (1986) who felt the cause of bullying lay in organisational factors, such as leadership behaviour and work design, rather than personality. Leymann inspired public and academic interest in the topic during the 1990's that spread from its origins in Scandinavia across Europe to the rest of the world (Einarsen, Hoel, Zapf & Cooper, 2011). This early interest prompted a research agenda focussed on who the perpetrators of bullying are, why they bully and the consequences for the organisation and individual. These questions were investigated primarily from a psychological perspective that emphasised a target oriented approach.

Perhaps reflecting continued societal interest in the topic, the field of workplace bullying expanded during the first decade of the new millennium. Workplace bullying research spread from its roots in organisational psychology as it started to command interest from disciplines as diverse as sociology (for example, Parkins, Fishbein & Ritchey, 2006), industrial relations (Beale & Hoel, 2010) and medicine (Ortega, Christensen, Høgh, Rugulies & Borg, 2011). The broadening of the research field resulted in fresh perspectives, opened new channels of study and brought about new ways of studying the phenomenon. It also contributed to societal outputs such as anti-bullying policies, intervention strategies and national government run projects (Einarsen et al., 2011)

Despite varied approaches to the problem, conceptually it is agreed that workplace bullying is a situation where an individual is subjected to persistent, repeated behaviours that

are perceived as hostile (Baillien, Neyens, De Witte & De Cuyper, 2009). It is also considered a gradually evolving phenomenon whereby the victim is forced into a weaker position than the perpetrator(s) over a period of time (Einarsen, Hoel & Notelaers, 2009). Although there is general agreement that bullying involves repeatedly experiencing negative interpersonal behaviours, researchers have differing views on whether a perpetrator's intent to harm the target should be included as a definitional criterion. Researchers from the European tradition have generally not included intent to harm in bullying definitions (Einarsen et al., 2011). However, others have argued that intent should form part of how the construct is operationalised (Samnani, Singh & Ezzedeen, 2013).

The widespread interest in workplace bullying research may stem partially from a recognition of the severity of its outcomes. Samnani and Singh (2012) reviewed literature which examined the impact of workplace bullying at the individual-level, group-level, organisational-level and societal-level. At the individual level workplace bullying has been associated with a variety of health complaints including sleep difficulties (Hansen, Høgh, Garde & Persson, 2014), post-traumatic stress and burnout (Nielsen & Einarsen, 2012). At the group level bullying can exert a negative impact by damaging team relations (Coyne, Craig & Smith-Lee Chong, 2004) and by reducing morale (Namie, 2003). The organisational impact of workplace bullying is also significant as Giga, Hoel and Lewis (2008) estimated that it may cost UK organisations £13.75 billion annually. While researchers argue that workplace bullying can indirectly affect society through its impact on medical costs, premature retirement, unemployment and legal costs (Samnani & Singh, 2012). Due to the wide-ranging nature of these outcomes, workplace bullying continues to attract research attention.

Summary

The workplace bullying field has developed incrementally since Leymann inspired research on the topic. The area now receives attention from diverse disciplines which has furthered understanding on antecedents, outcomes and interventions. However, the nature of work has changed since Leymann's pioneering studies, which has implications for how workplace bullying is investigated. The following section will review how the organisation of work and the notion of the 'workplace' has evolved in the past 40 years to demonstrate why investigating workplace cyberbullying is both timely and necessary.

The Changing Nature of Work

Trends over the past 40 years have shown a decline in the manufacturing sector and an increase in the knowledge economy, which is defined as "*an economy where investment in 'knowledge based' assets such as R&D, design, software, and human and organisational capital have become the dominant form of investment compared with investment in physical assets – machines, equipment, buildings and vehicles.*" (Brinkley, Fauth, Mahdon & Theodoropoulou, 2009, p.9). Brinkley et al (2009) state that during the late 1970s three significant economic and social forces combined to produce demand for knowledge based assets: (1) The development of affordable information and communication technologies, which enabled the flow of cross-continent communication; (2) Globalisation; and (3) A rise in the standard of living which produced scores of educated customers who sought the services that the knowledge economy could supply.

A noted characteristic of the knowledge worker is their ubiquitous use of computing technologies. Rapid advances in ICTs have produced work habits that transcend the traditional workplace and which continue to evolve, including mobile working, teleworking and home-working. Johns and Gratton (2013) suggest that there have been three waves of virtual work, beginning with the first in the 1980's when email allowed people to set up one-

person businesses within their own homes. In 1995, with the arrival of eBay came the virtual organization, this produced virtual workers who were connected to a company and other virtual colleagues, whereas previously virtual workers had primarily been solo entrepreneurs. The second wave therefore broadened the scope of who could work virtually, however as it became more common many people experienced a lack of social contact, which fostered a third wave of virtual work. The third wave was ushered in by remote workers desire for contact with others. This has produced shared workspaces termed 'virtual hubs', which are co-working spaces in towns and cities that equip workers with work-related facilities (for example, wifi, tea/coffee) and provide a sense of community. As of 2013, over two thousand coworking spaces existed, which represented a 250% increase on 2011 (Johns & Gratton, 2013).

The trend towards remote working has received a great deal of attention from management scholars, however due to variations in definitions and measurement methods, as well as the ever-changing nature of work, it has been difficult to accurately ascertain who teleworkers are and how often they telework (Montoya-Weiss, Massey & Song, 2001). Indeed, they can be difficult to count as they often work as contractors rather than employees. Nonetheless, it has been reported that approximately 24% of Americans work at home for some hours each week (United States Bureau of Labor Statistics, 2011). Latest figures from the Office of National Statistics indicate that the number of home-working U.K. employees reached a record high of 4.2 million (13.9% of the workforce) in 2014 (ONS, 2014). Analysis of the home working population revealed that 23% worked in skilled trades, 18.5% were associate professionals in technical occupations, 16% were professionals and just 2.2% were in customer service or sales roles. However, it should be noted that home-workers form just a proportion of the teleworking population, which is comprised of mobile workers, home-workers and employees who have the freedom to work wherever there is internet connection.

The flexibility offered by ICTs has enabled employees to work wherever there is wifi, thus facilitating teleworking and working from home. Organisations have also utilised ICTs for structuring new ways of communicating to conquer time and space boundaries (Montoya-Weiss et al, 2001). The creation of globally dispersed virtual teams allows organisations to respond to work pressures at any time and the ubiquity of communication technologies allows employees to stay connected to work from anywhere. Due to these advantages it was projected that there would be 1.3 billion people who work virtually by 2015 (Johns & Gratton, 2013). This has implications for the study of workplace bullying as a significant body of the working population are using ICTs to communicate with colleagues and other stakeholders, rather than communicating face-to-face. Therefore knowledge workers may be less likely to experience traditional forms of bullying, such as physical intimidation, violence and shouting. Without being physically collocated with colleagues the only way that virtual workers can experience and enact bullying is through ICTs, this has prompted the existence of cyberbullying, a new form of workplace bullying.

Cyberbullying

Since the adoption of high speed internet services in organisations, a new form of workplace bullying has emerged, termed cyberbullying. Cyberbullying refers to bullying conducted exclusively through technology, which can include hardware (for example, mobile phones, computers) and media channels (for example, video calls, email). Cyberbullying research has predominantly focussed on young people (Slonje, Smith & Frisen, 2013), but more recently scholars have recognised it as an issue affecting organisational life (Privitera & Campbell, 2009). This research is particularly timely as advances in ICTs over the last twenty five years have prompted changes in the way people communicate at work. Nowadays many employees could not operate without a mobile phone or email, which are forms of communication that possess fewer social cues and can reduce communication inhibitions

(Lea & Spears, 1991). Evidence even suggests that the majority of workers prefer using technology to communicate with colleagues (ACAS, 2012). As a consequence, much of the bullying now transpiring in organisations may occur online.

Tentative steps have been made towards understanding this diverse form of workplace bullying, although due to the emerging nature of the research field, much of the early work has been qualitative. Small sample sizes obtained during these studies prohibit generalising findings to a broader population, although some common themes are apparent. Perhaps most notably, cyberbullying has the potential to reach employees outside of their working hours. Heatherington and Coyne (2014) interviewed cyberbullying victims who reported feeling angry, stressed and troubled when the line between their personal and working lives was crossed. This theme was also apparent during a study conducted with cyberbullying victims from the Indian IT sector (D’Cruz & Noronha, 2013). Respondents reported feeling pursued as they were relentlessly sent negative technology-mediated messages outside of working hours, which made them feel trapped. One participant stated “*the nightmare never ends....even at home, on weekends...always*” (p. 336.). D’Cruz and Noronha (2013) stated that technology compounded the strain associated with traditional workplace bullying, such that all 16 participants in their study reported physical and emotional distress. Speaking about the impact it had, one participant stated “*I suffered great trauma, my physical and mental condition were not good. I was not able to eat, I was not able to sleep at night. I was under great shock and stress*” (p. 336).

The available quantitative research has also linked experiencing cyberbullying to several negative outcomes. Early work conducted by Baruch (2005) investigated bullying through email among a sample of 649 employees from a large multinational firm. This study examined cyberbullying by asking if respondents had experienced bullying at work, and if so whether it was conveyed through email. A victimisation rate of 9.2% was identified and

cyberbullying was associated with anxiety, intention to leave and job dissatisfaction.

Cyberbullying has also been linked to a construct described as ‘post-cyberbullying psychological responses’ which involves feelings of frustration, anxiety and vengefulness (Hong, Chien-Hou, Hwang, Hu & Chen, 2014).

More recently, Coyne et al. (in press) investigated cyberbullying among three separate samples of university staff members. This research found that cyberbullying was associated with job dissatisfaction and mental strain across each sample. Interestingly, cyberbullying was more strongly associated with job dissatisfaction than offline workplace bullying. This finding was explained by the unique features of cyberbullying, such as its potential to occur at any time and ability to invade the home environment. Similarly, Farley, Coyne, Sprigg, Axtell and Subramanian (2015) found that workplace cyberbullying was associated with job dissatisfaction and mental strain, although these relationships were observed among a sample of junior doctors. Finally, research conducted in Australia has linked workplace cyberbullying to detrimental outcomes as it was shown to have a direct effect on stress (Snyman, & Loh, 2015). This study also examined the relationship between cyberbullying and job satisfaction, although contrary to previous research, a significant relationship was not observed.

These studies have outlined some of the distinctions between cyberbullying and offline bullying, however new techniques are needed to investigate the phenomenon. Methodologically, workplace cyberbullying research has utilised tools developed during the 30 year old offline bullying research tradition. This body of work has produced refined methods that allow insights into the experience of bullying at work, but there is a need to investigate whether acts such as swearing and insulting are different when enacted through information and communication technologies (Weatherbee & Kelloway, 2006). There is also a need for methods that recognise the nature of behaviours that are perpetrated online. It is

this need that provides the focus of the first thesis aim, as it has become critical to develop tools that effectively measure the workplace cyberbullying domain if the field is to progress (Coyne et al., in press).

2.2 Traditional Workplace Bullying

The current understanding of bullying in the context of work stems from a tradition of research on offline, traditional or ‘face-to-face’ bullying*. This thesis aims to extend knowledge on workplace bullying by investigating cyberbullying, a distinctive new form of workplace bullying. This investigation can only be achieved through an understanding of the nature of offline bullying and the characteristics that differentiate the two forms. Therefore the following section describes offline workplace bullying to provide a backdrop for exploring the distinct characteristics of cyberbullying.

Traditional Workplace Bullying

As a research construct, workplace bullying falls under the broad umbrella of workplace harassment, along with other mistreatment constructs, such as incivility, social undermining and abusive supervision. As such, the term workplace harassment will be used in this thesis to refer to the broader research field. Due to the multitude of constructs that fall under the guise of workplace harassment, it has become important to clearly conceptualise how constructs within this field differ from one another (Hershcovis, 2011). The following section will outline the definitional features associated with workplace bullying.

* The terms offline bullying, traditional bullying and face-to-face bullying will be used interchangeably throughout the thesis.

Disagreement exists regarding how workplace bullying should be defined (Harvey, Treadway, Heames & Duke, 2009). One of the most comprehensive definitions was outlined by Einarsen, Hoel, Zapf and Cooper (2003) who suggest that bullying at work means *“harassing, offending, socially excluding someone, or negatively affecting someone’s work tasks. In order for the label bullying (or mobbing) to be applied to a particular activity, interaction or process it has to occur repeatedly and regularly (e.g. weekly) and over a period of time (e.g. about six months). Bullying is an escalated process in the course of which the person confronted ends up in an inferior position and becomes the target of systematic negative social acts”* (p. 15). Taking this definition into account, the salient features of workplace bullying (persistence, negative treatment, power imbalance and intent to harm) are examined.

Persistence

It is generally agreed that one of the core characteristics of bullying is repeated exposure to harmful acts over a period of time (Olweus, 1978). As such, single acts of humiliation, intimidation or criticism cannot be considered bullying, but rather uncivil work behaviour (Lim & Cortina, 2005). In this respect, the key element of bullying is not the severity of the behaviour, but the persistence of unwanted acts. Indeed, Einarsen et al. (2003) state that frequency and duration are the most salient features of bullying, however researchers disagree over how frequently behaviours must be enacted to distinguish bullying from other harmful workplace encounters (Saunders, Huynh & Goodman-Delahunty, 2007). In Leymann’s (1996) operational definition, respondents who experience one or more negative behaviours on at least a weekly basis in the last six months can be classified as bullying victims. A more stringent definition is given by Mikkelsen and Einarsen (2001) who recommend a criterion of at least two negative acts per week.

Repeatedly experiencing negative behaviours via technology should also be considered a core feature of workplace cyberbullying. Cyber harassment constructs such as cyber incivility and cyberaggression closely mirror their offline equivalents. Since repetition is central to the bullying construct it should be reflected in any workplace cyberbullying definition. In certain cyberbullying situations the repetition involved may correspond to how traditional workplace bullying victims experience bullying. For example, a cyberbullying victim might be exposed to several cyberbullying behaviours each week during a period of six months or more. However, other cyberbullying scenarios may involve a series of fleeting, but intense acts that transpire over a few weeks. For example, an individual could be targeted in a string of emails that are sent to a work group, or an employee could face a backlash on social media sites (for example, Twitter) from members of the public affected by their work. During these scenarios the repetition involved is more transient, but the effects may be longer-term as the individual's reputation may suffer, especially if the acts can be permanently viewed, such as archived emails.

Negative Treatment

Although there is general agreement that acts must be repeated for bullying to occur, there is debate surrounding how best to operationalise what is 'negative' or 'harmful' treatment. Central to this debate is the distinction between 'objective' and 'subjective' bullying. Brodsky (1976) states that subjective bullying refers to how targets perceive their experience, whereas objective bullying is bullying verified or confirmed by a third party. Both methods present problems for the operationalisation and assessment of workplace bullying. Relying exclusively on target perspectives is problematic as there is a lack of evidence demonstrating that targets produce accurate recollections over time (Cowie, Naylor, Rivers, Smith & Pereira, 2002). Whereas taking an objective view requires trust that the third party will produce an honest assessment of events. Addressing the issue of subjectivity and

objectivity, Einarsen, Hoel and Notelaers (2009) cited Niedl (1996) who argued that the definitional core of bullying lies with a subjective perception made by the victim that acts are hostile, humiliating and intimidating. Following this line, they argued that the subjective perception of behaviours as harmful would manifest in physical and mental outcomes. Therefore the outcomes associated with perceiving acts as bullying are likely to have an impact, regardless of how they are perceived by other individuals.

The issue of subjective perception is arguably heightened during cyberbullying situations as computer-mediated communication (CMC) lacks certain cues which can emphasise the true meaning of a message (Berry, 2011). As such, there is greater margin for error when the recipient of a message judges whether it is bullying or not. This is compounded by the fact that many forms of cyber communication leave evidence of their existence. Consequently perpetrators may prefer to send ambiguous communications which infer bullying to the target, but can be argued as harmless during disciplinary procedures. Subtle bullying behaviours are particularly problematic as perpetrators can simply deny negative intent. However, some employers have recognised that CMC heightens the potential for misunderstanding and have taken steps to prevent it. For example, National Health Service (NHS) policy (2012) encourages health professionals to evaluate whether the tone of their message could be misinterpreted before it is sent.

Power imbalance

A further element consistent in definitions of workplace bullying is an imbalance of power between the perpetrator(s) and the target. Power can either be social, physical or psychological, and it has been defined as the ability to exert influence over others (Bacharach & Lawler, 1981; Monks & Smith, 2006). This is seen as a critical aspect of bullying because if potential targets are capable of enduring negative acts and defending themselves, bullying

can be prevented from the beginning (Salin, 2003a). In the workplace a natural power imbalance is present if the perpetrator is senior to the victim in the organisational hierarchy. For instance, Hoel, Cooper and Faragher (2001) found that workers and supervisors experienced more frequent bullying than managers. However the source of the perpetrator's power may lie outside the organisational structure, as it can be related to an individual's degree of knowledge, access to social support, traditional gender roles or minority status. Therefore all employees have the potential to bully, although the literature has generally excluded the role of organisational outsiders including customers and partners from formal bullying definitions (Hershcovis, 2011).

It has been argued that email has flattened the organisational hierarchy as employees at lower levels can communicate their views to the chief executive officer (CEO) by simply sending her/him an email (Sproull & Kiesler, 1986). Nonetheless, those higher in the hierarchy are still capable of enacting cyberbullying towards their subordinates as formal power remains relevant in the cyber domain. Indeed, top-down cyberbullying is evidenced in several qualitative cyberbullying studies (D'Cruz & Noronha, 2013; Heatherington & Coyne, 2014). Furthermore, anecdotal evidence suggests that employees perceive cyberbullying when their direct supervisor is copied into an email which places blame or requests task completion. Heatherington and Coyne (2014) also note that social power may be a particularly relevant form of power during online group communication especially if an in-group is formed which shares tacit values. This may partially explain why fellow trainees were cited as the main perpetrators of cyberbullying by a sample of junior doctors (Farley et al, 2015).

Intent to harm

Intent to harm is one of the most hotly debated aspects of workplace bullying. Some researchers have argued that intent is a core feature of bullying (Namie, 2003; Samnani, Singh & Ezzedeen, 2013), whilst others contend that it cannot be considered an essential component of the bullying experience (Einarsen et al., 2003). Advocates of using intent as a criterion argue that without specifying intent, all accidental but harmful behaviours could be considered bullying acts (Neuman & Baron, 2005). Additionally, constructs related to workplace bullying, such as workplace aggression have utilised intent in conceptual definitions. Samnani et al. (2013) indicate that the major difference between bullying and aggression is that bullying must occur more frequently, therefore including intent to harm as an indicator of bullying conforms to logic.

Those who have argued against the inclusion of intent in workplace bullying definitions have stated that when bullying is enacted, it is often perpetrated in a subtle manner that can be rationalised to others (Lim, Cortina & Magley, 2008). This hinders the victim's ability to report intentional aggression and it makes the perpetrator's real intentions difficult to establish; particularly when they enact bullying that overlaps with work-related requirements (for example, excessive monitoring, constant work-related criticism). Research has identified that because perpetrators mask bullying acts, targets often do not realise that they are being bullied for long time periods (D'Cruz & Noronha, 2010a). It has even been suggested that targets may perceive certain bullying acts as positive, for instance being assigned extra work may be misconstrued as a sign of trust (Samnani et al., 2013). This suggests that bullying can occur in the absence of perceived intent, as targets may come to recognise that they have been bullied months or even years after it first occurred.

A further argument against including intent in bullying definitions concerns attributional errors. It has been argued that attributional errors may enhance the probability of targets blaming negative behaviour on the perpetrator's personality rather than on

environmental or situational circumstances (Parzefall & Salin, 2010). As such, targets may perceive intent in the absence of actual intent on the part of the perpetrator. Research indicates that individuals higher in aggressiveness and negative affectivity perceive more workplace victimisation than people with lower levels of these traits (Aquino & Bradford, 2000). This may lead individuals to feel that being assigned extra work or critical feedback are acts of bullying, rather than constructive efforts to increase job performance. Similarly, individuals may perpetrate bullying without realising that they are doing so. For example, research on accused bullies found that they often felt their behaviour was legitimate performance management (Jenkins, Winefield & Sarris, 2011). Perhaps in recognition of the complexities surrounding the attribution and perception of intent, it has been suggested that bullying can be the product of intentional negative behaviour and unintentional reckless disregard in the pursuit of other goals (Einarsen et al., 2003).

It has been argued that intent should not be used to define workplace bullying because of the complexities surrounding how to establish a perpetrator's real intentions (Einarsen et al, 2011). Establishing intent is arguably more difficult during online communication because ICTs do not transmit the full range of communication cues (Daft & Lengel, 1986). This makes it more difficult for targets to correctly identify a cyberbullying act. Furthermore, as mentioned previously, perpetrators may be even more careful to disguise behaviours to prevent being reported. This suggests there is an even stronger argument for excluding intent from workplace cyberbullying definitions.

Summary

Within the literature are an abundance of discussions on the factors perceived to be central to the multidimensional construct of workplace bullying. Various researchers maintain that there are a few distinguishing characteristics that differentiate bullying from

other negative workplace behaviour, such as incivility, abusive supervision and social undermining (see Hershcovis, 2011 for a full review of workplace harassment constructs). These features are persistence and an imbalance of power between the perpetrator(s) and victim (Hershcovis, 2011; Einarsen & Skogstad, 1996; Zapf, Knortz & Kulla, 1996). The next section will review how traditional workplace bullying manifests itself in behavioural form.

2.3 Traditional Workplace Bullying Behaviours

Researchers have commented that there is not a definitive list of behaviours that are considered workplace bullying acts (Rayner & Cooper, 2006), although this has not prevented attempts to identify behavioural categories. An influential aggression typology developed by Buss (1961) has been utilised in bullying research (Rodriguez-Carballeira, Escartin, Vinacua, García & Martín-Peña, 2010). Buss (1961) argued that there are three categories of aggression: active-passive, physical-verbal and direct-indirect. Active aggression involves behaviours enacted to inflict harm (for example, threats, insults), whereas passive aggression is more indifferent and includes acts such as withholding information relevant to the target. Behaviours within the physical category encompass physical contact between the perpetrator and victim, such as punching, slapping and head-butting. In contrast, verbal aggression involves yelling, swearing and insulting. Finally, behaviours in the direct category of aggression are intended to harm the target directly, comparatively indirect aggression involves harming something the target values (Chrisler & McCreary, 2010). The latter category was used by Baron and Neuman (1996) to differentiate indirect aggressive behaviour (for example, rumour spreading) from direct aggressive behaviour, such as insults and physical attacks.

Bullying researchers have also sought to identify categories of behaviour enacted during workplace bullying cases. Zapf (1999) analysed theoretical and empirical evidence to categorise six types of bullying behaviour:

1. Organisational measures: includes behaviours relating to the organisational domain such as questioning an individual's decisions, assigning degrading tasks and judging performance in an incorrect or unfair manner.
2. Social isolation: involves behaviours designed to isolate an individual.
3. Attacking the private sphere: encompasses attacks on an individual's personal or private life.
4. Verbal aggression: involves behaviours such as verbal threats and public criticism.
5. Physical aggression: involves any use of violence or physical contact.
6. Rumours: involves saying nasty things about a target behind their back.

Zapf (1999) used a German translation of Leymann's (1990) Inventory of Psychological Terrorism to construct these categories into separate scales that measured bullying in relation to antecedents and consequences.

More recently, Rodriguez-Carballeira et al. (2010) proposed a new taxonomy of workplace bullying strategies along with a definition for each category of behaviour (see Table 2.1). The authors described examples of behaviours within each category, for instance, isolation could be physical (for example, physically distancing an employee from his/her co-workers) or social (for example, restricting an employee's participation in communal activities). Control-abuse of the working conditions could involve assigning employees tasks that endanger their health, whereas emotional abuse could involve behaviours such as threats, insults and mockery. Additionally, professional discredit and denigration behaviours could include belittling an employee's knowledge and discrediting their professional standing. The

taxonomy was validated through the use of thirty expert judges who deemed the definitions appropriate and ranked the behavioural strategies in order of severity.

Table 2.1: Taxonomy of workplace bullying strategies (Rodriguez-Carballeira et al., 2010)

Category	Definition
Isolation	Restricting the worker's interaction with their co-workers and/or physically separating them.
Control and Manipulation of Information	Selecting and manipulating information received by the worker, lying to them, and stemming or interfering with the information that the worker transmits.
Control-abuse of Working Conditions	Intervening or acting negligently in the work environment and working conditions in order to upset the worker as they attempt to perform their tasks and putting their health at risk.
Emotional Abuse	Offensive actions and expressions aimed especially at attacking, injuring and sneering at the worker's feelings and emotions.
Professional Discredit and Denigration	Discrediting and denigrating the worker's professional reputation and standing, belittling their knowledge, experience, efforts, performance, etc.
Devaluation of the Role in the Workplace	Undervaluing the importance of the role of the worker, unjustifiably relieving the worker of their responsibilities or assigning the worker tasks that are useless, impossible or clearly inferior to his category in the organization.

Researchers have also used factor analysis to unearth behavioural categories that underlie workplace bullying. Escartín, Rodríguez-Carballeira, Gómez-Benito and Zapf (2010) developed a workplace bullying scale (the EAPA-T) based on Rodriguez-Carballeira et al.'s (2010) workplace bullying taxonomy. Confirmatory factor analysis found that 12 items were equally distributed across the following four categories: Control and manipulation of the work context, emotional abuse, professional discredit and role devaluation. These findings were consistent with past theoretical and empirical research. For instance, the factors

were comparable with the Hostigamiento Psicológico en el Trabajo scale (HPT, Fornés, Martínez-Abascal, and García, 2008) which encompasses five factors: Humiliation and personal derogation, professional demeaning, professional rejection and privacy invasion, professional demotion, and professional isolation.

Factor analysis of the well-known Negative Acts Questionnaire (NAQ) (Einarsen et al., 2009) revealed three factors underlying workplace bullying. These were labelled personal bullying, work-related bullying and physical intimidation. Work-related bullying refers to acts associated with an employee's work, including unreasonable deadlines, being ignored and having your work excessively monitored. Comparatively, personal bullying includes behaviours directed at an individual's personality, appearance or private life, such as being humiliated and belittled. Similar to the physical aggression category identified by Zapf (1999), the physical intimidation factor of the NAQ involves physical acts of aggression, such as finger pointing, invasion of personal space and blocking a person's way.

Although factor analysis can lead to statistical differentiation of behavioural categories that underlie workplace bullying, Einarsen, Hoel, Zapf and Cooper (2011) note that factor analysis of bullying measures usually leads to a one-factor solution where large samples differ on a continuum from not being bullied to being bullied. The authors state that *“if people are bullied, they are usually exposed to all kinds of bullying behaviours”* (p. 14). Indeed it is often difficult to distinguish specific categories as there is often overlap between them (Moayed, Daraiseh, Shell & Salem, 2006). For example, a behaviour such as gossip could be categorised in both the Emotional abuse and Professional discredit categories of Rodriguez-Carballeira et al.'s (2010) taxonomy. However some forms of bullying do seem to be more common than others. For instance, physical bullying seems to be particularly rare in the working context. A study of 500 Norwegian shipyard workers found that just 2.4% reported experiencing physical abuse or threats of physical abuse (Einarsen & Skogstad,

1996). Furthermore, analysis of the NAQ on a sample of 5288 UK employees found that a greater mean amount of personal bullying had been experienced (Einarsen et al., 2009).

When summarising research on workplace bullying behaviours, Rayner and Cooper (2006) stated that perception is a key factor in whether respondents label acts as bullying. Perception may be influenced by numerous variables including personality, organisational culture, national culture and gender. As such, a universally agreed list of bullying behaviours may never be achieved, because what one person perceives as bullying could be interpreted as performance management by another. However this does not discount the usefulness of identifying and categorising bullying behaviours. Practically, the development of taxonomies can provide practitioners with a list of behaviours that represent bullying. Furthermore, different types of behaviour may warrant tailored intervention strategies as an intervention targeted at work-related bullying may not be appropriate for personal bullying. Rodriguez-Carballeira et al. (2010) even suggest that behavioural taxonomies can have legal implications as some bullying behaviours may not be accounted for in current legal definitions.

Summary

The previous sections reviewed literature on how traditional bullying has been operationalised, this was followed by a section on how it manifests in work settings. The next section will turn to the online environment to illustrate important differences between online and offline communication that can help achieve the aims of this chapter. These aims are to: (1) conceptualise workplace cyberbullying and (2) to discuss why cyberbullying should be investigated as a separate form of bullying. Specifically, the next section of the chapter will review literature on computer mediated communication theories to demonstrate the nature of

communication in this domain. This will pave the way for a conceptualisation of workplace cyberbullying.

2.4 Theories of Computer Mediated Communication

Information and communication technologies (ICTs) are devices that have the ability to gather, send or store information (Steinmueller, 2000). Since the first email was sent in the 1970's ICTs have developed at a rapid pace, making the use of computer mediated communication (CMC) commonplace. ICTs have the potential to positively and negatively affect employees, particularly in respect to interpersonal communication (O'Driscoll, Brough, Timms, & Sawang, 2010). An examination of the nature of computer mediated communication is therefore essential as this is the context in which cyberbullying occurs. The following section will outline some CMC theories to shine a light on differences between online and offline communication. This will provide a platform for understanding differences between cyberbullying and offline bullying.

Kock (2004) notes that computer mediated communication has been the subject of intense research over the last forty years, particularly since the 1990's when CMC research began to build on earlier studies addressing organisational communication. Within this research tradition two dominant views have been proposed: one which assumes that face-to-face communication has intrinsic characteristics that make it superior to other communication methods; and another which suggests that so called 'lean' media can be as effective as face-to-face when other relevant factors are considered. The former view has been dominated by the cues filtered out (CFO) approach which suggests that the effectiveness of a communication method is based upon the number of communication cues it can transmit. Several influential theories have developed within this approach, including media richness

theory (Daft & Lengel, 1986) and social presence theory (Short, Williams & Christie, 1976). These theories emphasise the weaknesses of lean communication methods in comparison to face-to-face communication, which has seen them described as deficit models (Thurlow, Lengel & Tomic, 2004).

Deficit Models

Cues in communication research refer to the signals that individuals emit during communication with other people. They can be categorised as either verbal or nonverbal, whereby nonverbal cues refer to the signals people channel without words (for example, eye contact, body language, gestures, facial expression) and verbal cues refer to those expressed through language (for example, vocal intonation, vocabulary). Most communication cues are apparent when people communicate face to face, however computer mediated methods of communicating lack certain cues. Hence proponents of deficit models consider them less effective (Short, Williams & Christie, 1976; Daft & Lengel, 1986).

One of the first and most influential deficit theories is social presence theory (Short et al., 1976). This theory categorises communication methods on a one-dimensional continuum of social presence, which can be conceptualised as the quality or salience of an interaction between two partners. Face-to-face communication is proposed as the method with the highest degree of social presence, whereas communicating via audio or text falls lower down the social presence continuum. Communication between partners is said to be effective if a method has an appropriate level of social presence for the interpersonal involvement required for a particular task (Short et al., 1976). Therefore a task which necessitates a high degree of interpersonal involvement, such as planning a business strategy would require communication partners to use a method with a high degree of social presence. In contrast, a

simpler task, such as deciding where to meet for lunch could be achieved with a method lower down the social presence continuum.

In a similar vein, Daft and Lengel (1986) developed media richness theory to prescribe managers with channel selection procedures that would help them utilise communication media effectively (D'Urso & Rains, 2008). This theory originally categorised communication methods on a continuum based upon their ability to convey rich information. Richness was defined as 'the potential information carrying capacity of the data' (Daft and Lengel, 1986, p.196). Richness is assessed on whether a communication method can provide immediate feedback, the degree of language variety available, the communication cues available and how well individuals can convey personality. Rich communication methods are considered the most appropriate for reducing uncertainty and equivocality in collaborative tasks. Therefore face-to-face communication is considered the richest method as ambiguity can be resolved easily (Daft & Lengel, 1986). In contrast text based communication (for example, email, text messaging) lacks feedback and non-verbal cues. These forms of media are considered 'lean' and less appropriate for communicating ambiguous information (Daft, Lengel & Trevino, 1987).

A further theory taking a deficit approach is the Lack of Social Context Cues hypothesis (Sproull & Kiesler, 1986) which argues that because computer mediated communication transmits fewer cues, individuals using CMC are less present and more anonymous – a state described as deindividuation. Individuals in a state of deindividuation pay less attention to themselves and others. They also become less concerned about evaluation, less embarrassed and less fearful of retribution. The theory proposes that the state of deindividuation produces communication that is more impersonal and task focussed, which results in greater conflict and reduced politeness. However positive impacts are also predicted

to arise as a result of deindividuation, including more equal participation and status equalisation (Cooper & Robertson, 2004).

More recently, Kock (2004) proposed the theory of media naturalness, which takes a cues filtered out approach to explaining how communication quality differs between CMC methods. Media naturalness theory was developed to address empirical evidence which ran counter to the propositions of social presence and media richness theory (Lee, 1994; Markus, 1994). Kock (2004) argues that humans have evolved to communicate face-to-face and that moving away from this form of communication has resulted in increased cognitive effort, increased ambiguity and reduced physiological arousal. Face-to-face communication is therefore seen as the most natural form of communication and the naturalness of CMC methods can be judged on the extent to which they incorporate five elements of face-to-face communication: colocation, synchronicity, the capacity to send and observe facial expression, the capacity to send and observe body language and the capacity to convey and listen to speech (Kock, 2004). The model indicates that the factor central to media naturalness is the degree to which a medium allows individuals to transmit and listen to speech. It is argued that this factor is even more critical than whether the medium can support the transmission of facial expressions and body language.

Technology Adaption Approaches

In response to empirical evidence that contradicted the early cues filtered out theories, new models were developed to explain CMC behaviour which emphasised the influence of factors beyond communication cues. A direct response to the deficit theories was developed by Walther (1992) who proposed Social Information Processing theory (SIP) which argues that CMC can be equivalent to face-to-face communication if given enough time to develop. Previous studies did not allow enough time for CMC to be effective, however Walther (1992)

suggested that the nature of humanity is the same when communicating face-to-face and online, and that given enough time people will identify ways to compensate for cues that are lost during CMC (Lowenthal, 2009). Indeed, Walther (1996) later developed the hyperpersonal perspective of computer mediated communication which argues that CMC affords message senders advantages over face-to-face communication, as messages can be fashioned to manage impressions and achieve social goals. Additionally, the hyperpersonal theory argues that communication via technology can be more extreme than face-to-face relations because information becomes over analysed when contradictory evidence is unavailable, thus in some situations emotion can be intensified through CMC.

Continuing this line of thinking, Carlson and Zmud's (1999) Channel Expansion theory states that an individual's experience with a communication channel influences perceptions of the channels richness. Experience is seen as critical to perception because with repeated usage individuals may develop knowledge that allows them to encode and decode messages effectively. The theory posits four knowledge building experiences that shape perceptions of media richness: (1) experience of using a channel, (2) experience of a topic of discussion, (3) experience of the organizational context and (4) experience with the communication partner (Carlson & Zmud, 1999). The authors argue that experience in these four areas enables communication partners to make up for the lack of rapid feedback and communication cues associated with lean media, consequently people can view these channels as rich.

Like Sproull and Kiesler (1986), Lea and Spears (1991) produced a model exploring the state of deindividuation and how it effects group behaviour. Lea and Spears (1991) agreed that deindividuation reduces the attention people pay to themselves and others, however they suggested that this could have a positive effect particularly during communication at the group level. The Social Identity model of De-individuation Effects (SIDE) (Lea & Spears,

1991; Spears & Lea, 1994) argues that in the absence of personal communication cues, individuals shift their attention away from interpersonal differences to focus on a common group identity. The result of this can be immediate attraction to the group and conformity to group norms (Cooper & Robertson, 2004). Therefore whilst politeness norms may be lost in instances where groups are communicating through CMC, adherence to group norms can be amplified (Friedman & Currall, 2003).

Summary

The theories outlined above are not exhaustive, they are reflective of the main types of theories prevalent in the CMC literature and all clearly imply differences between the nature of communication face-to-face and CMC. For instance, the deficit models argue that CMC is a more ambiguous form of communicating, whilst the hyperpersonal perspective proposes that CMC can produce more intense emotional arousal than face-to-face communication. These theories have implications for the study of workplace cyberbullying because they offer perspectives on how cyberbullying may differ from offline bullying.

Cues filtered out theorists might argue that because CMC methods possess fewer social, contextual and verbal cues, people may be more likely to misinterpret messages as cyberbullying acts. Indeed, it has been suggested that more misunderstandings occur during online communication (Byron, 2008), which may lead individuals to mistakenly perceive cyberbullying even when the sender meant no ill-intent. If acts are misattributed as hostile, this may lead to retaliation. Therefore long-term conflicts could develop from simple misunderstandings. Similarly, SIP and channel expansion theory suggest that when individuals have experience of communicating with a particular person or communication medium, they are better able to decode the meaning of messages. This would suggest that

misattributions regarding cyberbullying acts may be less likely when individuals have had past involvement with an individual or communication medium.

The hyperpersonal perspective of computer mediated communication argues that communication via technology can be more extreme than face-to-face relations because information becomes over analysed when contradictory evidence is unavailable. This means that cyberbullying may exert a stronger negative impact on the individual than offline bullying, particularly when contradictory evidence cannot be gained. Walther (1996) states that messages can be fashioned to achieve social goals. If the goal of an individual is to bully another, CMC could be selected as an appropriate mechanism as some channels allow cyberbullying to be seen by a large audience which may produce heightened humiliation for a target.

The deindividuation effect of CMC could also help explain cyberbullying occurrences. Computer mediated communication is often characterised by feelings of anonymity which makes people less sensitive to the thoughts and feelings of others (Siegel, Dubrovsky, Kiesler & McGuire, 1986). Therefore people may be more inclined to enact cyberbullying behaviour via lean channels than they would when communicating face-to-face or through rich channels. Furthermore, individuals who are not predisposed to perpetrating offline bullying may be more likely to enact cyberbullying when in a state of deindividuation.

Finally the SIDE model may be a useful framework for understanding cyberbullying within virtual teams. The theory proposes that when communicating virtually, attention is shifted away from interpersonal differences towards a common group identity which is characterised by group norms. Research has identified that norms of computer-mediated-communication are confined to the boundaries of a group and that groups vary in the number of requests, reactions, humour, emotion and personal revelations they deploy (Postmes,

Spears & Lea, 2000). This has implications when a newcomer joins a group as their communication may be perceived as rude or aggressive and vice versa, which may spark conflict and cyberbullying.

Taken together these theories provide a lens for understanding communication in the virtual environment and how this may affect cyberbullying. In particular, the theories outline how aspects of online communication differ from face-to-face communication, which is a basis for understanding how cyberbullying is conceptually different from offline bullying. The following section will conceptualise cyberbullying by examining some of the core criteria that make cyberbullying conceptually distinct from offline bullying.

2.5 Conceptualising Cyberbullying

A proliferation of terms has been used to describe cyberbullying in the youth literature, including E-bullying and internet harassment (Tokunaga, 2010). This is largely due to the emerging nature of the research field, however the use of multiple terms is confusing. Therefore, the same terminology employed within the offline harassment literature will be used to organise constructs during this thesis. Similar to the offline literature, the term cyber harassment will refer to the broad research area which encompasses the use of ICTs to enact negative cyber behaviours. Therefore cyber harassment is used as an umbrella term under which various constructs fall (including cyberbullying, cyber stalking, cyber incivility and cyberaggression).

In the youth context, cyberbullying has been defined as “*An aggressive, intentional act carried out by a group or individual, using electronic forms of contact, repeatedly and over time against a victim who cannot easily defend him or herself*” (Smith et al., 2008, p. 376). Conceptually, cyberbullying is similar to offline bullying as researchers have used the

same salient criteria to define the construct. For instance, the definition outlined by Smith et al. (2008) contains the elements of repetition, power imbalance and intent. However, the nature of these elements changes when bullying is channelled through technology. The following section will examine the core criteria used to define cyberbullying and features of the online experience that make it conceptually distinct.

Repetition

One of the most salient features of offline bullying is the element of repetition, yet what constitutes repetition in the virtual environment is an ambiguous issue. The same person sending a multitude of unwanted messages over time is clearly repeating negative behaviour (Slonje & Smith, 2008). However there is ambiguity when it comes to a single online act, shared in the public domain that can repeatedly be viewed by a broad audience. For example, the concept of ‘outing’ involves an individual’s personal information being publically forwarded, posted or sent to unintended recipients (Willard, 2007). In such situations, researchers have argued that repetition is the equivalent of how many times the material is viewed by recipients and passed on by bystanders (Grigg, 2010; Smith et al., 2008). This is because although the act itself is not repeated, the victim experiences on-going humiliation as a result of the continuation and spread of the act (Dooley et al., 2009). Furthermore, when single acts are viewed by a broad audience it is unclear whether the primary perpetrator or the bystanders have repeated the act (Grigg, 2010). The dyadic relationship between perpetrator and victim observed in traditional bullying therefore becomes blurred in the virtual environment, as negative acts may be repeated by bystanders rather than the original perpetrator.

A second issue relating to repetition is the co-occurrence of online and offline bullying behaviour. Research has consistently identified an overlap between offline bullying

and cyberbullying (Smith, 2012; Sticca, Ruggieri, Alsaker & Perren, 2013). For example, Ybarra, Diener-West and Leaf (2007) found that 36% of respondents in their sample of 1588 students were concurrently experiencing offline bullying and cyberbullying. This presents a methodological problem for researchers as a single act experienced via technology could follow a series of offline bullying acts (Vandebosch & Van Cleemput, 2008). This raises the issue of whether a respondent is experiencing cyberbullying or whether they are actually facing regular bullying which has started to manifest in technological form.

Power Imbalance

Power is a complex concept which can either be social, physical or psychological (Monks & Smith, 2006). Elements of the power imbalance criterion differ when comparing cyberbullying to traditional bullying. Cyberbullying victims are potentially in a stronger position as they can terminate negative interactions more easily by not responding to messages (Wolak, Mitchell & Finkelhor, 2007). However victims of cyberbullying have reported feeling powerlessness about their situation (Spears, Slee, Owens & Johnson, 2009). Heatherington and Coyne (2014) even argue that a victim's perceived lack of power, rather than the bully's possession of it, characterises the power differential in the virtual environment. Therefore a victim's perception that they lack the ability to cope or defend themselves may be how power disparity is manifested during cyberbullying.

There are four potential features of cyberbullying which may contribute to feelings of powerlessness. Firstly, cyberbullying can be experienced at any time (Slonje & Smith, 2008). This can contribute to feelings of powerlessness as the target has no control over when they might experience an act. Smith et al. (2008) found that children experienced more cyberbullying outside school as opposed to inside school, which may enhance the feeling that torment is inescapable. Employees may have the same problem because traditionally offline

bullying occurred solely at work, however due to the spread of technology individuals can be subjected to cyberbullying in their own homes which may heighten feelings of powerlessness.

Secondly, unlike face-to-face bullying where there is often an individual on hand to stop negative behaviour, in the virtual environment there is no clear policing agent to protect cyberbullying targets (Tokunaga, 2010). Cyberbullying often takes place through personal or private technologies, therefore the target's support network may not be aware that they are facing bullying. This may heighten the target's perception that they cannot cope as they might feel that they have to face it alone.

A third factor affecting power imbalance in cyber space is technological ability. Perpetrators with greater information technology (IT) literacy may be more capable of remaining anonymous, uploading harmful data and creating derogatory websites. A study by Ybarra and Mitchell (2004a) found that cyberbullies rated themselves as 'internet experts' to a greater extent than youths who did not cyberbully others. This suggests that cyberbullies may have stronger ICT skills than non-bullies. Additionally, Nocentini, Calmaestra, Schultze-Krumbholz, Scheithauer, Ortega and Menesini (2010) argue that a victim's inability to force a perpetrator to remove hurtful comments from a website could be interpreted as a form of power imbalance. Indeed, Dooley et al. (2009) have suggested that the permanence of some material that exists in cyberspace can contribute to feelings of powerlessness because victims cannot influence what others write about them or control what they view.

Finally, a much discussed element of some cyberbullying cases is anonymity, which is the extent that the perpetrators identity is concealed (Ford, 2013). Anonymity can increase uncertainty as victims do not know the perpetrators personality or even whether there is more than one perpetrator, thereby creating a feeling of powerlessness. Anonymous cyberbullying

has been shown to occur in the working context as employees can create fake email accounts or use pseudonyms to disguise their identity (D’cruz & Noronha, 2013; Ford, 2013).

Vandebosch and Van Cleemput (2008) found that cyber bullied students who were unaware of the perpetrators identity experienced greater frustration and powerlessness. This may be because they were unable to confront the perpetrator, put the perpetrators actions into perspective or report them to a relevant authority.

Intention to Harm

The nature of computer mediated communication makes it difficult to ascertain whether a seemingly negative act is intentional (Menesini & Nocentini, 2009). Text based communications lack nonverbal cues that give indicators of the emotional substance of a message, making them harder for people to accurately interpret (Byron & Baldrige, 2007). For example, a focus-group study found that most participants experienced difficulty expressing and perceiving emotion channelled through workplace emails (Byron & Baldrige, 2005). It is not just emotional cues that are lacking during text based interactions. A lack of contextual cues, such as knowledge of the communication partner’s environment and the loss of sequentiality can also impose understanding costs (Clark & Brennan, 1991).

Despite difficulties in interpreting whether negative virtual communication is intentionally hostile, researchers have included intent in cyberbullying definitions (Dehue, Bolman & Vollink, 2008; Huang & Chou, 2010; Smith et al., 2008). The issue of how people can identify whether a negative cyber act is intentional has been raised in prior research. A study investigating perceptions on the definitional criteria of cyberbullying found that students across three different countries (i.e. Spain, Italy and Germany) believed that intent was a highly relevant criterion (Nocentini et al., 2010). The students came to the interesting

conclusion that repetition can help establish whether an act is a joke or intended; noting that behaviour cannot be unintentional if repeated.

Whether intent to harm can be included in a conceptual definition of workplace cyberbullying is debatable. Researchers have commented that workplace bullying tends to be more subtle than child and youth bullying (Bjorkvist, Osterman & Lagerspetz, 1994; Thomas-Peter, 1997). Consequently, intent does not appear in many definitions of workplace bullying. It remains to be seen whether workplace cyberbullying follows a similar pattern, yet given that intentionally harmful emails could be used against the sender in disciplinary procedures one might expect workplace cyberbullying to be more subtle than the youth equivalent.

Workplace Cyberbullying: A Definition

The previous section illustrates that although the same defining criteria used to operationalise bullying has been applied to cyberbullying, the nature of this criteria differs in the online context. For instance, where physical strength can lead a target to perceive a power imbalance in the offline environment, low technological ability could be an indicator of power imbalance in the virtual realm. This thesis takes the perspective that workplace cyberbullying can be conceptualised in the same manner as offline workplace bullying, using the indicators of repetition and power imbalance. However it is the natural differences between online and offline communication that require these constructs to be examined in a separate manner. Workplace cyberbullying is therefore defined as:

a situation where over time, an individual is repeatedly subjected to perceived negative acts conducted through technology (e.g. phone, email, web sites, social media) which are related to their work context. In this situation the target of workplace cyberbullying has difficulty defending him or herself against these actions.

The definition states that perceived negative acts are related to an individual's work context. The phrase 'work context' not only refers to acts experienced within the work environment (on work-related communication systems), but it also captures any behaviours experienced outside the confines of work that are related to an individual's employment. For example, an employee might be abused by a colleague on non-work social media websites outside of regular work hours. This is related to the target's work context because it has been perpetrated by a colleague. Similarly, individuals with high profile jobs (for example, politicians, journalists) might be abused via CMC by members of the public because of their professional mistakes/decisions/views. In such circumstances, the acts are linked to the target's employment and thus relate to their work context.

Similar to many offline workplace bullying definitions, intent to harm has not been included in the cyberbullying definition used in this thesis. In the offline context it has been argued that intent should not be used as a bullying criterion because of the complexities surrounding how to establish a perpetrator's real intentions (Einarsen et al., 2003). Determining a perpetrator's real intentions is even more difficult during online communication because ICTs do not transmit the full range of communication cues (Daft & Lengel, 1986). Additionally, because cyberbullying acts often leave a record of their existence (for example, emails, text messages), perpetrators may be even more careful to disguise cyberbullying behaviours. This hinders the target's ability to report the perpetrator as there is too much ambiguity surrounding whether an act was conducted with intent to harm. Perpetrators may also enact cyberbullying behaviours without necessarily intending to harm the target. For instance, a manager driven to succeed may use bullying tactics to elevate staff performance, such as embarrassing underperforming employees in group emails, or by being overly critical. For these reasons it is possible for cyberbullying to occur in the absence of ill-intent.

The development of this definition is the first stage in the process of developing a workplace cyberbullying measure, which is the primary aim of this thesis. Several researchers note that definitions used to develop measures should be as clear and concise as possible (Churchill, 1979; Hinkin, 1995; MacKenzie, Podsakoff & Podsakoff, 2011). Furthermore, MacKenzie et al. (2011) point out that when developing a construct definition, the researcher should (1) specify the conceptual domain which the focal construct belongs to (for example, whether it refers to a thought, feeling, behaviour or action) and (2) specify the entity to which it applies (for example, whether it applies to a person, task, relationship, process, organisation or a culture). Regarding the first point, workplace cyberbullying is defined as a set of perceived behaviours that occur in the working context, when these behaviours are perceived by the target as coming from a more powerful individual (or individuals) workplace cyberbullying can be said to occur. In relation to the latter point, workplace cyberbullying applies to a relationship or a set of relationships between the target and perpetrator(s).

Summary

The previous section reviewed research to conceptualise workplace cyberbullying as *'a situation where over time, an individual is repeatedly subjected to perceived negative acts conducted through technology (e.g. phone, email, web sites, social media) which are related to their work context. In this situation the target of workplace cyberbullying has difficulty defending him or herself against these actions'*. This operationalisation fulfils the first aim specified in the introduction to this chapter. The second aim of the chapter is to justify why cyberbullying should be investigated as a separate form of workplace bullying. The next section will therefore review the behaviours that embody cyberbullying and discuss the unique features of the phenomenon.

2.6 Cyberbullying Behaviours

Research from the youth context can inform knowledge on the nature of workplace cyberbullying behaviours. Within this field a central debate concerns whether cyberbullying behaviours are simply offline behaviours conveyed through a new medium, or whether cyberbullying behaviours are unique (Kowalski, Giumetti, Schroeder & Lattanner, 2014). It has been suggested that cyberbullying is merely a technology-mediated form of offline bullying which involves the same behaviours perpetrated through technology (Kowalski, Limber & Agaston, 2008). Researchers have identified that many offline bullying behaviours are enacted during cyberbullying. For instance, Lam and Li (2013) found that cyberbullying involves behaviours such as threats, teasing and name calling, all of which can take place during offline bullying. However, other evidence indicates that cyberbullying also involves behaviours that are unique to the online context (Griezel, Craven, Yeung & Finger, 2008).

Lam and Li (2013) developed an E-bullying scale to assess cyberbullying among Chinese adolescents. Factor analysis of the E-bullying scale revealed that cyber items took a two factor structure, composed of mild and severe e-bullying. Mild E-bullying included behaviours such as teasing, name calling and saying hurtful things. Comparatively, severe E-bullying involved threats and spreading untrue rumours. Factor analysis of an extended version of the Adolescent Peer Relations Instrument also found psychometric support for two technological factors (visual and text) that underlie cyberbullying (Griezel et al., 2008). The visual items of the scale included sending hurtful videos or images, while the text items included making nasty jokes through instant chat capabilities.

Other researchers have found that cyberbullying is often best represented using a single factor model. For example, Menesini, Nocentini and Calussi (2011) examined the severity of ten items within their cybervictimisation scale. Factor analysis of the scale

demonstrated that cyberbullying was best represented using a monodimensional model where items lie on a continuum of severity. Acts such as prank phone calls were low in severity, whereas insults and rudeness via email and websites were more severe. Topcu and Erdur-Baker (2010) also found good fit for a one factor cyber victimisation measure, which was developed in the Turkish context. A systematic review of instruments related to cyberbullying was conducted by Frisen (2013) who analysed 44 measurement instruments to help researchers identify a suitable measure for their own research. The review highlighted several problems with current measurement tools, including the lack of a definitional self-labelling question and differences regarding the conceptualisation of cyberbullying.

Willard (2007) suggested that there are eight forms of negative cyber behaviour that may overlap or appear under different labels. Some of these behaviours can be enacted offline, however the nature of these behaviours is often subject to change when conducted online as opposed to offline. For instance, Willard (2007) identified cyber threats as a form of negative cyber behaviour. Threats are a well-established form of offline aggression, yet in the virtual environment the perpetrator can remain anonymous which may have implications concerning the potential impact. In addition, some negative cyber behaviours are impossible to enact in offline situations. For instance, forwarding or carbon copying emails in a negative manner cannot be enacted in the offline domain. Willard's (2007) eight forms of online social aggression are described below:

1. Flaming is described by Willard (2007, p.5) as a "*heated, short lived argument that occurs between two or more protagonists.*" It occurs when abusive language is directed at another through the internet (Lea, O'Shea, Fung & Spears, 1992) and it can include both threats and insults. Other examples include obscenities, inappropriate comments, the hostile expression of thoughts and feelings and the use of capital letters, red text and insulting emoticons (Turnage, 2007).

2. **Harrassment.** This involves sending repeated offensive messages to a target using technology-mediated communication.
3. **Denigration.** Denigration involves spreading information about a target which is untrue, harmful or cruel. Behaviours involved include spreading gossip or rumours. This can occur in the offline environment, but a caveat in the online world is the ability for the perpetrator to share harmful videos.
4. **Impersonation.** Impersonation refers to situations where a perpetrator gains access to the target's social media profile, telephone, email account or other online presence and uses it to post material that reflects badly on the target or interferes with their friendships.
5. **Outing and Trickery.** This occurs when the perpetrator publically shares material (for example, communications, images) which contains personal information that is potentially embarrassing for the target. An example is when a perpetrator forwards an email that contains sensitive information about the target.
6. **Exclusion.** Like offline exclusion, online exclusion involves ostracising the target from a communal group. Willard (2007) gives the example of a group of teenage girls leaving one girl off their instant messaging list.
7. **Cyberstalking.** Cyberstalking shares many of the features involved in both denigration and cyber harassment. Cyberstalking involves repeatedly sending unwanted messages,

threats and spreading rumours. Cyberstalking has been linked to the termination of romantic relationships where the cyberbully has access to potentially sensitive information that would not otherwise be available to them.

8. Cyber threats. As with offline threats, cyber threats are statements that indicate an intent to harm the target. Cyber threats are often involved when flaming occurs and can be perpetrated anonymously.

In addition to research on actual behaviours, researchers have investigated the features of behaviour that lead to negative perceptions. Turnage (2007) conducted a study to explore whether the characteristics of flaming listed in the research literature were considered flaming by actual email users. Messages that users perceived as flaming included those involving obscenities, capital letters and unnecessary use of punctuation, such as exclamation and question marks. Although not all messages including profanity were judged as flaming, rather it was the general tone of the messages which seemed to affect negative perception. Researchers have also found that the nature of a behaviour can affect how negatively it is perceived. Slonje and Smith (2008) found that students rated acts involving picture and videos as the most severe form of cyberbullying because of the large potential audience and because they could be identified.

Workplace Cyberbullying Behaviours

Research from the youth context hints at some of the behaviours that may be involved in workplace cyberbullying, but there are likely to be significant differences between the acts perpetrated by youths and acts perpetrated by working adults. Employees are bound by regulations and face sanctions if they abuse co-workers in an explicit manner, consequently workplace bullying may involve a more subtle array of behaviours. Furthermore, workplace

bullying involves work-related behaviours such as undue work criticism, excessive monitoring and pressure to meet unachievable deadlines, which do not occur in the youth context.

Recent research has begun to unearth behaviours that may occur during workplace cyberbullying situations. D’Cruz and Noronha (2013) conducted a qualitative study on cyberbullying experienced in India’s IT sector. Behaviours identified through use of hermeneutic phenomenological inquiry included anonymous abusive emails sent to everyone within an organisation, negative public posts uploaded on social networking websites and one cyberbully even hacked into a female employee’s computer to spread slanderous, false messages to her friends and family. A further qualitative study conducted by D’Cruz and Noronha (2014) examined customer cyberbullying, which refers to aggressive behaviours enacted by customers towards front line employees. In their study conducted with Indian call centre agents, respondents were subjected to threats and rude personal remarks over the phone, such as “*Why should I trust a terrorist country*” (p. 186) and “*you are a liar, why should I trust you*” (p. 186). Other behaviours experienced by call centre employees included sarcastic or bitter comments, shouting, swearing and intimidation.

Examples of workplace cyberbullying behaviour were also identified by West, Foster, Levin, Edmison and Robibero (2014) who conducted interviews with human resources professionals across varied sectors. The behaviour most commonly encountered by respondents were employees posting inappropriate comments about their colleagues on the internet, particularly on social networking websites, such as Facebook and Twitter. Other examples discussed by respondents included distributing jokes via work email and cyber stalking after an office romance had broken down. Respondents also commented that many of the behaviours involved in cyberbullying cases were new to HR departments and a consensus has yet to be established regarding acceptable versus unacceptable cyber behaviour.

Summary

This section illustrates that cyberbullying involves behaviours that occur during offline bullying (for example, name calling, threats), while it also seems to involve behaviours that are unique to the online context (for example, anonymous messages, posting inappropriate comments). Interestingly, researchers have found that characteristics of online communication can alter the impact of cyberbullying behaviours. For instance, Slonje and Smith (2008) found that students rated picture and video related cyberbullying acts as more severe, because these acts could be seen by a large audience. This suggests that certain cyber characteristics can affect how harmful a behaviour is perceived to be. Researchers have identified several unique features of cyberbullying that can serve to illustrate why this form of bullying should be investigated separately from offline bullying. These characteristics will be reviewed in the following section.

2.7 Unique Characteristics of Cyberbullying

During this chapter it has been argued that cyberbullying and offline bullying are similar constructs which share the defining criteria of persistence and power imbalance. This may lead researchers to argue that bullying should be treated as an overall construct that involves both cyberbullying and offline bullying. However, this view does not account for the unique characteristics of cyberbullying which distinguish it as a distinct form of bullying. The unique characteristics of cyberbullying arise from the online context in which it occurs and it has been suggested that these features may produce different motivations for perpetrators and consequences for victims (Menesini, Nocentini & Camodeca, 2013). For instance, one motive for perpetrating face-to-face bullying is the status obtained by demonstrating abusive power over others, but this is not an obvious motivation for perpetrating cyberbullying (Smith,

2012). Moreover, cyberbullying can be more or less severe than offline bullying, depending on the behaviours that targets experience (Slonje & Smith, 2008)

The distinguishing features of cyberbullying are outlined in Table 2.2 An examination of the features that differentiate cyberbullying from offline bullying enables clearer theoretical conceptualisation of the construct. These features may also offer insights into the unique bullying behaviours that occur online, which has implications for how the phenomenon is measured. For instance, the anonymity associated with cyberbullying enables perpetrators to enact behaviours such as impersonating the target, or sending slanderous communications to their friends and family.

Table 2.2: Distinguishing features of cyberbullying

Distinguishing features of cyberbullying

Anonymity: In certain circumstances, the perpetrator can choose to remain anonymous by withholding identifying information. This prevents the target from contextualising cyberbullying incidents and they are left unable to report the perpetrator to a relevant authority.

Separation of perpetrator and target: Even in circumstances when the perpetrator is not anonymous, the perpetrator and target are often in different locations when an act occurs. This can lead to misunderstandings over whether an act is a joke or a bullying behaviour. It may also lead to reduced empathy as the perpetrator is not able to see the victim's reaction to perceived cyberbullying events.

Permanence: Some acts of cyberbullying can last for an indefinite amount of time. For instance, an embarrassing photo published on a social networking website may remain accessible to an unlimited audience until it is removed. Permanent cyberbullying acts can be repeatedly reviewed by victims and bystanders, while they may also allow victims to resolve disputes more easily because they can be used as evidence in disciplinary procedures*.

Potential to be experienced anytime, anywhere: The reach of technology enables cyberbullying to be carried out at any time. This can allow a perpetrator to victimise whenever they want, which can lead the target to feel that they cannot escape the bullying.

Breadth of audience: Cyberbullying acts can potentially be viewed by a much larger audience because it is possible to forward on some cyberbullying acts. For instance, an abusive email distributed within a work team, could then be passed on to others within an organisation.

* Most offline bullying behaviours are transient and leave no record of their existence, but one notable exception is physical isolation which represents a permanent change that can be observed by bystanders. However this aspect still differs from cyberbullying permanence which refers to the permanent record of the original act.

Much of the current research has addressed the unique features of cyberbullying within the youth context, however a small body of research has investigated the unique characteristics of workplace cyberbullying. Coyne et al. (in press) examined how bystanders experience workplace cyberbullying, finding that counter to offline bullying research (Vartia, 2001) witnessing cyberbullying did not adversely impact on bystanders. This finding was explained using the deindividuation effect of virtual working, an effect which makes people less sensitive to the thoughts and feelings of others and therefore less capable of empathising with cyberbullying targets. Indeed, it was argued that reduced social cues in the virtual environment produces low affect and cognitive empathy (Ang & Goh, 2010). Therefore cyberbullying bystanders may be less capable of placing themselves in the position of the target, which may produce a more isolating experience for the victim.

Ford (2013) examined anonymity and the location where targets experience behaviours as distinctive features of virtual harassment (which is interpersonal behaviour perpetrated through technology that is aimed at harming another employee). The construct shares many of the same characteristics of cyberbullying, although it differs because behaviours are intentionally harmful and it does not have to be repeated. The study investigated whether location and anonymity acted as moderators in the relationship between virtual harassment and employee's fear of future harassment. Perpetrator anonymity was found to amplify the association between virtual harassment and fear of future harassment, such that greater perpetrator anonymity was related to higher levels of fear in the target. Results regarding location suggested that as the volume of harassing messages received outside of work escalated, there was more fear of future harassment than when receiving messages solely within work.

In the D’Cruz and Noronha (2013) study, participants reported feeling haunted and hemmed in because technology allowed perpetrators to contact them anytime, anywhere, and it often facilitated the spread of harmful information in an anonymous manner. This affected the respondent’s work-life balance as it interfered with their family relationships. However a more positive element concerned how respondents were able to use features of virtual communication to resolve their situation. Unlike offline bullying, certain cyberbullying acts leave behind a record of their existence (for example, email, text messages). Consequently respondents were able to use the permanent evidence of cyberbullying acts to resolve their situation by reporting (or threatening to report) the abuse to their organisation.

Summary

Research on how the unique features of workplace cyberbullying affect employees is limited. However the initial research demonstrates that the unique features are related to employee reactions (Ford, 2013). Indeed, Slonje, Smith and Frisen (2013) suggest that the distinguishing features may work both ways in respect to their impact on victims. The authors give the example of a broad audience being both a factor that can exacerbate embarrassment for the victim, as well as a factor that can alert others to the problem. The same may be true in the working context. Targets have reported feeling haunted and hemmed in by the enhanced reach of cyberbullying, but they also report being able to resolve situations more easily because cyberbullying left permanent evidence that could be used during resolution (D’Cruz & Noronha, 2013). The unique features of cyberbullying provide a rationale for why cyberbullying should be treated as a separate form of bullying. However, while the unique features of cyberbullying theoretically distinguish cyberbullying from offline bullying, they do not distinguish cyberbullying from other cyber harassment constructs. The next section will elaborate on how cyberbullying is theoretically distinct from other cyber harassment variables.

2.8 Theoretical Distinction

Weatherbee and Kelloway (2006) coined the term cyberdeviancy to refer to a broad construct that encompasses all forms of ICT misuse in organisations. Within the scope of cyberdeviancy (also referred to as cyber harassment in this thesis and the wider literature) is the use of ICTs for inappropriate interpersonal relations, including incivility, aggression and bullying. Accordingly, the sparse research that does exist has addressed three cyber harassment constructs: cyberaggression, cyber incivility and cyberbullying. As noted by Weatherbee (2007) before empirical work can address a construct, it is important to theoretically substantiate and conceptualise it. It is also necessary to differentiate it from related phenomena. This is especially pertinent in the field of workplace harassment as it has been argued that the development of multiple harassment constructs may not be yielding new insights or adding value to the field (Hershcovis, 2011). As such, it is necessary to justify why workplace cyberbullying should be investigated as a different form of bullying. The following section will examine cyber incivility and cyberaggression to present differences between the constructs which will further aid the conceptualisation of workplace cyberbullying.

2.9 Cyber Incivility

Cyber incivility has been defined as “*communicative behaviour exhibited in computer-mediated interactions that violate workplace norms of mutual respect*” (Lim & Teo, 2009, p.419). Cyber incivility closely mirrors the concept of offline incivility which refers to low intensity deviant acts enacted towards others with ambiguous intent to harm

(Andersson & Pearson, 1999) although it has been suggested that cyber incivility may be even more common than the offline form (Giumetti, Hatfield, Scisco, Schroeder, Muth & Kowalski, 2013). Past research has revealed some of the behaviours that encompass cyber incivility. A study by Lim and Chin (2006) identified that male supervisors engaged in different types of cyber incivility compared to female supervisors. Males perpetrated more active acts, such as making sarcastic remarks or being demeaning, whereas women enacted more passive acts such as not replying to emails or using email to cancel meetings at short notice.

Giumetti et al. (2013) suggest that different behaviours may encompass cyber incivility compared to those that reflect face-to-face incivility. Behaviours proposed to reflect cyber incivility are showing impatience by sending multiple emails about a single request, carbon copying another employee's supervisor to alert them to an issue, repeated blog postings to large audiences, sending text messages during meetings and inappropriate use of emoticons (Giumetti et al., 2013). Similar to cyberbullying, it has been suggested that cyber incivility may include more features that enable individuals to misbehave, such as the ability to remain anonymous, the ability to access messages at all times and the ability to copy and forward messages instantaneously.

Conceptually, cyber incivility differs from cyberbullying in the same way that offline incivility differs from offline workplace bullying. Firstly, cyber incivility can refer to a single act, whereas the repetition of negative acts is a central component of cyberbullying. Secondly, cyberbullying is characterised by a power disparity between perpetrator and victim, comparatively power is not a relevant aspect of cyber incivility. Finally, the behaviours involved in cyber incivility are generally less severe than those that encompass cyberbullying. Andersson and Pearson (1999) note that incivility involves low-intensity deviant acts, whereas cyberbullying behaviours are intrinsically negative as researchers have

defined them as inappropriate, unwanted, negative, aggressive and hostile (D’Cruz & Noronha, 2013; Hong et al., 2014).

2.10 Cyberaggression

Weatherbee and Kelloway (2006) define cyberaggression as “*aggression expressed in a communication between two or more people using ICTs, wherein at least one person in the communication aggresses against another in order to effect harm*” (p.461). Aggression is acknowledged as a multidimensional construct and it is often treated as workplace violence in the offline literature, where a distinction has been made between physical aggression and nonphysical (psychological) aggression (Schat & Kelloway, 2000). Offline aggression is defined by Schat and Kelloway (2005) as “*behaviour by an individual or individuals within or outside an organisation that is intended to physically or psychologically harm a worker or workers and occurs in a work-related context*” (pp. 191).

In the online context individuals are unable to physically harm one another. Therefore cyberaggression is primarily a communicative construct that requires a consideration of how ICTs are used to enact aggression (Weatherbee & Kelloway, 2006). When cyberaggression is performed, three actors can be involved: the perpetrator, the victim and bystanders. It is argued that the social context influences cyberaggressive acts through two processes. Firstly, through the perception of the cues involved in a communication, and secondly through the interpretation and subsequent affective states that cyberaggression produces (Weatherbee & Kelloway, 2006).

Offline research has outlined how aggression and bullying differ which may shed light on potential differences in the cyber context. It has been suggested that although the behaviours involved in aggression and bullying may be the same, the constructs differ in

three main ways (Schat & Kelloway, 2005). Firstly, bullying consists of frequent acts, perpetrated over a period of time, whereas aggression can refer to a single negative behaviour. Secondly, the bullying literature does not generally consider the involvement of organisational outsiders (Hershcovis, 2011), however aggression research acknowledges that outsiders (for example, customers, clients) can be involved. Thirdly, bullying involves a power disparity between perpetrator and victim, which is not a prerequisite of aggression.

2.11 Summary

This chapter reviewed the offline workplace bullying, computer mediated communication and cyberbullying literature to conceptualise workplace cyberbullying. The construct was then differentiated from offline workplace bullying through an examination of the behaviours and unique characteristics that embody it. The literature indicates that although workplace cyberbullying and offline workplace bullying are conceptually similar, there are certain characteristics which suggest that cyberbullying should be investigated independently. For instance, the perpetrator and target do not have to be in the same location, there are more varied bystander roles and cyberbullying can be enacted at any time (for example, outside work hours).

The chapter conceptualised cyberbullying as a separate construct from cyber incivility and cyberaggression. Workplace cyberbullying was defined as *'a situation where over time, an individual is repeatedly subjected to perceived negative acts conducted through technology (e.g. phone, email, web sites, social media) which are related to their work context. In this situation the target of workplace cyberbullying has difficulty defending him or herself against these actions'*. This definition involves power imbalance and repetition as core criteria, but these criteria are not central aspects of cyber incivility or cyberaggression.

The conceptualisation of workplace cyberbullying has implications for its measurement. If there are distinct features of cyberbullying, there may also be distinct behaviours that cannot be captured using offline bullying scales. For instance, the concept of ‘outing’ described by Willard (2007) whereby a person’s personal information or data (for example, private pictures, opinions, contact information) are posted publically by another individual is not a behaviour that can be perpetrated so easily offline. In addition, cyber incivility and cyberaggression scales are not appropriate for measuring cyberbullying because they do not assess power imbalance between the perpetrator and the target. As noted by Hershcovis (2011) unless a constructs measurement method captures how it is conceptually distinct, an understanding of how its distinctions affect experiences, outcomes and coping strategies cannot be obtained. Therefore the definition has an important role to play in achieving the primary aim of the thesis, which is to develop a dedicated workplace cyberbullying measurement tool. This is because the advancement of an appropriate definition is essential to the overall quality of a measurement scale as the construct validity of measures rests upon definitional clarity. The next chapter reviews bullying measurement methods in greater detail.

Chapter 3 – Review of Measurement Methods in Bullying Research

Chapter 2 conceptualised workplace cyberbullying and argued that the construct was worthy of independent evaluation. This chapter aims to (1) assess the methods used to measure bullying and (2) provide a rationale for developing a workplace cyberbullying measure. To achieve these aims the chapter is structured as follows: firstly a literature review examines two different perspectives on bullying measurement, namely the inside and outside perspectives. The strengths and weaknesses associated with inside methods of measuring bullying are then described, including social network analysis, the critical incident technique, focus groups, interviews and surveys. Next, the differences between self-labelling surveys and behavioural experience surveys are detailed. The chapter concludes with the rationale for developing a workplace cyberbullying measure which involves a review of existing scales and an outline of how it would contribute to knowledge.

3.1 Measuring Exposure to Bullying

In recent years there has been greater focus on how research methods affect findings from workplace bullying studies. This may be because a hurried approach to researching bullying has been conducted without an appreciation of the impact of research methods (Keashly & Harvey, 2005). Accordingly there is still much to learn about workplace bullying measurement methods and how they can be used to answer salient research questions. Cowie et al. (2002) presented a comprehensive review of the diverse methods that can be used to measure bullying, but the nature of these methods are still not comprehensively understood. Among the lesser utilised methods are focus groups, diary studies, observations and social

network analysis, while more widely used approaches include self-report surveys and interviews. Before exploring the nuances of these measurement techniques it should be noted that there are two perspectives that inform how bullying is assessed: the inside perspective and the outside perspective.

Similar to the distinction between subjective bullying and objective bullying introduced in Chapter 2, the outside perspective uses so-called objective methods to assess bullying, including observation and peer nomination. Whereas the inside perspective examines bullying from the point of view of the target and methods within this perspective include interviews with victims, self-report surveys and diary studies (Cowie et al., 2002). The more subjective investigation of bullying associated with the inside perspective is easier to conduct. Furthermore, the individual ultimately decides whether they are a bullying victim, which is consistent with the notion of bullying as a phenomenon interpreted through the mind of the individual (Galanaki & Papalexandris, 2013). However Einarsen (2000) notes that *“treating bullying as a pure subjective phenomenon meaning different things to different people may make it difficult to develop practical interventions for controlling or eradicating the problem”* (p. 398). Subjective investigation can also be biased as it relies on personal judgements which may be influenced by personality characteristics.

The outside perspective involves measuring bullying using methods that do not take into account the subjective opinions of bullying victims. Instead bullying is examined from the perspectives of third parties, including researchers and bystanders. Therefore whilst outside methods are arguably more objective than inside methods, they still rely on subjective judgements. One such example is peer nomination. When this has been conducted in the youth context researchers have asked members of a class to nominate the children who are mostly commonly perpetrators and victims of bullying (Bowers, Smith & Binney, 1994). Another outside approach involves using observational methods whereby individuals are

studied in their natural setting, often through audio and visual recordings. Observational methods are advantageous because they enable the researcher to view real time incidents (Cowie et al., 2002). Yet these methods also have weaknesses. They can be time consuming and have ethical implications, such as whether researchers should intervene to stop bullying.

The weaknesses associated with inside and outside methods has led to a view that the triangulation of methods may be the best way to assess a construct as complex as bullying (Aquino & Lamertz, 2004). Using a combination of methods may achieve a more complete understanding of the phenomenon and it may overcome problems associated with common method variance. Nonetheless, the inside perspective is adopted during this thesis. This is because outside methods are not conducive to the cyber context as technology-mediated communications are often private and cannot be easily viewed by third parties. Moreover, even when technology-mediated communication is visible, the deindividuation effect of CMC may cause bystanders to be less aware of cyberbullying acts.

Researchers have also argued against using an outside approach because in some instances bystanders may not be neutral in their observations. Bjorkqvist, Osterman and Hjelt-Back (1994) argued that threats to economic dependency could prevent individuals from presenting an honest assessment of events. Furthermore, a target's subjective assessment of bullying may be a better predictor of detrimental health outcomes than when bullying is specified by a third party, without the target perceiving bullying. For example, Cooper, Hoel and Faragher (2004) state that "*being exposed to behaviour which may be construed as bullying is in itself not harmful if it is not perceived as such by the recipient. Accordingly, the stronger negative impact is likely to be found among those reporting or labelling themselves as being bullied*" (p.369). Outside methods can also be time consuming and ethically problematic. Therefore the measurement tool developed in this thesis will take

an inside perspective. The following section will examine some of the measurement methods within this perspective.

3.2 Inside Methods of Measuring Bullying

Critical Incident Technique

The critical incident technique (CIT) is a qualitative method used to gain information on a particular event or scenario by asking individuals questions related to the event (Flanagan, 1954). It allows researchers the flexibility to explore different aspects of an experience, for instance questions could be asked about the nature of a bullying event, the perpetrator or its subsequent impact. Hershcovis and Reich (2013) suggest that CIT has three advantages over multiple-item survey measures: (1) respondents can be asked about a single form of harassment, (2) the researcher can explore the perpetrator-target relationship and (3) it does not rely on frequency anchors.

CIT has been applied to the study of email usage and workplace bullying (Serenko & Turel, 2010; Woodrow & Guest, 2014). Serenko and Turel (2010) examined respondent's perceptions regarding positive and negative aspects of email communication. The authors cited the provision of rich data as a key advantage of the method. Liefoghe and Olafsson (1999) used CIT to explore individual's representations of workplace bullying. They stated that the approach allowed an exploration of bullying as a set of events, rather than as an objective reality. This facilitated valuable insights into the individual and organisational factors that influenced the bullying process. However, the method has certain drawbacks. It is open to recall bias as respondents have to describe events retrospectively. Furthermore, the researcher may not interpret the narrative correctly, it can be time consuming and it cannot be conducted longitudinally (Serenko & Turel, 2010).

Focus Groups

Focus groups have been used to explore employee's experiences of bullying (Liefoghe & Mackenzie Davey, 2001; Liefoghe & Olafsson, 1999; Tracy, Lutgen-Sandvik & Alberts, 2006). Tracy et al. (2006) note that focus groups can be similar to group therapy as the vocalisation of experiences can stimulate similar thoughts and memories among fellow participants. Similarly, a common language can develop to describe comparable experiences and focus groups allow respondents to share in an environment where others can relate and empathise. However disadvantages include the potential for focus groups to be influenced by authoritative individuals and it is important to ensure that individuals from the same work group are not in the same focus group, because emotive content may lead to disagreements about past bullying situations. Indeed, the opinions aired during focus groups may prove disruptive long after the research has been concluded (Liefoghe & Mackenzie Davey, 2001). Additionally, when focus groups are used within a particular organisation, employees may take the opportunity to air grievances regardless of whether they are related to bullying or not (Liefoghe & Mackenzie Davey, 2001). Therefore focus groups may be most useful when recruiting participants from a wide range of organisations (Cowie et al., 2002).

Diary Studies

Diary studies are often cited as a method that may facilitate a deeper understanding of the dynamics of bullying as they capture the lived experiences of participants as they unfold (Hoel, Sheehan, Cooper & Einarsen, 2011; Nielsen, Hetland, Mattiesen & Einarsen, 2012). Despite this advantage, few studies have utilised diary studies as a means of investigating workplace bullying. This is possibly because it is difficult to verify diary entries and participants may be more likely to interpret incidents as bullying due to increased awareness (Swim, Hyers, Cohen & Ferguson, 2001). There are also ethical implications to consider if

the researcher identifies a particularly harmful bullying situation midway through a diary study. Diary studies are also time consuming and without researchers or organisations providing incentives to maintain entries, the dropout rate may be high (Cowie et al., 2002).

Diary studies have been used to examine the incidents and nature of sexism (Swim et al., 2001) which can be categorised under the broad spectrum of workplace harassment along with bullying. Swim et al. (2001) suggest that the technique is superior to other methods at capturing subtle acts that may otherwise be forgotten and for recording how frequently behaviours are experienced (Swim et al., 2001). Diary studies can also capture how interactions unfold over a period of time, which is not always possible with survey or interview methods. Therefore researchers may consider this as a superior method for answering research questions on the bullying process and relationships between organisational actors.

Social Network Analysis

Hershcovis and Reich (2013) suggest that social network analysis could be a useful method for investigating the dynamic nature of workplace harassment. This method allows researchers to collect data within a wide social context as it examines individuals within a social system who are connected by links or ties. Data is collected on relationships between a set of actors (Wasserman & Faust, 1994) under the premise that a person's position within a network can affect their access to social and material resources (Brass, 1984). Therefore social network analysis has been proposed as a method that can examine whether conflict between two parties may lead to perceptions of bullying (Hershcovis & Reich, 2013). This method could address criticisms of cross-sectional survey designs that cannot assess the unfolding nature of workplace aggression. Although, noted limitations include the fact that respondents must identify other individuals with whom they have a relationship and data

must be collected from everyone in the network, which is not always possible (Hershcovis & Reich, 2013).

Interviews

Burgess (1988) describes qualitative interviews as “*conversations with a purpose*” (p. 137). Interviews have frequently been used to assess employee perceptions of workplace bullying (Baillien, Neyens, De Witte & De Cuyper, 2009; Van Rooyen & McCormack, 2013) and workplace cyberbullying (D’Cruz & Noronha, 2013; Heatherington & Coyne, 2014). Heatherington and Coyne (2014) used Interpretative Phenomenological Analysis (IPA, Smith & Osborn, 2003) to investigate how individuals made sense of their workplace cyberbullying experiences. The authors stated that using IPA via semi-structured interviews facilitated the development of valid accounts that resonated with participants and a wider audience through a personal understanding of experience. Likewise, D’Cruz and Noronha (2010b) utilised hermeneutic phenomenology to explore how employees coped with workplace bullying. This method, conducted through conversational interviewing, involves eliciting experiences as they were lived. In this respect, the researcher attempts to reach the original experience as it was lived by the respondent, before reflecting on the core themes that represent the phenomenon.

One of the main advantages of interviews is that they allow an exploration of the uniqueness of bullying situations and how they unfold, because participants are encouraged to describe their own individual experiences. Lutgen-Sandvik (2006) interviewed 30 target and witnesses of bullying which enabled a description of the different phases victims encounter during the bullying process. Qualitative interviews are also beneficial when new theory needs to be developed. Baillien et al. (2009) conducted a series of interviews with HR managers, prevention workers and social service employees to identify the processes that

caused bullying, which facilitated the development of a new theoretical model. However, interviews are not without drawbacks, they are time consuming and sample sizes tend to be small. For example, Heatherington and Coyne (2014) interviewed a sample comprising five people. This is not unusual when using IPA, but it prevents findings being generalised to a broader population. Additionally, interviews that touch on bullying experiences can be sensitive, particularly when conducted face-to-face as the respondent can see the interviewer's reaction to their answers. This may cause the interviewee to be untruthful when responding, as they may seek to please the researcher or protect their own self-concept (Branch, Ramsay & Barker, 2007). Finally, interviews are not appropriate for answering research questions on prevalence and causal relationships between variables.

3.3 Survey Methods in Bullying Research

Self-report surveys represent one of the most commonly used methods in bullying research. Indeed, a recent study found that out of 224 peer reviewed studies on workplace harassment, 88.4% used survey methods, 12.0% used interview methods, 3% used physical health measures and less than 1% used a daily diary approach (Neall & Tuckey, 2014). There are two main methods of measuring self-reported bullying through surveys: the self-labelling method and the behavioural experience method (Nielsen, Matthiesen & Einarsen, 2010). The following section will review both of these methods, assessing the strengths and weaknesses of each approach.

The self-labelling approach

The self-labelling approach involves asking respondents whether they feel they have been a victim of bullying or cyberbullying using a single item. For example, Minor, Smith and Brashen (2013) asked 'Based on the National Crime Preventions Council (2010)

definition of cyberbullying (“*the use of the Internet, cell phones, or other devices to send or post text or images intended to hurt or embarrass another person.*”), have you ever been cyberbullied by a student?’ This was followed by the response categories ‘yes’, ‘no’ and ‘not sure’. In the example above, a definition of cyberbullying has been provided to help the respondent make an informed judgement on whether they feel cyberbullied. However a definition of bullying is not always provided when the self-labelling approach is used. A meta-analysis of self-report survey studies identified that out of 68 studies, 47 used self-labelling with a definition and 21 used self-labelling without a definition (Nielsen et al., 2010). The use of self-labelling without a definition is also prevalent in the cyberbullying literature. For example, single-item measures such as ‘I have been cyber-bullied (e.g. via email, chat room, cell phone) yes/no’ (Li, 2007. p.13) have been used in cyberbullying research (Li, 2005; Ybarra & Mitchell, 2004a, 2004b).

The purported advantages of the self-labelling approach include high face validity, quick administration and high construct validity if a comprehensible definition is provided (Einarsen et al., 2011). Yet there are a number of reasons why the self-labelling approach is less rigorous than the behavioural experience method. Nielsen et al. (2010) state that using single items to ask respondents directly about their self-labelled victimisation is highly subjective as responses may be influenced by individual characteristics. For instance, research indicates that individuals higher in aggressiveness and negative affect perceive more workplace victimisation (Aquino & Bradford, 2000) and women self-label as victims to a greater extent than men (Salin, 2003b).

Single-item measures are also less valid and reliable. They are more prone to random error than multiple-item scales because the unreliability within a measure is averaged out when scores across items are summed to obtain a total score (Nunnally, 1978). Additionally, when self-labelling questions do not include a formal definition their construct validity can be

questioned. This is because unless a definition is provided, it is unclear whether the respondents' understanding of bullying matches the researcher's understanding of bullying (Nielsen et al., 2010). For instance, the researcher may feel that intent to harm is a salient aspect of the bullying experience, whereas the respondent might feel that repetition of unintentional negative acts is enough to warrant bullying. Bullying is also a gradually escalating process and the use of single items treats bullying as an 'either or' phenomenon (Einarsen et al., 2009). Finally, by using a self-labelling approach, the researcher is unable to obtain any information on the nature of the behaviours involved (Einarsen et al., 2011). For these reasons multiple-item measures are a more appropriate method for investigating bullying.

The Behavioural Experience Method

Multiple-item bullying scales ask respondents to indicate how frequently they have experienced a check list of bullying behaviours, usually within a specified time period (Salin, 2001). This process has been labelled the operational method and the behavioural experience method because it assesses exposure to behaviours that could be conceptualised as bullying acts if they are repeatedly experienced. Two of the most commonly used behavioural measures are the Negative Acts Questionnaire (NAQ; Einarsen et al., 2009; Einarsen & Raknes, 1997) and the Leymann Inventory of Psychological Terror (LIPT; Leymann, 1989). The NAQ includes 22 bullying items, such as '*being humiliated or ridiculed in connection with your work*' and '*having insulting or offensive remarks made about your person, attitudes or your private life*' (Einarsen et al., 2009). Respondents are asked to indicate how often they have experienced each behaviour on a response scale ranging from 'Never' to 'Daily'. Similar measures are also prevalent in cyberbullying research (Arıcak, Siyahhan, Uzunhasanoglu, Saribeyoglu, Ciplak, Yilmaz, & Memmedov, 2008; Hindjura & Patchin, 2007). For example, Lam and Li (2013) developed the E-victimisation scale to assess

cyberbullying among Chinese adolescents. Examples of items within the measure include ‘*How many times did someone call you bad names using email, texting, short messages on a website such as Renren etc?*’ and ‘*How many times did someone tease you using email, texting, short messages on a website such as Renren etc?*’.

There are two main methods of classifying respondents who complete behavioural experience surveys as either victims or non-victims of bullying. Leymann (1996) developed an operational definition to provide a criterion for classifying people as victims. According to Leymann’s (1996) definition, respondents who have experienced one or more negative behaviours on a weekly (or more frequent) basis over the previous six months can be classified as bullied. Although Mikkelsen and Einarsen (2001) recommended a stricter criterion of at least two negative acts per week. The other method of classifying victims involves using a global definition, placed at the end of the behavioural inventory. For instance, Einarsen and Skogstad (1996, pp. 190-191) used the global definition:

“Bullying takes place when one or more persons systematically and over time feel that they have been subjected to negative treatment on the part of one or more persons, in a situation in which the person(s) exposed to the treatment have difficulty in defending themselves against them. It is not bullying when two equally strong opponents are in conflict with each other.”

Respondents are then asked whether they believe they have been subjected to bullying over a period of time.

The operational definition method and the global definition method both have advantages. The operational approach proposed by Leymann (1996) is more objective and it can be useful when comparing respondents and separate samples. However, Hoel, Cooper and Faragher (2001) suggest that the global definition method affords more flexibility to

respondents, which is necessary when assessing a phenomenon as subjective as bullying. Indeed, when the behavioural experience method is used without a global definition, those who indicate that they have experienced behaviours should be labelled as ‘targets’ rather than ‘victims’ (Nielsen, 2014). This is because when the behavioural experience method is used without a global definition question, there is no way to identify whether a power imbalance exists between the perpetrator and victim. Therefore victim status should only be applied to individuals who perceive themselves as bullied when responding to a global definition question that includes the core bullying elements of repetition and power imbalance.

Multiple-item bullying scales boast several advantages over the single-items used during the self-labelling method. Firstly, data obtained from multiple-item behavioural measures can be summed to obtain a score that represents the level of bullying experienced. This allows researchers to perform correlational and regression analyses on the relationships between bullying and other variables. Multiple-item measures also account for the nature, frequency and duration of the enacted negative behaviours (Nielsen, Notelaers & Einarsen, 2011). This enables researchers to conduct specific analysis on the phenomenon, such as how many acts have been repeated within a given time period and which behaviours have been experienced (Menesini, Nocentini & Calussi, 2011). Furthermore, multiple-item scales are more objective than single items because respondents do not make a judgement on whether they are a victim (Einarsen, 2000). Instead, operational definitions can be used to assess whether a respondent is a victim, therefore findings are less likely to be biased by individual characteristics. Finally, the behavioural experience method has greater content validity, which refers to the extent a measure accurately represents all aspects of a construct. This is because multiple items give a better reflection of bullying as a complex theoretical construct involving a diverse array of behaviours (Menesini & Nocentini, 2009).

Although multiple-item measures are seen as more legitimate measurement tools than single items, they are not without methodological weaknesses. Some researchers argue that certain scale items do not necessarily measure bullying behaviours (Gradinger, Strohmeier, & Spiel, 2010). For example, the NAQ includes items on being subject to impossible deadlines and having to do work below ones competence level. The construct validity of such items is questionable because those behaviours are common in many organisations and may not accurately reflect bullying (Lutgen-Sandvik, Tracy & Alberts, 2007). However, Rayner (1999) examined whether behaviours that researchers termed ‘negative’ actually bothered people, and found among a sample of education workers that they did.

Another criticism of multiple item bullying measures concerns the aggregating of behavioural items to produce an overall score that is indicative of the level of bullying experienced. As noted by Kowalski et al. (2014) these scales assume that each item is equally severe because each act is treated equally when the items are aggregated. This means that although there is little evidence to suggest that behaviours within a measure are equally severe, they are treated as such when aggregated. This is problematic because if certain behaviours are perceived as being more severe than others, a change in the frequency of bullying may not reflect a change in the overall level of victimisation (Escartín, Rodríguez-Carballeira, Zapf, Porrúa & Martin-Pena, 2009).

A further problem is that unless a global definition is included at the end of behavioural measures, it is unclear whether the imbalance of power criterion has been met (Cowie et al., 2002). This presents a threat to construct validity because the researcher cannot be sure whether a power disparity exists between the perpetrator and victim, which can produce inflated estimates of bullying prevalence. Indeed, a meta-analysis of workplace bullying studies found that the self-labelling approach produced a prevalence rate of 11.3%, whereas a rate of 14.8% was identified with the behavioural experience method (Nielsen et

al., 2010). To account for this weakness, it has been suggested that researchers include a global definition item at the end of the behavioural items within a measure (Hoel et al., 2001). This allows the identification of people who self-label as victims, as well as information on the behaviours respondents have experienced (Nielsen et al., 2010).

Latent Class Cluster Analysis

Latent class cluster (LC) analysis has also been proposed as a method that can identify bullied individuals according to both the nature and frequency of their experiences (Notelaers, Einarsen, De Witte & Vermunt, 2006). The LC approach emerged due to criticisms of the operational definition method of classifying bullying victims. These included (1) poor overlap between those who self-label as victims compared to those classified as victims using an operational definition; (2) an arbitrary cut-off point of one negative act per week, over a period of six months (Leymann, 1996) which treats workplace bullying as an ‘either/or phenomenon’ (Notelaers et al., 2006); and (3) the operational approach does not consider employees who are exposed to a wide range of behaviours, where different behaviours occur less than once per week.

LC analysis statistically classifies responses into mutually exclusive groups according to an underlying trait (in this case workplace bullying targets). As noted by Notelaers et al. (2006) “*LC analysis starts with the assumption that there is only one group, and subsequently estimates two, three, four and finally n different classes, until a LC model is found that statistically fits the data*” (p. 292). The method enables researchers to test whether different workplace bullying target groups exist, based upon responses to inventories that measure different types of bullying behaviour (Nielsen, Skogstad, Matthiesen, Glasø, Aasland, Notelaers & Einarsen, 2009). Notelaers et al. (2006) used the method to identify whether

different groups of workplace bullying targets existed according to how they responded to NAQ items.

The NAQ data was used to classify targets into six mutually exclusive groups by using the mean conditional probability (CP) that respondents had experienced each act either 'never', 'now and then', 'once a month', or 'once a week or more'. CPs represent the average probability that respondents in a group would choose one of the four response categories. The six groups were: 'not bullied', 'limited work criticism', 'limited negative encounters', 'sometimes bullied', 'work-related bullied' and 'victims'. The victims cluster held the highest mean CP of being subjected to one act of bullying per week (32%) and the CP for being never subjected to negative acts was the lowest of all clusters. Comparatively, other clusters displayed higher CPs for different workplace bullying items. For instance, respondents in the work-related cluster held higher CPs on work-related items, such as having information withheld and not having their work valued. In comparison, respondents in the 'sometimes bullied' cluster held higher CPs for insults, gossip and silent or hostile reactions.

Summary

Several viable methods have been proposed for measuring bullying within organisations, which have broadly been categorised as inside or outside methods. Inside methods take the perspective of workplace bullying targets, which is important as researchers argue that it is the subjective interpretation that one has been subjected to bullying that causes harm (Cooper, Hoel & Faragher, 2004). The most widely used inside method is the use of self-report surveys, which either take the self-labelling approach or the behaviour experience approach. The next section will outline the rationale for producing a behavioural workplace cyberbullying measurement tool.

3.4 The Rationale for Measure Development

The primary aim of this thesis is to develop a quantitative measure that can assess workplace cyberbullying. There are several aspects of behavioural measures that make the development of a workplace cyberbullying particularly necessary. Behavioural measures are a time efficient method as they can be administered more speedily than most qualitative methods. Indeed, it is possible to download data captured using online surveys straight into statistical programmes (Zikmund, Babin, Carr & Griffin, 2012). In addition, because behavioural measures can be distributed to a broad array of employees, researchers are able to generalise their findings to the wider population. For example, Notelaers and Einarsen (2013) administered the NAQ to a representative sample of Norwegian employees to ascertain that 2.1% of the Norwegian workforce could be classified as workplace bullying victims. A further advantage is that behavioural item scores can be summed to obtain an overall score that is indicative of the level of bullying experienced. This allows researchers to assess relationships between bullying and other variables. For example, researchers could assess whether there is an association between workplace cyberbullying and employee health. Behavioural measures are also amenable to advanced statistical analysis such as latent cluster analysis which can classify bullying targets with greater accuracy. Finally, one criticism of behavioural measures concerns the inability to capture whether a power imbalance exists between the perpetrator and the victim, however this limitation is addressed when a global definition item is placed at the end of a behavioural measure.

The current approach

Workplace cyberbullying research has been hindered by a lack of valid and reliable measurement tools. When workplace cyberbullying has been studied it has often been measured using scales adapted from traditional bullying research. Researchers investigating

cyberbullying have adapted the offline NAQ to the online context because a fully researched workplace cyberbullying scale has not been developed (Coyne et al., in press; Farley et al., 2015; Privitera & Campbell, 2009). The cyber negative acts questionnaire (cNAQ) includes a behavioural list of items and a global definition item that outlines a cyberbullying definition followed by the statement ‘Using this above definition, please state whether you have been cyber-bullied at work over the last six months’.

As the NAQ was originally designed to assess offline bullying, adapting it to the cyber context may not adequately capture the full workplace cyberbullying domain. This is because the unique features of cyberbullying may be underpinned by behaviours that are distinct from traditional forms of bullying. For example, increased visibility and breadth of audience may mean that having personal information shared without your permission is a bullying behaviour in the online environment, but not in the offline environment. Furthermore, acts such as the carbon copying of incriminating emails cannot occur when bullying is perpetrated in the physical world. Therefore, the cyber NAQ lacks content validity because it was originally developed as a traditional bullying measure.

Secondly, adapting the NAQ to the cyber environment may inhibit comparison between offline and cyber bullying, such that it becomes difficult to demonstrate whether the cyber version is actually measuring a distinct construct. Given the similarity between the constructs, a significant amount of conceptual overlap would be expected. Yet because the cyber NAQ and the traditional NAQ are derived from the same scale items it would be difficult to conduct a valid test regarding whether cyberbullying and offline bullying are statistically distinct. When Privitera and Campbell (2009) adapted the NAQ to the cyber domain, they adapted the following definition to include traditional bullying and cyberbullying: “*We define bullying as: a situation where one or several individuals persistently over a period of time perceive themselves to be on the receiving end of negative*

actions (whether in person, by email, by SMS and-or by phone), from one or several persons, in a situation where the target of bullying has difficulty in defending him or herself against these actions. We will not refer to a one-off incident as bullying” (p. 397). Participants in their study were asked to indicate whether they had been subjected to bullying in the last six months based on this definition, but the item does not discriminate between traditional bullying and cyberbullying.

The approach taken by Privitera and Campbell (2009) of conceptualising traditional bullying as a single construct involving both online and offline negative actions negates the value of distinguishing between these domains. Nonetheless, researchers who take this perspective may consider adding cyberbullying items to existing scales to account for cyber-specific behaviours. Indeed, Fox and Cowan (2015) added two cyberbullying items to their workplace bullying checklist based on suggestions from respondents in a pilot study. This approach may prevent valuable insights that could be gained by investigating separate forms of bullying. For instance, several studies from the youth context suggest that there appears to be a small group (10-15%) who experience cyberbullying, but not traditional forms of bullying (Kowalski et al., 2014). It has also been argued that cyberbullying may have more detrimental consequences than offline workplace bullying due to the unique features associated with the phenomenon (Coyne et al., in press). Unless a dedicated scale is developed to measure workplace cyberbullying, it will not be possible for researchers to explore the relative similarities and differences between these forms of bullying. This is important as researchers have argued that different types of bullying behaviour should be investigated and evaluated differently (Cooper, Hoel & Faragher, 2004; Keashly, 1998).

There are also methodological issues to consider when adding items to scales, as changing the item content can alter the way that a measure relates to other variables. Keller and Dansereau (2001) showed that the adding items to the Leader Member Exchange (LMX)

changed the predictive validity and the statistical significance of correlations. This has implications for meta-analysis because the nature of the same scale changes over time. The authors suggested that based on their findings “*one might be better off starting with a new scale rather than enhancing the old scale*” (p.139). This approach was taken by Sarker, Valacich and Sarker (2003) who developed a new measure to assess trust in virtual teams. The researchers chose to develop a new scale for the online context, rather than adapting an offline measure because the offline measure was deemed an unsuitable tool without significant modifications and additions. The same argument can be applied to bullying.

Cyber Specific Measures

Scales have been developed to assess cyber harassment constructs including cyber incivility and cyberaggression. Lim and Teo (2009) created a measure to assess cyber incivility perpetrated via email, however by focussing solely on email the measure neglects other mediums that could be used, such as mobile phones or social media websites. Additionally, because the measure was developed to assess the low-level behaviours that reflect cyber incivility, the measure could not assess the full cyberbullying domain because it does not take into account more severe behaviours that may be observed in cyberbullying situations. Similarly, a cyberaggression scale was developed by Weatherbee (2007) to enable the investigation of aggression perpetrated and experienced through email and instant messaging. Although this scale assesses some of the more severe cyber behaviours that are not covered by the cyber incivility scale, the measure focusses solely on acts channelled through email and instant messaging. In order to fully appraise cyberbullying, a scale would need to consider various communication devices. Furthermore, cyber incivility and cyberaggression scales do not assess power imbalance between the perpetrator and the target which is a central component of cyberbullying. Hershcovis (2011) states that a construct’s

measurement method should capture how it is conceptually distinct, therefore these measures are not appropriate for measuring workplace cyberbullying.

One measure developed to assess cyberbullying was published by Hong et al. (2014). This seven-item scale seeks to gain an understanding of respondent's exposure to sexual matters, frustration and rumour spreading. The authors state that the scale encompasses two categories in the experience of being cyberbullied: 'forms of bullying' and 'purposes of bullying'. However there are a number of limitations of this measure. Firstly, it is not reported whether the authors used a measure development methodology to validate their scale. Secondly, it is unclear how the scale assesses the core cyberbullying criteria of power imbalance. Thirdly the measure contains double barrelled items which represent two behaviours such as '*Using false pictures and making up stories through online media*', as well as convoluted items that may cause confusion, such as '*Using others' web accounts to spread a rumor in order to tease you through online media*'. Fourth, the scale was administered to a sample of employees who work in manufacturing, however a cyberbullying scale should arguably be administered to a sample that uses a high degree of technology in relation to their work. Finally, the measure was developed in the Taiwanese context, therefore the terminology and phrasing of items may be difficult for Western employees to understand. For example, in the item '*Teasing my outlook (e.g., ugly shape) through online media*' it is unclear what ugly shape means.

A dedicated cyberbullying instrument was also used by Snyman and Loh (2015) who investigated workplace cyberbullying among white collar employees in Australia using the 21 item cyberbullying experience survey (Doane, Kelley, Chiang & Padilla, 2013). This measure contains a number of cyber specific items, including '*Has someone posted an embarrassing picture of you electronically where other people could see it*'. However, the measure was developed to assess cyberbullying among college students, consequently it is

not a work-specific measure as it does not include any items that relate to the work context. Therefore it is inconsistent with how workplace cyberbullying has been defined and it lacks content validity.

Research Contribution

The production of a behavioural workplace cyberbullying scale will make a methodological, theoretical and practical contribution. Methodologically, the development of a measure will answer calls for the development of valid and reliable cyberbullying research tools (Menesini & Nocentini, 2009; Newey & Magson, 2010; Tokunaga, 2010). Galanaki and Papalexandris (2013) state that “*the biggest weakness in workplace bullying literature, research and preventive action is the lack of a uniform way to tackle its measurement, which lowers the credibility of those supporting the need for any preventive or corrective action*” (p. 2109). Therefore a comprehensive measure will be a useful tool for those seeking to prevent and address workplace cyberbullying. A further methodological contribution concerns prevalence estimates. A more precise estimate of prevalence can only be achieved with a valid measure that can reliably assess cyberbullying across different working populations. Indeed, an accurate measure can prevent researchers from overestimating or underestimating the extent to which cyberbullying is being experienced, which can result in Type 1 or Type 2 research errors (Nielsen et al., 2010).

The development of a cyberbullying measure will contribute theoretically as it will allow researchers to assess the phenomenon in a consistent manner (Tokunaga, 2010). At present it is difficult to compare studies due to inconsistencies in the way cyberbullying is defined and measured. Thus a fully researched tool can provide researchers with a homogenous method to assess workplace cyberbullying, which can allow for comparisons across samples. Comparisons are only possible if the developed measure is broad enough to

assess cyberbullying in different industries and sectors. Therefore a key criteria for the development of the measure is to ensure that items are relevant to a varied range of employees, rather than to employees within a particular industry. A generalisable measure opens the field to systematic study, which contributes theoretically because questions can be answered on whether cyberbullying differs from offline bullying in respect to different antecedents and outcomes. Furthermore, the identification of unique cyberbullying behaviours will improve knowledge on how technology is used to perpetrate bullying in organisations and whether workplace cyberbullying encompasses distinct bullying behaviours.

The measure will also make a practical contribution. Data collected using bullying measures often contributes to the design and implementation of intervention strategies by researchers (Hoel & Giga, 2006) and practitioners (Schat, Frone & Kelloway, 2006). A rare intervention study conducted by Hoel and Giga (2006) utilised the NAQ to measure participant's exposure to bullying at baseline as well as post-intervention across five organisations. Importantly, the measure can identify the prevalence of cyberbullying within an organisation as well as the nature of behaviours being experienced. These facets may help practitioners target appropriate interventions with the aid of stress management frameworks. Giga, Cooper and Faragher (2003) differentiated between organisational-level interventions (which seek to prevent employee stress on an organisation wide basis); individual/organisational interventions (which target issues relating to the link between individuals and their work); and individual interventions (which aim to provide individuals with skills needed to cope with stress). If the measure identifies a particularly high prevalence of cyberbullying within a company, an organisational-level intervention may be required, such as company-wide training. Whereas if only a few cases of cyberbullying are identified, an individual intervention (for example, mediation) may be more appropriate.

Finally, Einarsen et al. (2009) suggest that generalisable measures, designed to accommodate a wide range of working populations can help identify high risk populations and identify low risk populations for benchmarking activities. At the societal-level it has also been suggested that governments and organisations depend on correct estimates of workplace bullying to budget resources towards addressing the problem (Nielsen et al., 2010). The same argument applies to cyberbullying as organisations need to be aware of the prevalence of cyberbullying amongst their employees.

Summary

This chapter reviewed literature on the methods used to measure workplace bullying and cyberbullying. Measurement methods can be broadly categorised as taking either an inside or outside perspective, whereby the former examines bullying from the targets perspective and the latter measures bullying from the viewpoint of third parties. Although it has been suggested that combining measurement methods from the different perspectives may represent the most comprehensive way to assess bullying, the inside perspective was outlined as the approach to measurement adopted during this thesis. The inside approach was deemed the most appropriate because the view of third parties can be harder to capture when cyberbullying takes place as virtual communications are often private. Furthermore, bystanders may not always be neutral in their assessments and it has been suggested that a target's subjective assessment of victimisation may be a better predictor of negative consequences than when bullying is specified by a third party.

The chapter also discussed methods that have been used within the inside approach, presenting the strengths and weaknesses of each method. Survey methods were analysed in detail and distinctions between the self-labelling approach and the behavioural experience approach were highlighted. A rationale was then presented for developing a behavioural workplace cyberbullying measurement scale. A problem with existing scales is that they have

focussed on a particular communication medium (for example, email). Therefore a workplace cyberbullying measure is needed that can capture behaviours perpetrated through a broader spectrum of communication technologies. It was also argued that the measure should be applicable to employees from different working backgrounds to allow for comparison across samples. The chapter concluded with the methodological, theoretical and practical contribution that a behavioural scale would make.

Chapter 4 - Presentation of the Thesis Methodology

The first chapters within this thesis provided justification for developing a workplace cyberbullying measurement scale. The aim of this chapter is to elaborate on the methodology used to develop and validate the cyberbullying measure. The chapter begins by outlining the scale development methodology and how it is integrated into the thesis. The procedure used to collect data is then briefly outlined prior to the epistemological assumptions and ethical considerations of the thesis.

4.1 Measure Development Methodology

The process of measure development involves conceptual and empirical work to ensure that the final scale is reliable and can show evidence of construct validity (Spector, 2014). To build in reliability and validity, measure development follows a number of steps from theoretical conception to presentation of the final measure. Few dedicated scale development procedures have been outlined in academic journals. However Hinkin (1998) presented a measure development methodology to address the perceived limitations of newly developed measures, including low internal consistency and inappropriate domain sampling. Hinkin (1998) aimed to provide a conceptual framework for the development of measures in accordance with established psychometric principles.

To ensure that the workplace cyberbullying measure was constructed in a manner that incorporated reliability and validity, the measure development section of this thesis followed Hinkin's (1998) methodology. Figure 4.1 depicts the methodology and it is summarised in the section below.

Hinkin's (1998) Six Step Scale Development Process:

1. **Item Generation:** The item generation stage involves several processes. To achieve content validity the researcher must first assess the constructs theoretical domain to ensure that measure items link clearly to the construct under investigation. This means that the construct must be clearly articulated and differentiated from related and unrelated constructs. Indeed, Spector (2014) notes that constructs are often defined within a theoretical framework that outlines similarities and differences with related constructs.

The advancement of an appropriate construct definition is essential to the overall quality of a scale as the construct validity of a measure rests upon the clarity of the definition. The provision of a clear definition is also essential when inductive scale development is used to obtain descriptions of a construct. This is because without a definition, individuals may not have a clear idea of the phenomenon they are trying to describe, which produces inconsistent descriptions (Tokunaga, 2010).

Following domain assessment, the item generation process can either be inductive or deductive, or both inductive and deductive. Deductive scale development is used when the theoretical foundation of a construct gives sufficient information to generate a set of items (Hinkin, 1998). For instance, Ferris, Brown, Berry and Lian (2008) developed items for a workplace ostracism scale by examining the existing literature on ostracism and exclusion. Inductive scale development is used when the dimensions of a construct are not well known, such as when little theory is available. This method usually involves asking respondents to describe their thoughts on a particular phenomenon (Hinkin, 1998).

Once items have been generated they should be subjected to a content validity assessment which is conducted to remove items that are inconsistent with the construct. There are several different methods of ensuring that items have sufficient

content validity, the choice of method is often dependent on whether inductive or deductive scale development has been chosen.

2. **Questionnaire Administration:** Once items have been developed they can be placed together within a scale and administered to a population of interest. When choosing a sample, MacKenzie et al. (2011) state that the most important issue is how well the sample represent the population for whom the measure has been designed. Sample size is also an important consideration and suggestions of the item to response ratio range from 3:1 to 10:1 (Cattell, 1978; Schwab, 1980). Furthermore, in order to conduct confirmatory factor analysis (CFA) a sample of at least 200 is needed (Hoelter, 1983) and for exploratory factor analysis (EFA) the suggested minimum sample size ranges between 100 and 500 (Comrey & Lee 1992; Gorsuch 1983). Hinkin (1998) states that EFA and CFA should be conducted on separate samples. Therefore the researcher is advised obtain a sample large enough that EFA could be conducted on one half and CFA on the other.

3. **Initial Item Reduction:** Hinkin (1998) recommends a sample size of at least 200 for exploratory factor analysis (EFA) which is a statistical technique used to identify the underlying structure of a large set of variables. EFA is useful when investigating the relationships between latent variables that are thought to represent a given construct. It should be conducted to refine the scale, assess the underlying factor structure and to enhance construct validity. Following EFA a test of the internal consistency should be conducted to determine the reliability of the measure, which is defined as “*the property of a measure that yields consistent measurement of a construct*” (Spector, 2014, pp. 172).

4. **Confirmatory Factor Analysis:** CFA is used to determine whether the underlying structure of a measure fits with the theoretical understanding of the construct. It also enables the researcher to test the quality of the factor structure by examining the significance of the overall model and how strongly items load onto factors. Hinkin (1998) states that during scale development, CFA should confirm that previous analyses (for example, EFA) have been conducted appropriately.

CFA has two main purposes. Firstly to examine the goodness-of-fit measurement model by comparing a single factor model with a multitrait model, where the number of factors is equal to the number of constructs in the new measure (Hinkin, 1998; Joreskog & Sorbom, 1989). The second purpose is to analyse how well individual items fit within the model by using t values and modification indices. Good fit enables the researcher to determine the quality of the factor structure, which provides more evidence of construct validity.

5. **Convergent/Discriminant Validity Assessment:** Convergent and discriminant validity can be assessed internally between factors within a measure, or externally with related and unrelated construct measures. Convergent factorial validity is demonstrated when each item is highly correlated with its assumed factorial construct. Discriminant factorial validity is evidenced when items within a factor correlate weakly with theoretically unrelated factors. Comparatively, external convergent validity is the extent that two theoretically related constructs are actually related, whereas external discriminant validity is the extent to which two theoretically unrelated variables are statistically unrelated.

External convergent/discriminant validity assessment involves administering the new measure alongside validated measures which are theoretically related (for convergent assessment) and unrelated (for discriminant assessment) to the construct. For example, Niven, Totterdell, Stride and Holman (2011) developed a measure of emotion regulation. The authors provided evidence of external convergent validity by examining the relationship of their measure with other scales designed to assess affect-improving strategies.

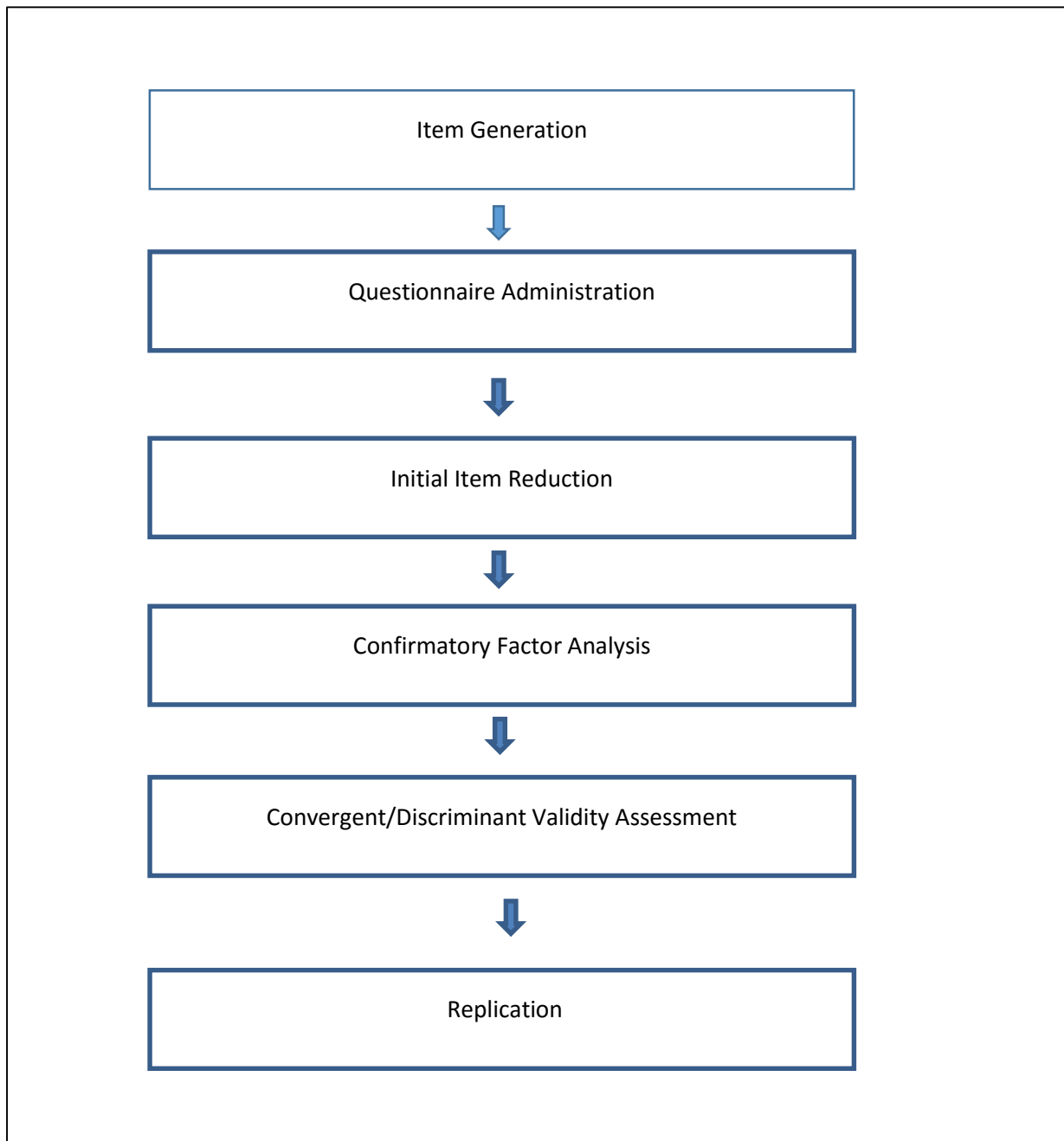
6. Replication: The final step in the process is to repeat questionnaire administration on a separate sample. This is especially pertinent if items have been deleted during measure refinement. Distributing the measure to another set of respondents can overcome limitations caused by common source variance and it also enhances the generalisability of a new measure (Stone, 1978). Once collected, the new data should be subjected to CFA, reliability analysis and divergent/convergent validity assessments. These analyses provide confirmation of whether the measure possesses sufficient reliability and validity for use in future research.

Hinkin's (1998) measure development methodology is depicted in Figure 4.1. It should be noted that the measure development methodology follows a reflective process, rather than a formative process. In reflective measures each item is viewed as a rudimentary reflection of the latent construct (Bollen, 1989). It is therefore assumed that items flow from the same conceptual domain and as such items should be highly correlated (Spector, 1992). Comparatively, formative measures use a series of items that sometimes come together to form the underlying construct (MacKenzie, Podsakoff & Podsakoff, 2011). For instance, a construct such as health contains disparate aspects, such as blood pressure, eye sight and

mental well-being. Unlike the items of reflective measures, one would not necessarily expect these items to be correlated.

In summarising the article, Hinkin (1998) states that measure development involves a “*bit of art as well as a lot of science*” (p. 118). Therefore measure development is not an exact procedure, theoretical and judgemental input is needed from the researcher to produce a psychometrically sound instrument.

Figure 4.1: Diagram of Hinkin's (1998) measure development process



4.2 Integration of the Measure Development Methodology within the Thesis

The previous section outlines the scale development methodology that is used to develop the workplace cyberbullying measure. Study 1, Study 3 and Study 4 described within

this thesis specifically address aspects of Hinkin's (1998) framework. However Study 2 and Study 5 do not relate to any aspect of the framework. Study 2 is conducted to obtain items severity weights as it has been suggested that workplace harassment scales should consider the severity of behavioural items. Study 5 is conducted to further validate the measure as once a scale has been developed, it is necessary to collect additional validation evidence by testing hypotheses about relationships between the measure and other variables (Spector, 2014). The following section will outline how the measure is developed throughout the thesis chapters.

Chapter 2 provided the foundation for the measure development process as workplace cyberbullying was defined and differentiated from related constructs. The item generation process is detailed in Chapter 5, along with the procedures used to determine the content validity and face validity of the measure. A procedure undertaken to obtain item severity weights is outlined in Chapter 6. This process is not covered by Hinkin's (1998) framework, however it has been suggested that workplace harassment scales should consider the severity of different items (Hershcovis & Reich, 2013). Chapter 7 reports on the four middle stages of Hinkin's (1998) methodology: questionnaire administration, initial item reduction, CFA and convergent/discriminant validity assessment. Chapter 8 details the repetition of this process, as well as the methods used to assess external convergent and discriminant validity. Chapter 9 collects additional validation evidence by utilising the measure within a theoretical framework that examines the impact of workplace cyberbullying. A general discussion in Chapter 10 reviews the contribution to knowledge and limitations of the measure.

4.3 Procedure

The data for all studies was collected using an online survey design. The procedure and survey used in each study is described within the relevant chapter. Therefore the surveys are not be described in detail here as the focus is on the common features that they share. Each survey was created using the software programme Qualtrics which is commonly used for academic research as it provides an easy to use platform. After creation, each survey was checked for usability, clarity of language and errors by the researcher's supervisory team. Each survey was then launched and it became possible to access the survey by clicking on a hyperlink which could be embedded in emails, published on websites and disseminated on social media. The advantages of online surveys are discussed in greater detail during Chapter 5, however one of the main advantages of using online surveys for cyberbullying research is access to individuals who are familiar with computer mediated communication.

4.4 Epistemological Assumptions

It has been argued that a researcher's employment of a particular method is inextricably linked to their epistemological and ontological perspective (Hughes, 1990; Crabtree & Miller, 1999). This is known as the embedded methods position. Proponents of the embedded methods position contend that qualitative research methods and quantitative research methods differ in respect to their epistemological foundations (Bryman & Bell, 2011). Qualitative methods are claimed to reflect the interpretivist epistemology, which asserts that the subject matter studied within social sciences differs from that of the natural sciences. Natural science researchers study objects, whereas social scientists investigate people and perspectives (Bryman & Bell, 2011). Interpretivists argue that people construct social reality through continuous interpretation of their environment. They therefore assert

that social scientists require qualitative research strategies that can assess the subjective meaning of social action (Bryman & Bell, 2011).

On the other hand, quantitative methods reflect positivism, which claims that the approach to data collection and explanation used in the natural sciences can be applied within the social sciences (Bryman & Bell, 2011). Positivists contend that there is an important distinction between theory and research, whereby the role of research is to test theory using a deductive strategy. Positivists also emphasise the existence of an external reality which can be captured using quantitative methods (Bryman & Bell, 2011). For these reasons, writers from the embedded position argue that qualitative and quantitative methods cannot be combined as they have epistemological underpinnings that reflect different assumptions and beliefs about the nature of knowledge and how research should be carried out (Guba & Lincoln, 1998).

Whilst embedded methods writers claim that a finite link exists between epistemological positions and research methods, others argue that the link is not so definitive (Hammersley, 1996; Polanyi, 1964). The pragmatic approach recognises that the relationship between epistemologies and methods is not always clear and that there are practical problems associated with adhering to one paradigm for the duration of a research project (Hammersley, 1996). This approach takes the view that methods should be selected according to their suitability for investigating a particular research problem. Therefore the link between method and epistemology is seen as a research tendency, as opposed to a definitive association. In this respect a pragmatic approach has been adopted, as although it is important to recognise that qualitative and quantitative research are traditionally associated with differing epistemologies, the methodologies employed during the thesis were deemed the most suitable for answering the research questions.

A mixed methods approach was adopted during the measure development study as a perceptual understanding of cyberbullying could not be achieved using solely quantitative methods. Therefore a qualitative understanding of the behaviours associated with cyberbullying was obtained before quantitative confirmatory methods were used. MacKenzie et al. (2011) state that formative and reflective measure development methods have different ontological assumptions. These are the assumptions made about whether social entities have an objective reality external to social action, or whether they are social constructions created through people's perceptions (Bryman & Bell, 2011). It is argued that reflective measures are more compatible with the critical realist ontology as they imply that the latent construct is a real entity that causes noticeable variation in responses to measurement items (Borsboom, 2005). In contrast, formative measures are more suited to constructivist, operationalist, or instrumentalist interpretations. Borsboom (2005) notes that constructs with formative indicators are more commonly viewed as theoretical constructions that reflect individual's responses to measurement items. The scale development methodology adopted in this thesis represents a reflective method. Accordingly, this is more consistent with the critical realist position which asserts that constructs are real entities that affect item scores on their associated measures (Edwards, 2011).

The pragmatic approach also informs the second part of this thesis. This will involve a quantitative study on the impact of cyberbullying on well-being, work relationships and performance. A quantitative approach is most appropriate for answering the research questions set out in Chapter 1 as quantitative methods aid the understanding of relationships between variables and a large sample size can be achieved more readily.

4.5 Ethical Considerations

During this chapter the ethically sensitive nature of bullying research has been alluded to. Bullying is a sensitive topic which requires a consideration of measures that can be used to safeguard respondents. It was therefore important to consult guidance from the University of Sheffield's Ethics Committee and the British Psychological Society (BPS). This guidance covers the invasion of privacy, the avoidance of unnecessary deception, obtaining informed consent and preventing participants from physical and psychological harm. During all studies described in this thesis, emphasis was placed on preventing harm, obtaining informed consent and maintaining confidentiality and anonymity.

Avoiding harm to participants

It was not anticipated that participating in any of the studies would cause harm to participants, nonetheless experiencing cyberbullying could cause psychological harm. Taking this into consideration, the BPS Code of Ethics and Conduct (2009) states that researchers should “*refer clients to alternative sources of assistance as appropriate*” (pp. 19).

Accordingly, participants were advised to contact their general practitioner after the emotional exhaustion items (detailed in Study 4 and Study 5) if items drew their attention to potential health concerns. Furthermore, if respondents were alerted to a potential cyberbullying situation, they were advised to contact either their occupational health advisor, union representative, line manager or HR adviser. The contact details of an external charity (the cyberbullying charity cybersmile, and the mental health charity MIND) were also provided in case respondents were not comfortable discussing the situation with an internal organisational contact.

Informed consent & the right to withdraw

As with any research, participants were made aware that their participation was voluntary and that they had the right to withdraw at any time. Informed consent was obtained using an information page included at the start of each online questionnaire. This stated that by clicking the 'Next' button at the bottom of the page, participants were giving their consent to participate in the study. The same information page was used to inform participants that they had the right to withdraw at any time and that they could withdraw their data from the study by contacting the researcher with their unique identity code. Participants were asked to create a unique identity code based on their mother's maiden name, date of birth and first name prior to starting each survey.

Maintaining confidentiality & anonymity

All studies were designed to maintain confidentiality and anonymity. This was particularly important because participants were asked to divulge potentially sensitive information, such as cyberbullying experienced from other staff members. The use of online questionnaires facilitates confidentiality as the researcher does not have face-to-face contact with the participants. Additionally participant names were not recorded and results were shared at the group level, without identifying individuals.

Ethical approval for the measure development project was obtained from the University of Sheffield Management School Ethics Committee. A second ethics form was submitted to gain approval for research on the impact of workplace cyberbullying. This study was also approved by the Ethics Committee.

4.6 Summary

This chapter presented the scale development methodology employed during the measure development section of the thesis. The formation of the cyberbullying measure will follow Hinkin's (1998) scale development methodology. Three studies within the thesis will specifically meet the criteria specified by Hinkin (1998). These studies will be conducted alongside two further studies which seeks to obtain item severity weightings and additional validation evidence. The chapter concluded with a description of the epistemological assumptions and ethical considerations of the thesis. A pragmatic approach to the link between epistemology and research methods has been adopted during this thesis, whereby methods are selected according to their suitability for answering research questions.

Chapter 5 – The Generation of Workplace Cyberbullying Items (Study 1)

The previous chapters conceptualised workplace cyberbullying, presented a rationale for developing a cyberbullying measure and outlined the measure development methodology. The current chapter introduces an empirical study (Study 1) which sought to identify the behaviours that encompass workplace cyberbullying victimisation. The purpose of this study was to drive the development of the cyberbullying measure by identifying cyberbullying behaviours that could be converted into measurement items. Study 1 therefore addresses one of the central research questions within this thesis: what behaviours do employees interpret as acts of cyberbullying?

The study had four aims which were to (1) collect data from a diverse array of employees on behaviours they perceive as workplace cyberbullying (2) to transform behavioural descriptions into a pool of items that reflect workplace cyberbullying (3) to assess the content and face validity of the items and (4) to compile items that have sufficient validity into a workplace cyberbullying measure that could be distributed during the next phase of measure development. Given these aims, Study 1 involved two separate phases. Phase one describes the item generation methods, along with the procedure used to establish the content validity of the scale. Phase two outlines the method used to establish face validity. The chapter ends with a presentation of the initial measurement scale and a discussion of the findings, implications and limitations of the study.

Study 1

During Chapter 2 the behaviours that encompass offline workplace bullying and workplace cyberbullying were reviewed. As noted in that chapter, identifying different forms of bullying behaviour can have important applied outcomes. In relation to offline bullying,

Keashly (1998, p.3) stated that “*research directed at identifying types of behaviors as well as the variability in judgments associated with these behaviors would be an important step. This research is not only important for the theoretical development of the construct but also has implications for workplace policies and prevention/intervention work*”. In this respect, the objective categorisation of bullying behaviours can aid disciplinary hearings and legal responses to workplace bullying cases (Lengnick-Hall, 1995; Rodriguez-Carballeira et al., 2010). Therefore the identification of workplace cyberbullying behaviours has applied value.

As alluded to by Keashly (1998), identifying workplace bullying behaviours also has theoretical value. Gathering information on the behaviours that underpin cyberbullying can contribute theoretically, because cyberbullying may involve behaviours that are unique from traditional workplace bullying behaviours. As previously discussed, an ongoing discussion in the youth literature concerns whether cyberbullying involves cyber manifestations of regular bullying behaviours or whether it involves novel behaviours, or a mix of both. Indeed, researchers investigating cyber incivility have speculated that it may encompass unique behaviours that are not observed during face-to-face incivility. These may include showing impatience by sending multiple emails about a single request, carbon copying another employee’s supervisor to alert them to an issue, repeated blog postings to large audiences, sending text messages during meetings and inappropriate use of emoticons (Giumetti et al., 2013). Giumetti et al. (2013) suggest that future research is needed to clearly operationalise cyber incivility by identifying the unique behaviours that encompass the construct. The same argument can be made for workplace cyberbullying because at present the understanding of behaviours that reflect the construct is limited.

The aim of this study was to identify workplace cyberbullying behaviours. This aim is aligned with the broader aim of the thesis which is to create a behavioural workplace cyberbullying measure. On the basis of literature reviewed in Chapter 3, this measure should

meet three key criteria. Firstly, the measure should be applicable to employees from different industries and working sectors. This facilitates future research by enabling researchers to investigate the phenomenon in different settings. It can also allow for comparisons across working samples and aid benchmarking activities. Therefore the behavioural descriptions included in the measure should be relevant to a wide range of employees and not specific to a particular working context.

Secondly, the measure should be able to capture behaviours perpetrated through the full spectrum of communication technologies. One disadvantage of current cyber harassment measures is a tendency to focus on behaviours enacted through one specific communication medium (for example, email). As such, items should not include references to a particular type of communication media. Instead, items should refer to behaviours that can be enacted across varied communication technologies. One potential hazard of developing items reflecting a particular communication medium is the potential for those items to become outdated when the medium becomes obsolete. Therefore the items included in the scale should reflect behaviours that can be experienced through various media.

Thirdly, the measure should examine cyberbullying behaviours from the targets perspective. This is consistent with the inside method of measuring bullying outlined in Chapter 3, although this does not discount the possibility that the measure could be reversed to examine perpetrated cyberbullying in future research. The procedures adopted during the item generation stage were conducted with these criteria in mind.

5.1 Phase One: Item Generation

Hinkin (1995) suggests that item generation is potentially the most important aspect of developing reliable measurement tools. Two item generation processes can be conducted

when developing items that reflect the theoretical domain of a construct: inductive development and deductive development (Hinkin, 1995). Deductive scale development is used when the theoretical foundation of a construct gives sufficient information to generate a set of items (Hinkin, 1998). Items are classified in a pre-defined manner and a theoretical definition of the construct is developed before data collection, which is used as a guide for item development (Schwab, 1980). Inductive scale development is used when the dimensions of a construct are not well known, for example when little theory is available. This method usually involves asking respondents to describe their thoughts on a particular phenomenon, as the focus is on generating a measure from individual responses (Hinkin, 1998).

A mix of inductive and deductive item generation procedures were employed in Study 1. Combining inductive and deductive procedures has been conducted successfully in past research (Day, Paquet, Scott & Hambley, 2012). It was deemed the most suitable approach in this instance because theoretical insights enabled the production of a construct definition, but theoretical knowledge on the behaviours that embodied the construct was limited. A more deductive approach was adopted in the first instance as several workplace cyberbullying behaviours were identified in the literature. This approach involved making a note of any items that referred to workplace cyberbullying behaviours. For instance, AVG Technologies (2014) conducted a non-academic study on workplace cyberbullying which utilised items, such as *criticising a colleague behind their back using digital communications such as email, instant messaging, social media or SMS*. All noted items were judged against the workplace cyberbullying definition to ensure they reflected the construct. A total of 13 behaviours were identified using this method. A more inductive approach was then adopted whereby behavioural descriptions of workplace cyberbullying were obtained from the working population.

5.2 Stage One: Production of Behavioural Descriptions

Without substantial prior research on a phenomenon, the best method for item development is the utilisation of descriptive data generated from the population of interest (Dawis, 1987). To understand the behaviours that individuals perceived as acts of workplace cyberbullying it was necessary to outline the construct in definitional form before asking people to describe behaviours they felt reflected the phenomenon. The provision of a definition was deemed necessary because some individuals lack an understanding of cyberbullying and without a definitional outline, findings would be inconsistent (Tokunaga, 2010). Furthermore, the key to successful item formulation is the generation of a clear theoretical foundation that can act as the content domain for the new measure (Hinkin, 1998).

Detailed perceptual and experiential understanding of cyberbullying behaviours would be difficult to obtain using quantitative methods (Burns, Williams & Maxham, 2000). As such, a qualitative methodology was adopted. An open ended self-report survey was deemed the most suitable method of collecting behavioural descriptions. This method facilitated the collection of data from employees working in diverse job roles, organisations and sectors, which was consistent with the aim of developing a generalisable measure. A further advantage of online surveys is that they are quick to administer and they do not require the researcher to be in the same location as the respondent (Bryman & Bell, 2011). Therefore it was possible to generate responses from a diverse array of employees, which increased the breadth of the item pool.

Further benefits of using an online survey include reduced variability during administration as respondents are not influenced by the researcher's verbal or visual cues. Online questionnaires are also convenient because they allow respondents to fill in the questionnaire at their leisure, which gives more time for a considered response. Finally, a

potential sampling weaknesses of online questionnaires is the exclusion of individuals who do not have internet access (Bryman & Bell, 2011). However during Study 1, this was potentially a strength of the method as the research concerned an online phenomenon.

The main aim of the survey was to capture behavioural descriptions of workplace cyberbullying behaviours. However demographic data was also measured to gain an understanding of the sample. Respondents answered questions on their age, gender, job role, tenure and the number of hours they worked per week (see Appendix 5.1). In order to determine whether the sample had sufficient technological experience to describe workplace cyberbullying behaviours, respondents were asked to select which of the following six technologies they used in relation to their work: (1) email, (2) telephone calls, (3) text messages, (4) social media websites, (5) video conferencing software and (6) instant messaging services. An open ended question was placed after this question which asked respondents to outline any further work-related technologies they used.

Next, respondents were given the following definition: we define workplace cyberbullying as “*persistent repeated negative behaviour enacted through communication technologies (e.g. phone calls, email, text message, social networking websites) by individuals or groups, which creates a hostile work environment. Over time, this impacts negatively on the person facing the behaviour and places them in an increasingly inferior position**”. Respondents were made aware that cyberbullying can occur through various media, including email, telephone calls, text messages, social networking websites, regular

* It should be noted that the definition outlined to respondents during this data collection stage differs from the definition outlined in Chapter 2 and employed throughout the thesis. This is because feedback from two SMEs during the latter face validity assessment advised that it would be more appropriate to define workplace cyberbullying without stating that it creates a ‘hostile work environment’. Based on this advice, the definition was changed to: *a situation where over time, an individual is repeatedly subjected to perceived negative acts conducted through technology (e.g. phone, email, web sites, social media) which are related to their work context. In this situation the target of workplace cyberbullying has difficulty defending him or herself against these actions.* Owing to this adaption the researcher re-examined all the descriptions produced during this stage of the study to ensure they were still consistent with the adapted definition.

websites, instant messaging, chat rooms and video conferencing. They were then asked to describe up to three behaviours that they felt could be labelled as workplace cyberbullying in three separate open ended text boxes.

The questionnaire instructions stated that behavioural descriptions could be acts that respondents had experienced personally, witnessed or acts that they simply felt reflected the definition. Respondents were also informed that behaviours did not necessarily have to be experienced during work hours. For instance, participants were given the example of being gossiped about by colleagues on social media as a possible description. In order to generate a variety of descriptions, respondents were instructed to think about both severe and subtle cyberbullying acts.

To ensure that the survey wording was comprehensible and to check its usability and interface, a pilot study was conducted (White & McBurney, 2012). The survey was piloted on ten employees from different industries (their job roles included health visitor, graphic designer, technical consultant and analyst). The pilot feedback proved valuable as the survey was adapted to enhance ease of completion. Two demographic questions were added to improve data analysis. These were the questions that asked about the technology used in connection with the respondents work. Furthermore, the number of behavioural descriptions that participants were asked to provide was reduced from five to three as respondents stated they found it difficult to think of more than three behavioural descriptions.

Respondents

Descriptive data on cyberbullying behaviours was collected through four main channels. Firstly, a number of UK organisations were approached directly through email. The email briefly introduced the study and the researcher's contact details were outlined in the event that an organisation was interested in participating. Three regional South Yorkshire

teaching unions and a marketing organisation were recruited using this method. An internal contact at each of these organisations distributed an email written by the researcher which outlined the study and included a hyperlink to the online survey.

The second method involved utilising an email distribution network known as JISC mail, the National Academic Mailing List Service. JISC mail is a website that facilitates communication on educational and research interests. JISC mail members tend to be from research communities and educational institutions, although private and public sector employees also subscribe. JISC mail users can sign up to different mailing lists which distribute information on a particular interest via email. Hundreds of groups exist on topics as diverse as the academic study of magic, digitalisation projects, performing arts and East German studies. Once a member has signed up to a group they are able to send an email to group members. Therefore an email was sent to groups whose members may have had an interest in cyberbullying research, such as groups relating to employee relations and virtual working. The email sent via JISC groups described the study, included a link to the online survey and outlined the researcher's contact information in the event that respondents had questions about the research.

A further strategy involved utilising social media. The survey was distributed on LinkedIn which is a social networking website for professionals, where individuals create a profile relating to their career and work experiences. The survey was posted on several LinkedIn groups whose members were thought to have some knowledge of workplace cyberbullying, such as groups for Human Resources professionals and employees that utilise social media. A link to the survey was also distributed on the networking website Twitter through the researcher's profile and the profile of the Institute of Work Psychology.

Data was also collected in the Australian public sector (APS) through a collaboration with an Australian PhD student who had access in the organisation. It was essential to keep this data separate from that collected in the three other data collection streams as data collected in the APS would be shared with collaborating researchers at the Queensland University of Technology (QUT). As such, a modified survey was created for the Australian stage of the data collection which contained wording appropriate for the Australian context and the contact details of a local researcher and local charity.

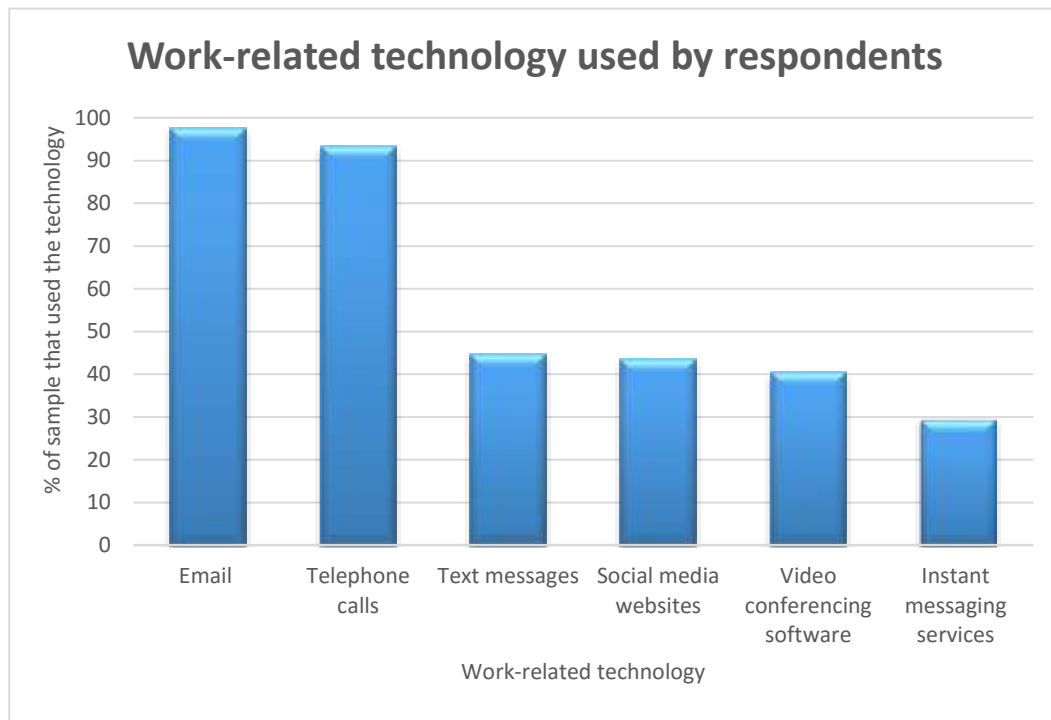
In total 248 completed surveys were returned which generated 604 behavioural descriptions. Analysis revealed that the majority of respondents (71.1%) were female (180 females, 66 males, 2 did not state their gender) and their ages ranged from 23 to 68 with a mean age of 45 years ($SD = 11.24$). They had worked for an average of 24 ($SD = 17.37$) years and the mean number of hours they worked per week was 38 ($SD = 8.93$). The data collection methods conducted in the UK collectively achieved 164 participants (122 females, 40 males, 2 did not state their gender) aged between 23 and 68 ($SD = 11.55$). The respondents held a range of job roles including teacher, marketing executive, researcher, consultant and dietician. They had worked an average of 23 years ($SD = 19.87$). The data collection conducted in the APS garnered 84 responses (58 females and 26 males) aged between 24 and 67 ($SD = 10.65$). They had worked an average of 24 years ($SD = 11.42$) and held various job roles including scientist, auditor and manager.

Respondents reported using several forms of technology in connection with their work. Figure 5.1 shows the percentage of respondents that used the six listed work-related technologies (email, telephone, text messages, social media, video conferencing software and instant messaging services). The graph shows that 97.6% used email, 93.3% used the telephone, 44.7% used text messages, 43.5% used social media, 40.5% used video conferencing software and 29.6% used instant messaging services in connection with their

work. The high use of work-related technologies confirms that an appropriate sample was chosen to generate behavioural descriptions.

Given the high percentage of female respondents the sample may not be representative of all workplaces. Indeed, the sample was comprised of data collected in the UK and Australia. However a varied array of working individuals were sampled including individuals from the private and public sector, they held diverse job roles and had a broad age range. The online survey methodology also facilitated the collection of more data than would have been possible with other methods as 604 behavioural descriptions were produced by individuals who used several different work-related technologies.

Figure 5.1: Percentage of the sample that used email, telephone, text messages, social media websites, video conferencing & instant messaging for work purposes



5.3 Stage Two: Item Development

An inductive method was used to sort the behavioural descriptions into categories from which items could be written. Hinkin (1998) notes that once descriptions have been generated, they should be classified into categories or sorted using content analysis of key words or themes. During this study, the purpose of categorising behavioural descriptions was to (a) develop content validity by ensuring that varied behaviours were included in the measure and (b) establish an order from which the items could be written. The categories were not intended as theoretical categories reflecting all types of workplace cyberbullying behaviour, rather the categories were established with the purpose of organising the behavioural descriptions noted by respondents.

Content analysis was conducted to organise the behavioural descriptions into categories. Content analysis is a flexible method for analysing text data which has traditionally been used as a way of coding data into categories that are then assessed using statistics (Hsieh & Shannon, 2005). Content analysis focuses on the characteristics of language which draw attention to the contextual meaning of the text (Hsieh & Shannon, 2005; Tesch, 1990). Bullying researchers have conducted content analysis on bullying items to gain a better understanding of their behavioural content (Vivolo-Kantor, Martell, Holland & Westby, 2014). Conventional content analysis was used to analyse the behavioural descriptions. This particular method is conducted when there is limited existing theory on a phenomenon and rather than using perceived categories, researchers allow the categories and category names to flow from the data (Hsieh & Shannon, 2005; Kondracki & Wellman, 2002).

All workplace cyberbullying behavioural descriptions were read and coded. These descriptions were organised by placing them into categories under a heading that best described the particular content within the descriptions (for example, gossip, name calling, exclusion). Categories were established by analysing the descriptions and observing the terms that were mentioned repeatedly. For example, many acts included the term criticism; consequently a criticism category was created. After analysing all the descriptions, 32 categories had been developed (see Table 5.1).

Some descriptions could be placed in more than one category. For example 'Being criticised in a group message' could be placed in both the criticism and the group email function category. When this occurred, the description was placed in both categories so that all behaviours reflecting a particular category could be considered when writing items. One advantage of sorting the descriptions into categories was that it enabled the removal of descriptions of identical behavioural acts. Descriptions that were too specific to a single

working context (for example, education) were also removed before the item writing stage as one study aim was to create a measure that is relevant to employees from different industries and working sectors.

To assess whether the behaviours reflected the domain of interest, they were judged against the definition of workplace cyberbullying. If the behaviour was judged to be inconsistent with the definition it was removed. For example, some descriptions referred to behaviour that could only occur offline, such as physical violence. This behaviour is inconsistent with the definition, which states that workplace cyberbullying is enacted through communications technologies, consequently it was removed. This process was consistent with the notion that as long as the definition of a construct is accurate, it can help ensure content validity when used to guide item development (Schwab, 1980).

After eliminating redundant behaviours, 95 descriptions of workplace cyberbullying acts remained. These descriptions were combined with the descriptions identified during the deductive search of the literature ($n = 13$) which were added to the categories. After this initial reduction phase, 108 behavioural descriptions were available for item generation.

Table 5.1: Categories of workplace cyberbullying behavioural descriptions

Category Label	Description of Category
Anonymous	Refers to acts perpetrated by an anonymous individual or individuals
Abrupt / blunt	Refers to receiving abrupt, blunt or rude messages
Blind carbon copy	Refers to the use of the blind carbon copy function of email communication
Blog	Refers to behaviours enacted on website blogs
Capitals	Refers to receiving messages written in all capital letters
Carbon copy	Refers to the use of the carbon copy function of email communication
Criticism	Refers to the experience of criticism through technology
Email	Refers to all behaviours perpetrated through email
Emails being forwarded	Refers to the negative use of the forward email function
Emails at unsociable hours	Refers to receiving emails at unsociable hours
Excessive monitoring/ documenting	Refers to being excessively monitored via technology
Exclusion	Refers to acts of exclusion through technology
Gossip	Refers to being gossiped about through technology
Group email function	Refers to negative use of the group email function
Ignored	Refers to being ignored through technology
Jokes	Refers to being the subject of jokes through technology
Name calling	Refers to being called names
Not replying	Refers to not receiving a reply to messages sent via technology
Phone calls at unsociable hours	Refers to receiving phone calls at unsociable hours
Photos	Refers to behaviours involving photos
Sex or innuendo	Refers to behaviours that are in some way sexual and enacted through technology
Social media	Refers to behaviours that reference social media

Social media exclusion	Refers to being excluded through social media
Swearing	Refers to acts involving swearing through technology
Text acts	Refers to all behaviours perpetrated through text message
Text at unsociable hours	Refers to receiving text messages at unsociable hours
Threats	Refers to being threatened in some way through technology
Undermining	Refers to being undermined through technology
Unreasonable work demands	Refers to acts that reference unreasonable work demands
Using email instead of face-to-face communication	Refers to the use of email when face-to-face communication would have been more appropriate
Video conferencing	Refers to all behaviours perpetrated through video conferencing
Other	Refers to behaviours that do not correspond to any category

Table 5.1 shows the categories that were developed during content analysis of the behavioural descriptions. As noted in Chapter 2, a central debate in the youth literature concerns whether cyberbullying involves cyber manifestations of offline behaviours or whether behaviours unique to the online context are involved. Table 5.1 indicates that the descriptions involved several cyber equivalents of offline behaviours, for example name calling, swearing, threatening and exclusion. However some behavioural categories are unique to the cyber context, for instance sending messages at unsociable hours, negative use of the group message function and negative use of the carbon copy and blind carbon copy functions.

Item Writing

Item writing recommendations outlined by Hinkin (1998) were followed to convert the behavioural descriptions into questionnaire items. As suggested, the items were kept as short as possible and were written using language that would be comprehensible to a range of individuals. Items reflected behaviours rather than affective responses and leading, negatively

worded and reverse-scored items were avoided. The items were also kept consistent in terms of perspective as all items were written from the targets perspective (Harrison & McLaughlin, 1993) which is aligned with the inside approach to bullying measurement. As recommended in previous research, items were written in behavioural terms without any reference to bullying (Arvey & Cavanaugh, 1995; Einarsen et al., 2009).

A total of 40 behavioural descriptions were discarded during the item writing process. Items that were considered ambiguous or particularly unlikely to occur in a working context were removed from the item pool. For example, ‘finding that colleagues have been blind copied into a message sent to you as a practical joke’. Items that referenced a specific communication method (for example, email, text, social media) were also excluded as the evolution of technology can quickly render medium specific acts as obsolete (Menesini et al., 2011). Therefore by focussing on the behaviour, rather than the medium used to channel the act, an advantage of the measure is that it is not bound by the era it was developed.

To ensure that all items would be interpreted as being within the cyber context the following pre-item instructions were developed: *“The following questions refer to acts conducted through technology that are related to your work context. These technologies can include: Text messaging; pictures/photos/video clips; phone calls; email; instant messaging; social networking websites; video software and general websites. Please rate how often over the last six months, you have been subjected to the following negative work-related acts through technology. Please note: these questions do NOT refer to face-to-face behaviours.”* To account for new ICT developments, these instructions can be adapted when the referenced media become outdated and when new forms of technology-mediated communication emerge. To further tailor the measure to the cyber context, items were worded in a manner that reflected the online context. For example, although email, telephone and social media were not specifically mentioned, a commonality of these methods is the

ability to send and receive messages. Therefore terms (for example, ‘messages’, ‘communications’, ‘copy’, ‘share’) that capture common aspects of cyber communication were used during item writing.

This step in the measure development process produced a list of 68 items reflecting respondent’s descriptions of workplace cyberbullying behaviours (See Appendix 5.2). The items were not grouped into categories due to the absence of relevant theoretical frameworks and also because factor analysis procedures could determine whether the items formed latent clusters.

5.4 Content Validity

Essential to item generation is content validity, which refers to how accurately a scale measures the domain of interest (Hinken, 1995). During scale development, the minimum requirement of item generation is content validity (Schriesheim, Powers, Scandura, Gardiner & Lankau, 1993). Content validity refers to the extent that a measure accurately represents all aspects of a construct. The failure of management scholars to address content validity has been noted in previous research (Schriesheim et al., 1993; Hensley, 1999). This is a significant problem as Schwab (1980) suggests that researchers’ lack of regard for validity has resulted in substantive conclusions that may not be warranted. More recently, Hardesty and Bearden (2004) sought to resolve confusion between content validity and face validity, with the latter concept defined as the extent to which a measure reflects what it is intended to measure. Face validity has also been defined as the extent to which respondents perceive that items in a scale are appropriate to the construct being measured (Nevo, 1985).

Due to their similarity, content and face validity have often been confused or used interchangeably. However, Hardesty and Bearden (2004) suggest that there is an important

conceptual difference between them. Content validity refers to the spread of items and whether they represent the full proportion of a construct. For example, bullying can encompass exclusion, teasing, name calling and threats. If items in a bullying measure focussed exclusively on teasing then the measure will lack content validity as the other aspects of the construct have not been included. Conversely, items are face valid if they represent the intended construct, but the spread of the items across the domain is not considered.

Researchers have recommended that an assessment of content validity should be conducted immediately after items have been developed as this enables the researcher to alter them before significant effort has been invested in questionnaire preparation and data collection (Schriesheim et al., 1993). One considered approach to assessing content validity was developed by Schriesheim et al. (1993). This method involves asking a panel of judges to rate items into specific content categories or content dimensions, and to employ a pre-established theoretical definition for each category/dimension. Respondents are then given the list of items, as well as the dimension definitions and are asked to rate on a Likert-type scale the extent that each item corresponds to each dimension definition. A Q-correlation matrix of the data is then calculated and the data is subjected to principal components analysis, where factor loadings of .40 or greater are considered representative of the construct of interest (Ford, MacCallum & Tait, 1986).

Due to the lack of theoretical research on the categories that underlie workplace cyberbullying, a procedure of the sort described by Schriesheim et al. (1993) was not possible. However Clark and Watson (1995) argue that the actual procedure used to ensure content validity is not important, as long as researchers take steps to ensure that each area of a domain is represented in the initial item pool. Content validity was established in the creation of the item pool as a broad number of behaviours (68) were converted into items. The

creation of such a broad item pool facilitates content validity because the fundamental goal of this stage is to include all possible contents that might comprise the construct (Loevinger, 1957). Behaviours from each category (see Table 5.1) used to sort the workplace cyberbullying descriptions were included in the initial item pool, apart from those relating to medium specific acts (for example, video conferencing, email and text acts).

Summary

The first phase of item generation used inductive and deductive procedures to generate behavioural descriptions that reflected workplace cyberbullying. An online survey distributed to a working sample produced 604 descriptions that were sorted into categories using content analysis. Content analysis facilitated the removal of redundant descriptions, which left 108 behaviours available for item development. During the item writing procedures a further 40 descriptions were removed. The content validity of the remaining 68 items was ensured as each behavioural category (apart from those relating to medium specific acts) developed during content analysis was represented. The procedures used to ensure face validity are described in phase two.

5.5 Phase Two: Face Validity Assessment

A common method of assessing face validity is to conduct a judging procedure whereby items are rated according to the extent that they represent the construct of interest. Hardesty and Bearden (2004) describe a method involving expert judges in which judges are given an overall construct definition (or construct dimension definitions if the construct is multifaceted) and a list of items. The judges then assess the extent that each item reflects the definition. Furthermore, if the construct is multifaceted, items are categorised into a dimension of the construct, or to a category labelled 'other'. The authors describe variations

of this procedure as scale developers use different rules for determining which items to dispense from a measure, with the final decision on item retention lying with the researcher (Netemeyer, Boles & McMurrian, 1996; Zaichkowsky, 1994).

In their study on the use of expert judges in scale development, Hardesty and Bearden (2004) found that out of 39 scale development articles using expert judges, ten used a method outlined by Zaichkowsky (1985) or a similar equivalent. This method involves asking judges to rate whether each item is 'clearly representative,' 'somewhat representative,' or 'not representative' of the construct of interest. Several rules have been developed when following the Zaichkowsky (1985) technique. One method involves deleting any item evaluated by a single judge as not being representative, although an alternative rule involves utilising the overall score of the group of judges to decide whether to delete items. A further rule pertains to the number of judges needed to decide whether an item is representative of a construct. Some researchers require 3-4 judges to agree (Obermiller & Spangenberg, 1998), whilst others require 50-60% judge agreement on face validity (Manning, Bearden & Madden, 1995).

In order to assess the face validity of the workplace cyberbullying items a method similar to the one outlined by Zaichkowsky (1985) was used. There is not a universally agreed number of expert judges to use during scale development procedures. The mean number of judges reported in Bearden and Netemeyer's (1999) Handbook of Marketing Scale's was 10. However the range varied drastically between 3 at the lower end and 52 at the higher end (Hardesty & Bearden, 2004). Investigation of scales developed on constructs similar to workplace cyberbullying revealed that eight judges were used by Day et al. (2012) during the development of an ICT demands measure. Additionally, nine judges were used by Bennett and Robinson (2000) during the development of a workplace deviance measure. Therefore eight subject matter experts (SME's) were utilised in the current study.

Seven of the subject matter experts were academics. Five of these were experts in the field of workplace harassment, one was an expert in youth cyberbullying research and one was an expert in computer mediated communication. The other judge was a workplace bullying practitioner. An online survey was developed to obtain item ratings (see Appendix 5.3). This gave the judges a short description of the study and details on why their participation was needed. Prior to the rating instructions the following definition of workplace cyberbullying was given: Workplace cyberbullying is defined as *“persistent, repeated negative behaviour enacted through communication technologies (e.g. phone calls, emails, text messages, social networking websites) by individuals or groups, which creates a hostile work environment. Over time, this impacts negatively on the person facing the behaviour and places them in an increasingly inferior position”*

The judges were told that all behavioural items referred to acts conducted through technology that could have arisen in relation to a job or work role. They were also told that respondents would rate whether behaviours had occurred repeatedly, as the final measure would utilise a frequency scale. For instance respondents would be asked how often they had experienced each item using response categories such as: ‘never,’ ‘once/twice,’ ‘monthly,’ ‘weekly,’ ‘daily’. The judges were then asked to rate each item according to the extent that they felt experiencing the behaviour repeatedly (such as on a weekly basis) reflected the workplace cyberbullying construct. The rating scale was 1 = strongly disagree (that the item reflects workplace cyberbullying), 2 = disagree, 3 = slightly disagree, 4 = neither agree nor disagree, 5 = slightly agree, 6 = agree and 7 = strongly agree. A similar Likert scale has been used in previous scale development procedures (Bennett & Robinson, 2000). A text box was also provided after each item which enabled the judges to make notes on the items. The judges were encouraged to write notes on the clarity, consistency and wording of the items.

Several methods were used to guide item retention. Firstly, the ‘sumscore’ rule (Lichtenstein, Netemeyer & Burton, 1990) was used to evaluate the representativeness of the items. This method involves using the overall rating of a group of judges in deciding which items to retain. Research has identified that the sumscore rule is superior to other methods of assessing face validity when predicting the eventual inclusion of an item in a scale (Hardesty & Bearden, 2004). A guide to item retention was to remove items that received a mean rating of 2.4 and lower, indicating clear disagreement on face validity. Items that received a mean score of between 2.5 and 4.4 would be examined to either re-write or delete, while items that received a mean score of 4.5 and above would generally be retained. However, as noted by Hinkin (1998) scale development involves “*a bit of art as well as a lot of science*” (p. 118). Therefore items scores were not examined in isolation.

Once the mean score for each item had been calculated, a document was produced which contained the item, the mean face validity score and any comments that the SME’s had offered regarding wording or clarity. This document was compiled by the primary researcher and each item was discussed during a supervisory meeting attended by the researcher’s three supervisors. During the meeting the team discussed whether to remove or retain each item based upon several criteria, for example ease of understanding, number of similar items retained and how often the behaviour had been referenced in the behavioural descriptions. This meant that the cut-off criteria were not followed strictly as a degree of flexibility was needed during this process.

5.6 Results

All 68 items (see Appendix 5.2) were rated by the subject matter experts. The maximum mean rating obtained by an item was 6.00 (SD = 2.56), while the lowest rated item

received a mean score of 2.00 (SD = .76). Table 5.2 shows that there were just three items that received a mean rating of 2.7 or lower, these three items were deleted from the item pool. In total, 28 items received a mean score between 2.8 and 4.4. Of these, 18 were rejected and ten were rewritten and accepted. Finally, 37 items were given a mean rating of 4.5 and above. Of these, 13 were rejected, 14 were rewritten and accepted, and ten were accepted outright. It should be noted that a relatively high number of items (13) which received a mean score greater than 4.5 were rejected; this was largely because they were very similar to other items which had been accepted. For example, the item ‘been insulted’ was viewed as highly similar to ‘been called derogatory names’, in such circumstances only one of the similar items was retained to avoid highly similar behavioural items. A total of 34 items were retained in the initial measure.

During the face validity stage, the SME’s were also invited to comment on the definition of workplace cyberbullying used during item development and its suitability. This definition stated that workplace cyberbullying ‘*creates a hostile work environment over time*’. Feedback from two of the subject matter experts felt that it would be more appropriate to define workplace cyberbullying without referring to specific outcomes. On the basis of this advice, the definition of workplace cyberbullying was changed to: “*a situation where over time, an individual is repeatedly subjected to perceived negative acts conducted through technology (e.g. phone, email, web sites, social media) which are related to their work context. In this situation the target of workplace cyberbullying has difficulty defending him or herself against these actions*”.

Owing to this adaption the researcher re-examined all the behavioural descriptions produced during this stage of the study to determine whether any should be converted into items. The items were also revaluated to ensure that they were consistent with the adapted definition. No further items were developed or deleted as a result of this process. Therefore

the final measure consisted of 34 items that could be distributed to working individuals across the sectors.

Table 5.2: Mean face validity rating and item retention decision

Mean Face Validity Rating of Items	Number of Items Achieving this Rating	Retention Decision		
		Items Rejected	Items Rewritten & Accepted	Items Accepted Outright
2.00	1	1	0	0
2.57	2	2	0	0
2.75	1	1	0	0
2.88	2	2	0	0
3.13	1	1	0	0
3.25	2	1	1	0
3.50	1	0	1	0
3.63	3	3	0	0
3.71	2	2	0	0
3.75	1	0	1	0
3.88	2	1	1	0
4.00	1	0	1	0
4.13	1	1	0	0
4.14	2	0	2	0
4.25	5	4	1	0
4.29	1	1	0	0
4.38	3	1	2	0
4.43	1	1	0	0
4.50	3	2	1	0
4.57	1	0	0	1
4.63	6	4	2	0
4.75	1	1	0	0
4.88	1	0	1	0
5.00	3	2	0	1
5.13	2	0	2	0
5.14	1	0	0	1
5.25	1	0	1	0
5.29	2	2	0	0
5.38	3	1	0	2
5.50	2	0	0	2
5.63	2	0	1	1
5.75	1	0	0	1
5.88	5	0	5	0
6.00	2	0	1	1
Total	68	34	24	10

5.7 Item Retention

There is no universal rule on the number of items to retain in a measure. Scales can be broad or distinct, depending on the construct they aim to measure. Therefore the number of items to retain is likely to hinge on the breadth of a construct. DeVellis (2012) recommends

producing as many items as possible in the initial pool as this enables greater choice when picking items that will perform effectively. Indeed, Hinkin (1998) suggests that approximately half the items created will be included in the final measure. As such, at least double the number of items desired in the final scale should be retained during item development.

When retaining items, researchers have warned against keeping too many. When measures are too long they can cause boredom and fatigue, which can bias response accuracy (Hinkin, 1995). Furthermore, the internal consistency of a measure can vary according to the number of items retained. Internal consistency refers to how well items in the same measure correlate. It has been argued that internal consistency can be adequately obtained with as few as three items (Cook, Hepworth, Wall & Warr, 1981). Furthermore, Hinkin (1995) argues that it is difficult to improve on the internal consistency of five items by adding more to a scale. However, ultimately the number of items to retain should lie on evidence supporting the construct validity of the measure (Hinkin, 1998).

Given that many constructs can be measured using four to six items, the retention of 34 items within the initial cyberbullying measure may seem excessive. However bullying is a multifaceted construct which often requires the use of multiple items to tap into different factors. For instance, the Leymann Inventory of Psychological Terrorisation (LIPT, Leymann, 1990) consists of 46 items that have been found to reflect five (Leymann, 1996) and seven (Neidl, 1996; Zapf, Knortz & Kulla, 1996) factors. Furthermore, Bjorkqvist, Osterman and Hjelt-Back (1994) developed the Work Harassment Scale which includes 40 items and Baron, Neuman and Geddes (1999) developed a 40 item questionnaire to assess workplace aggression. Therefore the initial cyberbullying measure contained a similar number of items to comparable scales.

5.8 Item Scaling

A Likert type frequency scale was used to scale items, which was based on the NAQ (Einarsen et al., 2009). The rating scale asks respondents to indicate how often in the last six months they have experienced each item through technology. The response options are *never*, *now and then*, *at least monthly*, *at least weekly* and *daily*. These responses were slightly different to the NAQ scale which has the options: *never*, *now and then*, *monthly*, *weekly* and *daily*. The insertion of ‘at least’ was added to enhance the clarity of the response options. For instance, individuals who had experienced 2-3 acts per week may not have been sure whether to select the weekly or daily option. Scaling items in this manner also allows an assessment of whether the core criteria of repetition, outlined in the workplace cyberbullying definition has been met.

As recommended by Nielsen, Matthiesen and Einarsen (2010) a global definition item was included after the behavioural items within the measure, this was presented as follows:

Workplace cyberbullying is defined as a situation where over time, an individual is repeatedly subjected to perceived negative acts conducted through technology (e.g. phone, email, web sites, social media) which are related to their work context. In this situation the target of workplace cyberbullying has difficulty defending him or herself against these actions.

Using this above definition, please state whether you have been cyberbullied at work over the last six months?

The response category was: ‘*No*’, ‘*Yes, now and then*’, ‘*Yes, monthly*’, ‘*Yes, weekly*’ and ‘*Yes, almost daily*’. This allows the researcher to determine how regularly the respondent

feels victimised. The combination of a global definition item along with behavioural items is deemed a superior approach to measurement (Nielsen et al., 2010). Behavioural items assess the nature and frequency of bullying exposure, however they do not allow the researcher to determine whether the target perceives a power disparity between themselves and the perpetrator(s). Including a global self-labelling definition item can assess power disparity if the criterion is included in the definition. In the above definition, the power imbalance element refers to the targets inability to defend themselves, which could arise from formal and informal power differences (Branch, Ramsay & Barker, 2013).

5.9 The Initial Measure

The final aim of this chapter was to compile items that displayed sufficient validity into a workplace cyberbullying measure that could be distributed during the next phase of measure development. In total, 68 behavioural descriptions of workplace cyberbullying were written up as scale items. After assessing the face validity of these items, 34 were retained in a measure that could be distributed to a working population during the next study. Table 5.3 presents the 34 workplace cyberbullying items and the global definition item that form the measure.

Table 5.3: Workplace cyberbullying items and global definition item

Behavioural Items

1. Received messages that have a disrespectful tone
2. Been unfairly blamed for work problems
3. Received aggressively worded messages (e.g. using all capital letters, bold font or multiple exclamation marks)
4. Had another organisational member copy people into messages that reflect negatively on you
5. Had extracts from your messages copied to others where the meaning of your original message is distorted
6. Had another organisational member copy people into messages that embarrass you
7. Had your work unfairly criticised
8. Experienced unfair personal criticism (e.g. on your character, appearance, opinions)
9. Received rude demands from a colleague
10. Been sent conflicting information
11. Been pressurised into responding to technology mediated communications at all times
12. Received negative messages from colleagues that were sent to your personal (non-work) phone/social media account/ email address
13. Received messages that contain false information about you
14. Been bypassed in group communications that are relevant to your work role
15. Had negative rumours or gossip spread about you
16. Had personal information shared without your permission
17. Had negative comments about your work discussed in public
18. Had jokes about you circulated to others
19. Had colleagues ignore your messages
20. Been called derogatory names
21. Had embarrassing pictures/videos of you circulated without your permission
22. Received unwanted messages containing sexualised content
23. Received messages that contain abusive language aimed at you
24. Received threatening messages
25. Been the subject of communications that undermine you
26. Received unreasonable work demands
27. Been singled out to do the least attractive work tasks
28. Received messages requesting that you complete work outside of your contracted hours
29. Received messages unfairly questioning your competence
30. Had access to computer files blocked by a colleague
31. Been excessively teased through technology-mediated communications
32. Been the only individual omitted from group messages that are relevant to your work role
33. Been the only person excluded from social communications between colleagues
34. Had disparaging remarks written about you in messages to the workgroup

Global Definition Item:

Workplace cyberbullying is defined as a situation where over time, an individual is repeatedly subjected to perceived negative acts conducted through technology (e.g. phone, email, web sites, social media) which are related to their work context. In this situation the target of workplace cyberbullying has difficulty defending him or herself against these actions.

Using this above definition, please state whether you have been cyberbullied at work over the last six months

5.10 Discussion

This study produced a 34 item workplace cyberbullying measure that was constructed to incorporate content validity and face validity. Three predefined criteria were considered during the development of the measure: (1) it should be generalisable to employees working across different industries and organisations (2) it should capture behaviours experienced through the full spectrum of communication technologies and (3) it should measure cyberbullying from the targets perspective. During the study, respondents produced 604 descriptions of workplace cyberbullying behaviour. Content analysis was conducted to group these descriptions into categories from which behavioural items were written. Of the 108 descriptions grouped into categories, 68 were converted into measurement items. A face validity assessment was conducted using expert judges to determine the extent that the items represented workplace cyberbullying. Following the face validity assessment, 34 items were retained in a measure that is psychometrically assessed during the next phases of measure development.

Many of the behaviours identified by respondents as acts of workplace cyberbullying included online variants of behaviours evident in the offline bullying literature. For example, 'being the only individual omitted from group messages that are relevant to your work role' and 'being the only person excluded from social communications between colleagues' refer to cyber versions of ostracism and isolation behaviours, which is a category of bullying identified in prior research (Zapf, 1999). Furthermore, 'having your work unfairly criticised' and 'receiving messages unfairly questioning your competence' refer to work-related behaviours, which is a distinguishable factor of the NAQ (Einarsen et al., 2009). This suggests that many of the bullying behaviours which occur offline are also perpetrated during cyberbullying. Yet even behaviours that are the same as their offline equivalents may take on a different form when they occur via technology. Byron (2008) states that a negativity effect

occurs when emotionally neutral information is communicated through email, because messages lack communication cues and can appear emotionally ambiguous. Therefore acts such as unfair criticism can appear to the receiver to be much harsher than the sender intended. Indeed, Friedman and Currall (2003) suggest that when individuals receive rude emails, they are likely to feel that the message was intended in that manner because they know that the sender has time to craft and revise the message.

A number of behaviours were also described which were unique to online communication. For instance, 'receiving messages requesting that you complete work outside of your contracted hours' is a behaviour that could occur at any time of day, such as during a holiday or weekend. Offline bullying can only occur when two individuals are in the same location, but receiving messages outside of working hours reflects the ability of cyberbullying to go beyond the workplace (D'Cruz & Noronha, 2013). Similarly, 'receiving negative messages from colleagues that were sent to your personal (non-work) phone/social media account/ email address' is a behaviour that's offline equivalent would be having a work colleague turning up at your house to abuse you, which may happen although it is potentially a criminal act.

Another example of a unique cyberbullying behaviours is 'being sent conflicting information'. During offline workplace bullying, this behaviour is less likely to be perceived as negative because when an individual receives inconsistent information offline, they can easily resolve it through face-to-face conversation. However when conflicting material is received during computer mediated communication, it is more difficult to clarify the issue because fewer communication cues exist (Sroull & Kiesler, 1986). This can lead to poor communication and negative interpersonal behaviour, as Cramton (2001) noted that poor relations in virtual teams led members to withhold information from one another.

Furthermore, some forms of computer mediated communication are asynchronous, for

example emails, text messages and discussion boards. This means they do not transmit information in real time and as such there is a delay between when a message is sent and received (Pesendorfer & Koeszegi, 2006). Therefore it may be much harder for individuals who receive conflicting information online to achieve work goals.

A further unique cyber behaviour is ‘having another organisational member copy people into messages that reflect negatively on you’. This feature is unique to the virtual environment as sharing negative information about an individual in this manner is impossible to achieve offline. Indeed, Weatherbee (2007) states that when an attack is conducted through the carbon copy function it is “*in effect analogous to the combining of several forms of aggression, such as verbal aggression, social undermining, and gossip (Duffy, Ganster, & Pagon, 2002) into one act with potentially exacerbating effects*” (p.14). Similar behaviours were also identified, such as use of the forwarding email function and having personal information shared without your permission. Therefore the study provides initial evidence that workplace cyberbullying involves both traditional bullying behaviours (which can take on a different form in the online context) as well as cyber specific acts.

The behavioural descriptions of workplace cyberbullying behaviours were grouped into categories using content analysis. Although the categories give a general idea of the types of behaviours that reflect workplace cyberbullying, they are not reflective of all the theoretical categories that may underpin the phenomenon. The aim when creating these categories was firstly to ensure that the measure included a full array of workplace cyberbullying behaviours, which was necessary to achieve content validity and secondly to organise the behavioural descriptions. The categories were not established using a pre-defined theoretical framework because factor analysis conducted during the latter stages of measure development can be used to identify latent clusters. In spite of this, the categories could be useful to practitioners who may be unaware of the diverse array of behaviours that

embody workplace cyberbullying. West et al. (2014) suggest that a consensus on acceptable and unacceptable cyber behaviours has yet to develop among HR professionals. Therefore the categories established could inform HR professionals which behaviours are perceived negatively.

The measure offers several advantages over other multiple-item bullying scales. Firstly, recent critiques of multiple item workplace harassment measure have indicated that a limitation affecting several dominant scales is that they fail to capture the definitional features of the constructs they represent (Hershcovis, 2011; Tepper & Henle, 2011). In this thesis, workplace cyberbullying is defined as “*a situation where over time, an individual is repeatedly subjected to perceived negative acts conducted through technology (e.g. phone, email, web sites, social media) which are related to their work context. In this situation the target of workplace cyberbullying has difficulty defending him or herself against these actions.*” This definition stresses the conceptual elements of repetition, a power imbalance between perpetrator and targets, as well as exposure to perceived negative acts conducted through technology in relation to the working context. These conceptual elements are all covered by the measure. Repetition is assessed through the rating scale which captures how often respondents are exposed to each negative behaviour. Exposure to negative technology-mediated acts is captured by the measurement items. Finally, power imbalance is captured by the self-report question item at the end of the measure. This assesses whether targets have difficulty defending themselves, which arises from an imbalance of power between perpetrator(s) and target, thus the measurement method is consistent with the definition.

Secondly, the measure is broader than existing cyber harassment scales because it assesses behaviours experienced through various technologies that individuals use in relation to their work, rather than through a specific medium. As such, the measure can obtain a more complete picture of workers cyberbullying experiences and it is more resilient to

technological developments because the items do not reference specific media that could become outdated in future years. The pre-item instructions also alert respondents to the online nature of the items. These instructions state “The following questions refer to acts conducted through technology that are related to your work context”, a number of technologies are then given as examples. An advantage of this method is that the rating instructions can be updated if any new technologies emerge or if any of the examples becomes obsolete. Therefore the measure is more resilient to new technological developments than existing cyber harassment measures.

Limitations

Some limitations should be noted. Firstly the scale does not include context specific or medium specific cyberbullying behaviours. One aim of the study was to create a scale that could be distributed across industries and sectors. Although this is a strength of the measure, a trade-off was made because some unique behaviours were eliminated. For instance, an aspect of cyberbullying unique to the teaching profession concerns students and parents using social media platforms to harass teaching professionals. Although this may be common in the teaching profession, it is not applicable across sectors and therefore it was discarded during the item development stage. Furthermore, medium specific items were eliminated to ensure that the measure does not include references to technologies which may become outdated. This limits the scale because it does not allow discrimination between the communications media used to perpetrate the acts, which may have different characteristics that could alter a cyberbullying experience.

A second limitation concerns the sample. Behavioural descriptions were collected from both Australia and the UK. Perceptions of workplace cyberbullying may differ between these countries as a function of different beliefs and values, which could have resulted in a

measure that is not representative of either nation. However, the UK and Australia are culturally similar, both are characterised by feminine values, negative attitudes towards power abuse and have a lower threshold for experiencing bullying (Einarsen, 2000). Therefore it is unlikely that using these two samples would have affected the representativeness of the measure. Furthermore, items were subjected to a face validity assessment to ensure they matched the construct definition.

A final limitation concerns the definition that was used to collect behavioural descriptions, which indicated that workplace cyberbullying creates a hostile work environment. This definition was changed during the face validity assessment because SMEs suggested that the link between workplace cyberbullying and hostile work environments had not been established. The original definition could have affected the collection of behavioural descriptions because respondents may have neglected to describe cyberbullying behaviours that do not affect the actual work environment. For instance, a teacher could be exposed to negative social media comments from parents, but this would not necessarily create a hostile work environment. Steps were taken to mitigate the potential impact of this amendment because all behavioural descriptions were reviewed in light of this change to determine whether they could be developed into items. All items were also reviewed to ensure that they were consistent with the adapted definition. Furthermore, respondents were informed during the data collection study that the behaviours they described did not necessarily have to be experienced during work hours. It is therefore unlikely that this change would have influenced the findings.

Summary

This chapter presented an empirical study that identified workplace cyberbullying behaviours and converted them into measurement items that form a workplace cyberbullying

measurement tool. The study addressed the item generation stage of Hinkin's (1998) measure development process and steps were taken to ensure that the measure was developed to incorporate content validity and face validity. The following chapter will address the administration of the measure.

Chapter 6 – Assessing the Severity of Cyberbullying Items (Study 2)

Chapter 5 reported on a study that was conducted to generate a 34 item cyberbullying measure. The current chapter introduces a second empirical study (Study 2) that further guides the measure development process. The study outlined in this chapter assesses the perceived severity of the 34 cyberbullying items. The aim of this study was to develop severity weights which can be used to create a severity weighted scale. The chapter begins by discussing literature on the severity of bullying and cyberbullying behaviours, which provides a rationale for developing item severity weights. The methodology, results and discussion of Study 2 are then described.

6.1 Study 2

Traditionally, workplace bullying research has focussed on why people bully and the outcomes for individuals and organisations, yet the relative severity of bullying behaviours has not received equal attention. This trend is starting to change as recent research demonstrates that different bullying behaviours are not necessarily perceived as equally damaging. For instance, Rodríguez-Carballeira et al. (2010) developed a taxonomy of six workplace bullying strategies and asked subject matter experts to rate the severity of each strategy using a Delphi survey. The judges rated emotional abuse, defined as “*offensive actions and expressions aimed especially at attacking, injuring and sneering at the worker’s feelings and emotions*” as the most severe category (Rodríguez-Carballeira et al., 2010, p.302). This was followed by professional discredit and denigration, devaluation of ones role

in the workplace, control and manipulation of information, isolation and control and abuse of working conditions.

In a separate study, Escartin et al. (2009) administered a 35-item bullying measure that represented the six categories of bullying behaviour identified during the Rodríguez-Carballeira et al. (2010) study to a sample of 300 Spanish employees. The survey asked respondents to rate how severely they perceived each item and findings indicated that the six categories could be allocated into one of three severity levels. Within the least severe level were the categories 'devaluing the professional role' and 'isolation'; three categories of behaviour fell within the middle level: 'manipulating information', 'abusive working conditions' and 'professional discredit', while the most severe level involved behaviours representing 'emotional abuse'. Emotional abuse may be rated as a particularly severe form of bullying behaviour because it is the one that most directly threatens the targets identity (Escartin et al., 2009).

During a rare study that assessed whether different bullying acts exert a varying impact on health, Høgh, Hansen, Mikkelsen and Persson (2012) conducted factor analysis on a modified version of the NAQ which revealed four subscales: 'person-related acts', 'work-related acts', 'anger and intimidating behaviour' and 'control'. The person-related factor was then split into two further factors: social isolation and direct harassment to test the hypothesis that social isolation would be more strongly associated with psychological distress than the other factors. Findings indicated that social isolation had the strongest impact on three psychological stress outcomes (i.e. hyper-arousal, intrusive thoughts and avoidance behaviour).

Interestingly, these results are at odds with those reported by Escartin et al. (2009) and Rodríguez-Carballeira et al. (2010) who found that respondents rated isolation as one of the

less severe forms of bullying behaviour. Hogh et al. (2012) note that a potential explanation for the finding is the unfolding nature of bullying, as during the early stages of bullying targets are subjected to isolation behaviours, but as the process unfolds acts become more open and hostile. The ostracism behaviours experienced earlier in the process have been found to immediately affect well-being (Williams & Zardo, 2005). Therefore individuals who reported high levels of stress may have been experiencing ostracism for a long period of time, whereas directly aggressive behaviours may not have been experienced for such a long period.

It has also been argued that particular types of bullying behaviours are more likely to create the perception of being a bullying victim (Lutgen-Sandvik et al., 2007). Lutgen-Sandvik et al. (2007) conducted multiple discriminant analysis to identify that a cluster of 6 bullying items out of 22 they administered to a sample of 469 US workers were particularly associated with self-labelling as a bullying victim. These were:

1. Being humiliated or ridiculed in connection with your work.
2. Having important information withheld.
3. Being faced with threatening behaviour (for example, finger-pointing, invasion of personal space, shoving, blocking/barring the way).
4. Being pressured not to claim something to which entitled (for example, sick leave, vacation pay).
5. Being ignored or faced with hostility when approaching others.
6. Hints to quit your job.

Examination of these behaviours reveals that they include emotionally abusive acts (for example, humiliation, threats and hostility) that have been rated as highly severe, as well

as acts of isolation (for example, being ignored and having information withheld) which have been found to impact strongly on target well-being (Hogh et al., 2012).

Unlike workplace bullying research, investigation of cyberbullying is still in the early phases, however some initial evidence has emerged that students do not perceive different cyberbullying acts as being equally severe. Slonje and Smith (2008) found that students rated cyberbullying acts involving picture and videos as the most severe form of cyberbullying because of the large potential audience and because they could be identified. Smith et al. (2008) obtained a similar finding, as pupils in their study believed that picture and video clip bullying would have a strong impact on the victim, more so even than traditional bullying. Menesini et al. (2011) also found that cyberbullying acts involving pictures and videos were more severe using item response theory. Moreover, Nocentini et al. (2010) examined whether anonymity and publicity should be used as criteria to define cyberbullying. Neither factor was perceived as a relevant definitional criterion, but students did perceive both public and anonymous acts of cyberbullying as being more severe.

Severity Assessment

Differences in the severity of bullying behaviours can present a problem if items included in a measure are not unidimensional. Multiple-item scales assume that every item has the same level of severity, because each item is treated equally when they are aggregated to obtain an overall bullying score (Hershcovis & Reich, 2013). This means that if certain items are perceived as more severe than others, a change in the frequency of bullying may not reflect a change in the overall level of victimisation (Escartin et al., 2009). For instance, experiencing unreasonable work demands on a weekly basis may not be equivalent to being physically threatened each week. Hershcovis and Reich (2013) indicate that this measurement issue is not problematic if the items cover a latent construct. However, evidence indicates that

items in multiple item harassment measures may reflect different latent constructs. For instance, it has been argued that ostracism behaviours are the opposite of acts of commission (for example, name calling and criticism) because the perpetrator is not engaging with the target in any way (Hershcovis & Reich, 2013; Robinson, O'Reilly & Wang, 2012).

To account for this problem, severity weightings can be applied to measurement items. This allows for more sensitive analysis, as the severity of bullying behaviour may predict the strength of its effect on outcomes including health and well-being (Rodríguez-Carballeira et al., 2015). Indeed, Escartin et al. (2010) suggest that the subscales identified during the development of their workplace bullying measure could be weighted according to severity. Therefore severity ratings were obtained for each of the 34 cyberbullying items that could be used to weight the workplace cyberbullying measure.

6.2 Method

Sample and Procedure

Different methods can be used to weight the indicators of a composite score, including empirical regression weights, subject matter expert (SME) ratings and unit weights (Bobko, Roth & Buster, 2007). When items exist within a single measurement instrument, SME ratings are arguably the best method of weighting items, especially when the measure includes numerous items. This is because statistical methods would require a large sample size to ensure sufficient power and stability of results. Accordingly, SME ratings were used to weight items according to severity in the current study. SME ratings can be obtained by asking judges to rate items on a numeric scale, for example Marcus, Schuler, Quell and Hümpfner (2002) asked SMEs to assess the severity of counterproductive work behaviour items on a scale ranging from 0 = Not harmful to 4 = Absolutely intolerable. Alternatively,

SMEs can be asked to divide a given number of points across items to convey their relative weight. Rodríguez-Carballeira et al. (2010) used this method to obtain ratings from independent judges on the severity of bullying categories.

A sample of 17 respondents rated the 34 cyberbullying items. Six of these were subject matter experts (3 workplace bullying researchers, 1 workplace harassment researcher and 2 cyber harassment researchers) none of whom had participated in Study 1. The other eleven respondents were employees within the Human Resources (HR) department of a large city council. HR employees were used as judges to bolster the sample size as Bobko et al. (2007) argue that in situations where few experts are available sampling error can occur. Furthermore, due to the nature of their jobs, HR employees should have some prior knowledge on bullying within organisations. Both sets of respondents were invited to participate in the study via email which contained a link to an online survey (see Appendix 6.1). The respondents were assured that their responses would remain confidential and anonymous. They were also asked to create a unique identity code which enabled them to contact the researcher confidentially to request that their data be removed from the study if they wished.

Data Collection Method

An online survey was developed to assess the perceived severity of the 34 cyberbullying items. The items were adapted from the past tense format to a present tense format. For instance, an item such as ‘had your work unfairly criticised’ was changed to ‘having your work unfairly criticised’ because feedback from one SME on an early version of the questionnaire indicated that the present tense formatted allowed respondents to reflect on the severity of each behaviour with greater clarity. This was possibly because it was easier to reflect on the severity of a behaviour as it happens, rather than reflecting on a past event.

Respondents were asked to rate the severity of each behaviour on a severity scale developed by Escartin et al. (2009) whereby 1 = no harassment and the response options gradually increase in severity up to 10, which denoted maximum severity. The response instructions stated that ratings towards the 'maximum severity' end of the scale indicated harsher acts than those at the 'no harassment' end of the scale.

6.3 Results

The mean score of each item was calculated to provide a weighting score, similar to Marcus et al. (2002). As seen in Table 6.1 the least severely rated items were 'Receiving messages that have a disrespectful tone' (M = 4.12, SD = 1.50), 'Being sent conflicting information' (M = 4.82, SD = 2.53) and 'Being pressurised into responding to technology at all times' (M = 5.25, SD = 2.44). The most severely rated item was 'Receiving threatening messages' (M = 9.53, SD = .87). Other highly rated items were 'Receiving unwanted messages containing sexualised content' (M = 9.18, SD = 1.24), 'Having embarrassing pictures/videos of you circulated without your permission' (M = 9.06, SD = 1.48) and 'Receiving messages that contain abusive language aimed at you' (M = 9.00, SD = 1.23).

Table 6.1: Cyberbullying items by overall severity rating

Item	Employee Rating	SME Rating	Overall Rating
	Mean (SD)	Mean (S.D)	Mean (SD)
1. Receiving threatening messages	9.64 (.67)	9.33 (1.21)	9.53 (.87)
2. Receiving unwanted messages containing sexualised content	9.36 (1.03)	8.83 (1.60)	9.18 (1.24)
3. Having embarrassing pictures/videos of you circulated without your permission	9.45 (.69)	8.33 (2.25)	9.06 (1.48)
4. Receiving messages that contain abusive language aimed at you	9.18 (1.08)	8.67 (1.51)	9.00 (1.23)
5. Having jokes about you circulated to others	8.82 (1.25)	7.50 (2.07)	8.35 (1.66)
6. Being called derogatory names	9.18 (.98)	6.83 (2.14)	8.35 (1.84)
7. Having disparaging remarks written about you in messages to the workgroup	8.50 (1.18)	7.33 (1.63)	8.06 (1.44)
8. Receiving negative messages from colleagues that were sent to your personal (non-work) phone/social media account/ email address	8.64 (1.43)	6.83 (2.32)	8.00 (1.94)
9. Having negative rumours or gossip spread about you	8.40 (1.43)	7.14 (2.04)	7.88 (1.76)
10. Having personal information shared without your permission	8.36 (1.50)	6.83 (2.64)	7.82 (2.04)
11. Experiencing unfair personal criticism (e.g. on your character, appearance, opinions)	8.09 (1.45)	7.33 (2.16)	7.82 (1.70)
12. Being excessively teased through technology-mediated communications	8.36 (1.69)	6.50 (2.17)	7.71 (2.02)
13. Receiving messages that contain false information about you	8.00 (1.73)	6.67 (2.42)	7.53 (2.04)
14. Being the subject of communications that undermine you	8.00 (1.18)	6.50 (2.43)	7.47 (1.81)
15. Having negative comments about your work discussed in public	8.27 (1.35)	5.83 (1.60)	7.41 (1.84)
16. Having another organisational member copy people into messages that embarrass you	7.82 (1.33)	6.67 (2.25)	7.41 (1.73)
17. Receiving messages unfairly questioning your competence	7.82 (1.66)	6.33 (2.25)	7.29 (1.96)

18. Being the only individual omitted from group messages that are relevant to your work role	7.73 (1.79)	6.50 (2.81)	7.29 (2.20)
19. Having extracts from your messages copied to others where the meaning of your original message is distorted	7.09 (1.51)	6.50 (2.26)	6.88 (1.76)
20. Having your work unfairly criticised	7.27 (1.68)	6.00 (2.10)	6.82 (1.88)
21. Receiving rude demands from a colleague	7.18 (2.14)	6.00 (2.19)	6.76 (2.17)
22. Receiving aggressively worded messages (e.g. using all capital letters, bold font or multiple exclamation marks)	6.82 (1.54)	6.50 (2.59)	6.71 (1.90)
23. Having access to computer files blocked by a colleague	7.20 (1.69)	5.86 (2.97)	6.65 (2.32)
24. Having another organisational member copy people into messages that reflect negatively on you	6.91 (1.51)	5.83 (1.47)	6.53 (1.55)
25. Being singled out to do the least attractive work tasks	7.36 (1.63)	5.00 (2.19)	6.53 (2.13)
26. Receiving messages requesting that you complete work outside of your contracted hours	7.36 (2.06)	4.83 (2.86)	6.47 (2.60)
27. Being the only person excluded from social communications between colleagues	6.82 (2.04)	5.83 (2.64)	6.47 (2.24)
28. Being bypassed in group communications that are relevant to your work role	7.00 (2.15)	5.50 (2.88)	6.47 (2.45)
29. Being unfairly blamed for work problems	6.36 (1.29)	6.33 (2.50)	6.35 (1.73)
30. Receiving unreasonable work demands	6.91 (1.51)	5.17 (2.23)	6.29 (1.93)
31. Having colleagues ignore your messages	6.91 (2.17)	4.50 (2.67)	6.06 (2.56)
32. Being pressurised into responding to technology mediated communications at all times	6.30 (2.06)	3.50 (2.07)	5.25 (2.44)
33. Being sent conflicting information	5.70 (2.63)	3.57 (1.90)	4.82 (2.53)
34. Receiving messages that have a disrespectful tone	4.09 (1.30)	4.17 (1.94)	4.12 (1.50)
Total	260.90	215.05	237.10
Scale Mean	7.67	6.33	6.97
* Items in bold denote items in the final measure			

Table 6.1 shows that none of the items received an overall mean severity rating below 4.0; however this is perhaps unsurprising as the items had already been subjected to a face validity assessment. Analysis of the difference between SME ratings and employee ratings revealed similarities in the strength of rating across items, although employees mostly rated items as more severe than SMEs. In general, the items rated as more severe were those that involved threats, abuse and behaviours designed to humiliate the target. This is consistent with offline bullying research which found that emotional abuse was rated as the most severe type of workplace bullying (Rodríguez-Carballeira et al., 2010). Emotional abuse involves intimidation and threats, as well as humiliation and rejection of the target (Rodríguez-Carballeira et al., 2010) which are reflected in the most severely rated cyberbullying items.

The mean severity ratings were retained for use in future studies. They were used in Study 3 to identify whether a severity weighted measure produces a different factor structure to an unweighted measure. The weightings were also used in Study 4 and Study 5 to determine whether a severity weighted measure could provide more sensitive analysis of the relationship between cyberbullying and outcome variables than a non-weighted measure.

6.4 Discussion

Bullying measures have been criticised for treating items as equally severe, which is problematic because if some items are perceived as more severe than others, a change in bullying frequency may not reflect a change in the overall victimisation level (Escartin et al., 2009). To account for this, severity ratings were obtained which can be used to weight items within the cyberbullying measure. Past research has identified that cyberbullying behaviours lie on a continuum of severity (Menesini et al., 2011). Therefore the ratings may be useful during future research as weighted items could allow for more sensitive analysis, which may

better predict the strength of cyberbullying on outcomes including health and well-being (Rodríguez-Carballeira et al., 2015).

Research on the severity of cyberbullying behaviours has consistently identified that acts involving pictures and videos are perceived as one of the most severe forms of cyberbullying. In the current study, the item that explicitly referenced pictures and video clips was rated as the third most severe item, suggesting that working adults also perceive pictures and videos as one of the more severe cyberbullying acts. An inspection of the most severely rated cyberbullying items seems to suggest that they represent emotionally abusive acts, which is similar to the offline context where emotionally abusive behaviours are perceived as more severe than other bullying behaviours (Escartin et al., 2009).

Study limitations

There are some study limitations which need to be acknowledged. Firstly, the severity weights were produced by a relatively small sample which included SMEs and employees from a single organisation. It could be argued that obtaining severity ratings from employees within the same organisation is an unrepresentative method of producing weightings for a broad measure that can be used in different contexts. This is because the same cyberbullying behaviour could be evaluated differently across organisations (Marcus et al., 2002). For example, the item '*having access to computer files blocked by a colleague*' was rated as moderately severe in the current study. However, this act may be seen as more legitimate in organisations that have strict security protocol. One way to overcome this limitation (in situations where the organisational context is particularly unique) is to ask a small sample of employees within that organisation to rate the severity of items. This would allow the researcher to develop their own ratings that could be used to weight items.

A second limitation concerns the difference between perceived severity and actual severity. The approach used to assess the severity of bullying behaviours in most studies involves asking respondents about how serious they perceive each behaviour to be (Bauman & Newman, 2013; Escartin et al., 2009; Smith et al., 2008). Yet evidence suggests that there is a difference between perceptions and actual experiences. For instance, Eslea (2010) found that individuals who had not experienced physical bullying perceived it as more distressing than those who had experienced it. The opposite was true of less direct bullying acts, such as gossiping and exclusion, which were rated as more distressing by those who had experienced it than those who had not. However, in support of the approach taken in this study, it has been found that there was no significant difference between how victims, witnesses and employees with no bullying experience rated the severity of bullying categories (Escartin et al., 2009). Therefore the ratings may portray a valid picture of the severity of cyberbullying behaviours; especially as SMEs and HR professionals represent a sample that may have an in-depth understanding of cyberbullying acts.

Summary

The aim of Study 2 was to develop a severity value for each item that could be used to create a severity weighted scale. The 34-item workplace cyberbullying measure was distributed to 17 respondents who rated all 34 items according to perceived severity. The findings indicated that the most severely rated items represented emotionally abusive acts. The severity weights will be used in forthcoming measure development studies to determine whether analysis using the severity weighted measure differs from analysis produced by the unweighted measure.

Chapter 7 - Questionnaire Administration (Study 3)

The previous chapter reported on a study that obtained severity weights for each item in the workplace cyberbullying measure. The study presented in this chapter (Study 3) involves administering the measure to a working sample. Study 3 had three main aims: (a) to validate the workplace cyberbullying measure on a separate sample of employees (b) to identify the underlying factor structure and (c) to refine the scale by removing unreliable and unrepresentative items. These aims underlie the overall goal of the thesis which involves the creation of a valid and reliable workplace cyberbullying measure. Following the scale development recommendations outlined by Hinkin (1998) the steps taken during this study served to prepare and refine the measure for further testing on a separate sample during Study 4. Specifically, this study addresses steps 2, 3, 4 and 5 of Hinkin's (1998) measure development methodology as outlined in Chapter 4. This includes questionnaire administration, initial item reduction, confirmatory factor analysis and convergent/divergent validity assessment. The chapter is structured to meet the aims of Study 3 by presenting the method and results of the study, before a discussion section draws together the implications of the research.

7.1 Method

The 34 item workplace cyberbullying measure was distributed across five data collection streams. Collecting data from a variety of sources was consistent with the aim of producing a measure that is applicable to individuals working in different organisations and sectors. Furthermore, a varied sample is needed to generate sufficient response variance and to avoid an idiosyncratic context (Hinkin, 1998).

The five data collection streams produced 450 responses, however 26 were returned with significant missing data. As a result, 424 completed responses were retained, these comprised 79 (18.6%) individuals from the researcher's network; ten (2.4%) employees from a large multinational leadership and talent consultancy firm; six (1.4%) volunteers at a UK mental health charity; 194 (45.8%) individuals from JISC mail distribution lists (different groups were surveyed from those surveyed in Study 1) and 135 (31.8%) employees from a large city council. An online survey was distributed via email to each data collection stream with the exception of the city council who posted information regarding the study on their intranet, along with a link to the survey. This methodology allowed direct access to people who used at least one form of technology in relation to their work, but due to the nature of this method response rates cannot be calculated.

Participants

The final sample included 233 (55%) females and 188 (44.7%) males (3 individuals did not state their gender). Their ages ranged from 19 to 69 with a mean age of 41 years ($SD = 11.90$). Three sectors (public, private and voluntary/third) were represented within the sample. However the majority of respondents (346, 81.6%) stated that they worked in the public sector, whereas 73 (17.2%) worked in the private sector and 21 (5%) worked in the voluntary/third sector. A number of respondents worked in more than one sector, four individuals were employed in the public and private sector, one individual worked in the private sector and voluntary/third sector, six individuals held roles in the public and voluntary/third sector, while four respondents worked across all three sectors. A varied range of job roles were held by the respondents, they included housing officers, chaplains, IT managers, interior designers, teachers, lecturers, consultants, social workers and a wind turbine technician. Most respondents worked 35 hours or more per week (79%), and they had a mean tenure of 20 years ($SD = 11.96$). The respondents used a range of communication

technologies in relation to their work, 423 (99.8%) used email, 409 (96.5%) used the telephone, 200 (47.2%) used text messages, 160 (37.7%) used social media, 136 (32.1%) used video conferencing and 94 (22.2%) used instant messaging.

Data Collection Measure

The online survey instructions made respondents aware that participation in the research was voluntary and that their responses would be kept confidential and anonymous. Demographic variables assessed respondent's age, gender, job role, working sector, tenure, hours worked per week and the technology they used in connection with their work. Prior to completing the 34 cyberbullying items, instructions made respondents aware that they referred to acts conducted through technology and not face-to-face behaviours.

Respondents were asked how often over the last six months they had been subjected to each of the negative work-related acts through technology, the response options were 'never', 'now and then', 'at least monthly', 'at least weekly' and 'daily'. The phrase 'at least' was added to the monthly and weekly response categories because it was thought that this would more clearly outline the response options. For example, if a respondent experienced an act 2-3 times per week, they may have been unsure whether it was a daily or weekly occurrence.

Neither the pre-survey instructions nor items referred to bullying, as presenting items without referencing bullying is considered to be more objective than explicitly stating that bullying is being assessed (Arvey & Cavanaugh, 1995). However, after completing the cyberbullying items, respondents were presented with a definition which stated that workplace cyberbullying was '*a situation where over time, an individual is repeatedly subjected to perceived negative acts conducted through technology (e.g. phone, email, web sites, social media) which are related to their work context. In this situation the target of*

workplace cyberbullying has difficulty defending him or herself against these actions.'

Respondents were asked 'Using this above definition, please state whether you have been cyberbullied at work over the last six months?' The response categories were 'No', 'Yes, now and then', 'Yes, monthly', 'Yes, weekly' and 'Yes, almost daily'. Nielsen et al. (2010) recommend combining behavioural items with a global self-report definition as this enables an assessment of how many employees label themselves as victims, as well as how many employees have been exposed to bullying behaviour. A formatted version of the questionnaire is presented in Appendix 7.1.

Data Preparation

The data was assessed for outliers and normality. The distribution of the data was positively skewed, which was expected as similar constructs display skewed distributions (Notelaers & Einarsen, 2013; Weatherbee, 2007). Before conducting factor analyses, similar to Einarsen et al. (2009) in their analysis of the NAQ, the '*at least weekly*' and '*daily*' categories were collapsed into a single response category because the latter response was rarely selected. Further, as recommended by Hinkin (1998) if the sample size is sufficiently large ($n > 400$) data can be split in half randomly, with exploratory factor analysis (sample size, $n = 213$) performed on one half and confirmatory factor analysis (sample size, $n = 211$) performed on the other. The most common method of conducting factor analysis during scale development is to perform EFA prior to CFA. Worthington and Whittaker (2006) state that exploratory methods are able to capture the correct factor model in most cases and the hypothesised factor structure should be replicated on a separate sample. Thus the most logical approach is to conduct EFA prior to CFA.

7.2 Exploratory Factor Analysis

Exploratory factor analysis (EFA) involves identifying the underlying structure of a large set of variables. In particular, it is useful to understand the relationships between latent variables that are thought to reflect a given construct. As outlined by Field (2009) EFA has three main uses (1) to identify how a set of variables relate to each other; (2) to develop questionnaires that can measure underlying variables and (3) to reduce data to a more manageable size without losing too much information.

Ford, MacCallum and Tait (1986) note that the first decision a researcher must face when using factor analysis is to choose the most appropriate factor model. There are two main methods of factor analysis: components analysis and common factor analysis. Ford et al. (1986) state that the key assumption differentiating components analysis from factor analysis is the nature of variance in the variables. As noted by Ford et al. (1986) “*common factor analysis assumes that the variance of each measured variable can be decomposed into common and unique portions, where unique variance includes random error variance and systematic variance specific to the given measured variable*” (p. 293). Common factor analysis is used to assess the covariation between variables, along with the total amount of variance in each variable that can be explained by common factors (calculated using commonalities). This approach differs from principal components analysis which does not account for common variance or unique variance. In principal components analysis, the observed variables are converted into a new set of variables that represent linear composites of the original variables, and that account for the covariation between variables.

As principal components analysis (PCA) decomposes the original variables into a set of linear variates, only common factor analysis can estimate the underlying factor structure (Field, 2009). When principal components techniques are used, an underlying statistical

model is not assumed; PCA does not make assumptions about the number of components being analysed or what they represent (Bartholomew, Steele, Moustaki & Galbraith, 2008). Therefore conclusions from the analysis are restricted to the sample collected and results can only be generalised if analysis using different samples demonstrates the same factor structure (Field, 2009).

PCA and common factor analysis also have different aims. The aim of PCA involves reducing the number of items whilst retaining as much of the initial item variance as possible (Worthington & Whittaker, 2006). On the other hand, common factor analysis aims to understand the underlying factors that represent the shared variance of the items. On this basis common factor analysis is more aligned with scale development procedures (Worthington & Whittaker, 2006). Factor analysis also assumes that a statistical model exists which includes a number of factors and the researcher may have an idea of what they represent (Bartholomew et al., 2008). Thus common factor analysis can be used to make inferences about the population sampled and it was therefore the more appropriate method for this study.

Fitting Procedures

Two of the most commonly used methods of extraction during EFA are principal axis factoring (PAF) and maximum likelihood factor analysis (MLFA). MLFA analyses the maximum likelihood of sampling the observed correlation matrix and it is useful to estimate factor loadings (Yong & Pearce, 2013). During PAF, the first factor accounts for as much of the common variance as possible, factors are then extracted in a successive manner (Yong & Pearce, 2013). De Winter and Dodou (2012) found that PAF generally outperforms MLFA when a simple factor pattern or weak factors exist. Furthermore, PAF is more suitable when the assumption of normality has been violated (Costello & Osborne, 2005).

In addition to the extraction method, factor rotation should also be considered during EFA. Factor rotation aims to find a simple structure where each variable loads on as few factors as possible, whilst maximising high loadings (Rummel, 1970). Orthogonal and oblique rotation are the two broad methods of rotating factors. Orthogonal rotation assumes that factors are uncorrelated and the factors are rotated 90° from each other (Yong & Pearce, 2013). Comparatively, oblique rotation is conducted when the factors are believed to be correlated.

Principal axis factoring with oblique rotation was utilised as the data was skewed and correlation between factors was expected. As recommended by Hinkin (1998) the correlated item totals, which measure how each item correlates with an average of the other items, were examined prior to factor analysis to determine whether inconsistent items could be removed from the measure. Kim and Mueller (1978) suggest removing items correlating below the .4 level. On this basis, four items were removed (Table 7.1).

Table 7.1: Items removed due to correlated item totals below .4

1. Received unwanted messages containing sexualised content
 2. Had access to computer files blocked by a colleague
 3. Had embarrassing pictures/videos of you circulated without your permission
 4. Been excessively teased through technology-mediated communications
-

Three of these items reduced the alpha (thereby increasing it when they were removed). The removal of the other item produced an identical alpha. Theoretically, there is a rationale for removing these items as it has been argued that sexual harassment is distinct from bullying (Adams, 1992), whereas having access to computer files blocked may represent an organisational security measure rather than cyberbullying. Being exposed to picture and video acts has been identified as a cyberbullying behaviour in the youth context, but the statistical analysis here suggests that this was not commonly experienced in the work domain. This may be because the high visibility and severity of picture/video acts could threaten the perpetrator's job security.

Principal axis factoring with oblique rotation was performed on the remaining 30 items. The communalities after extraction were below an average of .7 and the sample size was lower than 250. Therefore a scree plot was used to determine the number of factors to extract (Field, 2009). The scree plot revealed two salient factors and to aid interpretation, the EFA was respecified to force a two-factor solution. Two items with communalities after extraction of below .3 were removed due to their lack of shared variance ('Received messages requesting that you complete work outside of your contracted hours'; 'Had extracts from your messages copied to others where the meaning of your original message is distorted'). Two further items were then removed because the difference in their loadings

across factors was less than .15 from the higher loading factor (Worthington & Whittaker, 2006). These were ‘Had negative comments about your work discussed in public’ and ‘Been singled out to do the least attractive work tasks’.

Following the removal of these items the EFA was respecified for the remaining 26 items (see Table 7.2). The two factor structure represented constructs of work-related cyberbullying (i.e., involving acts related to an individual’s working experience) and person-related cyberbullying (i.e., encompassing acts of a more personal nature). There is debate in the literature regarding the sample size needed for factor analysis, as Nunnally (1978) recommends a participant to variable ratio of 1:10, while Kass and Tinsley (1979) advise a ratio of between 5 and 10 participants per variable. In the current study, the Kaiser-Meyer-Olkin (KMO) measure was used to verify the sampling adequacy. The KMO statistic varies between 0 and 1, values close to 1 indicates that correlations patterns are sufficiently compact (Field, 2009). The KMO was .91 and all KMO values for individual items were greater than .82, which was above the acceptable limit of .5 (Field, 2009). All 26 items achieved factor loadings of .40 or greater (Table 7.2).

Table 7.2: Principal axis factor analysis: pattern coefficients

Item	Factor Loadings	
	Work-related cyberbullying	Person-related cyberbullying
1. Received messages that have a negative tone	.70	.05
2. Been unfairly blamed for work problems	.52	.27
3. Received aggressively worded messages (e.g. using all capital letters, bold font or multiple exclamation marks)	.54	.05
4. Had another organisational member copy people into messages that reflect negatively on you	.66	.06
5. Had another organisational member copy people into messages that embarrass you	.43	.20
6. Had your work unfairly criticised	.51	.36
7. Received rude demands from a colleague	.44	.27
8. Been sent conflicting information	.78	-.19
9. Been pressurised into responding to technology mediated communications at all times	.64	-.03
10. Been bypassed in group communications that are relevant to your work role	.75	-.06
11. Had colleagues ignore your messages	.66	-.12
12. Been the subject of communications that undermine you	.60	.26
13. Received unreasonable work demands	.54	.13
14. Been the only individual omitted from group messages that are relevant to your work role	.49	.17
15. Experienced unfair personal criticism (e.g. on your character, appearance, opinions)	.10	.65
16. Received negative messages from colleagues that were sent to your personal (non-work) phone/social media account/ email address	-.01	.57
17. Received messages that contain false information about you	.22	.45
18. Had negative rumours or gossip spread about you	.10	.74
19. Had personal information shared without your permission	.20	.46
20. Had jokes about you circulated to others	-.12	.64
21. Been called derogatory names	-.09	.76
22. Received messages that contain abusive language aimed at you	-.12	.77
23. Received threatening messages	.09	.54
24. Received messages unfairly questioning your competence	.34	.49
25. Been the only person excluded from social communications between colleagues	.22	.45
26. Had disparaging remarks written about you in messages to the workgroup	.14	.60
Eigenvalue	10.23	2.34
% variance explained	39.36	9.00

Both factors had eigenvalues greater than Kaiser's criterion of 1 and in combination explained 48.36% of the variance. The two factor structure of work-related cyberbullying and person-related cyberbullying is supported theoretically by research on the factors underlying offline workplace bullying. Einarsen et al. (2009) identified three dimensions that reflect offline workplace bullying: (1) work-related bullying which refers to acts associated with an individual's work, (2) personal bullying which refers to acts associated with an individual's character and (3) physically intimidating bullying which involves behaviours of a physical nature. Accordingly the work-related cyberbullying factor seemed to involve acts related to an individual's working experience, whereas the person-related factor encompassed acts of a more personal nature. It should be noted here that person-related bullying is still connected to the working context (as ensured by the pre-item instructions) and the person-related acts such as gossip, name calling and personal criticism do not refer to acts encountered during an employee's personal life. Physically intimidating behaviours are less relevant to the virtual environment which would explain the absence of a physical intimidation cyberbullying factor.

The internal consistency of the 26-item measure and its two sub factors was assessed prior to confirmatory factor analysis. Internal consistency is demonstrated when items that theoretically measure the same construct produce similar scores, it is typically assessed using Cronbach's alpha, a statistic calculated from pairwise correlations between items. The internal consistency of the 26-item measure was excellent ($\alpha = .93$). The internal consistencies of the two factors were work-related = .91 and person-related = .89, which provides evidence of strong item covariance (Hinkin, 1998).

7.3 Confirmatory Factor Analysis

Although EFA can determine the factor structure, it cannot establish how well the factor structure fits a model, otherwise known as goodness of fit (Long, 1983). Items that load well during EFA, may not fit in a multiple-indicator measurement model because of insufficient external consistency (Gerbing & Anderson, 1988). CFA enables the researcher to test the quality of the factor structure by examining the significance of the overall model and of item loadings onto factors. Hinkin (1998) states that during scale development CFA should be confirmatory, a confirmation that previous analyses have been conducted appropriately.

Confirmatory factor analysis is a theoretical technique driven by relationships between observed and unobserved variables. It is used to assess whether items within a construct are consistent with the researcher's theoretical understanding of the construct. Therefore the aim of CFA is to test whether data collected from a measure fit a hypothesised measurement model, which is derived from theory or previous analyses (Preedy & Watson, 2009). For example, Patterson, West, Shackleton, Dawson, Lawthom, Maitlis and Wallace (2005) used the Competing Values model (Quinn & Rohrbaugh, 1981) to produce 19 dimensions of organisational climate that were represented within a 95 item organisational climate measure. The authors used confirmatory factor analysis to evaluate how closely employee responses to their 95 item measure fitted the latent factor model.

Once a researcher has theoretical or analytical justification for the factors they believe underlie a construct, they can force a factor model in CFA that is consistent with their justification. For instance, if a researcher posits that there are three factors that account for the covariance in a measure and that these factors are unrelated, they can create a model where the correlation between factors A, B and C are constrained to zero. Model fit indices are then used to evaluate how well the posited model captures the covariance between all

items in the model. Covariance refers to how much two random variables change together, for instance positive covariance occurs when greater values of one variable align with greater value of the other variable. Comparatively negative covariance refers to when greater values on one variable mainly correspond to smaller values of the other variable. If the constraints forced on a model are inconsistent with the sample data, the model fit statistics will report poor fit (Byrne, 2001). As noted by Schreiber, Nora, Stage, Barlow and King (2006) if the majority of indexes show good fit, then there is probably good model fit. Poor fit may occur because some items measure multiple factors or because some items within a factor are more related to one another than others.

In CFA the hypothesised model is used to estimate a population covariance matrix that is compared with the observed covariance matrix (Schreiber et al., 2006). As noted by Schreiber et al. (2006) “*the researcher wants to minimise the difference between the estimated and observed covariance matrix*” (p. 323). CFA has two main purposes, the first is to examine the goodness of fit measurement model by comparing a single factor model with a multitrait model, where the number of factors is equal to the number of constructs in the new measure (Hinkin, 1998; Joreskog & Sorbom, 1989). Hinkin (1998) states that the multitrait model forces each item to load solely on its appropriate factor. The second purpose is to analyse how well individual items fit within the model by using modification indices (Hinkin, 1998).

Data Analysis

An ongoing debate in scale research concerns whether Likert scale data should be treated as ordinal data or interval data (Norman, 2010). With interval data, the distance between categories is equal (for example, age in years, income in pounds). For ordinal data the categories can be numerically rank ordered, but there is rarely evidence that the distance

between them is equal. As researchers regularly need to use statistics to analyse ordinal categorical data, the distance between ordinal categories is often assumed to be equal (and thereby treated as interval data). This has led some scholars to criticise those who use parametric tests to analyse ordinal data (Jamieson, 2004). Although others defend the position by arguing that when Likert data is summed to create an overall score, the data is likely to be interval and parametric techniques are robust to violations of non-normality (Norman, 2010).

This debate is relevant to the current research because different estimators can be used to evaluate how well a model fits a data set. If the data is perceived to be ordinal categorical, a weighted least squares (WLS) estimation can be used. Einarsen, Hoel and Notelaers (2009) used WLS estimation to analyse the factor structure of the NAQ as they suggested that the response categories were ordinal rather than interval. However, other researchers have used a maximum likelihood estimator during the development of bullying scales, which is more compatible with continuous data. For instance, during the development of the EAPA-T workplace bullying scale the researchers used a maximum likelihood estimator to evaluate model fit (Escartin et al., 2010). In Mplus, an MLM estimator can be used which provides maximum likelihood parameter estimates with standard errors and a mean-adjusted chi-square to account for non-normality (Satorra, 2000). There is also no requirement for equal intervals with MLM. Given that both estimation methods have been used during the development of bullying measures, both the MLM and WLS estimation results were reported in this thesis. However MLM estimation was used as the primary estimator and the WLS estimation results have been reported in brackets.

It is generally accepted that the most efficient method of dealing with missing data when conducting CFA is the use of full information maximum likelihood estimation (FIML). This uses the available sample data to produce estimates of the likelihood function for each individual based on completed variables. FIML is the default method of dealing with missing

data in Mplus, however when an MLM estimator is selected the FIML method cannot be used. Therefore listwise deletion was used to deal with missing cases. The model was assessed using absolute and incremental fit indices (Hu & Bentler, 1999), including the chi-square statistic, the comparative fit index (CFI), the root-mean-square error of approximation (RMSEA) and the standardised root-mean-square residual (SRMR).

During CFA, the chi-square statistic provides an indication of the difference between the observed covariance matrix and the model covariance matrix (Weatherbee, 2007). Chi-square is particularly dependent on sample size and although it should not be significant, it often reaches significance with particularly large sample sizes (Field, 2009). As such, Carmines and McIver (1981) suggest that a chi-square two or three times as large as the degrees of freedom is acceptable for demonstrating a well-fitted model. The CFI statistic provides an indication of the difference between the data and the hypothesised model. The statistic is thought to assess fit relatively well regardless of sample size, with values of 0.9 and above indicating good fit (Hu & Bentler, 1999). The RMSEA is the average absolute value from which the observed sample variances and covariance's differ from the hypothesised model. Hu and Bentler (1999) suggest that for continuous data, the RMSEA should be below .06. Finally, the SRMR is defined as the standardized difference between the observed correlation and the predicted correlation (Kenny, 2014), values greater than .08 indicate a poorly fitted model.

It should be noted that using statistical rules of thumb to evaluate model fit should be conducted with caution. Nye and Drasgow (2011) suggest that the statistical criteria used to evaluate ML model fit are not necessarily appropriate when WLS estimation is adopted. The authors analysed data from a workplace hostility measure using two forms of estimation (maximum likelihood and diagonally weighted least squares (DWLS)). Findings indicated that the use of statistical cut-offs should not be conducted without considering the

characteristics of the data, including sample size, normality and model misspecification. For instance, higher Type 1 and Type 2 error rates were observed for RMSEA when the sample size was greater than 400. The DWLS-based CFI was also influenced by sample size, such that larger samples produced a higher CFI, although the SRMR performed relatively well regardless of sample size. The authors suggested that DWLS models require larger sample sizes to reduce Type 1 error rates, they also recommended adopting more stringent criteria to evaluate DWLS models than the criteria currently applied to ML models.

A CFA was performed to cross-validate the two-factor cyberbullying solution using Mplus version 7. Initial assessment of the two factor model revealed moderate fit χ^2 (298, N = 211) = 547.35, $p < .001$, CFI = .85, SRMR = .08, RMSEA = .06, RMSEA confidence interval (C.I.) (.055, .071). [Weighted least squares estimation: χ^2 (298, N = 211) = 512.57, $p < .001$, CFI = .96, WRMR = 1.10, RMSEA = .06, C.I. .050, .067]. CFA was also conducted on a severity weighted version of the measure, however the results were identical to the unweighted measure. The scale refinement process was based on two criteria, regression weights and modification indices. Items that displayed regression weights with small loadings on their factor were removed because of insufficient covariation with other factor items. This resulted in the removal of five items (Table 7.3):

Table 7.3: Items removed due to low factor loadings

1. Been pressurised into responding to technology mediated communications at all times
 2. Received negative messages from colleagues that were sent to your personal (non-work) phone/social media account/ email address
 3. Had colleagues ignore your messages
 4. Been called derogatory names
-

-
5. Been the only individual omitted from group messages that are relevant to your work role
-

Modification indices were also inspected to remove items that loaded highly on the other factor. Four items were removed as a result of this process (Table 7.4):

Table 7.4: Items removed after inspection of modification indices

1. Had disparaging remarks written about you in messages to the workgroup
 2. Had jokes about you circulated to others
 3. Received messages that contain false information about you
 4. Had another organisational member copy people into messages that embarrass you
-

The respecified two factor model involved 17 items and displayed enhanced fit, χ^2 (118, N = 211) = 171.17, $p < .001$, CFI = .95, SRMR = .05, RMSEA = .05, C.I. (.030, .061). [Weighted least squares estimation: χ^2 (118, N = 211) = 179.28, $p < .001$, CFI = .98, WRMR = .82, RMSEA = .05, C.I. (.034, .064)]. All items significantly loaded onto factors and all standardised factor loadings were above 0.5 (Hair, Black, Babin, Anderson & Tatham, 2006). The two factors were aggregated to form two scales which showed good internal consistencies (work-related, $\alpha = .90$; person-related, $\alpha = .81$) that could not be improved by removing items from the scale. Items, factor loadings and the correlation between the factors can be seen in Table 7.5.

The correlation between the two factors was high ($r = .86$, $p < .01$) and exceeded the .85 limit recommended by Kline (1998). As such, a further CFA was conducted to assess whether a one factor solution would display better fit. Results showed that although the one factor fit was acceptable and demonstrated high reliability $\alpha = .92$, it was inferior to the two factor model, χ^2 (119, N = 211) = 200.33, $p < .001$, CFI = .92, SRMR = .06, RMSEA = .06, C.I. (.043, .070). [Weighted least squares estimation: χ^2 (119, N = 211) = 197.42, $p < .001$, CFI = .98, WRMR = .88, RMSEA = .06, C.I. (.042, .069)].

Table 7.5: CFA using MLM estimation: Items, factor loadings and correlations between workplace cyberbullying factors

Factor	Item	Factor loading
Work related cyberbullying	Received messages that have a disrespectful tone	0.633
	Been unfairly blamed for work problems	0.797
	Received aggressively worded messages (e.g. using all capital letters, bold font or multiple exclamation marks)	0.597
	Had another organisational member copy people into messages that reflect negatively on you	0.661
	Had your work unfairly criticised	0.746
	Received rude demands from a colleague	0.759
	Been sent conflicting information	0.663
	Been bypassed in group communications that are relevant to your work role	0.584
	Been the subject of communications that undermine you	0.778
Received unreasonable work demands	0.670	
Person related cyberbullying	Experienced unfair personal criticism (e.g. on your character, appearance, opinions)	0.595
	Had negative rumours or gossip spread about you	0.682
	Had personal information shared without your permission	0.682
	Received messages that contain abusive language aimed at you	0.566
	Received threatening messages	0.579
	Received messages unfairly questioning your competence	0.721
	Been the only person excluded from social communications between colleagues	0.575
Correlations between factors = .86		

Self-Report Definition Analysis

In total, 18% of respondents reported being a victim of workplace cyberbullying in the last 6 months. Of these, 56 (13.2%) respondents stated that they had been victims ‘now and then’, 12 (2.8%) indicated that they were victims on a monthly basis, 6 (1.4%) stated they

were victims on a weekly basis and 2 (0.5%) stated they had been victimised on a daily basis. The items that were most commonly experienced by the sample were 'being sent conflicting information' (experienced by 86.1% of the sample), 'being bypassed in group communications that are relevant to your work role' (71.9%) and 'receiving messages that have a disrespectful tone' (66.5%). The least prevalent items were 'receiving messages that contain abusive language aimed at you' (7.5%) and 'receiving threatening messages' (9.2%). Analysis was conducted to assess whether the self-report definition item was related to the overall cyberbullying scale, as well as the two factors. Pearson's correlation demonstrated a relatively strong relationship between the overall cyberbullying measure and labelling oneself as a workplace cyberbullying victim ($r = .59, p < .01$). This provides evidence for the construct validity of the measure; however it also suggests that there are other factors that may influence whether an individual self-labels as a victim. For example, Salin (2003b) found that men appear more hesitant than women in labelling themselves as bullied, even when they are exposed to abusive behaviours. One explanation for this is that men associate bullying with weakness and vulnerability, thus they may be less inclined to self-label as a victim (Salin, 2003b).

Correlation coefficients were also obtained for the relationship between self-labelling as a victim and the two identified factors. The relationship between self-labelling and the work-related factor ($r = .55, p < .01$) was identical to the association between self-labelling and the person-related factor ($r = .55, p < .01$). This suggests that there is not a significant difference between these two types of cyberbullying behaviour in relation to whether respondents self-label as victims. Furthermore, although there is a relatively strong correlation between the two forms of workplace cyberbullying and self-labelling as a victim, the correlation is not so large that it negates the need to investigate other variables that may predict why respondents self-label as victims.

Convergent and Discriminant Factorial Validity

Convergent and discriminant factorial validity were assessed to provide evidence of construct validity. Convergent factorial validity is demonstrated when each item is highly correlated with its assumed factorial construct. Discriminant factorial validity is demonstrated when items within a factor correlate weakly with other factors. Therefore evidence of convergent factorial validity would be observed if the work-related items were highly correlated and the person related items were highly correlated. Evidence of discriminant validity would be demonstrated if items within the work-related factor correlated weakly or moderately with the person-related factor.

The CFA findings demonstrate some convergent factorial validity evidence as the factor loadings on both the work-related and person-related factors were statistically significant and exceeded the minimum cut-off of 0.5 recommended by Hair et al. (2006). Convergent validity can also be tested using composite reliability and the average variance extracted (AVE). AVE measures the variance explained by a latent construct, specifically it shows “*the ratio of the sum of its measurement item variance as extracted by the construct relative to the measurement error attributed to its items*” (Gefen & Straub, 2005, p. 94). The AVE of the work-related factor was .48, whereas the AVE of the person-related factor was .39. To demonstrate convergent validity, the AVE of a factor should be above .50. However Fornell and Larcker (1981a) argue that this is a conservative criterion and a researcher may conclude that convergent validity has been established on the basis of composite reliability alone. Composite reliability refers to the extent that a group of latent construct items share the measurement of a construct (Fornell & Larcker, 1981b), values greater than .60 are considered acceptable for convergent validity (Bagozzi & Yi, 1988). Based on this criteria

both factors demonstrated convergent validity (work related factor = .90; person related factor = .82).

When testing discriminant factorial validity, the squared correlations between constructs is compared with the AVE estimates for each construct. If the squared correlation between constructs is lower than the AVE of the construct, discriminant validity is established (Fornell & Larcker, 1981a). Gefen and Straub (2005) state that the test examines whether the correlation of a factor with its items is greater than how it correlates with other factors. In the current study, the squared correlation between the work related and person related factor was .74, which was greater than the AVE of the work related (.48) and person related (.39) factors. This indicates that although two underlying dimensions of workplace cyberbullying can be distinguished, they do not discriminate well between different types of behaviours. This finding is perhaps not unexpected as the three factors of the NAQ (work-related bullying, person-related bullying and physically intimidating bullying) do not discriminate well (Einarsen et al., 2009). Indeed, it suggests that these two types of cyberbullying behaviour may co-occur.

Summary

The 34 item workplace cyberbullying measure was completed by 424 respondents during Study 3. Preliminary analysis revealed strong internal consistency, although four items that displayed low correlated item totals were removed. Subsequently, the sample was split randomly in half to conduct EFA on one half and CFA on the other. EFA was conducted prior to CFA to identify the structure underlying the cyberbullying measure. During EFA four further items were removed from the scale due to cross loadings and communalities below the .3 level. Analysis revealed a two factor solution that represented work-related cyberbullying and person-related cyberbullying.

CFA was then conducted on the remaining 26 items to assess model fit. The measure was further refined during CFA as nine items were removed after inspecting the factor loadings and modification indices, which left 17 items. Assessment of the fit indices demonstrated that the two factor model displayed good fit which was superior to the fit of a unidimensional model. Finally, convergent and discriminant factorial validity were assessed using the average variance extracted and composite reliability. Convergent validity was established by composite reliability; however the two factors did not discriminate well, suggesting the co-occurrence of work-related and person-related cyberbullying.

7.4 Discussion

The purpose of Study 3 was to administer the workplace cyberbullying measure (WCM) to a working sample in order to identify the factor structure and to reduce the number of items. EFA suggested that a two-factor solution best represented the data, whereby the factors illustrated work-related cyberbullying and person-related cyberbullying. This factor structure was confirmed during CFA as the two-factor structure displayed superior fit indices to a single factor model. However discriminant factorial validity analysis showed that the factors did not discriminate well, which suggests that the two forms of cyberbullying may co-occur (Einarsen et al., 2009).

The identification of the work-related and person-related factors is consistent with offline workplace bullying research (Einarsen et al., 2009; Rayner & Hoel, 1997). Relatively little research has examined the underlying structure of workplace cyberbullying, although Coyne et al. (in press) identified a work factor and a person factor when analysing the structure of the cyber NAQ. These results are therefore consistent with previous empirical and theoretical research and they provide a valuable framework to examine how workplace

cyberbullying affects employees. Commentators have argued that different types of bullying behaviour should be investigated and evaluated differently (Cooper, Hoel & Faragher, 2004; Keashly, 1998). Indeed, a growing body of evidence indicates that different types of workplace bullying may lead to different outcomes for targets (Hogh et al., 2012). Therefore the measure could be used to establish whether the two forms of cyberbullying identified have disparate antecedents and consequences.

Reliability analysis assessed using Cronbach's alpha demonstrated high internal consistency of the overall scale and both factors were also highly reliable. The fit statistics of the one factor model were inferior to the indices obtained when a two factor model was specified, however the one factor model displayed acceptable fit. This suggests that like the NAQ, the workplace cyberbullying measure (WCM) could be used as a one-factor measure of workplace cyberbullying. Indeed, the person factor and work factor were highly correlated ($r = .86$) which is in accordance with the view of offline bullying researchers who point out that when bullying occurs the majority of targets report exposure to numerous types of bullying acts (Einarsen et al., 2011; Mikkelsen & Einarsen, 2001). Furthermore, the scale was refined down from 34 items to 17 items, which has practical value for practitioners and researchers alike as administration time is reduced.

During the refinement process it could be argued that some of the more unique cyberbullying items have been removed, leaving items that could represent offline bullying as much as cyberbullying. Yet as mentioned in the previous chapter, the measure has been tailored to the cyber context through the pre-item instructions which explicitly state that items refer to acts conducted through technology (with a list of relevant media as examples). In addition, the items have been written using terminology that emphasises the cyber context, for example terms such as 'messages', 'shared', 'sent', 'received', 'copy' and 'communications' are all observable in the retained items. The refined measure also contains

several items that are unique to the cyber context, for instance ‘having another organisational member copy people into messages that reflect negatively on you’ and ‘received aggressively worded messages (e.g. using all capital letters, bold font or multiple exclamation marks)’. Finally, theoretical equivalents exist for many of the items that have been removed. For instance, although the specific item ‘being pressurised into responding to technology mediated communications at all times’ has been removed, the item ‘received unreasonable work demands’ can represent the deleted act in broader terms.

Limitations

One study limitation concerns the representativeness of the sample. Over 80% of the sample were employed in the public sector, yet public sector workers in the UK account for just 19% of the workforce (Office for National Statistics, 2013). There is common consensus within the UK that more bullying occurs in the public sector compared to the private sector (Hoel, 2013). This factor, combined with the ability of respondents to self-select their participation in the study, may have produced a sample that involved a higher proportion of cyberbullying victims. Yet there are reasons to believe that this was not the case because over 80% of the sample reported that they did not consider themselves to be cyberbullying victims, while only 8 (1.9%) respondents stated that they experienced it on a weekly or daily basis. This provides further evidence of scale validity as previous research on workplace cyberbullying has shown that prevalence rates tend to be low, with rates of 9% (Baruch, 2005), 10.7% (Privitera & Campbell, 2009) and 20% (Pitch, 2007) reported. Furthermore, the variety of employee backgrounds within the sample can be considered a strength of the study as one aim of the thesis is to develop a measure that is relevant to employees across sectors and job roles. It was therefore necessary to obtain responses from various employees.

Summary

During Study 3 the workplace cyberbullying measure was distributed to a sample of 424 employees. Statistical analysis was used to refine the scale into a 17-item measure and initial evidence of its reliability and validity was obtained. Analysis of the WCM's underlying structure seemed to indicate a two factor solution comprised of work-related cyberbullying and person-related cyberbullying. Regarding Hinkin's (1998) six step measure development process, Study 3 covers steps 2-5 (with the exception of external convergent/discriminant validity analysis). The final stage of measure development involves repeating steps 2-5 on a separate sample and evaluating the nomological network of the measure. This procedure is described in the following chapter.

Chapter 8 – Further Validation (Study 4)

The previous chapter reported on two studies that were conducted to progress the measure development process. During Study 2 mean severity ratings were obtained that could be used to weight the measure; Study 3 then identified a two factor structure and refined the measure down to a 17-item scale. This chapter describes Study 4, which had three main aims: (a) establish the nomological network of the workplace cyberbullying measure (WCM) (b) examine whether the WCM explained significant incremental variance in two outcome variables over and above other workplace harassment constructs and (c) validate the WCM on a separate sample.

The process of examining external convergent and divergent validity involved distributing the refined 17 item WCM to a separate sample of employees alongside established scales to build its nomological network. External convergent validity refers to the extent that a scale correlates with other measures designed to test similar constructs. Likewise, external divergent validity is demonstrated when a scale displays weak or non-existent associations with theoretically distal variables. By distributing the WCM alongside established measures it was also possible to examine whether the WCM explained significant incremental variance in criterion variables, over and above existing harassment measures. During Study 4, the WCM was distributed to a separate sample to further validate the factor structure and to reassess its psychometric properties. Chapter 8 outlines the study by presenting a short introduction, followed by the methodology, results and discussion.

8.1 Sample & Procedure

Data was collected from five sources using an online survey that generated 272 completed responses (See Appendix 8.1). The respondents included 19 (7.0%) individuals from the researcher's network, 65 (23.9%) employees from a large UK university, 133 (48.9%) members of JISC mail groups (different groups were contacted from those contacted in Study 1 and Study 3), 11 (4%) members of a large higher and further education union and 44 (16.2%) employees in the workforce and education team of a National Health Service (NHS) hospital. In order to obtain responses from each of these sources an email was distributed that included a link to the online survey.

Steps were taken to ensure that the sample consisted of different individuals from those who participated in the previous measure development studies. Network sampling of the researcher's contacts was utilised during Study 3, as a consequence different individuals were contacted during Study 4. Additionally, because JISC mail groups had been used to collect data from participants during Study 1 and Study 3, different JISC mail groups were sent an email inviting members to participate in Study 4. In the unlikely event that an individual belonged to more than one JISC mail group, a statement was added to the survey which stated in bold "Please note: If you have previously taken a workplace cyberbullying survey ran by these researchers do not take this one as we are seeking a new sample for the current study." These procedures were adopted to ensure that a novel sample was obtained. The final sample consisted of 185 (68%) females and 87 (32%) males. They were aged between 16 and 83 ($M = 43$ years, $SD = 11.47$) and held job roles including professor, clinical psychologist, lawyer and nurse. Their average organisational tenure was 8.80 years ($SD = 8.51$).

8.2 Measurement

Workplace Cyberbullying was assessed using the revised 17 item WCM which measures exposure to cyberbullying over the previous six months. The response categories were ‘never’, ‘now and then’, ‘at least monthly’, ‘at least weekly’ and ‘daily’. Like Study 3, the ‘at least weekly’ and ‘daily’ categories were collapsed prior to statistical analysis. To measure whether respondents self-labelled as cyberbullying victims, the same global self-report definition item was used as described in Study 3. The internal consistency of the scale was .93. The WCM was split into two factors that comprised work-related cyberbullying (involving acts related to an individual’s working experience) and person related cyberbullying (encompassing acts of a more personal nature). The internal consistencies of both scales were good (work-related $\alpha=.91$; person-related $\alpha=.86$).

Offline workplace bullying was measured using the 9 item Negative Acts Questionnaire Short (“S-NAQ”, Notelaers & Einarsen, 2008). Respondents indicated how often they had experienced offline bullying behaviours including insults, exclusion and the silent treatment on a five point scale ranging from ‘Never’ to ‘Daily’ ($\alpha=.88$). To ensure that respondents knew these behaviours referred to offline behaviours, a statement was added prior to the scale which stated that items referred to face-to-face behaviours and not acts conducted through technology. As with previous workplace harassment research (Rodríguez-Muñoz, Baillien, De Witte, Moreno-Jiménez & Pastor, 2009) items were included in one measure where the mean frequency of the item exposure was used to indicate workplace bullying. As discussed in Chapter 2, offline workplace bullying is similar to workplace cyberbullying because it involves repeatedly experiencing negative behaviours. The S-NAQ measures how often respondents had been exposed to nine workplace bullying behaviours,

thus evidence of external convergent validity would be demonstrated if the measure was highly correlated with the WCM.

Cyberaggression was assessed using an 8 item measure developed by Weatherbee (2007). The scale measures aggression experienced through email or instant messaging (for example, 'During the last 6 months, have you ever received e-mail or instant messages from a subordinate, a coworker, or a supervisor that you would describe as hostile towards you?'). Responses were made on a seven point scale ranging from 'Never' to 'Very frequently' ($\alpha=.95$). Cyberaggression refers to aggression expressed through information and computer technologies (ICTs) which is enacted to effect harm. It is conceptually similar to cyberbullying as it involves negative interpersonal behaviours experienced through technology. External convergent validity evidence would be demonstrated if the WCM correlated highly with the cyberaggression measure.

ICT hassles and ICT learning expectations were measured using separate factors of Day et al.'s (2012) ICT demands measure. ICT hassles are demands placed on an individual by glitches in software or hardware, such as slow internet speed (Day et al., 2012). Only a small positive correlation between ICT hassles and workplace cyberbullying was expected as theoretically any correlation should be weaker than the relationships between cyberbullying and other workplace harassment constructs.

ICT learning expectations refer to employee's responsibility to stay updated with technological upgrades and enhancements (Day et al., 2012). Theoretically it was expected that any relationship between cyberbullying and ICT learning expectations should be stronger than the association between cyberbullying and ICT hassles. This is because expectations are a function of workplace relations, whereas hassles arise from technological faults. ICT hassles were measured using five items that assess common hassles people experience when

using ICTs (for example, 'my computer freezes'), the alpha of this scale was .80. ICT learning expectations were measured using three items which measure the extent that respondents are expected to stay current with ICTs at work (for example, 'I am expected to stay current with technological advances related to my work'). The alpha of this scale was .72. The response category of both scales was 'Never', 'Infrequently', 'Sometimes', 'Frequently' and 'Almost Always'.

Emotional exhaustion was measured using the following three items from the Maslach Burnout Inventory (Carlson, Anson & Thomas, 2003; Maslach & Jackson, 1981). Respondents were asked how often they felt emotionally exhausted on a seven point scale ranging from 'Never' to 'Daily' ($\alpha=.90$). Maslach, Schaufeli and Leiter (2001) define emotional exhaustion as "*feelings of being overextended and depleted of one's emotional and physical resources*" (p. 399). Emotional exhaustion is a core dimension of burnout and it can significantly impact on psychological well-being (Sonnetag, Kuttler & Fritz, 2010). It was examined as an outcome of workplace cyberbullying because research has conceptualised workplace harassment as a stressor that can cause strains (Bowling & Beehr, 2006). Evidence for convergent validity would be demonstrated if the WCM was moderately correlated with the emotional exhaustion scale. Emotional exhaustion was also examined as an outcome variable in multiple regression analysis to identify whether the WCM explained incremental variance in emotional exhaustion after controlling for offline workplace bullying and cyberaggression.

Interactional justice was measured using three items developed by Bies and Moag (1986) which measure the extent that participants feel treated with dignity and respect at work. The items were as follows: 'At work I am treated in a polite manner', 'At work I am treated with dignity' and 'At work I am treated with respect'. The response category was: 'very slightly', 'not at all', 'a little', 'moderately', 'quite a bit' and 'extremely' ($\alpha= .96$).

Interactional justice refers to the quality of interpersonal treatment, including the extent that individuals feel that they are treated with dignity, respect, truthfulness and propriety (Bies & Moag, 1986). It was a relevant variable because researchers have argued that bullying may cause injustice by destroying employee's perceptions of a relatively just world (Parzefall & Salin, 2010). It was expected that the WCM would correlate negatively with interactional justice. The variable was also examined as a criterion variable during multiple regression to identify whether the WCM could explain significant incremental variance in justice after controlling for workplace bullying and cyberaggression.

8.3 Data Preparation

The data was screened for outliers prior to conducting analysis which revealed three univariate outliers. Similar to LeBlanc and Kelloway (2002) in their treatment of workplace aggression outliers, analyses were conducted with and without these outliers. As the outliers did not unduly alter the findings, all results are presented with the outliers included. The data was also screened for homoscedasticity, multicollinearity and normality. Scatterplots indicated that there was homogeneity of variance across different levels of the variables. The workplace harassment variables displayed positively skewed distributions, however this was expected as prevalence rates demonstrate that workplace harassment affects a minority of the working population (Hershcovis & Barling, 2010b).

It was thought that multicollinearity could present a problem when analysing the multiple regression results as the predictors were moderately highly correlated. Multicollinearity can be problematic when attempting to identify which independent variables contribute to the variance explained in the dependent variable and it can cause technical issues when calculating regression models. Analysis of the tolerance and variance

inflation factor (VIF) revealed no VIF values greater than 3.15, which were all below the cut-off of 4.0 (Nardo, Saisana, Saltelli, Tarantola, Hoffman & Giovannini, 2005) and there were no tolerance values below .30, suggesting that multicollinearity did not unduly affect the findings.

8.4 Results

Assessment of the Severity Weighted Measure

Prior to assessing convergent and divergent validity, summed scores on the workplace cyberbullying measure were compared when the WCM items were weighted for severity against an unweighted version of the WCM. This was conducted during Study 4 rather than Study 3 because variables other than cyberbullying were measured in Study 4 that could act as a comparison between the severity weighted and unweighted scales. Correlations between the unweighted measure and the other study variables were largely identical, or otherwise marginally different from those observed when the severity weighted measure was analysed (see Table 8.1). This is potentially because many individuals within the sample experienced only some cyberbullying behaviours. Consequently, the severity scale would only have been sensitive to the relatively small number of employees who had experienced numerous cyberbullying acts as sensitivity is diluted by the larger number of individuals who had experienced only a few cyberbullying acts.

This suggests that the severity weighted measure may have greater utility when analysing samples that report a high degree of cyberbullying. Exploratory analysis on a section of the sample ($n = 112$) that had been exposed to greater levels of cyberbullying revealed that this was the case, because larger differences between the severity weighted and

unweighted measure were observed among these individuals. Indeed, where most of the correlations between the weighted and unweighted measure were identical when administered on the larger sample ($n = 272$), none of the correlations observed in the smaller sample were identical. However it should be noted that the correlational differences between the two measures was very small for the majority of relationships ($<.04$).

These findings provide some justification for using unweighted measures in bullying research as it suggests that weighted measures are only beneficial when a sample has been subjected to a large amount bullying. Since bullying is a phenomenon that affects only a minority of the working population, the finding questions the utility of using weightings in most studies. However, that is not to say that weighted measures are without value as they may be useful when assessing high risk populations that commonly experience bullying. In the current study, the sample had not been exposed to high levels of cyberbullying, which is reflected by the almost identical pattern of correlations between measures. Further analysis was therefore conducted with the unweighted measure.

Cyberbullying Prevalence

Analysis of the global self-report item revealed that the majority of the sample ($n = 218, 80.1\%$) did not perceive themselves as workplace cyberbullying victims. The other 54 (19.9%) felt that they were cyberbullying victims, although in varying degrees. A total of 40 (14.7%) respondents indicated that they were victims 'now and then', 10 (3.7%) felt they were victims on a monthly basis, 3 (1.1%) felt they were victims on a weekly basis and one (.4%) felt victimised on a daily basis. The percentage of respondents who labelled themselves as victims of cyberbullying was consistent across the two studies (18% in Study 3 compared with 19.9% in Study 4) providing further evidence of the measures reliability. The WCM items most frequently experienced were 'being sent conflicting information' (86.4% of the

sample), 'being bypassed in group communications that are relevant to your work role' (78.3%) and 'receiving messages that have a disrespectful tone' (70.5%). Comparatively, the acts that were experienced the least were 'receiving threatening messages' (12.1%) and 'receiving messages that contain abusive language aimed at you' (11.4%). This pattern of results is consistent with the findings from Study 3 on the most and least experienced items.

Construct Measures

Several CFAs were conducted in Mplus version 7 using the MLM and WLS estimators. In order to assess the cyberbullying construct, a two factor model comprising work-related and person related cyberbullying was specified which demonstrated acceptable fit, $\chi^2(118, N = 266) = 292.31, p < .001, CFI = .89, SRMR = .06, RMSEA = .08, C.I. (.064, .085)$. [Weighted least squares estimation: $\chi^2(118, N = 266) = 307.38, p < .001, CFI = .97, WRMR = 1.12, RMSEA = .08, C.I. (.067, .088)$]. Regarding the MLM estimation, the CFI and RMSEA statistics were marginally short of the levels recognised as indicative of good fit. However the chi-square statistic was not greater than three times the degrees of freedom and the SRMR was below .08, suggesting that the two factor model provides an acceptable explanation of the associations in the sample data.

The competing single factor model was also specified, however this did not yield better fit $\chi^2(119, N = 266) = 395.88, p < .001, CFI = .83, SRMR = .07, RMSEA = .09, C.I. (.083, .104)$. [Weighted least squares estimation: $\chi^2(119, N = 266) = 366.90, p < .001, CFI = .96, WRMR = 1.26, RMSEA = .09, C.I. (.078, .099)$]. The fit indices for the one factor model did not meet the fit criteria (with the exception of SRMR) outlined by Hu and Bentler (1999). However it is generally acknowledged that it is difficult to obtain high levels of fit with a large number of items (Floyd & Wideman, 1995). A theoretical rationale also exists for why bullying items within a one factor model would not necessarily display good fit, because one

would not necessarily expect bullying victims to be subjected to every single possible bullying behaviour over the course of an episode. Furthermore, bullying is recognised as a gradually evolving phenomenon whereby victims may be exposed to low level behaviours at the beginning of an episode and high severity behaviours at the end of an episode (Zapf & Gross, 2001). Therefore certain items are likely to be more correlated than others which affects model fit. Indeed, one-factor cyberbullying scales have been shown to display inadequate fit unless error terms between items are allowed to correlate (Topcu & Erdur-Baker, 2010). Item error terms were not specified to covary in the one factor model because Kenny (2011) states that this should not be conducted in the interests of improving model fit alone.

The workplace harassment constructs comprising work-related cyberbullying, person-related cyberbullying, offline workplace bullying and cyberaggression were then entered into a four-factor model. Item parcels were created to form the work-related and person-related cyberbullying factors. The parcelling approach has received criticism (Marsh, Lüdtke, Nagengast, Morin & Von Davier, 2013), however notable advantages include an increased sample-to-parameter ratio and less violation of normality assumptions (Hau & Marsh, 2004). Parcelling was used in a recent workplace harassment study (Hershcovis, Reich, Parker & Bozeman, 2012) and the same technique was employed to combine items into ‘item parcels’. For both factors an EFA was conducted and the items that loaded highest on each factor were combined together in the same parcel (Hall, Snell & Singer-Foust, 1999). This procedure resulted in two 5-item parcels that represented the work factor and two (one 4-item and one 3-item) parcels that represented the person factor.

The four-factor model in which work-related cyberbullying, person-related cyberbullying, offline workplace bullying and cyberaggression loaded onto separate factors demonstrated adequate fit $\chi^2(183, N = 263) = 536.51, p < .001, CFI = .87, SRMR = .07,$

RMSEA = .09, C.I. (.077, .094). [Weighted least squares estimation: χ^2 (521, N = 263) = 1015.85, $p < .001$, CFI = .97, WRMR = 1.19, RMSEA = .06, C.I. (.055, .066)]¹. The four-factor model was compared to a three-factor model where cyberbullying, cyberaggression and offline workplace bullying loaded on separate factors χ^2 (186, N = 263) = 629.58, $p < .001$, CFI = .84, SRMR = .07, RMSEA = .10, C.I. (.087, .103). [Weighted least squares estimation: χ^2 (524, N = 263) = 1093.94, $p < .001$, CFI = .97, WRMR = 1.27, RMSEA = .06, C.I. (.059, .070)]. It was also compared to a one-factor model in which all items loaded onto a single factor χ^2 (189, N = 263) = 997.12, $p < .001$, CFI = .70, SRMR = .10, RMSEA = .13, C.I. (.120, .135). [Weighted least squares estimation: χ^2 (527, N = 263) = 1576.02, $p < .001$, CFI = .94, WRMR = 1.67, RMSEA = .09, C.I. (.082, .092)]. The four factor model displays adequate fit and it is clearly superior to the one factor model in which all harassment items load on the same factor. This provides external divergent validity evidence as it indicates that cyberbullying, cyberaggression and workplace bullying represent distinct constructs.

Convergent and Divergent Validity Analysis

To assess convergent validity, the WCM was compared with offline workplace bullying and cyberaggression. As shown in Table 8.1, convergent validity was established because moderately strong correlations existed between the WCM and both offline workplace bullying ($r = .74$, $p < .01$) and cyberaggression ($r = .75$, $p < .01$). Similarly, the factors of the WCM were both positively correlated with offline bullying (work-related correlation: $r = .64$, $p < .01$; person-related correlation: $r = .77$, $p < .01$). The factors were also positively correlated with cyberaggression (work-related correlation: $r = .73$, $p < .01$; person-related correlation: $r = .63$, $p < .01$). Due to the fairly high correlation between workplace cyberbullying and the other

¹ WLS estimation cannot be conducted with parcelled variables. As such, the WLS results are reported without parcelled cyberbullying variables.

workplace harassment constructs, it could be argued that they are tapping the same variance and thus represent very similar or identical constructs. However the CFA results suggest otherwise and regression analysis was also conducted to examine whether cyberbullying explained incremental variance over and above cyberaggression and offline workplace bullying.

Further support for convergent validity was found as the WCM was moderately correlated with self-reported cyberbullying ($r = .49, p < .01$). However, similar to Study 3 this correlation was not as high as one might expect, suggesting that other variables may explain significant amounts of variance in self-labelling as a cyberbullying victim. The correlation between workplace bullying and self-labelling as a cyberbullying victim was also moderately high ($r = .40, p < .01$). Steiger's (1980) z-test was used to statistically compare the size of the correlation between (1) the WCM and self-labelling as a cyberbullying victim, compared to (2) workplace bullying and self-labelling as a cyberbullying victim. The z-test revealed that the strength of the correlation between the WCM and self-labelling as a cyberbullying victim was significantly stronger than the correlation between workplace bullying and self-labelling as a cyberbullying victim ($z = 2.3, p < .05$). This provides further evidence of construct validity. It should be noted here that the correlation between cyberaggression and self-labelling as a cyberbullying victim was marginally higher ($r = .52, p < .01$) than the correlation between cyberbullying and self-labelling. A z-test revealed no significant difference in the size of the correlations ($z = .82, p = 0.41$). Logically one would expect cyberbullying victims to encounter cyberaggression and more aggressive acts may be more salient in an individual's mind when they judge whether they are being cyberbullying.

To further develop its nomological network, the WCM was administered alongside outcome variables (emotional exhaustion and interactional justice). Assessment of the correlations between the WCM and the outcomes revealed additional convergent validity

evidence as the WCM was moderately negatively correlated with interactional justice ($r = -.50, p < .01$) and positively correlated with emotional exhaustion ($r = .35, p < .01$). The WCM was also administered alongside measures of ICT hassles and ICT learning expectations to assess discriminant validity. As shown in Table 8.1, ICT hassles were positively correlated with workplace cyberbullying ($r = .21, p < .01$) and the relatively small size of the correlation provides discriminant validity evidence. ICT learning expectations were also significantly positively correlated with cyberbullying ($r = .30, p < .01$) and as expected the size of the correlation was larger than ICT hassles. Steiger's z-test was used to statistically compare the difference in correlations between the WCM and both ICT hassles and ICT learning expectations. However no significant difference in the strength of the relationships was observed ($z = -1.25, p = 0.21$).

In order to demonstrate discriminant validity, it was necessary to show that the correlations between the WCM and outcomes were stronger than correlations between the WCM and the ICT demand variables. Therefore four further z-tests were conducted. The correlation between the WCM and interactional injustice was significantly stronger than the correlation between the WCM and (1) ICT hassles ($z = 3.59, p < .001$) and (2) ICT learning expectations ($z = 2.57, p < .01$). The correlation between the WCM and emotional exhaustion was not significantly stronger than the correlation between the WCM and ICT hassles ($z = 1.95, p < .051$), although this result was close to significance at $p < .051$. The correlation between the WCM and emotional exhaustion was not significantly stronger than the correlation between the WCM and ICT learning expectations ($z = 0.69, p = 0.49$). Overall, this pattern of relationships provides some divergent validity evidence for the WCM.

External Discriminant Factorial Validity

External discriminant factorial validity refers to whether the factors underlying an observed variable display differing associations with external variables. In this case, external discriminant factorial validity would be demonstrated if one of the WCM factors displayed significantly stronger associations with an outcome variable than the other. Steiger's z-test (1980) was used to investigate whether there was a statistical difference in the size of the correlations between the factors and the outcome variables. Two z-tests were conducted to compare the difference in correlations between the two factors and outcome variables. Results indicated no significant difference ($z = 1.35$, $p = 0.18$) in the strength of the relationship between work-related cyberbullying and emotional exhaustion ($r = .35$, $p < .01$) compared to person-related cyberbullying and emotional exhaustion ($r = .29$, $p < .01$). Similarly, no significant difference ($z = -1.22$, $p = 0.22$) was observed in the correlation between work-related cyberbullying and interactional justice ($r = -.49$, $p < .01$) compared to person-related cyberbullying and interactional justice ($r = -.44$, $p < .01$). These findings demonstrate that although the two factors are distinguishable during CFA, they do not discriminate well. A potential reason for this finding is the co-occurrence of these two types of cyberbullying behaviours, suggesting that there is greater utility in using the measure as a one factor tool. This is considered in greater detail during the discussion.

Table 8.1: Correlations among the study variables

	M	SD	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
Demographics															
1. Age	42.58	11.47				<i>-.04</i>	<i>-.05</i>	<i>-.02</i>							
2. Gender (1 = M, 2 = F)	1.68	.47	<i>-.12*</i>			<i>.09</i>	<i>.10</i>	<i>.04</i>							
3. Tenure	8.80	8.51	<i>.62**</i>	<i>-.16*</i>		<i>-.02</i>	<i>-.01</i>	<i>-.03</i>							
Harassments Variables															
4. Cyberbullying	1.60	.49	<i>-.04</i>	<i>.09</i>	<i>-.02</i>		<i>.96**</i>	<i>.88**</i>	<i>.50**</i>	<i>.76**</i>	<i>.75**</i>	<i>.20**</i>	<i>.31**</i>	<i>.35**</i>	<i>-.51**</i>
5. Work-related	1.83	.60	<i>-.05</i>	<i>.10</i>	<i>-.01</i>	<i>.97**</i>		<i>.70**</i>	<i>.45**</i>	<i>.64**</i>	<i>.73**</i>	<i>.20**</i>	<i>.28**</i>	<i>.34**</i>	<i>-.49**</i>
6. Person-related	1.29	.42	<i>-.02</i>	<i>.05</i>	<i>-.03</i>	<i>.86**</i>	<i>.70**</i>		<i>.47**</i>	<i>.77**</i>	<i>.63**</i>	<i>.18**</i>	<i>.29**</i>	<i>.30**</i>	<i>-.44**</i>
7. Cyberbullying self-report	1.27	.62	<i>-.05</i>	<i>.13*</i>	<i>-.04</i>	<i>.49**</i>	<i>.44**</i>	<i>.47**</i>							
8. Offline bullying	1.35	.50	<i>.01</i>	<i>.05</i>	<i>.00</i>	<i>.74**</i>	<i>.64**</i>	<i>.77**</i>	<i>.40**</i>						
9. Cyberaggression	1.75	1.01	<i>.01</i>	<i>.06</i>	<i>-.01</i>	<i>.75**</i>	<i>.73**</i>	<i>.63**</i>	<i>.52**</i>	<i>.65**</i>					
ICT Demands															
10. Hassles	2.19	.67	<i>.01</i>	<i>.06</i>	<i>.02</i>	<i>.21**</i>	<i>.21**</i>	<i>.18**</i>	<i>.08</i>	<i>.18**</i>	<i>.13*</i>				
11. Learning expectations	3.05	.90	<i>.15*</i>	<i>-.24**</i>	<i>.12</i>	<i>.30**</i>	<i>.28**</i>	<i>.29**</i>	<i>.10</i>	<i>.28**</i>	<i>.32**</i>	<i>.23**</i>			
Outcomes															
12. Emotional exhaustion	3.86	1.74	<i>.08</i>	<i>.06</i>	<i>.03</i>	<i>.35**</i>	<i>.35**</i>	<i>.29**</i>	<i>.25**</i>	<i>.36**</i>	<i>.25**</i>	<i>.22**</i>	<i>.18**</i>		
13. Interactional justice	4.23	1.05	<i>.06</i>	<i>.04</i>	<i>-.01</i>	<i>-.50**</i>	<i>-.49**</i>	<i>-.44**</i>	<i>-.36**</i>	<i>-.55**</i>	<i>-.47**</i>	<i>-.12*</i>	<i>-.10</i>	<i>-.28**</i>	

* = Correlation significant at the 0.05 level (2-tailed). ** = Correlation significant at the 0.01 level (2-tailed). N = 272. Correlations in italics denote severity weighted relationships.

Regression Analyses

Due to fairly large correlations between cyberbullying and the other harassment constructs, further analysis was needed to determine whether the WCM assessed a distinct construct to cyberaggression and offline bullying. The WCM was significantly positively correlated with emotional exhaustion ($r = .35, p < .01$) and significantly negatively correlated with interactional justice ($r = -.50, p < .01$). Therefore to examine whether the WCM accounted for incremental variance over offline workplace bullying and cyberaggression, hierarchical regression analyses were conducted with emotional exhaustion and interactional justice as criterion variables. This test was selected because Kowalski et al. (2014, p.38) state that

“The ideal way to examine the independent effects of cyberbullying over and above traditional bullying would be for studies to conduct a hierarchical regression analysis with traditional bullying entered in the first step and cyberbullying entered in the second step as predictors of an outcome. This procedure would allow researchers to examine the incremental variance accounted for by cyberbullying beyond that accounted for by traditional bullying.”

To examine whether cyberbullying explained incremental variance over and above offline workplace bullying the procedure recommended by Kowalski et al. (2014) was followed with emotional exhaustion and interactional justice acting as outcome variables. Demographic variables were not included as covariates because they did not display significant correlations with any of the test variables. However given that the data was comprised of several different samples, the data collection stream (for example, university, Jisc mail, further education union) was added as a covariate to filter out any variance that could be attributed to a particular sample. In each regression, the control variable was added

in the first step, offline workplace bullying was added in the second step and workplace cyberbullying was added in the third step. Cyberbullying was analysed at both the overall level (WCM) and also at the factor level (see Table 8.2). The same procedure was followed to determine whether cyberbullying accounted for incremental variance after controlling for cyberaggression (see Table 8.3).

As shown in Table 8.2, the WCM explained a significant amount of variance in emotional exhaustion after controlling for offline workplace bullying (R^2 change = .016, $p < .05$). Interestingly the amount of variance was slightly higher when the two factors were added separately (R^2 change = .022, $p < .05$). A similar pattern was observed with interactional justice as the WCM explained significant incremental variance (R^2 change = .020, $p < .01$) and the WCM factors explained slightly more variance (R^2 change = .030, $p < .01$). These results demonstrate the value of the measure because cyberbullying explained a significant amount of incremental variance in both outcomes over and above offline workplace bullying.

Table 8.3 demonstrates that the WCM also explained significant incremental variance over and above cyberaggression for both outcome variables. The overall WCM explained 6.8% (R^2 change = .068, $p < .001$) of the variance in emotional exhaustion, whereas the WCM factors explained 6.9% (R^2 change = .069, $p < .001$). The WCM explained a similar amount of variance in interactional justice after controlling for cyberaggression (R^2 change = .062, $p < .001$). The WCM factors accounted for an identical amount of variance in interactional justice (R^2 change = .062, $p < .001$). These results demonstrate the predictive value of the measure.

Table 8.2: Hierarchical regression analyses for the effect of offline bullying and cyberbullying on emotional exhaustion and interactional justice

Criteria and predictors	R²	Adj. R²	R² change
Emotional exhaustion			
Model 1: Data stream	.002	-.001	
Model 2: Offline bullying	.138	.132	.136***
Model 3: WCM	.154	.144	.016*
Interactional justice			
Model 1: Data stream	.000	-.004	
Model 2: Offline bullying	.305	.300	.305***
Model 3: WCM	.326	.318	.020**
Emotional exhaustion			
Model 1: Data stream	.002	-.001	
Model 2: Offline bullying	.138	.132	.136***
Model 3: WCM factors	.160	.148	.022*
Interactional justice			
Model 1: Data stream	.000	-.004	
Model 2: Offline bullying	.305	.300	.305***
Model 3: WCM factors	.336	.326	.030**

* p<0.05; ** p<0.01; *** p<0.001

Table 8.3: Hierarchical regression analyses for the effect of cyberaggression and cyberbullying on emotional exhaustion and interactional justice

Criteria and predictors	R ²	Adj. R ²	R ² change
Emotional exhaustion			
Model 1: Data stream	.002	-.001	
Model 2: Cyberaggression	.062	.055	.060***
Model 3: WCM	.131	.121	.068***
Interactional justice			
Model 1: Data stream	.000	-.004	
Model 2: Cyberaggression	.208	.202	.208***
Model 3: WCM	.270	.261	.062***
Emotional exhaustion			
Model 1: Data stream	.002	-.001	
Model 2: Cyberaggression	.062	.055	.060***
Model 3: WCM factors	.131	.118	.069***
Interactional justice			
Model 1: Data stream	.000	-.004	
Model 2: Cyberaggression	.208	.202	.208***
Model 3: WCM factors	.270	.259	.062***

* p<0.05; ** p<0.01; *** p<0.001

Further Regression Analysis

A final set of regression analyses were conducted to test whether cyberbullying accounted for incremental variance when both workplace harassment variables were included in the model. The data stream was included in the first step, followed by offline bullying in the second step, cyberaggression in the third step and the WCM (or its factors) in the fourth step.

Table 8.4: Hierarchical regression analyses for the effect of offline bullying, cyberaggression and cyberbullying on emotional exhaustion

Criteria and predictors	Adj R²	B	Beta	F (df1, df,2)
Emotional exhaustion				
Model 1:	-.001			.61 (1, 269)
Data stream		.074 (-.11, .26)	.048	
Model 2:	.132			21.48 (2, 268)
Data stream		.126 (-.05, .30)	.082	
Offline bullying		1.382 (.96, 1.80)	.370***	
Model 3:	.129			14.31 (3, 267)
Data stream		.127 (-.05, .30)	.082	
Offline bullying		1.325 (.79, 1.86)	.355***	
Cyberaggression		.04 (-.21, .30)	.024	
Model 4:	.144			12.38 (4, 266)
Data stream		.126 (-.05, .30)	.081	
Offline bullying		.917 (.29, 1.55)	.246**	
Cyberaggression		-.154 (-.45, .14)	-.088	
WCM		.050 (.01, .09)	.241*	

* p<0.05; ** p<0.01; *** p<0.001.

Table 8.4 shows the results of the regression analysis of emotional exhaustion on offline bullying, cyberaggression and cyberbullying. Workplace cyberbullying accounted for significant incremental variance in emotional exhaustion after controlling for offline workplace bullying and cyberaggression (R^2 change = .018, $p < .05$). Both offline bullying and cyberbullying were significant predictors of emotional exhaustion; however cyberaggression

was a non-significant predictor. One possible reason for this finding is that both offline bullying and cyberbullying involve enduring behaviours that over time could cause long term exhaustion. Comparatively, cyberaggression can refer to one-off acts that may be less likely to result in emotional exhaustion.

Table 8.5: Hierarchical regression analyses for the effect of offline bullying, cyberaggression and cyberbullying on interactional justice

Criteria and predictors	Adj R ²	B	Beta	F (df1, df,2)
Interactional justice				
Model 1:	.004			.01 (1, 269)
Data stream		.005 (-.11, .12)	.005	
Model 2:	.300			58.90 (2, 268)
Data stream		-.042 (-.14, .05)	-.045	
Offline bullying		-1.239 (-1.46, -1.01)	-.555***	
Model 3:	.318			42.94 (3, 267)
Data stream		-.047 (-.14, .05)	-.051	
Offline bullying		-.985 (-1.27, -.70)	-.441***	
Cyberaggression		-.193 (-.33, -.06)	-.182**	
Model 4:	.322			33.00 (4, 266)
Data stream		-.046 (-.14, .05)	-.050	
Offline bullying		-.844 (-1.18, -.51)	-.378***	
Cyberaggression		-.124 (-.28, .04)	-.118	
WCM		-.017 (-.04, .00)	-.140	

* p<0.05; ** p<0.01; *** p<0.001.

Table 8.5 shows the results of the regression analysis of interactional justice on offline bullying, cyberaggression and cyberbullying. Workplace cyberbullying did not account for significant incremental variance in justice after controlling for offline workplace bullying and cyberaggression (R² change = .006, p = 0.12). Offline bullying was the only significant predictor of interactional justice as cyberaggression and cyberbullying did not explain

additional variance in interactional justice after workplace bullying had been entered into the model.

Table 8.6: Hierarchical regression analyses for the effect of offline bullying, cyberaggression, work-related cyberbullying and person-related cyberbullying on emotional exhaustion

Criteria and predictors	Adj R ²	B	Beta	F (df1, df,2)
Emotional exhaustion				
Model 1:	-.001			.61 (1, 269)
Data stream		.074 (-.11, .26)	.048	
Model 2:	.132			21.48 (2, 268)
Data stream		.126 (-.05, .30)	.082	
Offline bullying		1.382 (.96, 1.80)	.370***	
Model 3:	.129			14.31 (3, 267)
Data stream		.127 (-.05, .30)	.082	
Offline bullying		1.325 (.79, 1.86)	.355***	
Cyberaggression		.043 (-.21, .30)	.024	
Model 4:	.149			10.45 (5, 265)
Data stream		.125 (-.05, .30)	.081	
Offline bullying		1.130 (.45, 1.81)	.303***	
Cyberaggression		-.181 (-.48, .12)	-.103	
Work-related cyberbullying		.077 (.02, .13)	.266**	
Person-related cyberbullying		-.032 (-.14, .08)	-.055	

* p<0.05; ** p<0.01; *** p<0.001.

Table 8.6 shows the results from the regression analysis of emotional exhaustion on offline bullying, cyberaggression, work-related cyberbullying and person related cyberbullying. The workplace cyberbullying factors accounted for significant variance in emotional exhaustion after controlling for workplace bullying and cyberaggression (R^2 change = .026, $p < .05$). Analysis of the beta values indicated that offline bullying and work-related cyberbullying were significant predictors of emotional exhaustion, whereas cyberaggression and person-related cyberbullying were non-significant predictors. One potential explain for this finding is that offline bullying and workplace cyberbullying cover aspects of an individual's working experience, such as being exposed to unmanageable work demands, whereas cyberaggression and person-related cyberbullying measure hostile and personal behaviours. Therefore being exposed to offline bullying and work-related cyberbullying may be more likely to induce emotional exhaustion in targets.

Table 8.7: Hierarchical regression analyses for the effect of offline bullying, cyberaggression, work-related cyberbullying and person-related cyberbullying on interactional justice

Criteria and predictors	Adj R ²	B	Beta	F (df1, df,2)
Interactional justice				
Model 1:	.004			.01 (1, 269)
Data stream		.005 (-.11, .12)	.005	
Model 2:	.300			58.90 (2, 268)
Data stream		-.042 (-.14, .05)	-.045	
Offline bullying		-1.239 (-1.46, -1.01)	-.555***	
Model 3:	.318			42.94 (3, 267)
Data stream		-.047 (-.14, .05)	-.051	
Offline bullying		-.985 (-1.27, -.70)	-.441***	
Cyberaggression		-.193 (-.33, -.06)	-.182**	
Model 4:	.328			27.33 (5, 265)
Data stream		-.046 (-.14, .05)	-.049	
Offline bullying		-.977 (-1.34, -.62)	-.438***	
Cyberaggression		-.107 (-.27, .05)	-.102	
Work-related cyberbullying		-.034 (-.06, -.01)	-.197*	
Person-related cyberbullying		.035 (-.03, .09)	.098	

* p<0.05; ** p<0.01; *** p<0.001.

Table 8.7 shows the results from the regression analysis of interactional justice on offline bullying, cyberaggression, work-related cyberbullying and person-related cyberbullying. The workplace cyberbullying factors did not account for significant incremental variance in interactional justice when entered after the offline bullying and

cyberaggression ($R^2 = .015$, $p = .054$). Analysis of the Beta values indicates a similar pattern of results to those observed with emotional exhaustion, as offline bullying and work-related cyberbullying were significant predictors of interactional injustice, whereas person-related cyberbullying and cyberaggression were non-significant predictors.

Common Method Variance

The latent variable approach was used to assess whether common method variance (CMV) had affected the relationships between variables (Podsakoff, MacKenzie & Podsakoff, 2012). This approach involves conducting a confirmatory factor analysis whereby items are specified to load on their latent factor, but also on a latent common method variable. Item loadings from this analysis are then compared to those obtained when a separate CFA is conducted without specifying the CMV variable. In the latent CMV analyses, all unstandardized parameter estimates were significant. A comparison of the standardised estimates between the two models showed that out of 48 estimates, only 4 showed a difference that was greater than 0.2 and these were all within the offline workplace bullying scale. This indicates that although some CMV may have been present it affected a minority of items within a single scale.

8.5 Discussion

The aims of Study 4 were to establish the nomological network of the WCM, examine whether it explained incremental variance in two criterion variables and validate the measure on a separate sample. These aims contributed towards the overall goal of the thesis which was to fulfil the need for cyberbullying measures by developing a scale that could assess exposure to workplace cyberbullying behaviours. Hinkin (1998) argues that separate samples should be used for constructing a measure and assessing its psychometric properties. This is because factor analyses conducted on the data used to construct a measure could produce sample specific factors which means another sample is needed to verify the structure.

During Study 4, the preliminary analysis addressed whether the severity weighted version of the WCM produced different correlations with other study variables than an unweighted WCM. Findings indicated that the correlations of both scales were either identical or very similar, consequently further analysis was conducted with the unweighted scale. One reason for similar correlations between the measures is that most respondents had experienced relatively few cyberbullying behaviours and the more prevalent behaviours held lower severity weights which reduced the sensitivity of the severity weighted measure. In support of this assertion, larger differences between the weighted and non-weighted scale were observed among respondents who had been exposed to higher levels of cyberbullying. This suggests that a severity weighted measure may have greater utility during future research that examines samples where the majority are exposed to a high degree of cyberbullying, however it may be less useful when sampling the general population.

By distributing the measure to a separate sample during Study 4 further evidence was obtained for the measures reliability and validity. In both Study 3 and Study 4, roughly a fifth of respondents indicated that they had been cyberbullied within the last six months. This

consistency across samples indicates that the measure is a reliable tool with which to assess self-labelled cyberbullying victimisation. A further indication of reliability was that the most and least prevalent items were consistent across the two studies. The items that were most rare involved threats and abuse which is consistent with offline bullying research (Hoel, Cooper & Faragher, 2001; Lutgen-Sandvik et al., 2007; Petrović, Čizmić & Vukelić, 2013), whereas the most prevalent acts were of a more cyber specific nature. Overall, these findings contribute to the initial evidence base on workplace cyberbullying behaviours. In addition, the two-factor structure identified during Study 3 was verified during Study 4. CFA demonstrated that the factor structure displayed acceptable fit to the responses of a separate sample of employees, which reduces potential criticism of common method and common source variance.

A significant contribution of Study 4 was the development of the WCM's nomological network. The WCM correlated more strongly with interactional justice than with ICT hassles and ICT learning expectations, which substantiates the external discriminant validity of the measure. Evidence for external convergent validity was also identified as the WCM and its components correlated strongly with workplace bullying and cyberaggression. Examination of the self-report definition item revealed that self-labelling as a cyberbullying victim was moderately strongly correlated with the WCM, offline workplace bullying and cyberaggression. This pattern of results provides some evidence of construct validity because the measure correlated highly with theoretically related variables and displayed weaker associations with more distal variables. However, as the self-report item displayed moderately strong correlations with all three harassment constructs, it could be argued that the scales are measuring the same construct, especially given the size of the correlation between the WCM and the other workplace harassment constructs was so high. Yet there are a number of reasons why this is unlikely.

Firstly, a z-test revealed that the size of the correlation between the WCM and self-labelling was significantly greater than the correlation between offline bullying and the WCM. This indicates that there was a stronger relationship between experiencing cyberbullying acts and self-labelling as a cyberbullying victim, than experiencing offline bullying acts and self-labelling as a cyberbullying victim. In addition, an offline workplace bullying self-report item was not included in the survey. This may have affected the findings because it has been suggested that without a place to report offline bullying victimisation, such experiences may show up in cyberbullying measures (Gradinger et al., 2010; Kowalski et al., 2014). Secondly, it has been demonstrated that victims of offline bullying are often concurrently victims of cyberbullying (Coyne et al., in press; Li, 2007; Vandebosch & Van Cleemput, 2009). Therefore the strong correlation between experiencing offline bullying behaviour and cyberbullying behaviours aligns with previous findings. In respect to the strong correlation between self-labelling as a cyberbullying victim and cyberaggression, it is evident that items within the cyberaggression measure assess some of the more severe cyber behaviours that may create the perception that one is being cyberbullied.

Secondly, the four factor model and three factor models in which the WCM (and its factors) were inputted alongside cyberaggression and offline workplace bullying displayed acceptable fit, which provides some evidence that the harassment measures are assessing different constructs. It has been noted that factor analysis of bullying measures often produces a one-factor solution (Einarsen et al., 2011). Yet entering the workplace harassment constructs into a one-factor model resulted in poor fit, whereas when each construct was specified to load on its latent factor, better fit indices were observed. This suggests that workplace cyberbullying, offline bullying and cyberaggression represent distinct constructs.

Finally, although cyberbullying variance may overlap with offline workplace bullying and cyberaggression variance, regression analyses indicated that the WCM explains

significant variance in two outcomes over and above those existing scales. When controlling for offline bullying alone, the WCM explained significant incremental variance in emotional exhaustion and interactional justice. Moreover, the WCM explained an even greater amount of incremental variance in the two outcomes over and above cyberaggression. The item content of the WCM in relation to the SNAQ provides some explanation for the former finding as the scales contain several similar items. For example, both measures contain items on gossip, exclusion and undermining. However the WCM also contains a number of items that are unique to the virtual context, for example ‘had another organisational member copy people into messages that reflect negatively on you’ and ‘received aggressively worded messages (e.g. using all capital letters, bold font or multiple exclamation marks)’. This may explain why the measures shared a significant proportion of variance, but also why the WCM explained variance in outcome variables over and above the SNAQ.

When the WCM was entered as a predictor with offline bullying and cyberaggression in the model it explained a small, but significant amount of incremental variance in emotional exhaustion over the other predictors. One potential explanation why cyberbullying accounts for incremental variance in emotional exhaustion is that cyberbullying spans time and space boundaries, which means that employees may be exposed to cyberbullying outside of their working hours. This may in turn prevent psychological detachment and recovery from work, which is negatively associated with emotional exhaustion (Sonnentag et al., 2010). However researchers have suggested other reasons why cyberbullying may explain additional variance in outcomes. Coyne et al. (in press) suggest that the boundaryless nature of cyberbullying may lead to a more severe impact because cyberbullying acts can quickly be distributed to everyone within an organisation. Furthermore, Ford (2013) found that perpetrator anonymity amplified the association between virtual harassment and fear of future harassment. As such, the scale may be beneficial during future research that examines how features (for example,

location, breadth of audience, anonymity) moderate the relationship between cyberbullying and individual level outcomes.

In relation to interactional injustice, it was found that when all three harassment variables were entered into the regression model, offline bullying was the only significant predictor. However when the two components of workplace cyberbullying were entered into the model separately, offline bullying and work-related cyberbullying were significant predictors of interactional justice, whereas cyberaggression and person-related cyberbullying were not. A possible explanation for this finding is that offline workplace bullying and work-related cyberbullying occur within the boundaries of the workplace and therefore relate more strongly to fair treatment at work. Comparatively, cyberaggression and person-related cyberbullying may be experienced more often in non-work time and on media that is unrelated to work (for example, facebook, twitter). As such, they would not display such close associations with organisational justice.

The relatively small amount of incremental variance explained by the WCM should be addressed. At first viewing, these findings seems to support Olweus (2012) who suggests that being cyberbullied does not have much of a detrimental impact over and above that generated by traditional bullying. However, researchers have noted that empirical studies are limited in how much variance they can explain as they only utilise a few operationalisations of a construct, whilst the size of an effect is constricted by measurement error (Wall, Jackson, Mullarkey & Parker, 1996). Furthermore, Nunnally and Bernstein (1994) observed that R^2 Changes in the third block of hierarchical regressions tend to be small, whilst several studies that have reported small but significant incremental variance changes have been heavily cited (Lindeman & Verkasalo, 2005; Van der Zee, Thijs & Schakel, 2002). Therefore, although the incremental variance findings reported in this study are relatively small, they have some theoretical relevance. Future research is needed to determine the incremental validity of the

WCM in relation to a broader range of outcome variables. Should such investigations produce similar findings, it may be concluded that the usefulness of the scale is confined to scenarios where employees communicate exclusively through CMC, such as home based teleworkers.

The WCM as a Single Factor or Two Factor Measure

Throughout Study 4, the WCM has been examined as a single factor measure and as a two factor measure comprising work-related cyberbullying and person related cyberbullying. Arguably, one of the strengths of the measure is that similar to the NAQ it can be used as a one factor tool to investigate overall cyberbullying exposure, while it could also be used as a two factor measure to investigate the independent effects of person-related and work-related cyberbullying. Indeed, the regression results demonstrated that work-related cyberbullying was a significant predictor of emotional exhaustion and interactional justice, whereas person-related cyberbullying was not. Nonetheless there is both a statistical and theoretical rationale for treating the measure as a one factor tool.

The statistical analysis conducted during Study 3 and Study 4 suggests that although the two factors are clearly distinguishable during CFA, they do not always discriminate well. The AVE results from Study 3 demonstrated no support for the discriminant validity of the two factors. In addition, z-tests conducted during this study showed no significant difference between factor correlations with outcome variables and they were strongly correlated which suggests that they share much of the same variance. Given that some statistical analyses (CFA, regression analysis) indicate that there is value in treating the factors separately, whilst other analysis (AVE, z-tests) indicates that the factors do not discriminate well, the decision on whether to retain a two factor structure or single factor structure should not be made on

the basis of statistical analysis alone. Instead theory informs the decision to treat the WCM as a single factor measure.

Past research has demonstrated that factors within workplace bullying scales do not tend to discriminate well (Einarsen et al., 2009; Escartin et al., 2010; Fox & Stallworth, 2005). Bullying has been described as an escalating process (Parzefall & Salin, 2010) and throughout this process many different types of behaviour may be experienced. For instance, the conflict escalation approach suggests that when bullying begins, low-level behaviours are observed which become more severe as the situation evolves (Zapf & Gross, 2001). Therefore at the beginning of a bullying episode a target may be subjected to work-related cyberbullying which could then develop into person-related cyberbullying as the episode unfolds. A theoretical rationale therefore exists for why the factors are interrelated and due to the strong relationships between factors, a one-factor model would give a better indication of the overall level of workplace cyberbullying behaviours faced by a target.

Furthermore, although work-related cyberbullying and person-related cyberbullying seem to represent different categories of behaviour, the antecedents and outcomes of these behavioural factors may be the same. For example, Lewis, Giga and Hoel (2011) suggest that minority status could affect how individuals are treated in the workplace. A manager who dislikes a subordinate's minority status may wish to enact person-related cyberbullying against them, but they may be unable to do this overtly because of organisational policies that prohibit such behaviour. Accordingly the manager may enact work-related cyberbullying acts to disguise their negative intent, as it has been suggested that perpetrators engage in bullying that overlaps with work requirement to mask their true intentions (Samnani et al., 2013). Therefore even though the manager dislikes the individual's personal characteristics, work-related cyberbullying may be enacted against that individual rather than person-related

cyberbullying due to the nature of the working context. As such, it may be better to investigate cyberbullying as a unidimensional construct.

Limitations

One limitation of Study 4 is that due to the sample size needed and the nature of the online survey design it was not possible to obtain a response rate across the data collection streams. The research design also enabled participants to self-select their participation in the research. Therefore the sample may not be representative of the overall working population. During a meta-analysis on the prevalence of workplace bullying, Nielsen et al. (2010) found an overall prevalence of 11% for self-labelling as a victim across 47 studies. This is lower than the self-labelling estimates obtained during this study. One potential reason for this finding is that respondents particularly affected by cyberbullying may have been more inclined to complete the online survey. Steps were taken to reduce this eventuality as the email invitation did not reference the word 'cyberbullying', instead 'virtual harassment' and 'cyber harassment' were used to describe the focus of the research. Furthermore, the aim of the study was focussed on measure development, rather than estimating prevalence rates.

Conclusion

The aims of Study 4 involved building its nomological network and reassessing its psychometric properties on a separate sample of employees. The measure was distributed alongside theoretically related variables to build its nomological network. Findings demonstrated that the measure had sufficient external discriminant and convergent validity. Moreover, reanalysis of its psychometric properties confirmed that the WCM is a valid and reliable tool that can be used to assess workplace cyberbullying in future research. The implications of this study, along with studies 1, 2 and 3 and discussed in greater detail in the general discussion (Chapter 10).

Chapter 9 – Examining Cyberbullying Outcomes from an Attributional Perspective (Study 5)

The previous chapters reported on the development of a 17 item workplace cyberbullying measure (WCM). The results from Study 4 confirm that the measure has sufficient reliability and validity to be used as a research tool. The current chapter moves away from measure development to focus on the impact of cyberbullying within work settings. More specifically, Study 5 utilises the WCM to investigate the impact of workplace cyberbullying within a theoretical model. The study addresses two research questions outlined at the start of the thesis: (1) how does workplace cyberbullying relate to behavioural, attitudinal and health outcomes; and (2) what role does blame attribution play in the relationship between cyberbullying and outcomes. The chapter reviews literature on how attribution theory is applicable to the workplace bullying and virtual work, this is followed by a description of the theoretical model and the study hypotheses. The method, results and discussion are then discussed in turn.

9.1 Introduction

Attributions for Cyberbullying Events

In recent years researchers within the field of workplace bullying have called for more studies that address the role of attributions in the bullying process (Nielsen & Knardahl, 2015; Parzefall & Salin, 2010). In a review paper, Parzefall and Salin (2010) state that “*cognitive biases and attributional errors may make targets more likely to attribute the negative behaviour to the perpetrator’s personality and explicit intentions to harm rather than environmental circumstances*” (p. 764). Attributional errors may be even more common in the virtual environment as it has been argued that ambiguous emails are likely to be

attributed according to how much an individual likes their communication partner (Friedman & Currall, 2003). Friedman and Currall (2003) suggest that once an individual has experienced negative behaviour from a colleague, they change their attitude towards that person which leads them to see only that which reinforces their negative view of that colleague.

It has also been argued that the way individuals attribute blame for harassment influences perceptions of justice, which subsequently affects outcomes (Bowling & Beehr, 2006). Cyberbullying has been linked to a number of detrimental outcomes, including lower job satisfaction and mental strain, yet these outcomes may be dependent on the way that targets attribute blame for their experiences. This study will explore the attributions that individuals make for workplace cyberbullying and how they influence behavioural, attitudinal and health outcomes.

Cyberbullying Outcomes

Youths bullied in the real world experience health complaints including low self-esteem, low self-efficacy, depression and anxiety (Austin & Joseph, 1996; Esbensen & Carson, 2009). The initial research on cyberbullying has identified similar findings as exposure among children and adolescents has been linked with depression, social anxiety and low self-esteem (Didden et al., 2009; Juvoven & Gross, 2008; Katzer, Fetchenhauer, & Belschak, 2009).

Empirical research on workplace cyberbullying has lagged behind youth studies, but in recent years researchers have started to investigate the impact of cyberbullying in work settings. This research has linked workplace cyberbullying to several negative outcomes including anxiety (Baruch, 2005), frustration (Hong et al., 2014) and stress (Snyman, & Loh, 2015). One notable limitation of these studies has been a limited use of theory to explore the

relationships between variables. Theoretical frameworks have been used in more recent cyberbullying studies as Coyne et al. (in press) used dysempowerment theory as a framework to explain the link between cyberbullying, job satisfaction and mental strain. This research found that state negative affect mediated the relationship between cyberbullying and both outcomes, whereas a significant indirect effect was observed between cyberbullying and job satisfaction through interactional injustice. It was suggested that future research should be conducted to more fully understand the roles that attribution, justice and emotion play as paths between cyberbullying and outcomes.

Following on from the Coyne et al.'s research, Farley et al. (2015) drew on dysempowerment theory and the attributional model of workplace harassment to explore how attributions of blame affected cyberbullying outcomes. The study investigated how blame attributions for cyberbullying influenced mental strain and job satisfaction. Cyberbullying was significantly associated with both outcomes, although blame attributions influenced the mediational path. Blaming oneself for being exposed to cyberbullying was related to mental strain, a relationship that was mediated by state negative affect. Comparatively, interactional injustice mediated the relationship between blaming the perpetrator for cyberbullying and job dissatisfaction.

This study provides some initial evidence that the impact of cyberbullying may be dependent on how targets attribute blame for their experience. However it also raises a number of questions, such as how do organisationally directed attributions affect the impact of cyberbullying? and what are the behavioural outcomes of attributions for cyberbullying events? Furthermore, the existing research on workplace cyberbullying has been limited by relying on adapted measures to assess the phenomenon. To address this limitation, the current study uses the WCM to investigate the impact of self, perpetrator and organisation directed

attributions for workplace cyberbullying exposure, and how these attributions relate to behavioural, cognitive and health outcomes.

Attribution Theory

Individuals differ in the way they make causal assessments for life experiences. Attribution research is based on the assumption that people want to understand the causes of important life outcomes (Heider, 1958), while attributions refer to the causal explanations that individuals make for their successes and failures (Martinko, Harvey & Dasborough, 2011). Brees, Mackey and Martinko (2013) state that a single attribution differs from a person's attributional style. An attribution is a causal explanation for a specific event, whereas attributional styles are trait-like tendencies to make a particular type of attribution across situations. Attributions affect individual's expectancies, emotions and behaviours, while attributional styles can affect interpersonal relationships because the consistency with which an attributional style is displayed over time can alter relationships quality (Martinko et al., 2011).

The application of attribution theory in organisational research has revolved around two distinct models, the achievement-motivation model (Weiner, 1985) and Kelley's cube (Kelley, 1967). Kelley's cube has mostly been used to explain how individuals use information to make causal attributions for the behaviour of other people at work. Whereas Weiner's model has primarily been used to understand the attributions people make for their own success and failure and how these attributions influence future expectations, affect and behaviour (Martinko & Thomson, 1998).

In recent years it has been argued that organisational scholars have neglected to utilise attribution theory, despite its tremendous potential to explain a wide variety of emotions and workplace behaviours (Martinko et al., 2011). Martinko et al. (2011) suggest that the under-

utilisation of attribution theory in organisational research is partially due to two criticisms. Firstly, in the field of leadership research it has been suggested that attributions were only responsible for a small proportion of variance in leadership behaviour (Mitchell, 1982). Martinko et al. (2011) countered this criticism as they identified that the variance explained by attributions was comparable or superior to the other factors associated with leader behaviour. Secondly, it has been suggested that attributional processes are not routinely used by individuals because the process of making an attribution is highly cognitively demanding. As such, making an attribution is limited to significant or unusual events in an individual's life (Lord & Smith, 1983). Martinko et al. (2011) agree with this assertion and it has long been recognised that attribution processes are reserved for significant events. However the authors suggest that the assertion should be viewed as a boundary condition rather than a criticism.

Attribution Theory and Workplace Bullying

Martinko et al. (2011) suggest that leadership and collective attributions are two areas where organisational scholars can constructively apply attribution theory. However researchers have argued that future research on workplace bullying should utilise attribution theory to better understand target reactions (Parzefall & Salin, 2010; Samnani et al., 2013). Researchers are only now beginning to investigate the role of attributions in the bullying process. This may be due in part to a realisation that the most common forms of bullying are subtle behaviours which allow the perpetrator to explain their behaviour to other people (Samnani et al., 2013). Behaviours such as assigning extra work and excessive monitoring are acts that perpetrators can easily justify to others. Subtle behaviours heighten the likelihood of varying attributions as targets may be unaware whether bullying acts are perpetrated unintentionally or with malicious intent. It has even been suggested that bullying behaviours can be misconstrued as positive as a target may perceive that being assigned extra work is

developmental or that excessive monitoring reflects caring management (Samnani et al., 2013).

In a recent theoretical paper, Samnani, Singh and Ezzedeen (2013) applied Kelley's (1967) covariation model to predict how victims are likely to attribute bullying. It was proposed that when bullying is common within an organisation, victims will blame the context rather than the perpetrator. This is because when bullying is prevalent within an organisation it becomes a normal part of the working day and blame for bullying behaviours is spread across different organisational members, making a single perpetrator harder to identify (Detert, Trevino, & Sweitzer, 2008). The model goes on to explain how consistency and distinctiveness interact with consensus to produce either person-based or context-based attributions. Within Samnani et al.'s (2013) model consistency is conceptualised as the frequency of bullying behaviour, whilst distinctiveness is reflected by whether the leader bullies the target, the leader member exchange relationship and the in-group/out-group status of the victim. Frequent bullying (high consistency) from a variety of sources (low distinctiveness) is thought to produce context-based attributions when bullying is prevalent within the organisation. In contrast, frequent bullying from a distinct perpetrator is believed to result in person-based attributions, especially when the prevalence of bullying within the organisation is low. However, Samnani et al. (2013) also note that targets can jointly attribute blame to the perpetrator and organisation for experiences of workplace bullying.

The research conducted by Samnani et al. (2013) offers insights into the circumstances that may lead targets to attribute blame to the perpetrator or organisation. However the research does not consider the conditions under which individuals blame themselves for being bullied. Furthermore, the authors frame outcomes of their model around whether the target trusts the perpetrator, consequently the impact of self and organisational attributions is not considered. Finally, the paper focusses on attributions for offline bullying

behaviour rather than cyberbullying behaviour. Therefore to better understand the impact of attribution in the virtual environment, the next section will review literature on how the online context can affect blame attributions.

Attribution in the Virtual Environment

Attributions are of particular interest in the online context, because the lack of communication cues in this domain can heighten the probability of attributional error. Research has shown that when virtual teams are distributed, a degree of situation invisibility exists as communication partners are less aware of contextual factors in their partner's environment (Cramton et al., 2007). Where situation invisibility exists in distributed virtual teams, it has been found that communication partners are more likely to make dispositional attributions about negative partner behaviour than situational attributions (Cramton et al., 2007; Walther, Boos & Jonas, 2002). Dispositional attributions occur when behaviour is attributed to an individual's personality, whereas situational attributions are made when behaviour is believed to stem from a person's environment. Research has shown that humans have a tendency to make 'fundamental attribution errors' whereby we overestimate the role of internal rather than situational causes when explaining other people's behaviour (Jones & Harris, 1967). Fundamental attribution errors can be problematic, especially in virtual teams as dispositional attributions can adversely affect team satisfaction (Wang, 1994) and cohesion (Brawley, Carron & Widmeyer, 1987).

Bazarova and Walther (2009) have suggested other factors relevant to situational attribution in the virtual environment, including having several targets for comparison and how comparisons against base-rate behaviour influence attribution style. This is particularly relevant to virtual teams as individuals interact with a number of other teammates and therefore observe several sources of behaviour, enabling them to create a base-rate against

which teammate behaviour can be judged. Multiple-observations allow a perceiver to get an idea of normal behaviour across teammates and casual attributions are made according to how causes and behaviour vary (Bazarova & Walther, 2009). This is known as the covariation principle (Kelley, 1967) which states that cause and behaviour must be consistent for a situationally relevant explanation. Therefore if one member of a virtual team acts differently to the others, their behaviour will not be attributed situationally because it differs from other members who are in the same situation. Empirical support has been found for this argument as a meta-analysis conducted by Malle (2006) found that more dispositional than situational attributions are made when a perceiver has base rate information about an individual's behaviour being different from other peoples.

This research has implications when studying cyberbullying as these processes could apply when individuals assess whether a negative virtual behaviour is an act of cyberbullying, or whether it is attributable to situational factors. However although this literature explains the circumstances that lead individuals to make dispositional or situational attributions for communications in the virtual environment, it does not elaborate on the impact that differing attributions have on well-being and behavioural outcomes. Furthermore, the literature focusses on virtual communications at a broad level and it does not consider the attributions for harassment. The next section will therefore introduce the theoretical model adopted in the current study which elaborates on how blame attributions for harassment can influence detrimental outcomes.

Theoretical Model

One model developed to explain the attributional processes that occur when individuals are subjected to harassment is the attributional model of workplace harassment (Bowling & Beehr, 2006). The model suggests that the blame attributions individuals make

for the cause of harassment can heighten the probability of a particular detrimental consequence. It is argued that individuals who experience workplace harassment may attribute its origin to one of three categories: themselves, the perpetrator or their organisation. In support of this proposition, Heatherington and Coyne (2014) found that participants in their study attributed the cause of cyberbullying either to organisational factors, the perpetrator or themselves. For example, one victim spoke about how his personality may have been partially responsible for cyberbullying: *“my family say that I don’t say sorry often enough, or that I don’t acknowledge my part in things, and that I maybe therefore bring it on”* (p. 173).

The attributional model of workplace harassment proposes that blame attributions to each of these categories influences cognitions regarding the perceived fairness of events, and subsequently attitudes, well-being and behaviour. When a target makes an external attribution for harassment, injustice perceptions are hypothesised to arise. However when targets blame themselves for experiencing harassment (internal attribution) injustice perceptions are not hypothesised because the target may feel that the harassment is deserved or justifiable. For instance, an underperforming employee might perceive that constant criticism from their manager is warranted due to their own lack of effort.

Aspects of the attributional model have been tested in relation to abusive supervision (Bowling & Michel, 2011), although this study neglected to test the justice components of the model. More recently, Farley et al. (2015) used the model to investigate how blame attributions for cyberbullying affected different outcomes, however the study did not examine the impact of organisationally directed attributions. Therefore Study 5 will build on previous research by testing the justice propositions specified in the model and by examining the role of organisationally directed attributions. Specifically, Study 5 will use the model to examine the role of blame attributions as mediators in the relationships between cyberbullying

exposure and emotional exhaustion, perpetrator directed deviance and organisation engagement. This study also builds on past research by investigating the impact of workplace cyberbullying with a tailored measure. The inappropriateness of utilising cyber incivility, cyberaggression scales and adapted offline bullying measures to assess cyberbullying has been commented on earlier in the thesis (Chapter 3); therefore those arguments will not be repeated again here.

Self-Attribution

The attributional model suggests that when people blame themselves for being harassed they experience reduced well-being. Bowling and Beehr (2006) note that most harassment victims experience reduced health, however it is argued that this is particularly the case when targets believe that they are responsible because self-blame damages a person's self-concept. In this respect, the authors state that "*harassment is a form of stressor in the category of harm to self*" (p. 1001). If an individual is repeatedly exposed to a stressor (for example during a bullying situation), the stressor-strain model predicts that the cumulative effect of continuous stress will result in chronic strain (Lazarus, DeLongis, Folkman & Gruen, 1985). Therefore a bullying target who repeatedly blames themselves for being bullied will eventually experience strain through continuous self-harm. Emotional exhaustion is examined as the strain variable in the current study because it is a common outcome of repeatedly being subjected to stressors (Bowling & Beehr, 2006)

Findings on the impact of blaming oneself for negative events have been mixed. Bowling and Michel (2011) found that the association between abusive supervision and well-being was weaker among participants who were higher in self-directed attributions than among participants lower in self-directed attributions. However, research has also found that blaming oneself for negative events is associated with ill-health (Frazier, 2003). In the online

context, Farley et al. (2015) found that negative affect mediated the relationship between self-blame for cyberbullying exposure and mental strain. Furthermore, a meta-analysis conducted by Hershcovis and Barling (2010a) found that aggression victims who were more likely to attribute blame internally, experienced greater psychological ill-health than victims of sexual harassment who were more likely to attribute blame externally. Social categorisation theory was used to explain these findings, as sexual harassment victims were able to blame their experience on the perpetrators attitude to gender. Comparatively, workplace aggression victims were unable to blame gender stereotypes and may have believed that their negative experience was due to their own personal characteristics. On the basis of these arguments hypothesis 1 is developed.

Hypothesis 1: Self-blame for cyberbullying exposure will mediate the relationship between cyberbullying exposure and emotional exhaustion.

Perpetrator-Attribution

The attributional model of workplace harassment suggests that when harassment is attributed to the perpetrator it does not impact as heavily on the target's well-being. This may be a more simplistic aspect of the model as research has found that perpetrator directed attributions are related to ill-health (Bowling & Michel, 2011). Yet, although blaming the perpetrator may impact on well-being, the impact of making an external attribution for the cause of harassment may be less damaging than making an internal attribution. This is because attributing blame for negative events externally is less damaging to an individual's self-concept (Hershcovis & Barling, 2010a). For example, members of minority groups protect their self-concept when faced with negative feedback from outgroup members, by attributing the cause of feedback to prejudiced perceptions about their group (Crocker & Major, 1989). Similarly, research has identified a 'self-serving attributional bias' in the

majority of the population, whereby negative events are attributed externally and positive events are attributed internally (Baron, 1990; Mezulis, Abramson, Hyde & Hankin, 2004). This may serve to protect individuals against threats to their self-concept which could reduce well-being.

When targets attribute accountability for harassment to the perpetrator, the attributional model predicts that feelings of interactional injustice will arise, which in turn lead to negative attitudes and behaviours directed at the perpetrator. Injustice and external blame attributions have been heavily linked in the social psychology literature (Crosby, 1982; Mikula, 2003). Folger and Cropanzano (2001) state that “*when people identify an instance of unfair treatment, they are holding someone accountable.... If no-one is to blame, there is no social injustice*” (p.1). Mikula (2003) developed the attribution of blame model of injustice judgements which states that the more responsibility an individual attributes to another entity for violating their entitlement, the more injustice that individual will feel. The model was tested empirically during a set of correlational studies and it was found that blame attributions were strongly linked to perceived injustice (Mikula, 2003).

When targets experience injustice as a result of blaming the perpetrator, the attributional model predicts that the target will respond with negative attitudes and behaviours directed towards the perpetrator. The norm of reciprocity (Gouldner, 1960) is used to explain why employees who experience harassment seek to ‘get even’ with the source deemed responsible, as people who feel mistreated are likely to respond in kind. Empirical research supports this assertion as retaliation has been linked to perceived harassment in previous research (Hershcovis et al., 2012). One form of deviance enacted by individuals who experience harassment is perpetrator directed deviance, which refers to deviant acts (for example, rudeness, hurtful comments) directed at the perpetrator of harassment. Hypothesis 2

is therefore developed to state that cyberbullying exposure leads to perpetrator directed deviance through a sequential path of perpetrator blame and interactional injustice.

Hypothesis 2: The relationship between experiencing cyberbullying acts and perpetrator directed deviance will be mediated sequentially through perpetrator blame and interactional justice.

Organisational-Attribution

A further type of external attribution is the attribution of blame towards ones organisation, the attributional model states that this is more likely when there are many victims and many perpetrators. Studies demonstrate that victims often attribute responsibility for workplace bullying experiences to the work environment (D'Cruz & Noronha, 2010a). For instance, Liefoghe and Mackenzie Davey (2001) interviewed call centre staff and found that respondents who encountered bullying behaviours did not feel bullied on an individual level, rather they felt that the oppressive organisational environment was the source of the behaviours.

When the organisation is perceived to be responsible for harassment, the model indicates that targets will experience procedural injustice, which refers to the fairness of processes and decision making within an organisation (Colquitt, 2001). It has been suggested that blaming the organisation for harassment will lead to perceptions of procedural injustice because employees assume that organisations have processes in place to protect them from harm (Wood, Braeken & Niven, 2013). Salin (2003a) describes a number of organisational processes that are amenable to bullying (for example, reward systems). When targets perceive the organisation as responsible for their experiences of harassment, they are likely to question the fairness of these processes which results in procedural injustice perceptions.

When procedural injustice perceptions arise as a result of an organisational attribution for harassment, it is hypothesised that individuals will disengage from their organisation. The norm of reciprocity can explain why this relationship is expected as Bowling and Beehr (2006) state “*the process of reciprocity then leads to lowered individual performance outcomes, which include both in and extrarole performance as well as withdrawal from and lower commitment to the organization*” (p. 1001). Saks (2006) distinguished organisation engagement from job engagement, stating that job engagement focuses on how present an employee is within their work role. On the other hand, organisation engagement encompasses the extent to which an employee is psychologically present in their role as an organisational member. Accordingly, procedural justice is likely to impact more heavily on organisation engagement than job engagement. It is therefore argued that cyberbullying exposure will lead to reduced organisational engagement through a sequential path of organisation directed attributions and procedural justice.

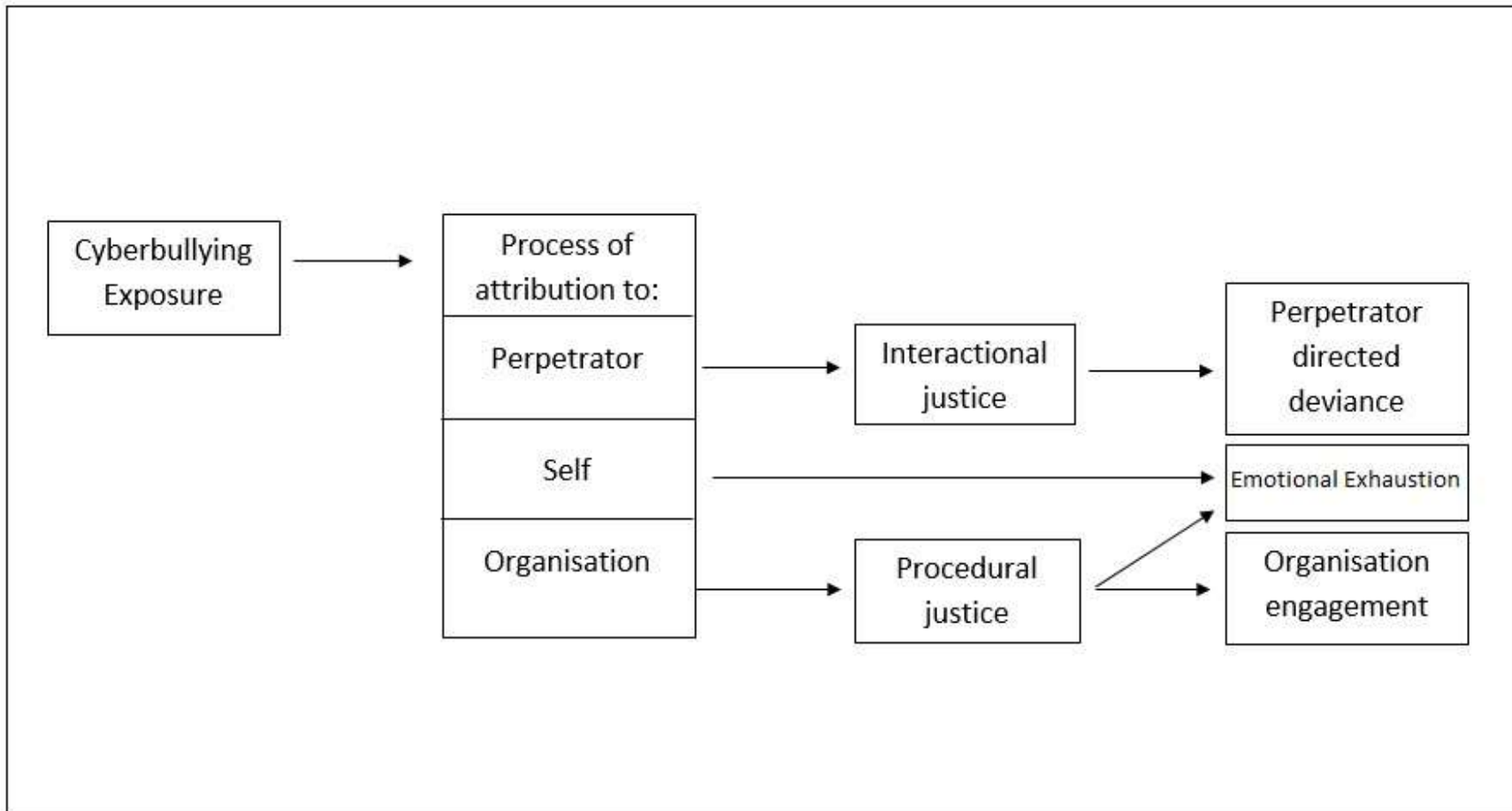
Hypothesis 3a: The relationship between experiencing cyberbullying acts and organisation engagement will be mediated sequentially through organisational blame and procedural justice.

Past research has suggested that as well as affecting engagement, a perceived lack of fairness can augment burnout (Saks, 2006). Indeed, researchers have suggested that injustice can lead to burnout because it may serve as a continuous stressor (Halbesleben & Buckley, 2004). As emotional exhaustion is a core dimension of burnout, it follows that continuously experiencing procedural injustice perceptions could heighten emotional exhaustion. Some empirical support has been found for this proposition in relation to work harassment as Wood et al. (2013) found that procedural justice mediated the relationship between experiencing discrimination and emotional exhaustion. Therefore individuals who experience procedural

injustice as a result of organisationally directed attributions are also likely to experience emotional exhaustion:

Hypothesis 3b: The relationship between cyberbullying exposure and emotional exhaustion will be mediated sequentially through organisational blame and procedural justice.

Figure 9.1: Hypothesised model



9.2 Method

This study utilised the same data that was collected in Study 4. The method of data collection is therefore outlined in detail in Chapter 8. It is briefly re-iterated here for completeness. Data was collected using an online survey that was distributed to five different data collection streams. In total, 272 responses were obtained, although the sample size for this study was $n = 219$, rather than $n = 272$. This was because the representative of one data collection stream would not consent to including items on procedural justice in the survey as employees were embroiled in a dispute regarding working conditions. As a consequence, the cases from this data collection stream were removed prior to analysis ($n = 44$). Furthermore, as this study examined the attributions people make for being exposed to cyberbullying, all individuals who had not been exposed to any cyberbullying acts were excluded from the analysis ($n = 9$). This was because none of these individuals had experienced any cyberbullying acts and consequently they did not complete the blame attribution items.

The final sample included 17 (7.8%) individuals from the researcher's network, 61 (27.9%) employees from a large UK university, 130 (59.4%) members of JISC mail groups and 11 (5%) members of a large higher and further education union. The sample consisted of 140 (63.9%) females and 79 (36.1%) males who were aged between 21 and 83 ($M = 43$ years, $SD = 11.65$). They had an average organisational tenure of 9.33 years ($SD = 8.92$).

Measures

The measures used to assess workplace cyberbullying, interactional justice and emotional exhaustion were the same as in Study 4. The alphas of these scales were recalculated as 56 cases were removed from the Study 4 sample: cyberbullying ($\alpha = .93$), interactional justice ($\alpha = .96$) and emotional exhaustion ($\alpha = .91$)

Blame attribution was assessed using items adapted from attributional research (Groth, Goldman, Gilliland & Bies, 2002; Hershcovis & Barling, 2010a). After completing the behavioural cyberbullying items, respondents were asked to rate the extent to which they agreed with the following statements on a seven point scale, ranging from strongly disagree to strongly agree: 'I am partly to blame for this behaviour towards me', 'The perpetrator is to blame for this behaviour towards me' and 'The organisation is to blame for this behaviour towards me'.

Perpetrator directed deviance was measured in the manner used by Hershcovis et al. (2012) who adapted Bennett and Robinson's (2000) seven-item interpersonal deviance scale. After completing the cyberbullying items, respondents were asked how often they had engaged in deviant behaviours towards the perpetrator(s) of cyberbullying against them. An example item is "Acted rudely towards them". The response category was 'never', 'once', 'a few times', 'once a month', 'several times a month', 'at least once a week' and 'more than once a week'. Reliability analysis demonstrated that three items had very low corrected-item total correlations which were all below .20. Further analysis of these items indicated that they encompassed swearing, religious/racial remarks and pranks, which were more extreme than the other acts of deviance, they were therefore removed from the measure. The alpha of the remaining four items was .63.

Procedural justice was assessed using four items developed by McFarlin and Sweeney (1992) which asked about the fairness of various organisational procedures. An example item was 'How fair are the procedures used to communicate performance feedback to employees'. Responses were made on a six point scale ranging from 'very unfair' to 'very fair'; the alpha of the scale was .92.

Organisation engagement was measured using six items developed by Saks (2006). Respondents were asked to indicate the extent they agreed with items such as ‘Being a member of this organisation is exhilarating for me’ on a five point scale ranging from ‘strongly disagree’ to ‘strongly agree’. The alpha of the scale was .91.

Control Variables

Social desirability was assessed as a control variable during the analysis of perpetrator directed deviance because it has been suggested that people respond in a socially desirable manner when asked whether they engage in deviant behaviours (Hershcovis et al., 2012). Seven items from Crowne and Marlowe’s (1960) social desirability scale were used, including ‘There have been occasions when I took advantage of someone’. Respondents decided whether the statements were true or false in relation to their own personality. Trait negative affect was also controlled during the analysis of perpetrator directed deviance as it has been shown to be a predictor of aggression (Bowling & Beehr, 2006). It was measured using six items from Watson, Clark and Tellegen’s (1988) widely used negative affect scale. Respondents indicated the extent they generally felt negative emotions on a scale ranging from ‘almost never’ to ‘almost always’. The alpha of the scale was .89.

Data Preparation

The data was subjected to the same checks outlined in Chapter 8. The hypotheses were assessed via the PROCESS tool (Hayes, 2013) using bootstrapping procedures. Bootstrapping has superior power and control over Type 1 errors than the Sobel (1986) and Baron and Kenny (1986) methods. The method involves treating the sample like a population and repeatedly random sampling the data (Preacher & Kelley, 2011). Thousands of resamples are taken to indicate a sampling distribution of the statistic of interest. Preacher and Kelley (2011) state “*The empirical sampling distribution of these bootstrap estimates serves as a*

basis for obtaining confidence limits by referring to values at the appropriate percentiles (e.g., 2.5 & 97.5) for what are termed percentile confidence intervals” (p.97). The confidence intervals enable the identification of the significance or non-significance of a mediation effect because if zero does not fall between the upper and lower confidence intervals, the significance of the point estimate can be reported. In the current study, bootstrapping procedures were used with estimates based on 10,000 re-samples and 95% confidence intervals (Hayes, 2009).

9.3 Results

Descriptive Statistics

Table 9.1 shows the means, standard deviations and intercorrelations of the study variables. It is important to note that cyberbullying exposure was assessed as the independent variable in the current study, which refers to the extent that individuals are repeatedly subjected to cyberbullying acts. Cyberbullying exposure differs from cyberbullying victimisation as it does not include the definitional criteria of power disparity between perpetrator and target which is captured by the self-report definition question (Coyne et al., in press). Cyberbullying exposure was used to test the study hypotheses because a greater number of individuals had been exposed to cyberbullying acts compared with those who self-labelled as cyberbullying victims. Only 46 individuals self-labelled as victims, which meant there was not sufficient statistical power to test the study hypotheses using the self-labelling item. However, self-labelling as a cyberbullying victim was assessed using descriptive statistics. In addition, the severity weighted measure was re-examined as this sample was comprised of individuals exposed to greater levels of cyberbullying, however the correlations were almost identical to the unweighted measure. All analysis was therefore conducted with the unweighted measure.

Analysis of correlations between self-labelling as a victim and blame attribution indicated that individuals who self-labelled as cyberbullying victims tended to blame the perpetrator ($r = .23, p < .01$) and their organisation ($r = .23, p < .01$) for the acts they had experienced. Comparatively there was no significant relationship between self-labelling as a victim and making a self-attribution ($r = -.11, p > .05$). Self-labelling as a cyberbullying victim was significantly associated with emotional exhaustion ($r = .28, p < .01$) and reduced

organisation engagement ($r = -.14, p < .05$), however self-labelling was not associated with perpetrator directed deviance ($r = .04, p > .05$).

Interestingly, there was a significant relationship between self-labelling and gender ($r = .15, p < .05$) such that significantly more women self-labelled as victims than men. This finding is consistent with research on offline workplace bullying, which indicates that women are more likely to label their experiences as bullying than men (Salin, 2003b). Gender was also significantly associated with perpetrator directed deviance ($r = -.20, p < .05$). Past research has suggested that women are less aggressive than men which is reflected by this finding (Zapf, Einarsen, Hoel & Vartia, 2003).

Cyberbullying exposure was significantly associated with all three blame attribution variables, although it was most strongly correlated with organisational blame ($r = .34, p < .01$). Cyberbullying exposure was significantly associated with emotional exhaustion ($r = .32, p < .01$) and perpetrator directed deviance ($r = .28, p < .01$), however it was unrelated to organisation engagement at the .05 level ($r = -.13, p > .05$). These results add to the current evidence base on the relationships between cyberbullying and outcome variables. Of particular interest is the association between cyberbullying exposure and perpetrator directed deviance as little research exists on the relationship between workplace cyberbullying and behavioural outcomes.

The means of the blame attribution variables indicate that targets most often attributed responsibility for cyberbullying exposure to the perpetrator (mean = 5.12, SD = 1.73), followed by their organisation (mean = 3.92, SD = 1.98) and then themselves (2.11, SD = 1.38). Interestingly, making a self-attribution was only related to perpetrator directed deviance ($r = .32, p < .01$) and not the other outcome variables. This suggests that targets who self-blamed may have been in conflict with the perpetrator(s) of cyberbullying against them.

Comparatively perpetrator attribution was not significantly associated with any of the outcome variables; while organisation directed blame attribution was detrimentally associated with all three outcome variables.

Table 9.1: Means, standard deviations and correlations of Study 5 variables

	M	SD	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
1. Age	43.39	11.68														
2. Gender	1.64	.48	-.10													
3. Tenure	9.33	8.92	.66**	-.19**												
4. Social Des.	1.62	.24	.09	-.08	.00											
5. Trait NA	2.12	.84	.04	.06	.05	-.22**										
6. Cyberbullying	28.15	8.83	-.10	.10	-.06	.027	.41**									
7. Self-report	1.28	.615	-.01	.15*	-.07	.11	.32**	.57**								
8. Self-attribution	2.11	1.38	-.14*	-.07	-.03	-.10	.06	.18**	-.11							
9. Perp. Attribution	5.12	1.73	.09	.09	.01	.03	.21**	.21**	.23**	-.11						
10. Org. Attribution	3.92	1.98	.11	.13	.03	-.04	.44**	.34**	.23**	.01	.35**					
11. Int. Justice	4.22	1.05	.05	.04	.01	.01	-.49**	-.55**	-.44**	-.01	-.15*	-.32**				
12. Pro. Justice	3.41	1.28	-.07	-.04	.00	.11	-.49**	-.40**	-.34**	.07	-.21**	-.46**	.50**			
13. Emo. Exhaust.	3.96	1.75	.07	.10	.06	-.10	.55**	.32**	.28**	.04	.12	.39**	-.31**	-.39**		
14. Perp. Deviance	1.24	.50	-.06	-.20**	.04	-.27**	.26**	.28**	.04	.32**	.04	.15*	-.16*	-.12	.09	
15. Org. Engage	2.99	.92	-.03	.00	.01	.05	-.43**	-.13	-.14*	.11	-.11	-.26**	.37**	.39**	-.27**	-.05

* = Correlation significant at the 0.05 level (2-tailed). ** = Correlation significant at the 0.01 level (2-tailed). N = 219.

Self-Attribution

Hypothesis 1 stated that self-blame for cyberbullying exposure would mediate the relationship between cyberbullying and emotional exhaustion. Mediation analysis using bootstrapping did not show support for the mediating effect of self-blame between cyberbullying exposure and emotional exhaustion (point estimate (P.E) = -.001, LCI = -.008, UCI = .004) as zero was contained between the confidence intervals (see Table 9.2). Findings regarding the impact of blaming oneself for harassment are mixed as although some studies suggest a detrimental impact (Farley et al., 2015; Hershcovis & Barling, 2010a), other research has found that self-blame is not detrimentally linked to well-being (Bowling & Michel, 2011).

Perpetrator-Attribution

Serial multiple mediation analysis was conducted to test hypothesis 2, which stated that perpetrator blame and interactional injustice perceptions would sequentially mediate the relationship between cyberbullying and perpetrator directed deviance. Serial multiple mediation occurs when the indirect effect from an independent variable to a dependent variable is mediated in sequence through two or more mediating variables. As noted previously, trait negative affect and social desirability were controlled in the model, however gender was also added as a control variable as it was significantly associated with perpetrator directed deviance ($r = -.20$, $p < .01$). Hypothesis 2 was not supported as the indirect effect of cyberbullying on perpetrator directed deviance through perpetrator blame and interactional justice was not significant (P.E = .000, LCI = -.001, UCI = .000).

Organisational-Attribution

Serial multiple mediation analysis was also conducted to test hypotheses 3a and 3b. Two serial multiple mediator models were specified using bootstrapping procedures.

Hypothesis 3a suggested that the indirect effect from cyberbullying to organisation engagement would be mediated sequentially through organisational blame attribution and procedural justice. In support of hypothesis 3a, a significant indirect effect was identified (P.E. = -.005, LCI = -.009, UCI = -.003). This was a full mediation relationship as the direct effect between cyberbullying and organisation engagement was non-significant. Hypothesis 3b stated that the relationship between cyberbullying exposure and emotional exhaustion would be mediated sequentially by organisational blame and procedural justice. Support was found for this hypothesis as a significant indirect effect was identified (P.E. = .006, LCI = .002, UCI = .012). However this was only a partial effect as a significant direct effect was observed between cyberbullying exposure and emotional exhaustion ($r = .28, p < .001$).

Table 9.2: Tests of indirect effects for the paths between cyberbullying exposure and outcomes

IV	Mediator		Outcome	P.E	BCa 95% CI		Significant
	Mediator 1	Mediator 2			Lower	Upper	
Cyberbullying	Self-attribution		Emotional exhaustion	-.001	-.008	.004	No
Cyberbullying	Perpetrator attribution	Interactional justice	Perpetrator directed deviance	.000	-.001	.000	No
Cyberbullying	Organisational attribution	Procedural justice	Organisation engagement	-.005	-.009	-.003	Yes
Cyberbullying	Organisational attribution	Procedural justice	Emotional exhaustion	.006	.002	.012	Yes

It should be noted that mediational paths other than those reported in Table 9.2 were tested. This analysis was conducted to identify whether significant relationships existed which ran counter to the hypothesised relationships. Contrary to expectations, self-blame significantly mediated the relationship between cyberbullying and both (a) organisation engagement and (b) perpetrator directed deviance. However perpetrator blame did not significantly mediate any of the relationships between cyberbullying and outcome variables. In addition, three serial multiple mediation tests were conducted to rule out alternative relationships. The path between cyberbullying exposure and perpetrator directed deviance was not sequentially mediated by organisational blame and procedural justice. Neither were the paths between cyberbullying and (a) organisation engagement, or (b) emotional exhaustion significantly mediated by perpetrator blame and interactional injustice.

9.4 Discussion

Study 5 tested the attributional component of Bowling and Beehr's (2006) model in relation to cyberbullying exposure. The model states that blaming oneself for harassment will lead to ill-health, blaming the perpetrator will lead to interactional injustice which causes negative attitudes and behaviours aimed at the perpetrator; while blaming the organisation leads to procedural injustice which causes decreased performance and engagement.

This study found no effect of self-blame or perpetrator blame, but instead found that organisational blame attribution and procedural injustice sequentially mediated the impact of cyberbullying on (a) organisation engagement and (b) emotional exhaustion. This finding is consistent with past research as organisational blame for abusive supervision has been associated with counterproductive work behaviours directed at the organisation (Bowling and Michel, 2011). Organisational blame was significantly correlated with all three outcome

variables, which suggests that this form of attribution may be the most detrimental for organisational and individual-level outcomes. Bowling and Beehr (2006) state that the organisation is more likely to be seen as responsible for harassment when there are many perpetrators and many victims. It has also been proposed that organisational attributions are more likely when bullying is common in the organisational culture (Samnani et al., 2013). This may explain why organisational blame was more strongly related to outcomes than other attributions, because when bullying is part of an organisational culture it occurs more frequently as backbiting, gossip and mockery become daily habits (Baillien et al., 2009). Furthermore, some organisational cultures actively permit bullying as a way of getting things done (Salin, 2003a). Individuals within these organisations may be more seriously affected as they could have less access to colleague support and may be less likely to experience success in resolving a bullying situation through organisational channels.

Hypothesis 1 was not supported as blaming oneself for cyberbullying exposure did not mediate the relationship between cyberbullying and emotional exhaustion. A potential explanation for this finding is that variables not measured in the study act as mediators between self-blame and ill health. For instance, Farley et al. (2015) found that state negative affect mediated the association between blaming oneself for cyberbullying and mental strain. However an alternative explanation was proposed by Bowling and Michel (2011) who found that the relationship between abusive supervision and ill-health was weaker among individuals who blamed themselves for abuse. The authors suggested that this may have occurred because individuals who perceive themselves as personally responsible for abuse may feel that they have greater control over their situation, such that they can minimise future harassment by changing their own behaviour.

This proposition is consistent with the transactional attributional model of work stress (Perrewe & Zellars, 1999) which states that when people perceive themselves as responsible

for a stressful event, their affective response and subsequent coping strategy is dependent upon whether the event is controllable or uncontrollable. If the event is perceived as controllable the model states that individuals will experience shame which they seek to alleviate by working harder. If the event is uncontrollable, individuals will engage in emotion focussed strategies such as positive thinking, cognitive reappraisal and withdrawal. Therefore study respondents who blamed themselves for being cyberbullied may have felt that their situation could be controlled, which may have limited its impact. The self-attribution results also indicated that self-blame was the least common form of blame attribution, which conforms to the self-serving attributional bias principle. Thus most respondents may have avoided blaming themselves to protect their self-concepts.

An unexpected finding was that self-blame acted as a mediator between cyberbullying exposure and both perpetrator directed deviance and organisation engagement. A potential reason for the former relationship could be that respondents who blamed themselves were in a cycle of conflict with the perpetrator. For example, they may have enacted a deviant behaviour against the perpetrator, and in return been abused by them. In this circumstance, an employee may self-blame because they were the perpetrator of the initial act, consequently they may have felt that cyberbullying experienced in retribution was deserved. However further research is needed as these relationships were unexpected.

Hypothesis 2 was not supported as perpetrator attributions and interactional justice did not sequentially mediate the relationship between cyberbullying exposure and perpetrator directed deviance. This finding is also consistent with Bowling and Michel's (2011) study on abusive supervision, as they found that supervisor blame attributions did not interact with abusive supervision to predict subordinate behaviours aimed at harming the supervisor.

Nonetheless, perpetrator blame was the most common attributional category selected by the study sample. Research conducted by Cramton (2001) can explain this finding, as her work suggests that virtual communication partners are more likely to make personal attributions for virtual communication problems than situational attributions. Personal attributions link the cause of communication problems to another individual's personality, whereas situational attributions associate the cause with the work environment. This effect occurs because when communication partners occupy separate locations they lack sufficient environmental information about each other to make situational attributions. For instance, when individuals are unaware of their communication partner's work responsibilities and time allocations they may be more inclined to make a personal attribution due to limited knowledge of their partner's constraints (Cramton et al., 2007).

Cramton (2001) draws on the work of Blakar (1984) to suggest that there are two potential outcomes of making personal blame attributions. Firstly, it distracts people from clearly analysing the communication issue and modifying how they interact. Secondly, it damages interpersonal relationships. This has further implications as making personal attributions rather than situational attributions has been shown to detrimentally affect social cohesion and team satisfaction (Cramton et al., 2007). In the current study, perpetrator blame attribution was not significantly associated with any of the outcomes variables. However, Cramton's research suggests that this is not because personal attributions are not harmful, but instead because other outcome variables (for example, team cohesion, team satisfaction) may be detrimentally affected by personal attributions.

One interesting aspect of the study concerned the significant relationship between gender and perpetrator directed deviance. Females reported engaging in significantly less perpetrator directed deviance than males, which is consistent with arguments suggesting that women are less aggressive than men (Zapf et al., 2003). It is also consistent with past

research suggesting that women engage in more passive coping strategies compared to men who adopt more active coping strategies (Brotheridge & Lee, 2010). The study found that women self-labelled as workplace cyberbullying victims significantly more than men, which aligns with previous research demonstrating that women are more likely to label their experiences as bullying than men (Salin, 2003b). Research conducted in the youth context suggests that girls may be more inclined to enact cyber aggression than boys because it is a more indirect form of conflict. Although current findings are inconsistent, as Kowalski and Limber (2007) found that girls enacted cyberbullying with greater frequency than boys, Williams and Guerra (2007) found no gender differences and Wang, Iannotti and Nansel (2009) found that boys were more likely to be cyberbullies, while girls were more likely to be cyber victims. However research from the youth context does not necessarily translate to the working context, which was the focus of this investigation.

Future directions

Although there was no significant relationship between perpetrator blame and the outcome variables, Cramton's work on personal attributions suggests that this is a detrimental attributional style. As such, future research could explore the impact of perpetrator attributions on team-level outcomes, such as team-oriented behaviours or trust. Future research might also consider using experimental research designs as studies have demonstrated that a complex assortment of variables are involved when attempting to understand the link between workplace harassment and retaliation. Hershcovis et al. (2012) found that targets were more likely to retaliate when they were not dependent on the perpetrator to complete work tasks. Forgiveness is another option available to those who perceive personal offense, as this has been used by employees to restore a sense of justice (Bies & Tripp, 1996). In this respect, it has been suggested that people should give others the benefit of the doubt when problems and confusion arise via online communication, rather

than making negative attributions about their motives or intent (Berry, 2011). This is because it can be harder to correctly interpret and attribute the meaning of technology-mediated messages (Byron & Baldrige, 2005). Experimental methods have been used to manipulate conditions that affect responses to cyber incivility (Giumetti et al., 2013). This method may be more suited to exploring cyberbullying and blame attribution as variables including reciprocity beliefs, benefit of the doubt, perpetrator status and task dependency can be controlled more easily.

Strengths and limitations

Study 5 makes several contributions. The study was conducted to examine the impact of cyberbullying using an established theoretical model. Therefore a significant strength of the study was the use of theory to explore the impact of cyberbullying as it has been noted that cyberbullying studies have largely been conducted without theoretical underpinnings (Rivers, Chesney & Coyne, 2011). It has been proposed that future research should be guided by theory to organise the variables already tested and to provoke new hypotheses and empirical research (Runions, Shapka, Dooley & Modecki, 2013). The study utilised the attributional model of workplace harassment to explore the impact of workplace cyberbullying. This research builds on previous research that used the model by testing the justice components and by examining the role of organisation directed blame attributions for cyberbullying exposure. Interestingly the findings mirror those reported by Bowling and Michel (2011) in relation to attributions for abusive supervision, as support was found for the organisational attribution proposition, but not for the self or perpetrator attribution propositions.

The study also made a methodological contribution. Spector (2014) states that after a scale has been developed, it should be used to test hypotheses so that further validation

evidence can be obtained. This study therefore builds on the first four thesis studies by using the WCM to test relationships with outcome variables which had not been investigated in existing cyberbullying research. It could be argued that the non-significant findings in relation to hypotheses 1 and 2 raise questions about the validity of the measure. However, cyberbullying exposure was significantly associated with emotional exhaustion, perpetrator directed deviance and both forms of injustice, which provides firm support for the construct validity of the measure. Furthermore, the results mirror Bowling and Michel's (2011) findings, which suggests those hypothesised relationships do not exist. In addition to the WCM scale relationships with outcomes, self-labelling as a cyberbullying victim was significantly associated with emotional exhaustion and lower organisational engagement. These findings add to the current evidence base on workplace cyberbullying as the available research has now demonstrated that it is associated with ill health, detrimental behaviours and negative attitudes. Given the increasing prevalence of virtual work and the trend towards teleworking this finding suggests that cyberbullying is a harmful workplace stressor for individuals who primarily communicate through ICTs.

It is important to note that the study investigated cyberbullying exposure, which refers to the extent that individuals are subjected to cyberbullying acts. Cyberbullying exposure differs from cyberbullying victimisation because it does not consider whether a power imbalance exists between the perpetrator and victim, or whether respondents self-label as victims. It should be acknowledged that different results may have been obtained if the blame attributions of individuals who self-labelled as cyberbullying victims were examined in isolation. In most studies it would be possible to compare the findings obtained when the self-labelling item and cyberbullying exposure are separately assessed. However the focus of this investigation only concerned individuals who had been exposed to cyberbullying, rather than the general working population. Therefore it was not possible to conduct analysis on the self-

labelling item because there was insufficient statistical power to analyse the minority who self-labelled as cyberbullying victims.

A notable limitation is the cross-sectional nature of the research which prevents inferences regarding the causality of the effects. A longitudinal design would have been desirable as this facilitates investigation of causal relationships between variables. In light of this, a further data collection stage is planned to follow up on the first stage of data collection described here. Due to time constraints involved in Ph.D research it is only possible to present the first stage of the data collection. However even these cross-sectional results are valuable, because they demonstrate that an association exists between cyberbullying, ill health and detrimental behaviours.

A further limitation is that the research did not consider who perpetrated the cyberbullying acts that respondents experienced. This would have been beneficial because the status of the perpetrator represents an important dynamic that may have affected how cyberbullying impacted on outcome variables. For instance, one would not expect cyberbullying perpetrated by an organisational outsider to impact on organisation engagement. However, due to the nature of the measurement method, it was not possible to pinpoint the perpetrator of each cyberbullying behaviour as this would have involved including 17 separate items on who perpetrated each cyberbullying act. Furthermore, given that the sample worked across different sectors, the only way to assess who perpetrated each act would have been with open-ended questions. Therefore without an understanding of respondent's organisational structures it would have been difficult to interpret and code each response. Nonetheless, it would have been useful to know whether cyberbullying was mainly perpetrated by another organisational member or by an organisational outsider.

The study also utilised a self-report methodology to assess both cyberbullying exposure and impact. Self-report methods may be the most comprehensive way to assess cyberbullying, because it often takes place via private communication devices that are not observable to anyone except the target. Similarly, it has been noted that it is difficult to obtain accurate information on internal states (such as attitudes and emotions) without using self-report methods (Spector, 2006). Yet as the data was collected using a single method, the possibility of common method variance (CMV) cannot be ignored. However there are a number of reasons to suspect that the relationships between variables have not been unduly affected by CMV. Firstly, the correlation table provides some evidence that the use of a self-report measure did not inflate the relationships between variables as several non-significant relationships were reported. Secondly, as argued by Einarsen et al. (2009) in relation to the NAQ, the WCM was designed to reduce the cognitive processing required from respondents as it contains clearly specified behaviour written using comprehensible language, therefore the influence of dispositional factors is reduced. Finally, the relationships between the WCM and the other study measures varied markedly. For instance cyberbullying exposure displayed a non-significant relationship with organisation engagement, whereas a moderately strong correlation was observed with interactional justice. This suggests that CMV did not inflate relationships between the study variables.

Practical Applications

The study found that organisational blame was significantly associated with all three outcomes, which suggests that it is a particularly detrimental form of blame attribution. However, arguably it is also the type of attribution that can be prevented most easily. Organisations should seek to implement clear policies regarding workplace cyberbullying. These policies should be developed separately from offline bullying policies as the unique features of cyberbullying mean that employees can be targeted outside of working hours on

non-work media (for example, social networking websites) in an anonymous manner. As well as targeting overt acts, cyberbullying policies should cover subtle cyberbullying behaviours, such as workload requests and excessive monitoring. In this respect, organisations should seek to clarify ambiguous work-related acts because specifying what constitutes legitimate work criticism and legitimate work demands could have a significant impact on employee health and engagement. Samnani et al. (2013) have also suggested that managers should provide attributional training to enable employees to identify bullying when it occurs and to help them recognise when they are being taken advantage of. Such training should focus on creating a respectful, collaborative work environment, because if most communication between organisational members is polite, cyberbullying behaviours will appear more salient to targets. Receiving mostly respectful technology-mediated communication from colleagues also reduces the likelihood of detrimental organisational attributions.

Summary

This chapter presented a study on the impact workplace cyberbullying. Data from Study 4 was used to examine the impact of blame attributions for cyberbullying exposure on outcomes variables. The findings demonstrated that organisational blame and procedural justice mediated the relationship between cyberbullying exposure and both emotional exhaustion and organisation engagement. However no support was found for the self-attribution or perpetrator attribution hypotheses. It was suggested that future research on the impact of blame attributions should be conducted with experimental methods. Organisations should also be encouraged to develop policies that consider some of the more ambiguous cyberbullying behaviours, including workload requests and work criticism.

Chapter 10 – General Discussion

This chapter forms the final part of the thesis. The first section of this thesis conceptualised workplace cyberbullying, viewing it as ‘a situation where over time, an individual is repeatedly subjected to perceived negative acts conducted through technology (e.g. phone, email, web sites, social media) which are related to their work context. In this situation the target of workplace cyberbullying has difficulty defending him or herself against these actions’. The criteria of repetition and power imbalance prevalent in offline bullying definitions was used to operationalise cyberbullying and a rationale was presented for treating it as a separate form of bullying worthy of independent investigation. The broad aim of this section of the thesis was to develop a behavioural workplace cyberbullying measurement tool. This aim was addressed with four separate studies that were guided by Hinkin’s (1998) measure development methodology.

The second part of this thesis used the measurement tool that was developed during the first four studies to investigate the impact of cyberbullying from an attributional perspective. This study was conducted to address a limitation of the extant cyberbullying research by utilising a theoretical model to assess the impact of cyberbullying on employees. The study focussed on the second broad research question outlined at the start of the thesis by examining how attributions of blame affected the relationship between cyberbullying and three outcome variables.

This final chapter brings together the measure development study (which comprises studies 1, 2, 3 and 4) and the theoretical study (Study 5) to make some conclusions about the nature and impact of cyberbullying in the context of work. The main findings across both sections of the thesis are summarised to provide a discussion on the current state of knowledge on workplace cyberbullying in organisational life. The wider theoretical and

practical implications are also discussed along with limitations of the research. The thesis ends with suggestions for future research and some concluding remarks.

10.1 Measure Development Main Findings

Study 1

The first study described in this thesis (Study 1, Chapter 5) involved identifying the behaviours that employees perceived to be workplace cyberbullying acts in order to generate measurement items. To conduct this investigation an online survey was distributed to a diverse sample of working individuals who described up to three behaviours that they felt reflected a workplace cyberbullying definition. Several behavioural descriptions were also identified deductively by searching the research literature. A total of 108 behavioural descriptions were produced using these methods which were sorted into categories using content analysis, the descriptions were subsequently written up as measurement items.

Analysis of the categories indicated that cyberbullying was reflected by a diverse array of behaviours. Many of these acts were cyber versions of workplace bullying behaviours that had previously been identified in the offline bullying literature, such as ostracism (Zapf, 1999) and work criticism (Einarsen et al., 2009). However the study also identified several behaviours that were unique to the online context, including ‘being sent conflicting information’ and ‘having access to computer files blocked by a colleague’. Prior to this study there had not been attempts to identify the behavioural content of workplace cyberbullying. The identification of these behaviours therefore contributes to the present understanding of the construct. The cyberbullying items were subjected to a face validity

assessment which reduced the number of items to 34. They were compiled into a measure along with a global self-report definition item which assessed self-labelled victimisation.

Study 2

The second study outlined in this thesis (Study 2, Chapter 6) involved obtaining mean severity ratings for each measurement item from SMEs and human resources professionals so that the measure could be weighted for severity during Study 4. This study was conducted to address a criticism of workplace harassment measures, which treat each item as equally severe when items are aggregated to obtain an overall score that is indicative of a construct (Hershcovis & Reich, 2013). If certain items are perceived as being more severe, then a change in the frequency of bullying may not reflect a change in the overall level of victimisation (Escartin et al., 2009). Severity weights were obtained using an online survey which asked respondents to rate how severely they perceived each item on a Likert scale.

At the most severe end of the spectrum were cyberbullying behaviours involving threats, abuse and picture/video messages, the least severely rated behaviours involved being sent conflicting information and receiving messages that have a disrespectful tone. During Study 4 the severity weights obtained in Study 2 were applied to the cyberbullying measure. The correlations between the severity measure and other variables were compared against the correlations of an unweighted measure with other variables. Findings indicated that the correlations of the two versions of the measure were either identical or almost identical to one another. It was suggested that this was because the sensitivity of the severity measure was diluted by the high percentage of respondents within the sample that had experienced little or no cyberbullying.

Study 3

The third study of this thesis (Study 3, Chapter 7) was conducted to identify the underlying structure of the cyberbullying measure and to refine it using procedures outlined by Hinkin (1998). These processes were conducted on data collected from a large sample of participants who completed the 34 item measure. Exploratory factor analysis conducted on one half of the sample indicated the presence of a two factor structure, which represented work-related cyberbullying and person-related cyberbullying. Work-related cyberbullying refers to bullying behaviours conducted through technology which relate to an individual's work and working experience. Examples include having ones work unfairly criticised and having another organisational member copy people into messages that reflect negatively on you. Comparatively, person-related cyberbullying is bullying conducted through technology in the context of work which relates to an individual's personal characteristics. It includes threats, exclusion, gossip and unfair personal criticism.

This factor structure was supported theoretically by previous research on offline workplace bullying (Einarsen et al., 2009; Rayner & Hoel, 1997) and previous empirical research on workplace cyberbullying (Coyne et al., in press). The factor structure was verified using CFA conducted on the other half of the sample. Fit indices for a one-factor structure were also calculated because research has shown that cyberbullying is often best represented by a unidimensional factor structure (Topcu & Erdur-Baker, 2010). The fit indices of the one-factor measure were within the acceptable limits however they were inferior to the two-factor model. Nonetheless results from AVE analysis indicated that the factors did not discriminate well. Reliability analysis confirmed that the internal consistency of the measure was excellent and during this study the measure was refined to a 17 item tool.

Study 4

The final study within the measure development section of the thesis (Study 4, Chapter 8) was conducted to obtain further evidence of the reliability and validity of the workplace cyberbullying measure (WCM). This investigation was based on data collected from a separate sample of employees, who completed the refined 17 item WCM and related construct measures. This study built the scale's nomological network. The WCM was highly correlated with related harassment measures and moderately correlated with outcome variables, while it displayed weaker correlations with more distal variables (ICT hassles and ICT learning expectations). This pattern of correlations confirmed the external convergent and discriminant validity of the workplace cyberbullying measure.

One important finding from Study 4 was that the WCM explained significant incremental variance in emotional exhaustion over and above offline workplace bullying and cyberaggression. It was argued that this may have occurred because cyberbullying can cross the boundary between work and home, such that it can affect employees during their personal time. This may prevent psychological detachment and recovery from work, which has been linked to emotional exhaustion (Sonnentag et al., 2010). This finding is important because it demonstrates that examining workplace cyberbullying as a separate form of bullying has predictive value. However, the overall WCM did not explain significant variance in interactional justice when offline bullying and cyberaggression were included in the model. When the factors of the WCM were entered separately, work-related cyberbullying was a significant predictor of both outcomes, although person-related cyberbullying was not a significant predictor of either outcome.

CFA demonstrated that offline workplace bullying, cyberaggression and workplace cyberbullying were distinguishable as separate constructs. Furthermore, the two-factor structure identified during Study 3 was verified on a separate sample during Study 4. In spite of this, it was argued that it may be better to investigate workplace cyberbullying as a

unidimensional construct. This was because the factors did not discriminate well and also because the factors are likely to have similar antecedents and outcomes.

10.2 WCM Measure Development: The Wider Contribution

The outcome of the measure development studies was a 17 item scale that, combined with a self-report item, can assess respondent's exposure to workplace cyberbullying over the previous six months. The aims specified prior to undertaking measure development were to produce a scale that (1) is applicable to employees from different industries and working sectors (2) is capable of capturing behaviours experienced through the full spectrum of communication technologies, and (3) takes the perspective of cyberbullying targets. In fulfilling these aims, a measure has been created that is more applicable in some situations than others. The chief advantage of a broad measure is that it can be distributed across working populations which allows for comparisons and the attainment of prevalence rates in different industries. However, it cannot capture behaviours that are specific to a particular working sample. A similar argument is applicable to the aim of creating a measure that captures behaviours enacted through the full range of media. This ensures that a greater number of negative behaviours experienced through technology are measured, but the WCM cannot discriminate between different media. Therefore it would not be a suitable scale for research that examines differences in cyberbullying experiences through different technologies. Nonetheless, the development of the WCM makes several contributions to workplace cyberbullying research.

A central theoretical contribution is that prior to developing the WCM, the composition of workplace cyberbullying was addressed. During Chapter 2 workplace cyberbullying was operationalised by drawing on the existing workplace bullying and

cyberbullying literature. The outcome of this process was a definition that acted as a foundation for measure development. Taking a step back to develop this definition was important because before empirical research can investigate a construct, it should be theoretically substantiated and conceptualised (Weatherbee, 2007). As noted in Chapter 2, this is especially important within the field of workplace harassment because Hershcovis (2011) has argued that the development of multiple harassment constructs may not be adding any value to the field. Furthermore, if a construct's measurement method does not capture how it is conceptually distinct, knowledge of its distinct antecedents and outcomes cannot be obtained (Hershcovis, 2011). The measure was developed to be consistent with how workplace cyberbullying has been defined. The items assess repeated exposure to negative work-related acts experienced through technology and the global self-report item placed after the behavioural items ascertains whether targets self-label as cyberbullying victims. This facet also captures whether targets have difficulty defending themselves, which arises from an imbalance of power between perpetrator(s) and target. The criteria specified in the definition are therefore assessed by the measurement instrument.

Notably, the measure fulfils the need for a cyberbullying scale that is relevant to the context of work. Researchers can now utilise the WCM rather than adapting offline bullying measures to the cyber context or using measures that were developed to assess other cyber harassment constructs. This is a particularly valuable aspect of the tool as management scholars have noted how employees are increasingly using ICTs to communicate (Johns & Gratton, 2013). Knowledge workers are one group known for their ubiquitous use of ICTs, these employees are unlikely to experience many offline bullying behaviours especially if they adopt virtual work habits, such as home-working or mobile working. With large numbers of employees communicating primarily via ICTs, cyberbullying may become the

most prevalent form of workplace bullying. Therefore dedicated measures, such as the WCM are needed to measure it.

Arguably, the WCM is more resilient to technological developments than existing scales because the items do not reference specific media that could become outdated in future years. Indeed, a key advantage of the measure concerns the fact that the pre-item instructions can be adapted when the mentioned media become outdated and when new forms of technology-mediated communication emerge. The WCM facilitates future research by enabling investigation of workplace cyberbullying with a valid, reliable tool (Tokunaga, 2010). In this respect, the measure fills a gap by answering calls for the development of valid and reliable cyberbullying research instruments (Menesini & Nocentini, 2009; Newey & Magson, 2010; Tokunaga, 2010). As noted in Chapter 3, the measure provides researchers with a homogenous method of assessing workplace cyberbullying, which is advantageous because it can allow for comparisons across studies and samples. Prior to the development of the NAQ, there was no standardised method of measuring offline bullying, which meant that researchers did not know whether the same phenomenon had been assessed across different studies. Therefore use of the WCM in future studies will allow for cyberbullying comparisons across different work settings.

During Study 1, behavioural categories that reflect workplace cyberbullying were developed using content analysis. This was conducted in the interests of measure development as the categories were not intended as theoretical categories reflecting all types of workplace cyberbullying behaviour. Nonetheless, the development of these categories contributes to knowledge on the nature of workplace cyberbullying within modern organisations. For instance, unique cyberbullying behaviours were identified such as ‘having another organisational member copy people into messages that reflect negatively on you’ and ‘being sent conflicting information’. This information contributes to our understanding of

how technology is used to perpetrate bullying in organisations, while Keashly (1998) notes that identifying different types of behaviours is important for the theoretical development of a construct. Furthermore, an existing debate in the youth context concerns whether cyberbullying involves cyber manifestations of regular bullying or whether novel behaviours are involved. Findings from Study 1 indicate that workplace cyberbullying involves cyber versions of previously identified offline bullying behaviours, as well as behaviours that are unique to the online context.

A cogent methodological contribution concerns the finding that item severity weights did not make a significant difference to the correlations between cyberbullying and other constructs. Harassment measures have been criticised for treating items as equally severe, which may be problematic because if certain items are perceived as being more severe, a change in bullying frequency may not reflect a change in the overall victimisation level (Escartin et al., 2009). To account for this, severity ratings were obtained which were used to weight the items, yet the results obtained with a severity rated scale were almost identical to those obtained with an unweighted scale. Given that workplace harassment is a phenomenon that affects a minority of working individuals (Hershcovis & Barling, 2010b) this finding suggests that there may be little value in using severity weighted scales when sampling the general population.

10.3 Practical Applications

The measure has clear applied value. The scale provides organisations with a list of indicators that employees find unacceptable which can aid the establishment of policies and avoid confusion regarding normal practise. Given the proportion of employees who work virtually and the widespread introduction of telework (Anderson, Kaplan & Vega, 2015)

organisations need to provide employees with a degree of guidance on appropriate CMC communication. Companies and governmental agencies are implementing telework policies to take advantage of this cost-effective working method, such policies would benefit from information on the type of CMC that may be perceived as cyberbullying.

In a recent study that detailed an update to their workplace bullying checklist (WB-C), Fox and Cowan (2015) state that human resources professionals (HRPs) can use the information at their disposal to create organisational training on what constitutes bullying. A similar argument can be made for the WCM, which may be particularly valuable as HRPs are struggling to deal with this new form of bullying (West et al., 2014). West et al. (2014) interviewed HRPs on their experiences of workplace cyberbullying. One respondent stated that it was currently difficult to develop policies for cyberbullying because it is not well defined. Therefore the definition developed during this thesis has clear applied value as practitioners can use it to develop policies and guidelines. In the same manner, the indicators of workplace cyberbullying can be used to educate employees on the nature of workplace cyberbullying and the implications involved for those who enact it.

The WCM can also play a role in risk assessment. It has been suggested that generalisable measures that are relevant to diverse groups of employees can identify high risk and low risk groups (Einarsen et al., 2009). Hoel and Giga (2006) developed a bullying risk assessment tool (BRAT) which is a five-factor measure comprised of organisational fairness, team conflict, role conflict, workload and leadership. The BRAT was originally developed to assess risk-factors associated with workplace bullying. However it could be applied alongside the WCM to identify work teams where the risk of cyberbullying is high, as each of the five factors independently predicted negative behaviour. In the same manner, work teams that report low levels of cyberbullying could also be analysed to understand whether their computer-mediated-communication norms could be used as a benchmark. The intervention

study conducted by Hoel and Giga (2006) utilised the NAQ at two time points to determine whether there had been a change in negative behaviour post-intervention. Future intervention studies on negative workplace behaviour can utilise the WCM to determine the effectiveness of management interventions for workplace cyberbullying.

Psychometric analysis of the WCM confirms that the measure has sufficient validity and reliability to accurately assess the phenomenon. This is practically advantageous because the WCM can be used to obtain precise estimates of cyberbullying prevalence across different working populations. As noted in Chapter 3, this is important at the organisational and societal level because Nielsen et al. (2010) state that governments and organisations depend on correct estimates of workplace bullying to budget time and resources towards addressing the problem. This practical advantage is also important methodologically because researchers depend on accurate measures to prevent Type 1 and Type 2 research errors (Nielsen et al., 2010). Moreover, practitioners can use the measure to assess which behaviours are most prevalent in their organisation. This information can feed into the development of tailored, cost-effective ways to reduce that behaviour and its impact. For instance, if the scale reveals that most employees within a company are consistently experiencing unfair work criticism, the organisation can target that behaviour by examining the manner in which feedback is given to employees.

The WCM may also be relevant to legal practitioners as legislation is being developed to address workplace cyberbullying (The Australian, 2014). Defining workplace cyberbullying and outlining the nature of the acts involved gives legislators a clearer idea of the phenomenon, which may enable them to develop more effective solutions. Furthermore, the identification of behaviours that reflect the phenomenon can be useful during disciplinary hearings and during legal responses to workplace bullying cases (Lengnick-Hall, 1995; Rodriguez-Carballeira et al., 2010). However, as noted by Fox and Cowan (2015) the use of

behavioural checklist surveys, such as the WCM, should be complimented by qualitative investigations to draw out the complex and diverse features of different cyberbullying cases. Indeed, only by using the WCM in tandem with other methods can a deeper understanding of workplace cyberbullying be achieved. In summary, it is hoped that the WCM will be a useful tool that can further empirical study and practical assessment of this unique form of work related harassment.

10.4 Study 5: Main Findings

The final investigation outlined in this thesis (Study 5, Chapter 9) examined the attributions of blame that individuals made for cyberbullying, and how this was linked to cyberbullying outcomes. This investigation was conducted on the same data that was collected during Study 4. Previous research has addressed how blame attributions for harassment are linked to negative outcomes. Bowling and Michel (2011) found that individuals who blamed themselves for acts of abusive supervision had higher relative well-being than individuals who made external attributions. They also found that supervisor directed attributions did not interact with abusive supervision to predict subordinate behaviours aimed at harming the supervisor. However organisationally directed attributions interacted with abusive supervision to predict counterproductive work behaviours directed at the organisation. In relation to workplace cyberbullying, Farley et al. (2015) found that state negative affect mediated the relationship between blaming oneself for cyberbullying exposure and mental strain. Comparatively, interactional justice mediated the relationship between perpetrator directed blame and lower job satisfaction.

The same pattern of findings identified by Bowling and Michel (2011) was observed in Study 5 as organisational blame was linked to negative outcomes, but self and perpetrator

attributions for cyberbullying did not follow the predictions made by Bowling and Beehr (2006). Blaming oneself for being exposed to cyberbullying did not mediate the relationship between cyberbullying and emotional exhaustion. This finding may have occurred because individuals who perceived themselves as being responsible for cyberbullying may have felt that they had sufficient control over their situation such that they could minimise future exposure. In addition, perpetrator directed blame attributions and interactional justice did not sequentially mediate the relationship between cyberbullying exposure and perpetrator directed deviance. Furthermore, perpetrator directed blame was not significantly associated with any of the outcomes variables, although this was the most common attribution.

The most detrimental form of attribution in relation to the outcomes measured was organisationally directed blame attributions, which was linked to reduced organisation engagement, perpetrator directed deviance and emotional exhaustion. Significantly, organisational blame and procedural injustice sequentially mediated the impact of cyberbullying on both organisation engagement and emotional exhaustion. Researchers suggest that organisationally directed attributions are most likely when bullying is highly prevalent in the organisational culture (Bowling & Beehr, 2006; Samnani et al., 2013).

10.5 Study 5: The Wider Contribution

Study 5 makes a theoretical contribution by using an established framework to examine the impact of workplace cyberbullying. An existing criticism of cyberbullying research is that it has been conducted without sufficient consideration of theoretical frameworks that can be used to explore the phenomenon (Rivers, Chesney & Coyne, 2011). Study 5 examined the role that different attributions play in the cyberbullying process by testing propositions from the attributional model of workplace harassment (Bowling & Beehr,

2006). The findings provide empirical support for the organisational aspect of the theory, while the findings mirror those reported by Bowling and Michel (2011) in relation to abusive supervision. This extends academic knowledge by suggesting that different attributions of blame for cyberbullying have a contrasting impact on different outcomes. Furthermore, the findings extend the theory to a new context which is important given that virtual working has become more prevalent in recent years.

The study found that self-blame was the least common form of attribution which is consistent with research on the self-serving attributional bias, as people tend to avoid blaming themselves for negative outcomes. The most common attribution was blaming the perpetrator, which was not linked to any of the study outcomes. Previous research suggests that even though blaming the perpetrator was not significantly associated with outcomes in this study, it is not conducive to organisational functioning (Cramton, 2001). Cramton et al. (2007) found that distributed virtual teams were significantly more likely to make personal attributions about negative partner behaviour than situational attributions. This was subsequently found to impact on relational outcomes, including team satisfaction and cohesion. Therefore blaming the perpetrator for workplace cyberbullying may be more strongly related to team-level outcomes.

The findings from Study 5 are important because they suggest that organisationally directed attributions are detrimental to organisational and wellbeing outcomes. Researchers suggest that organisational blame is most apparent when harassment is highly prevalent in the organisational environment (Samnani et al., 2013). The prevalence of bullying within an organisational culture may also explain why organisational blame exerts such a strong effect, because employees may be exposed to it on a daily basis. In order to address this problem, companies should adopt organisational-level interventions. Giga, Cooper and Faragher (2003) state that organisational-level interventions aim to prevent employee stress on an

organisation-wide basis. Examples include policies, selection and placement, training and education programmes, physical and environmental characteristics, communication and job redesign (Giga et al., 2003). Policies and training may be two of the more effective organisational-level interventions that could be used to address this particular problem.

West et al. (2014) interviewed HRP's who reported mixed accounts of cyberbullying policies within their organisations. All nine interviewees reported that their organisation had some form of workplace harassment policy; however respondents noted that even when their organisation's policy covered cyberbullying, training was needed to heighten awareness of the policy. It has been suggested that many bullying behaviours conducted in organisations tend to be subtle in nature (Samnani et al., 2013). This may be especially the case when cyberbullying occurs, because many forms of cyber communication leave a digital footprint which could implicate perpetrators of more severe behaviours. For this reason it is important that cyberbullying policies cover subtle behaviours, including workload requests and excessive monitoring.

Hoel and Giga (2006) examined several management interventions for workplace bullying, including policy communication, stress management training and negative behaviour awareness training. The study did not find strong evidence for the efficacy of any particular interventions, although it was tentatively concluded that training had at least some effect. The authors suggested that it was particularly important to ensure that the right people (for example, line managers) receive training. Moreover, the negative behaviour awareness training implemented during the study involved information on a bullying definition, different categories of bullying behaviour and evidence from previous studies on the impact of bullying. This suggests that the definition of workplace cyberbullying, the behaviours unearthed in this thesis and the empirical evidence obtained on the impact of cyberbullying can have a practical impact during workplace cyberbullying training.

Finally, during Study 5 further evidence of the WCM's validity was obtained, as the measure was used to test hypotheses on the impact of workplace cyberbullying. This confirms that the WCM can be used to obtain a true reflection of workplace cyberbullying within theoretical models. The findings also add to the nomological network evidence obtained during Study 4, as cyberbullying was significantly associated with other theoretically related constructs, including perpetrator directed deviance and procedural justice. In this respect, the findings contribute to the growing evidence base that links workplace cyberbullying with detrimental outcomes. Indeed, better quality evidence on the relationship between cyberbullying and outcomes was obtained during Study 5 because cyberbullying was measured using a scale that was specifically designed to assess the construct.

10.6 Thesis Limitations

The limitations of each study have been discussed in their relative chapters. As a result the individual limitations of each study will not be discussed in detail here. Instead the focus will be on limitations of the overall thesis. One consistent limitation throughout the studies was a reliance on self-report data. This may have caused respondents to either under report or over report their exposure to workplace cyberbullying behaviours. Critics of the self-report methodology state that participants may respond in a socially desirable manner rather than in the way that best reflects their experiences and opinions. Therefore some individuals may have underreported their exposure to cyberbullying as acknowledgement of victimisation could prompt feelings of vulnerability. For instance, van Beest and Williams (2006) argue that perceiving oneself as a victim can threaten self-esteem by implying weakness and an inability to cope. However attempts were made to reduce this risk as the

anonymous treatment of study results was outlined and participants were clearly advised that they could withdraw from the research at any time (Conway & Lance, 2010). It is also difficult to obtain objective data on a construct such as cyberbullying without using self-report methods, as it often takes place via private communications that are not observable to impartial third parties. Nonetheless, future research should consider using multiple data collection methods to gain richer information on the phenomenon.

A related limitation concerns the personal nature of experiencing cyberbullying. It has been noted that traditional bullying researchers have tended to measure people's subjective perceptions of behaviours such as verbal abuse, gossip and exclusion. This approach has been criticised as subjective perceptions may be influenced by personality factors (Nielsen et al, 2010). This criticism is particularly relevant to the cyberbullying field because computer-mediated communication is more ambiguous than face-to-face communication, consequently perceptions may be more strongly influenced by individual characteristics. Indeed, it has been suggested that CMC heightens the likelihood of perceiving negative communication in the absence of ill-intent (Byron, 2008; Friedman & Currall, 2003). One potential outcome of this is that the prevalence rates of cyberbullying may be inflated to a greater extent than traditional bullying prevalence rates, which makes comparison challenging. This highlights the importance of using several estimation methods when assessing the prevalence of different types of bullying, as well as using representative sampling methodologies.

A potential limitation of the measure development studies was that, although the WCM captures the definitional features of repetition, power imbalance and negative acts channelled through technology, it does not assess all the unique features associated with cyberbullying (for example, anonymity, increased visibility). For instance, the measure cannot determine whether any of the items have been enacted by an anonymous perpetrator or whether they have been seen by a large audience. Aspects such as anonymity and visibility

of cyber behaviours have been shown to affect the impact of cyberbullying (Ford, 2013). Nevertheless, the WCM may still be useful when investigating how specific features of cyberbullying affect employees. For example, Ford (2013) investigated the unique aspects of virtual harassment by using a general cyberaggression measure, combined with separate measures that assessed anonymity, location and media richness.

A further limitation concerns the representativeness of the samples used to develop the measure. Large sample sizes are required during measure development studies. As such, responses were gathered from multiple sources in a manner that restricted the calculation of response rates. This may have resulted in a sample that is not representative of all workplaces and it is also possible that respondents may have decided to respond to the online survey because they felt they had been cyberbullied. However, steps were taken to avoid this possibility because the word cyberbullying was not included in the pre-study information for the majority of data collection streams. Instead, terms such as online harassment were used to describe the research. In addition, the prevalence rates obtained during the study are similar to those obtained during previous workplace cyberbullying studies (Coyne et al., in press; Pritivera & Campbell, 2009). Using online surveys also ensured that the data was collected from a sample that had some familiarity with technology, which was aligned with the nature of the construct under investigation.

A final limitation is the cross-sectional nature of the studies conducted throughout this thesis which prevents firm conclusions on causal relationships between variables. This was less problematic for the measure development studies because it was possible to build the WCM's nomological network by showing that it had significant relationships with theoretically related variables (Ferris et al., 2008). In relation to Study 5, a second wave of data collection is planned that will facilitate firmer conclusions regarding the relationships between study variables.

10.7 Future Research Directions

The focus of this thesis has been the development of a workplace cyberbullying measure and an investigation of its impact. Information on the prevalence of workplace cyberbullying has been obtained, however due to the nature of the measurement method the representativeness of the study samples cannot be guaranteed. As such, an essential direction for future research is the precise estimation of workplace cyberbullying prevalence in UK work settings. The importance of obtaining precise prevalence estimates has been touched on throughout this chapter. This can augment our understanding because the level of cyberbullying in the UK can be compared to the level of offline bullying, and also with cyberbullying prevalence levels in other countries. Nielsen et al. (2009) conducted a wide scale study on the prevalence of workplace bullying in Norway using three different estimation methods: self-labelling, the operational definition method and latent class cluster modelling. The latter method has not been used in this thesis, however researchers suggest that latent cluster modelling can identify victims according to the nature and frequency of their experiences (Notelaers et al., 2006). This method can also address criticisms associated with other estimation methods, including poor overlap between targets who self-label and those who are classified as victims according to an operational definition. Latent class modelling statistically classifies respondents of multiple-item surveys into mutually exclusive groups according to a latent trait. It therefore allows for the identification of different target groups, for instance Nielsen et al. (2009) identified six latent clusters of workplace bullying respondents (for example, not bullied, some negative encounters, occasionally bullied). Future research should consider using this method in relation to cyberbullying on a representative sample of UK employees.

A second avenue for future research is cross-cultural validation of the WCM. The advantage of a standardised measurement tool is that findings relating to a specific construct can be compared with greater accuracy. The NAQ has been validated across different cultures (Vukelić, Čizmić, Petrović, Tenjović & Giorgi, 2015) which has facilitated an understanding of cross-cultural similarities and differences relating to workplace bullying. For instance, researchers have translated and validated a Japanese version of the NAQ to investigate workplace bullying in that context (Tsunno, Kawakami, Inoue & Abe, 2010). The authors stated that investigating workplace bullying in Japan was important because Asian countries have a more vertical and hierarchically ordered organisational structure than European countries, which could produce greater levels of bullying. At present, the WCM has been translated into Greek which has facilitated an ongoing investigation of workplace cyberbullying in that context. This represents a promising start and it is hoped that the measure will prove useful to researchers wishing to study workplace cyberbullying in other cultures.

Future research should also seek to investigate the unique features of workplace cyberbullying. Several unique features were outlined in Chapter 2, including breadth of audience, more varied bystander roles, anonymity and the ability to span boundaries. These features were presented in the rationale for treating cyberbullying as a separate form of workplace bullying. As such, future research should address whether these aspects act as moderators between cyberbullying and outcome variables. As mentioned previously, Ford (2013) examined how the unique features of virtual harassment affected fear of future harassment and psychological health. Similar research could be conducted on workplace cyberbullying to increase knowledge on how these features affect employee experiences. This research should aim to use longitudinal designs to investigate the relationships between variables over time. It is also important to consider the impact of cyberbullying in different

organisational contexts. The research conducted in this thesis involved employees from diverse working backgrounds, however it may be interesting to explore how cyberbullying unfolds in virtual teams. Virtual teams are increasingly common because they allow individuals to complete work from different locations (Axtell, Fleck & Turner, 2004). Virtual team members rely on ICTs to communicate, therefore cyberbullying may be more prevalent in organisations that regularly utilise virtual teams.

One methodology that may be especially conducive to studying the unique features of cyberbullying is experiments. Experimental methods were mooted as a promising direction for future research in Chapter 9 as they have been successfully applied to the study of cyber incivility (Giumetti et al., 2013). Hershcovis and Reich (2013) have advocated the use of experiments in future workplace harassment research, because they are the only method that can conclusively infer causality. They also state that experiments allow researchers complete control over study variables because the content of harassment, the perpetrator-target relationship and the frequency of aggression can be controlled. Experiments are particularly amenable for studying cyberbullying because online communication can be simulated and controlled more easily than offline communication. Giumetti et al. (2013) studied cyber incivility channelled through email, which can be simulated consistently as fewer communication cues exist that could vary over the course of numerous experiments. Indeed, online games such as ‘cyber ball’ have been used to study social exclusion (Riem, Bakermans-Kranenburg, Huffmeijer & van IJzendoorn, 2013). Therefore researchers should consider using experimental designs to study workplace cyberbullying.

A final avenue for future research is to examine the effectiveness of interventions. It has been argued that many programs designed to address traditional bullying can be adapted and enlarged to accommodate cyberbullying (Slonje, Smith & Frisen, 2013). One interesting development from the youth context is the KiVa programme which was originally developed

in Finland to prevent offline bullying (Williford, Elledge, Boulton, DePaolis, Little & Salmivalli, 2013). Unlike other programs, KiVa seeks to enhance the empathy, self-efficacy and anti-bullying attitudes of bystanders. The program consists of universal actions and indicated actions. Universal actions are classroom lessons that raise awareness of bullying and promote empathy. Indicated actions involve reactions to bullying cases, including peer support for the victim and discussions with bystanders on what can be done to support the target in the future. Analysis of student responses from an intervention group that received KiVa training and a control group revealed that there was significantly less cyber victimisation in the intervention group (Williford et al., 2013). It was speculated that unique aspects of the KiVa program may have been responsible for this effect. Specifically, the lessons discuss respect in cyber communication and students participate in computer simulated scenarios of cyberbullying events. It remains to be seen whether this type of programme can be applied in work settings, however the initial research is promising.

Within the scope of interventions is the development of legislation to prevent cyberbullying. The strength of legislation as an intervention lies in the fact that companies must take it seriously or risk breaking the law (Hoel & Einarsen, 2010). At present workplace cyberbullying is not a recognised offence in the UK, although numerous laws exist which enable the prosecution of guilty parties, including the Communications Act 2003 and the Protection from Harassment Act 1997. There have been calls for the development of cyberbullying specific legislation in the UK (The Guardian, 2014), although legislators may wait to evaluate the success of an anti-cyberbullying law that has recently been implemented in New Zealand. Should the UK choose to adopt cyberbullying legislation, research will be needed to inform its implementation and to evaluate its effectiveness.

10.8 Summary and Conclusions

Chapter 10 has reviewed findings from the five studies presented during this thesis. A workplace cyberbullying measure has been created using an established measure development methodology. The measure is applicable to employees working across different work settings and it captures respondent's exposure to workplace cyberbullying through various information and communication technologies. The measure was used to assess the impact of workplace cyberbullying on employees from an attributional perspective. Findings demonstrated that cyberbullying was linked to detrimental outcomes.

It has been suggested that we have entered the third wave of virtual work, which comprises 1.3 billion virtual workers (Johns & Gratton, 2013) who are able to work wherever there is internet connection. Therefore the use of technologies that facilitate organisational communication shows no signs of abating. These technologies have given rise to new ways of working, as well as new forms of workplace harassment which have unique features and encompass novel behaviours. The development of new measures that can accurately assess these constructs is essential if researchers are to keep pace with organisational developments. Investigations into workplace cyberbullying must now continue with the aim of limiting harm to employees.

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Appendices

Appendix 5.1

Welcome to our survey and thank you for taking the time to complete it,

The Research Team

*Iain Coyne, Carolyn Axtell, Christine Sprigg and Sam Farley

*Division of Psychiatry and Applied Psychology (University of Nottingham)
Institute of Work Psychology (Management School, University of Sheffield)



This survey will request some demographic information before asking you to describe examples of workplace cyberbullying behaviour.

We define workplace cyberbullying as "persistent, repeated negative behaviour enacted through communication technologies (e.g. phone calls, email, text message, social networking websites) by individuals or groups, which creates a hostile work environment. Over time, this impacts negatively on the person facing the behaviour and places them in an increasingly inferior position"

You can navigate through the survey using the Next and Back buttons at the bottom of the page. Please do not use the forward and back buttons on your web browser.

By clicking the 'Next' button, you are giving consent to participate in this study. All data provided will remain confidential and anonymous as feedback will be given at group level, with no individuals identified. You reserve the right to withdraw at any time and can do this by closing down the survey. On the next page we will ask you to create a unique identification code, this information is only being requested in case you would like to remove your data from the study.

The survey should take no more than 10 minutes to complete and has received Ethics Committee approval from the University of Sheffield. If you have any questions please contact Sam Farley (sjfarley1@sheffield.ac.uk). A copy of the feedback report will be freely available to everyone within your organisation. Thank you for your help.

Unique Identification Code

If at any point you would like to remove your data from the study please contact Sam Farley (sjarley1@ sheffield.ac.uk) with your unique identification code. This data cannot be used to identify you.

Please indicate on which day of the month you were born (e.g. if born on the 7th May 1984 you would write: 07)

Please give the last two letters of your first name (e.g. if named Claire you would write: re)

Please give the first two letters of your mother's maiden name

The following questions allow us to make best use of the data. Your answers will only be seen by researchers at the University of Sheffield to protect your confidentiality. This data will not be used to identify you, or shared with any third party.

Age:

Gender:

- Male
- Female

Job Role:

Please indicate the overall number of years you have been in employment (e.g.23 years):

Please indicate the number of hours you work per week (e.g.35):

Which of the following technologies do you use in connection with your work (Please tick all those you use).

Email

Telephone calls

Text messages

Social media

Websites

Video conferencing software (e.g.Skype)

Instant messaging services

Please indicate any other forms of communication technology you use at work

This is the final page of the questionnaire. Once you click the next button at the bottom of the page you will not be able to change or edit your responses.

We define workplace cyberbullying as “persistent, repeated negative behaviour enacted through communication technologies (e.g. phone calls, email, text message, social networking websites) by individuals or groups, which creates a hostile work environment. Over time, this impacts negatively on the person facing the behaviour and places them in an increasingly inferior position”

It can occur via email, telephone calls, text messages, social networking websites, regular websites, instant messaging, chat rooms and video conferencing.

Please describe up to three behaviours which you believe could be labelled as workplace cyberbullying acts. These could be behaviours that yourself or colleagues have experienced, or simply acts that you feel reflect the definition of workplace cyberbullying.

Please note that these behaviours do not necessarily have to be experienced during work hours. For instance, you may feel that being gossiped about by colleagues via social media is an example of workplace cyberbullying.

As well as more severe acts of cyberbullying, we are also interested in some of the more subtle cyberbullying behaviours. Therefore, if possible try to describe different acts that vary in severity.

Disclaimer: We only require behavioural descriptions. Please do not name individuals. If you feel you are being cyberbullied please contact your occupational health advisor, union representative, line manager or HR adviser.

Workplace Cyberbullying Behaviour 1 (Subtle):

Workplace Cyberbullying
Behaviour 2 (Severe):

Workplace Cyberbullying Behaviour3 (Other):

Many thanks for taking our survey. If you would like your data to be removed from the study please email Sam Farley with your unique identification code (sjarley1@sheffield.ac.uk).

If you have been affected by issues relating to cyberbullying you can access support by contacting the cybersmile charity :<http://www.cybersmile.org/> Email: info@cybersmile.org Phone: 0845 688 7277.

Appendix 5.2

The 68 behavioural descriptions written up as measurement items

1. Had colleagues make an anonymous complaint about you
2. Received messages that have a disrespectful tone
3. Been blamed for work failures that are not completely your fault
4. Found that a message involving you has been blind copied to others without your permission
5. Received aggressively worded messages (e.g. using all capital letters, bold font or multiple exclamation marks)
6. Had derogatory replies to your messages copied to others in positions of power
7. Had extracts from your messages copied to others where the meaning of your original message is deliberately distorted
8. Had senior managers copied into a message to coerce you into taking on extra tasks
9. Had others copied into a message that seeks to embarrass you
10. Been copied into a message that has been written about you, but sent to another organisational member
11. Had your work criticised
12. Been personally criticised
13. Been repeatedly corrected
14. Been insulted
15. Been the subject of gossip
16. Had your work capability questioned
17. Received impolite demands from a colleague

18. Been deliberately sent the wrong information
19. Received messages containing a false depiction of an offline conversation
20. Been expected to respond to an excessive number of technology-mediated communications outside of your working hours
21. Received a harassing message from a colleague sent to your personal (non-work) phone/social media account/ email address
22. Had one of your messages forwarded to others with the intention of embarrassing you
23. Received a message that contains negative information about you
24. Received requests on the status of your work ahead of deadline
25. Had your email account/phone/social media account monitored by colleagues
26. Had colleagues excessively check your progress on technology-mediated recording systems
27. Been omitted from group communications that are relevant to your work role
28. Been excluded from joke messages circulated to the rest of the work group
29. Had rumours spread about you
30. Had personal information shared without your permission
31. Had negative comments about your work discussed publically
32. Been ignored in group level communications when responses are given to others in the message
33. Had jokes made about you circulated to others
34. Had colleagues ignore your messages
35. Had colleagues fail to respond to your messages in a timely manner
36. Been called derogatory names
37. Had embarrassing pictures/videos of you circulated without your permission

38. Received a message from a co-worker containing inappropriate images
39. Received unwanted messages containing sexualised content
40. Had innuendos made about you
41. Been misrepresented by another employee
42. Received messages that contains abusive language
43. Received a message that in some way threatens you
44. Been the subject of communications that seek to undermine you
45. Had sarcastic comments made about your work ability in technology-mediated communications
46. Had a colleague use technology-mediated communications to deliver bad news
47. Had your work successes dismissed with negative responses
48. Received unreasonable work demands with no opportunity for discussion
49. Received messages demanding a response to unrealistic work deadlines
50. Received messages asking you to do the least attractive work tasks
51. Received messages demanding that you complete work outside of your contracted hours
52. Been expected to respond immediately to technology-mediated communications
53. Received messages implying that you are incompetent unless you complete work on time
54. Received information via technology without giving you the opportunity to discuss it face-to-face
55. Been intentionally communicated with via technology when face-to-face conversation would have been more appropriate
56. Had colleagues fail to pass on your messages

57. Had access to computer files deliberately blocked by a colleague
58. Discovered secret discussions about you between colleagues on technology-mediated communication
59. Been teased through technology-mediated communications
60. Been the only individual omitted from group messages
61. Been excluded from social communications between colleagues
62. Had comments you made outside of work shared in the work environment
63. Been contacted verbally when you have asked someone to use technology-mediated communication
64. Received messages where the sender seemed to be shouting at you
65. Been forced to use unfamiliar technology as a means to communicate with colleagues
66. Been pressured into engaging with colleagues through technology-mediated communication
67. Seen colleagues use technology-mediated communication to cryptically discuss you, without actually naming you
68. Had disparaging remarks written about you in group messages

Appendix 5.3

Thank you for agreeing to be a subject matter expert! The aim of my PhD research is to create a quantitative behavioural scale to assess workplace cyberbullying, as the current scales either focus on a specific medium or have been adapted from the offline context. To do this I am following Hinkin's (1995) six step measure development process. The first stage in this project involved reviewing literature on cyberbullying and workplace bullying to produce a workplace cyberbullying definition. The second stage involved generating behavioural descriptions on the phenomenon of interest. Therefore I asked individuals from a range of jobs and industries to describe acts that they felt reflected my definition. This generated an item pool that I refined by (1) removing items that were too specific to a particular job (2) removing items that did not reflect the experience of being cyberbullied (3) removing items that described the same behaviour and (4) by rewriting them to make them more coherent. The third stage involves asking subject matter experts (SME's) to conduct a content validity assessment. Thank you so much for kindly agreeing to act as an SME. Instructions on this process are given on the next page which you can access by clicking the 'next' button.

I define workplace cyberbullying as "persistent, repeated negative behaviour enacted through communication technologies (e.g. phone calls, emails, text messages, social networking websites) by individuals or groups, which creates a hostile work environment. Over time, this impacts negatively on the person facing the behaviour and places them in an increasingly inferior position"

The following items refer to behaviours conducted through technology that could have arisen in relation to a job/work role. Respondents will be asked to consider each item in relation to all forms of technology (Text messaging; pictures/photos/video clips; phone calls; email; instant messaging; social networking websites; video software and general websites).

In order to identify whether the respondents have been cyberbullied we need to determine whether these behaviours have been experienced repeatedly. Therefore the final measure will ask respondents to indicate how often they have experienced these acts on a frequency scale (e.g. never, once/twice, monthly, weekly, daily).

Please could you rate each item according to the extent that you feel facing these behaviours repeatedly (e.g. on a weekly basis) reflects being cyberbullied at work (1 = strongly disagree that this item reflects workplace cyberbullying, 7 = strongly agree that this item reflects workplace cyberbullying).

There is also a text box after each item where it is possible to write notes on the clarity and consistency of the items. For example, if you think an item needs rewording you are able to suggest

alternatives (Please note: There is no word limit on how much you write in these boxes, so don't feel constrained by their size).

You can navigate through the survey using the Next and Back buttons at the bottom of the page. Please do not use the forward and back buttons on your web browser. If you have any questions about the study, please contact me at sjfarley1@sheffield.ac.uk.

Item 1 The following items only refer to acts conducted through technology (Text messaging; pictures/photos/video clips; phone calls; email; instant messaging; social networking websites; video software and general websites). Please rate them according to the extent that you feel experiencing them repeatedly reflects workplace cyberbullying.

Had colleagues make an anonymous complaint about you

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 2 Received messages that have a disrespectful tone

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 3 Been blamed for work failures that are not completely your fault

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 4 Found that a message involving you has been blind copied to others without your permission

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 5 Received aggressively worded messages (e.g. using all capital letters, bold font or multiple exclamation marks)

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 6 Had derogatory replies to your messages copied to others in positions of power

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 7 Had extracts from your messages copied to others where the meaning of your original message is deliberately distorted

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 8 Had senior organisational members copied into a message to coerce you into taking on extra tasks

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 9 Had others copied into a message that seeks to embarrass you

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 10 Been copied into a message that has been written about you, but sent to another organisational member

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 11 Had your work criticised

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 12 Been personally criticised

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 13 Been repeatedly corrected

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 14 Been insulted

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 15 Been the subject of gossip

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 16 Had your work capability questioned

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 17 Received impolite demands from a colleague

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 18 Been deliberately sent the wrong information

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 19 Received messages containing a false depiction of an offline conversation

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 20 Been expected to respond to an excessive number of communications outside of your working hours

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 21 Received a harassing message from a colleague sent to your personal (non-work) phone/social media account/ email address

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 22 Had one of your messages forwarded to others with the intention of embarrassing you

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 23 Received a message that contains negative information about you

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 24 Received requests on the status of your work ahead of deadline

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 25 Had your email account/phone/social media account monitored by colleagues

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 26 Had colleagues excessively check your progress on technology-mediated recording systems

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 27 Been omitted from group communications that are relevant to your work role

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 28 Been excluded from joke messages circulated to the rest of the work group

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 29 Had rumours spread about you

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 30 Had personal information shared without your permission

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 31 Had negative comments about your work discussed publically

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 32 Been ignored in group level communications when responses are given to others in the message

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 33 Had jokes made about you circulated to others

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 34 Had colleagues ignore your messages

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 35 Had colleagues fail to respond to your messages in a timely manner

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 36 Been called derogatory names

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Had embarrassing pictures/videos of you circulated without your permission

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 38 Received a message from a co-worker containing inappropriate images

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 39 Received unwanted messages containing sexualised content

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 40 Had innuendos made about you

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 41 Been misrepresented by another employee

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 42 Received messages that contains abusive language

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 43 Received a message that in some way threatens you

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 44 Been the subject of communications that seek to undermine you

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 45 Had sarcastic comments made about your work ability in technology-mediated communications

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 46 Had a colleague use technology-mediated communications to deliver bad news

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 47 Had your work successes dismissed with negative responses

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 48 Received unreasonable work demands with no opportunity for discussion

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 49 Received messages demanding a response to unrealistic work deadlines

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 50 Received messages asking you to do the least attractive work tasks

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 51 Received messages demanding that you complete work outside of your contracted hours

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 52 Been expected to respond immediately to technology-mediated communications

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 53 Received messages implying that you are incompetent unless you complete work on time

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 54 Received information via technology without giving you the opportunity to discuss it face-to-face

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 55 Been intentionally communicated with via technology when face-to-face conversation would have been more appropriate

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 56 Had colleagues fail to pass on your messages

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 57 Had access to computer files deliberately blocked by a colleague

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 58 Discovered secret discussions about you between colleagues on technology-mediated communication

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 59 Been teased through technology-mediated communications

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 60 Been the only individual omitted from group messages

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 61 Been excluded from social communications between colleagues

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 62 Had comments you made outside of work shared in the work environment

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 63 Been contacted verbally when you have asked someone to use technology-mediated communication

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 64 Received messages where the sender seemed to be shouting at you

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 65 Been forced to use unfamiliar technology as a means to communicate with colleagues

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 66 Been pressured into engaging with colleagues through technology-mediated communication

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 67 Seen colleagues use technology-mediated communication to cryptically discuss you, without actually naming you

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Item 68 Had disparaging remarks written about you in group messages

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neither agree nor disagree (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Notes

Appendix 6.1

Rating the severity of negative work-related behaviours carried out through technology

Welcome to our survey and thank you for taking the time to complete it,

The Research Team

*Iain Coyne, Carolyn Axtell, Christine Sprigg and Sam Farley

*Division of Psychiatry and Applied Psychology (University of Nottingham)
Institute of Work Psychology (Management School, University of Sheffield)



This survey asks about your perceptions of the severity of negative work-related behaviour enacted via technology. Technologies can include: Text messaging; pictures/photos/video clips; phone calls; email; instant messaging; social networking websites; video software and general websites. The aim of this research is to determine whether individuals think that certain technology-mediated acts are more severe than others. For instance, is the impact of being gossiped about via technology harsher than having your work criticised via technology. By clicking the 'Next' button, you are giving consent to participate in this study. All data provided will remain confidential and anonymous as feedback will be given at group level, with no individuals identified. You reserve the right to withdraw at any time and can do this by closing down the survey. On the next page we will ask you to create a unique identification code, this information is only being requested in case you would like to remove your data from the study. You can navigate through the survey using the Next and Back buttons at the bottom of the page. Please do not use the forward and back buttons on your web browser. The

survey should take no more than 10 minutes to complete and has received Ethics Committee approval from the University of Sheffield. If you have any questions please contact Sam Farley (sjarley1@sheffield.ac.uk). Thank you for your help.

Unique Identification Code

If at any point you would like to remove your data from the study please contact Sam Farley (sjarley1@sheffield.ac.uk) with your unique identification code. This data cannot be used to identify you.

Please indicate on which day of the month you were born (e.g. if born on the 7th May 1984 you would write: 07)

Please give the last two letters of your first name (e.g. if named Claire you would write: re)

Please give the first two letters of your mother's maiden name

The following questions refer to acts conducted through technology that are related to your work context. These technologies can include: Text messaging; pictures/photos/video clips; phone calls; email; instant messaging; social networking websites; video software and general websites. Please rate how severe you feel each of the following negative technological acts are on the ten point spectrum. Ratings towards the 'maximum severity' indicate harsher acts than those at the 'no

harassment' end of the scale. Please rate the behaviours as if you were experiencing them. These questions do not refer to face-to-face behaviours.

How severe do you perceive the following work-related acts:

Receiving messages that have a disrespectful tone

- No harassment (1)
- Minimum severity (2)
- (3)
- (4)
- (5)
- (6)
- (7)
- (8)
- (9)
- Maximum severity (10)

Being unfairly blamed for work problems

- No harassment (1)
- Minimum severity (2)
- (3)
- (4)
- (5)
- (6)
- (7)
- (8)
- (9)
- Maximum severity (10)

Receiving aggressively worded messages (e.g. using all capital letters, bold font or multiple exclamation marks)

- No harassment (1)
- Minimum severity (2)
- (3)
- (4)
- (5)
- (6)
- (7)
- (8)
- (9)
- Maximum severity (10)

Having another organisational member copy people into messages that reflect negatively on you

- No harassment (1)
- Minimum severity (2)
- (3)
- (4)
- (5)
- (6)
- (7)
- (8)
- (9)
- Maximum severity (10)

Having extracts from your messages copied to others where the meaning of your original message is distorted

- No harassment (1)
- Minimum severity (2)
- (3)
- (4)
- (5)
- (6)
- (7)
- (8)
- (9)
- Maximum severity (10)

Having another organisational member copy people into messages that embarrass you

- No harassment (1)
- Minimum severity (2)
- (3)
- (4)
- (5)
- (6)
- (7)
- (8)
- (9)
- Maximum severity (10)

Having your work unfairly criticised

- No harassment (1)
- Minimum severity (2)
- (3)
- (4)
- (5)
- (6)
- (7)
- (8)
- (9)
- Maximum severity (10)

Experiencing unfair personal criticism (e.g. on your character, appearance, opinions)

- No harassment (1)
- Minimum severity (2)
- (3)
- (4)
- (5)
- (6)
- (7)
- (8)
- (9)
- Maximum severity (10)

Receiving rude demands from a colleague

- No harassment (1)
- Minimum severity (2)
- (3)
- (4)
- (5)
- (6)
- (7)
- (8)
- (9)
- Maximum severity (10)

Being sent conflicting information

- No harassment (1)
- Minimum severity (2)
- (3)
- (4)
- (5)
- (6)
- (7)
- (8)
- (9)
- Maximum severity (10)

Being pressurised into responding to technology mediated communications at all times

- No harassment (1)
- Minimum severity (2)
- (3)
- (4)
- (5)
- (6)
- (7)
- (8)
- (9)
- Maximum severity (10)

Receiving negative messages from colleagues that were sent to your personal (non-work) phone/social media account/ email address

- No harassment (1)
- Minimum severity (2)
- (3)
- (4)
- (5)
- (6)
- (7)
- (8)
- (9)
- Maximum severity (10)

Receiving messages that contain false information about you

- No harassment (1)
- Minimum severity (2)
- (3)
- (4)
- (5)
- (6)
- (7)
- (8)
- (9)
- Maximum severity (10)

Being bypassed in group communications that are relevant to your work role

- No harassment (1)
- Minimum severity (2)
- (3)
- (4)
- (5)
- (6)
- (7)
- (8)
- (9)
- Maximum severity (10)

Having negative rumours or gossip spread about you

- No harassment (1)
- Minimum severity (2)
- (3)
- (4)
- (5)
- (6)
- (7)
- (8)
- (9)
- Maximum severity (10)

Having personal information shared without your permission

- No harassment (1)
- Minimum severity (2)
- (3)
- (4)
- (5)
- (6)
- (7)
- (8)
- (9)
- Maximum severity (10)

Having negative comments about your work discussed in public

- No harassment (1)
- Minimum severity (2)
- (3)
- (4)
- (5)
- (6)
- (7)
- (8)
- (9)
- Maximum severity (10)

Having jokes about you circulated to others

- No harassment (1)
- Minimum severity (2)
- (3)
- (4)
- (5)
- (6)
- (7)
- (8)
- (9)
- Maximum severity (10)

Having colleagues ignore your messages

- No harassment (1)
- Minimum severity (2)
- (3)
- (4)
- (5)
- (6)
- (7)
- (8)
- (9)
- Maximum severity (10)

Being called derogatory names

- No harassment (1)
- Minimum severity (2)
- (3)
- (4)
- (5)
- (6)
- (7)
- (8)
- (9)
- Maximum severity (10)

Having embarrassing pictures/videos of you circulated without your permission

- No harassment (1)
- Minimum severity (2)
- (3)
- (4)
- (5)
- (6)
- (7)
- (8)
- (9)
- Maximum severity (10)

Receiving unwanted messages containing sexualised content

- No harassment (1)
- Minimum severity (2)
- (3)
- (4)
- (5)
- (6)
- (7)
- (8)
- (9)
- Maximum severity (10)

Receiving messages that contain abusive language aimed at you

- No harassment (1)
- Minimum severity (2)
- (3)
- (4)
- (5)
- (6)
- (7)
- (8)
- (9)
- Maximum severity (10)

Receiving threatening messages

- No harassment (1)
- Minimum severity (2)
- (3)
- (4)
- (5)
- (6)
- (7)
- (8)
- (9)
- Maximum severity (10)

Being the subject of communications that undermine you

- No harassment (1)
- Minimum severity (2)
- (3)
- (4)
- (5)
- (6)
- (7)
- (8)
- (9)
- Maximum severity (10)

Receiving unreasonable work demands

- No harassment (1)
- Minimum severity (2)
- (3)
- (4)
- (5)
- (6)
- (7)
- (8)
- (9)
- Maximum severity (10)

Being singled out to do the least attractive work tasks

- No harassment (1)
- Minimum severity (2)
- (3)
- (4)
- (5)
- (6)
- (7)
- (8)
- (9)
- Maximum severity (10)

Receiving messages requesting that you complete work outside of your contracted hours

- No harassment (1)
- Minimum severity (2)
- (3)
- (4)
- (5)
- (6)
- (7)
- (8)
- (9)
- Maximum severity (10)

Receiving messages unfairly questioning your competence

- No harassment (1)
- Minimum severity (2)
- (3)
- (4)
- (5)
- (6)
- (7)
- (8)
- (9)
- Maximum severity (10)

Having access to computer files blocked by a colleague

- No harassment (1)
- Minimum severity (2)
- (3)
- (4)
- (5)
- (6)
- (7)
- (8)
- (9)
- Maximum severity (10)

Being excessively teased through technology-mediated communications

- No harassment (1)
- Minimum severity (2)
- (3)
- (4)
- (5)
- (6)
- (7)
- (8)
- (9)
- Maximum severity (10)

Being the only individual omitted from group messages that are relevant to your work role

- No harassment (1)
- Minimum severity (2)
- (3)
- (4)
- (5)
- (6)
- (7)
- (8)
- (9)
- Maximum severity (10)

Being the only person excluded from social communications between colleagues

- No harassment (1)
- Minimum severity (2)
- (3)
- (4)
- (5)
- (6)
- (7)
- (8)
- (9)
- Maximum severity (10)

Having disparaging remarks written about you in messages to the workgroup

- No harassment (1)
- Minimum severity (2)
- (3)
- (4)
- (5)
- (6)
- (7)
- (8)
- (9)
- Maximum severity (10)

Appendix 7.1

What are your experiences of negative work-related behaviours carried out through technology?

Welcome to our survey and thank you for taking the time to complete it,

The Research Team

*Iain Coyne, Carolyn Axtell, Christine Sprigg and Sam Farley

*Division of Psychiatry and Applied Psychology (University of Nottingham) Institute of Work Psychology (Management School, University of Sheffield)



This survey asks about the extent to which you have experienced negative work-related behaviour via technology. Technologies can include: Text messaging; pictures/photos/video clips; phone calls; email; instant messaging; social networking websites; video software and general websites.

By clicking the 'Next' button, you are giving consent to participate in this study. All data provided will remain confidential and anonymous as feedback will be given at group level, with no individuals identified. You reserve the right to withdraw at any time and can do this by closing down the survey. On the next page we will ask you to create a unique identification code, this information is only being requested in case you would like to remove your data from the study.

You can navigate through the survey using the Next and Back buttons at the bottom of the page. Please do not use the forward and back buttons on your web browser. The survey should take no

more than 10 minutes to complete and has received Ethics Committee approval from the University of Sheffield. If you have any questions please contact Sam Farley (sjfarley1@sheffield.ac.uk).

Thank you for your help.

Unique Identification Code

If at any point you would like to remove your data from the study please contact Sam Farley (sjfarley1@sheffield.ac.uk) with your unique identification code. This data cannot be used to identify you.

Please indicate on which day of the month you were born (e.g. if born on the 7th May 1984 you would write: 07)

Please give the last two letters of your first name (e.g. if named Claire you would write: re)

Please give the first two letters of your mother's maiden name

The following questions allow us to make best use of the data. Your answers will only be seen by researchers at the University of Sheffield to protect your confidentiality. This data will not be used to identify you, or shared with any third party.

Age:

Gender:

- Male (1)
- Female (2)

Job Role:

Which sector(s) do you work in?

- Private sector (1)
- Public sector (2)
- Voluntary / 3rd Sector (3)

Please indicate the overall number of years you have been in employment (e.g. 23 years):

Please indicate the number of hours you are contracted to work per week (if you do not have a specified number of contracted hours please estimate how many you work per week on average):

Which of the following technologies do you use in connection with your work (Please tick all those you use).

- Email (1)
- Telephone calls (2)
- Text messages (3)
- Social media websites (4)
- Video conferencing software (5)
- Instant messaging services (6)

Please indicate any other forms of communication technology you use at work

The following questions refer to acts conducted through technology that are related to your work context. These technologies can include: Text messaging; pictures/photos/video clips; phone calls; email; instant messaging; social networking websites; video software and general websites. Please rate how often over the last six months, you have been subjected to the following negative work-related acts through technology. Please only rate behaviours that you have experienced through technology, as these questions do not refer to face-to-face behaviours.

How often in the last six months have you experienced the following work-related acts through technology:

Received messages that have a disrespectful tone

- Never (1)
- Now and then (2)
- At least monthly (3)
- At least weekly (4)
- Daily (5)

Been unfairly blamed for work problems

- Never (1)
- Now and then (2)
- At least monthly (3)
- At least weekly (4)
- Daily (5)

Received aggressively worded messages (e.g. using all capital letters, bold font or multiple exclamation marks)

- Never (1)
- Now and then (2)
- At least monthly (3)
- At least weekly (4)
- Daily (5)

Had another organisational member copy people into messages that reflect negatively on you

- Never (1)
- Now and then (2)
- At least monthly (3)
- At least weekly (4)
- Daily (5)

Had extracts from your messages copied to others where the meaning of your original message is distorted

- Never (1)
- Now and then (2)
- At least monthly (3)
- At least weekly (4)
- Daily (5)

Had another organisational member copy people into messages that embarrass you

- Never (1)
- Now and then (2)
- At least monthly (3)
- At least weekly (4)
- Daily (5)

Had your work unfairly criticised

- Never (1)
- Now and then (2)
- At least monthly (3)
- At least weekly (4)
- Daily (5)

Experienced unfair personal criticism (e.g. on your character, appearance, opinions)

- Never (1)
- Now and then (2)
- At least monthly (3)
- At least weekly (4)
- Daily (5)

Received rude demands from a colleague

- Never (1)
- Now and then (2)
- At least monthly (3)
- At least weekly (4)
- Daily (5)

Been sent conflicting information

- Never (1)
- Now and then (2)
- At least monthly (3)
- At least weekly (4)
- Daily (5)

Been pressurised into responding to technology mediated communications at all times

- Never (1)
- Now and then (2)
- At least monthly (3)
- At least weekly (4)
- Daily (5)

Received negative messages from colleagues that were sent to your personal (non-work) phone/social media account/ email address

- Never (1)
- Now and then (2)
- At least monthly (3)
- At least weekly (4)
- Daily (5)

Received messages that contain false information about you

- Never (1)
- Now and then (2)
- At least monthly (3)
- At least weekly (4)
- Daily (5)

Been bypassed in group communications that are relevant to your work role

- Never (1)
- Now and then (2)
- At least monthly (3)
- At least weekly (4)
- Daily (5)

Had negative rumours or gossip spread about you

- Never (1)
- Now and then (2)
- At least monthly (3)
- At least weekly (4)
- Daily (5)

Had personal information shared without your permission

- Never (1)
- Now and then (2)
- At least monthly (3)
- At least weekly (4)
- Daily (5)

Had negative comments about your work discussed in public

- Never (1)
- Now and then (2)
- At least monthly (3)
- At least weekly (4)
- Daily (5)

Had jokes about you circulated to others

- Never (1)
- Now and then (2)
- At least monthly (3)
- At least weekly (4)
- Daily (5)

Had colleagues ignore your messages

- Never (1)
- Now and then (2)
- At least monthly (3)
- At least weekly (4)
- Daily (5)

Been called derogatory names

- Never (1)
- Now and then (2)
- At least monthly (3)
- At least weekly (4)
- Daily (5)

Had embarrassing pictures/videos of you circulated without your permission

- Never (1)
- Now and then (2)
- At least monthly (3)
- At least weekly (4)
- Daily (5)

Received unwanted messages containing sexualised content

- Never (1)
- Now and then (2)
- At least monthly (3)
- At least weekly (4)
- Daily (5)

Received messages that contain abusive language aimed at you

- Never (1)
- Now and then (2)
- At least monthly (3)
- At least weekly (4)
- Daily (5)

Received threatening messages

- Never (1)
- Now and then (2)
- At least monthly (3)
- At least weekly (4)
- Daily (5)

Been the subject of communications that undermine you

- Never (1)
- Now and then (2)
- At least monthly (3)
- At least weekly (4)
- Daily (5)

Received unreasonable work demands

- Never (1)
- Now and then (2)
- At least monthly (3)
- At least weekly (4)
- Daily (5)

Been singled out to do the least attractive work tasks

- Never (1)
- Now and then (2)
- At least monthly (3)
- At least weekly (4)
- Daily (5)

Received messages requesting that you complete work outside of your contracted hours

- Never (1)
- Now and then (2)
- At least monthly (3)
- At least weekly (4)
- Daily (5)

Received messages unfairly questioning your competence

- Never (1)
- Now and then (2)
- At least monthly (3)
- At least weekly (4)
- Daily (5)

Had access to computer files blocked by a colleague

- Never (1)
- Now and then (2)
- At least monthly (3)
- At least weekly (4)
- Daily (5)

Been excessively teased through technology-mediated communications

- Never (1)
- Now and then (2)
- At least monthly (3)
- At least weekly (4)
- Daily (5)

Been the only individual omitted from group messages that are relevant to your work role

- Never (1)
- Now and then (2)
- At least monthly (3)
- At least weekly (4)
- Daily (5)

Been the only person excluded from social communications between colleagues

- Never (1)
- Now and then (2)
- At least monthly (3)
- At least weekly (4)
- Daily (5)

Had disparaging remarks written about you in messages to the workgroup

- Never (1)
- Now and then (2)
- At least monthly (3)
- At least weekly (4)
- Daily (5)

We define workplace cyberbullying as a situation where over time, an individual is repeatedly subjected to perceived negative acts conducted through technology (e.g. phone, email, web sites, social media) which are related to their work context. In this situation the target of workplace cyberbullying has difficulty defending him or herself against these actions.

Using this above definition, please state whether you have been cyberbullied at work over the last six months?

- No (1)
- Yes, now and then (2)
- Yes, monthly (3)
- Yes, weekly (4)
- Yes, almost daily (5)

Appendix 8.1

Welcome to our survey and thank you for taking the time to complete it,

The Research Team

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This survey asks about your experiences of negative work-related behaviour both face-to-face and via technologies (which can include text messaging; pictures/photos/video clips; phone calls; email; instant messaging; social networking websites; video software and general websites). Questions will also be asked about your health, work engagement and job satisfaction. If the questions draw your attention to a harassment situation, please contact your occupational health advisor, union representative, line manager or HR adviser. Or, if you would prefer to talk to an external contact, the mental health charity 'Mind' have a phone line open from 9am to 6pm: 0300 123 3393, they also offer an email service: info@mind.org.uk. Website: <http://www.mind.org.uk/information-support>.

To investigate how experiencing harassment through technology affects people, we need to collect your data now and again in 6 months' time. This helps us understand whether there are relationships between behaviours experienced now and outcomes experienced later. You can

navigate through the survey using the Next and Back buttons at the bottom of the page. Please do not use the forward and back buttons on your web browser.

By clicking the 'Next' button, you are giving consent to participate in this study. All data provided will remain confidential and anonymous as feedback will be given at group level, with no individuals identified. You reserve the right to withdraw at any time and can do this by closing down the survey. On the next page we will ask you to create a unique identification code, this information is being requested so that we can match your survey response to the survey that you will complete in 6 months' time. It will also allow us to remove your data from the study if you wish to request this.

The survey should take no more than 20 minutes to complete and has received Ethics Committee approval from the University of Sheffield. If you have any questions please contact Sam Farley email: (sjarley1@sheffield.ac.uk) phone/text 07914 843888. Thank you for your help.

*Please note: If you have previously taken a workplace cyberbullying survey ran by these researchers do not take this one as we are seeking a new sample for the current study.

Unique Identification Code

If at any point you would like to remove your data from the study please contact Sam Farley (sjarley1@sheffield.ac.uk) with your unique identification code. This data cannot be used to identify you.

Please indicate on which day of the month you were born (e.g. if born on the 7th May you would write: 07)

Please give the last two letters of your first name (e.g. if named Claire you would write: re)

Please give the first two letters of your mothers maiden name (e.g. if this was Agahi you would write ag - the maiden name refers to a persons pre-marital surname)

The following questions allow us to make best use of the data. Your answers will only be seen by researchers at the University of Sheffield to protect your confidentiality. This data will not be used to identify you, or shared with any third party.

Age:

Gender:

- Male (1)
- Female (2)

Job role:

How long have you been employed in your current organisation (if this is less than one year please stipulate the number of months e.g. 7 months)

The following questions refer to acts conducted through technology that are related to your work context. These technologies can include: Text messaging; pictures/photos/video clips; phone calls; email; instant messaging; social networking websites; video software and general websites. Please rate how often over the last six months, you have been subjected to the following negative work-

related acts through technology. Please note: these questions do NOT refer to face-to-face behaviours.

	Never (1)	Now and then (2)	At least monthly (3)	At least weekly (4)	Daily (5)
Received messages that have a disrespectful tone (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Been unfairly blamed for work problems (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Received aggressively worded messages (e.g. using all capital letters, bold font or multiple exclamation marks) (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Had another organisational member copy people into messages that reflect negatively on you (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Had your work unfairly criticised (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Experienced unfair personal criticism (e.g. on your character, appearance, opinions) (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Received rude demands from a colleague (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Been sent conflicting information (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How often in the last six months have you experienced the following work-related acts through technology:

	Never (1)	Now and then (2)	At least monthly (3)	At least weekly (4)	Daily (5)
Been bypassed in group communications that are relevant to your work role (32)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Had negative rumours or gossip spread about you (30)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Had personal information shared without your permission (28)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Received messages that contain abusive language aimed at you (24)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Received threatening messages (22)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Been the subject of communications that undermine you (20)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Received unreasonable work demands (18)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Been singled out to do the least attractive work tasks (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Received messages unfairly questioning your competence (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Been the only person excluded from social communications between colleagues (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In relation to the negative acts you previously indicated you faced via technology, please specify the extent to which you agree with the following items:

	Strongly disagree (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	Strongly agree (7)
I am partly to blame for this behaviour towards me (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The perpetrator is to blame for this behaviour towards me (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The organisation is to blame for this behaviour towards me (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

When thinking about the perpetrator(s) of the 18 previous negative technological behaviours, how often have you engaged in the following behaviours towards them

	Never (1)	Once (2)	A few times (3)	Once a month (4)	Several times a month (5)	At least once a week (6)	More than once a week (7)
Made fun of them (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Said something hurtful to them (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Made an ethnic, religious, or racial remark about them (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Swore at them (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Played a mean prank on them (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acted rudely toward them (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Publicly embarrassed them (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

We define workplace cyberbullying as a situation where over time, an individual is repeatedly subjected to perceived negative acts conducted through technology (e.g. phone, email, web sites, social media) which are related to their work context. In this situation the target of workplace cyberbullying has difficulty defending him or herself against these actions. Using this above definition, please state whether you have been cyberbullied at work over the last six months?

- No (1)
- Yes, now and then (2)
- Yes, monthly (3)
- Yes, weekly (4)
- Yes, almost daily (5)

During the last six months, have you ever received e-mail or instant messages from a subordinate, a coworker, or a supervisor that you would describe as:

	Never (1)	Once (2)	Rarely (a few times) (3)	Occasionally (once a month) (4)	Sometimes (at least several times a month) (5)	Frequently (at least once a week) (6)	Very frequently (at least once a day) (7)
Impolite or uncivil (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Disrespectful or discourteous (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Personally insulting (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Belittling (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unfairly questioning your professionalism (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unfairly questioning your competence (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hostile towards you (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Aggressive towards you (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you feel you are being cyberbullied please contact your occupational health advisor, union representative, line manager or HR adviser. Alternatively, we have provided the contact details of an external charity at the end of this survey.

The following questions refer to face-to-face behaviours (they do NOT refer to behaviours experienced through technology). Over the last six months, how often have you been subjected to the following face-to-face acts?

	Never (1)	Now and then (2)	Monthly (3)	Weekly (4)	Daily (5)
Someone withholding necessary information so that your work gets complicated (22)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gossip or rumors about you (23)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Social exclusion from co-workers or work group activities (24)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Repeated offensive remarks about you or your private life (25)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Insults (26)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Repeated reminders about your blunders or mistakes (27)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Silence or hostility as a response to your questions or attempts at conversations (28)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Devaluing of your work and efforts (29)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
So called 'funny' surprises (30)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

This part of the survey addresses problems you may experience when using technology. Please read each item carefully. Using the following scale (Never to Almost Always) indicate the frequency with which you experience each of the following for work purposes:

	Never (1)	Infrequently (2)	Sometimes (3)	Frequently (4)	(Almost) Always (5)
I am expected to stay current with technological advances related to my work (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am expected to learn computer programs that are not directly applicable to my job (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The technology I use changes at a rapid pace (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I experience problems with my internet connection (e.g., speed, access, downloads) (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My computer freezes (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Computer viruses hinder the completion of my work (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I lose files because my computer crashes (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I experience glitches with software (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please indicate the extent to which you agree with the following items:

	To a small extent (1)	2 (2)	3 (3)	4 (4)	To a large extent (5)
At work I am treated in a polite manner (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
At work I am treated with dignity (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
At work I am treated with respect (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please indicate the extent to which you agree with the following items:

	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
I am fairly paid or rewarded considering my job responsibilities (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am fairly paid or rewarded considering my previous work experience (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am fairly paid or rewarded considering the stresses and strains of my job (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am fairly paid or rewarded considering the amount of effort that I put into my work (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am fairly paid or rewarded for work I have done well (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The following questions ask you to indicate how fair your organisation is regarding various aspects of your job:

	Very unfair (1)	Unfair (2)	Neutral (3)	Neither fair nor unfair (4)	Fair (5)	Very Fair (6)
How fair are the promotion procedures (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How fair are the procedures used to evaluate employee performance (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How fair are the procedures used to determine salary increases (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How fair are the procedures used to communicate performance feedback to employees (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please indicate the extent to which you agree with the following statement: Overall, how satisfied are you with your job?

- Very dissatisfied (1)
- Dissatisfied (2)
- Neutral (3)
- Satisfied (4)
- Very satisfied (5)

To what extent do you generally feel the following:

	Almost never (1)	Infrequently (2)	Sometimes (3)	Frequently (4)	Almost Always (5)
Angry (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Disgusted (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Loathing (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Irritable (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hostile (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scornful (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How often have you experienced the following over the past six months?

	Never (1)	Few times a year or less (2)	Monthly (3)	Few times a month (4)	Every week (5)	Few times a week (6)	Daily (7)
I feel used up at the end of the workday (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel emotionally drained from my work (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel burned out from my work (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

It is possible that answering some of these questions might draw your attention to issues that may be concerning you. If that is the case, we advise you to contact your GP.

Below are statements concerning personal attitudes and traits, please read each item and decide whether it is true or false in relation to you personally:

	True (1)	False (2)
I sometimes feel resentful if I don't get my way (1)	<input type="radio"/>	<input type="radio"/>
I am sometimes irritated by people who ask favors of me (2)	<input type="radio"/>	<input type="radio"/>
I sometimes get even rather than forgive and forget (3)	<input type="radio"/>	<input type="radio"/>
No matter who I am talking to, I am always a good listener (4)	<input type="radio"/>	<input type="radio"/>
There have been occasions when I took advantage of someone (5)	<input type="radio"/>	<input type="radio"/>
I am always willing to admit when I make a mistake (6)	<input type="radio"/>	<input type="radio"/>
I never gossip about other people (7)	<input type="radio"/>	<input type="radio"/>

Q44 The following questions refer to the organisation you are currently employed by. Please indicate the extent to which you agree with the following statements

	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
Being a member of this organisation is very captivating (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
One of the most exciting things for me is getting involved with things happening in this organisation (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am really not into the "goings-on" in this organisation (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being a member of this organisation makes me come "alive" (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being a member of this organisation is exhilarating for me (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am highly engaged in this organisation (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

