University of Chester

Bystander behaviour in response to traditional/cyber bullying scenarios: a consideration

of victimisation/perpetration, empathy and severity.

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Declaration

The work produced in this project for the PS7112 Research Dissertation module is original and has not been submitted in relation to any other degree qualification.

Date: 29 / 09   / 2016

Signed:_____

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Acknowledgments

I would like to thank my friends and family for their continued support throughout my studies at the University of Chester. I would further like to thank my supervisor, Professor Michael Boulton for his continued support and guidance throughout this project. Additionally I would like to give a special thanks to my personal academic tutor Dr Mandy Urquhart for her additional support and helpful advice throughout my time at the University. A special thanks is given to the two schools that participated in this study: Tudor Grange Academy and Alderbrook School.

University of Chester

Department of Psychology

Research Module Meeting Log 2015/2016

NAME: Peter Macaulay _

SUPERVISOR: Professor Michael Boulton

Date	Discussion Topic	Action Agreed
25/01/16 14:00-14:30	Discussed possible ideas for research project surrounding the field of bullying and cyber bullying.	Consider the literature regarding cyber bullying and make a note of any gaps within the literature. Specifically examine the literature on bystanders, empathy and victimisation.
02/02/16 12:30-13:30	Agreed on research project. Specific gap within the literature regarding bystander reactions and severity of bullying type. Discussed sample size and methodology.	To develop a questionnaire to measure pupils' responses as a bystander. Develop six hypothetical scenarios for traditional and cyber bullying acts. In regard to traditional bullying, verbal scenarios were created as a result of literature.
08/02/16 12:30-13:00	Ethics submission was discussed. Reviewed questionnaire for methodology. Discussed possible design features.	Several amendments to the questionnaire to be made regarding the wording to further enhance the scenario in terms of severity. Complete and submit ethical approval form.
21/04/16 12:30-12:40	Phone call – discussed data collection procedure.	Print 900 questionnaires for data collection and familiarise items that would be read out to pupils'. Contact and email schools regarding participation.
19/05/16 12:00-12:30	Data collection complete. Discussed coding frame for open-ended questions. Inter-rater reliability discussed as a possible feature to include for the project.	Using the literature, develop a coding frame comprising of variables relating to positive and negative bystander behaviour to transfer the qualitative data into quantitative data. Read more information surrounding inter-rater reliability and seek a second coder to code a subset of the questionnaires.
15/07/16 11:00-12:00	Discussed process of coding questionnaires. Entering data file into SPSS was discussed.	Create a SPSS data file. Complete process of coding and allocate 120 questionnaires for coder 2.

28/07/16 12:30-13:15	SPSS file complete. Discussed potential hypotheses and reliability.	Complete inter-coder reliability from coder 2 and develop series of hypotheses.
25/08/16 12:00-14:00	Discussed hypotheses and relevant statistical tests.	Read further into statistical tests. Make amendments to several hypotheses. Begin work on results and discussion section.
06/09/16 16:30 -17:15	Discussed wording of hypotheses. Discussed use of two-way and one-way repeated measures analysis of variance. Discussed draft deadline.	Complete results section regarding discussion. Aim to submit draft version on 12th September 2016.
20/09/16	Received draft feedback.	Make amendments to report using feedback from draft with specific focus on linking each hypothesis using support from the literature.

SUPERVISOR SIGNATURE:

STUDENT SIGNATURE:

Bystander Behaviour: Traditional/Cyber bullying

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mean positive bystander behavior scores.

Abstract

The current study aimed to investigate bystander behaviour across traditional and cyber bullying scenarios that changed in severity: mild, moderate and severe. Participant's victimisation/perpetration and emotional/cognitive traits were also measured and considered in respect to bystander behaviour. A total of 868 adolescent pupils' (males: $N = 458$, females: $N = 410$) completed a self-report questionnaire comprising of three hypothetical traditional and cyber bullying scenarios respectively that increased in

severity. Victimisation/perpetration and emotional/cognitive trait items were also included within the questionnaire. The findings showed that positive bystander behaviour was higher in cyber compared to traditional bullying, with females showing higher positive bystander behaviours in both traditional and cyber bullying scenarios. No relationship of age was found. A positive relationship was found between victimisation and perpetration experience in both types of bullying, although victimisation experience was not associated with positive bystander behaviour. With the exception of traditional perpetration, cyber perpetration was associated with negative bystander behaviour where males had higher perpetration scores compared to females in both types of bullying. No gender differences on victimisation were found. Findings to support previous literature on empathy were found. It was found that severity did have an effect on bystander behaviour with more severe scenarios leading to positive bystander behaviour in both types of bullying, although no difference between severe traditional or cyber were found. The practical application of these findings encourages educators and intervention developers to utilise adolescent's bystander knowledge to reduce bullying acts in the school environment. Future research should examine the effect of bystander awareness training on adolescent's positive bystander behaviour across two time periods.

Introduction

General background

There are two main types of bullying: traditional and cyber. The act of traditional and cyber bullying both involve a repeated, intentional act of aggression on one or more individuals with intent on harming the victim (Olweus, 1993). Traditional bullying is the repeated perpetration of physical, verbal or emotional aggressive acts on one ore more

individuals resulting in harm to a victim (Barlińska, Szuster, & Winiewski, 2013; Olweus, 1993). On the other hand cyber bullying is a recent form of bullying, caused through the development of modern technology and increased access to the Internet (Allison & Bussey, 2016). Specifically, cyber bullying is an intentional aggressive act carried out on one or more individuals using electronic means such as laptops, mobile phones and gaming consoles (Barlińska et al., 2013), although definitions can be inconsistent (Law, Shapka, Hymel, Olson, & Waterhouse, 2012). These electronic means allow aggressive acts in an anonymous format, allowing individuals to carry out acts of cyber bullying at any time, often with no trace to the perpetrator (Barlińska et al., 2013).

In modern society, cyber bullying has been shown to be fairly common in schools and at home with victimisation reports showing 20-40% of adolescents being cyber bullied at some point in their development (Allison & Bussey, 2016; Sharples, Graber, Harrison, & Logan, 2009). Although similarities between traditional and cyber bullying are present, cyber bullying often leads to greater psychological harm to the victim due to the format creating a greater persuasive meaning (Allison & Bussey, 2016; Barlińska et al., 2013). This type of bullying can further lead to greater repeated incidents as it is less likely to be reported due to the anonymous issue surrounding cyber bullying acts (Allison & Bussey, 2016; Heirman & Walrave, 2008). This therefore leads to difficulty detecting and controlling for cyber bullying in schools. In terms of prevalence, an analysis of cross sectional telephone interviews revealed that cyber bullying acts had increased by 9% in 2010 compared to 2005 and 2000 data (Jones, Mitchell, & Finkelhor, 2012). A Meta analysis ($N = 80$) found high prevalence rates for both traditional and cyber bullying acts, although it was found there were higher rates for traditional bullying (Modecki, Minchin, Harbaugh, Guerra, & Runions, 2014). On the other hand, due to the discretion of cyber bullying acts resulting from anonymity formats, it is predicted that a prevalence rate of

15% is significantly under the true representational figure (Allison & Bussey, 2016; Modecki et al., 2014)

The rapid growth of modern technology has further lead to greater availability of the Internet for all groups and ages in society (Byron, 2008). Although the Internet does provide useful materials and satisfaction (Soeters & Schaik, 2006), it can lead to negative self esteem (Patchin & Hinduja, 2010) through harmful acts of cyber interactions (Black, 2014; Dooley, Pyżalski, & Cross, 2009; Heirman & Walrave, 2008). It is argued cyber bullying is most prevalent in secondary school environments due to adolescents need for self-development, which involves the process of Maslow's (1954) hierarchy of needs to achieve self-actualisation (Maslow & Frager, 1987). To achieve this, adolescents are likely to engage in risk-taking behaviour online, a critical feature of learning in development to achieve self-actualisation (Livingstone, Haddon, & Görzig, 2012). There is a notion of a generational digital divide between adults and children, hence explaining the occurrence of cyber incidents (Byron, 2008). As adults have limited experience of technology through their child development, the recent modern technology rise has meant that adults don't have the necessary skills to assist children to be aware of risks online (Byron, 2008; Slonje, Smith, & Frisén, 2016; Valcke, De Wever, Van Keer, & Schellens, 2011).

The literature has clearly shown that an increase in Internet availability has lead to children and adolescents coming into contact with online risks, hence leading to a vulnerability of cyber bullying incidences. However it is important that traditional bullying remains a focus in research as its been shown over 70% of adolescents will experience a form of traditional bullying during their time at secondary school (Brinkman & Manning, 2016). Due to the common occurrence of cyber incidences (Cross et al., 2015;

Gradinger, Strohmeier, & Spiel, 2009) and traditional bullying (Cook, Williams, Guerra, Kim, & Sadek, 2010), children and adolescents experience negative psychological wellbeing (Devine & Lloyd, 2012; Hunter, Boyle, & Warden, 2007; Livingstone & Smith, 2014). Therefore it is important to consider bullying from a theoretical perspective. The ecological system by Bronfenbrenner (1993) can be applied to the notion of bullying. This involves the microsystem and mesosyetm. Firstly, the microsystem involves the adolescents surrounding factors such as family, friends, school and social interactions (Bronfenbrenner, 1993). The mesosytem is focused on the interaction between two or more micro systems. In terms of bullying, this theory would argue that bullying occurs due to the interaction within two or more microsystems in the school environment (Bronfenbrenner, 1993). The background literature presented has highlighted how traditional and cyber bullying acts have continued to grow in a modern world, especially in the case of cyber bullying with 92% of adolescents coming into contact with cyber related material (Livingstone & Bober, 2005).

This background literature provides significant rationale to consider traditional and cyber bullying scenarios. As bystanders play a critical role in the facilitation and intervention regarding bullying, literature regarding bystander responses will now be considered.

Issue one: bystander behaviour, type of bullying and gender/age

A bystander is a term used to describe one or more individuals that witnesses a traditional or cyber bullying scenario (Bastiaensens et al., 2014). How the individual responds to the situation is referred to as the bystander response. These bystanders can react in two independent processes: negative and positive. The negative bystander response is used to describe individuals that witness an act of bullying and react

negatively to the situation, which will result in continued or further harm to the victim from the perpetrator (Bastiaensens et al., 2014; Brody & Vangelisti, 2016). This could include ignoring the situation or encouraging/reinforcing the perpetrator. On the other hand, positive bystander responses would include seeking help from a peer/adult, intervening to stop the situation or providing emotional support to the victim (Bastiaensens et al., 2014; Brody & Vangelisti, 2016). The literature has established that bystanders play a critical role when they witness acts and forms of bullying (Cowie, 2014). Reacting in a way that provides support and help for the victim can increase feelings of self-esteem whereas ignoring an act due to severity or lack of personal responsibility can lead to feelings of social shame and injustice (Bastiaensens et al., 2014; Cowie, 2014).

Previous research conducted an observation of bullying in the playground revealed that bullying occurred in over 90% of cases identified whereby it was noted peers were more likely to intervene compared to adults, although this was notably due to lack of adults presence in the playground (Craig & Pepler, 1998). It has been shown that over 97% of secondary school pupils will witness a traditional or cyber bullying act, highlighting the importance of bystander responses in these situations (Rigby & Johnson, 2005). Recent research using interviews on 24 secondary school pupils, compared the bystander response between traditional bullying and online bullying acts (Patterson et al., 2016). Across the interviews two main themes emerged: physical and authority. In terms of the physical theme it was revealed bystanders are more likely to intervene when there was a presence of physical movements and eye contact compared to online situations, which are easier to ignore (Patterson et al., 2016). Furthermore, the authority theme revealed that online bullying lacks the presence of teachers, rules and witnesses, hence allowing an easier format for perpetrators to use aggression to target victims (Patterson et al., 2016).

On the other hand it has been argued that bystanders are more likely to show positive bystander responses through cyber bullying compared to traditional due to the cues available in an online format allows for an easier ability to intervene to stop the act (Bastiaensens et al., 2014, 2015). Therefore, due to the absence of peer-group pressure in traditional formats, bystanders feel more comfortable and able to provide positive bystander responses to help the victim (Dooley et al., 2009; Hinduja & Patchin, 2013). This literature provides rationale for the current study to compare traditional and cyber bullying scenarios in relation to bystander responses. Based on the findings by Bastiaensens et al., (2014), Dooley et al (2009) and Hinduja and Patchin (2013), it is hypothesised that there will be higher positive bystander responses in cyber compared to traditional bullying scenarios.

It is clear that bystanders play an important role in the outcome of bullying situations (Jones, Mitchell, & Turner, 2015; Tsang, Hui, & Law, 2011), where bystanders can adopt positive help seeking behaviour (Desmet et al., 2012; DeSmet et al., 2014; Erreygers, Pabian, Vandebosch, & Baillien, 2016; Pöyhönen, Juvonen, & Salmivalli, 2012), or negative passive responses by ignoring the situation or encouraging the bully (Holfeld, 2014; Li, 2010). Although there is significant cross-cultural application for bystander behaviour (Pozzoli, Ang, & Gini, 2012), bystander responses can be dependant on individual characteristics (Pozzoli & Gini, 2013), peer group presence (Howard, Landau, & Pryor, 2014), victim gender/age (Gini, Pozzoli, Borghi, & Franzoni, 2008) and social capital in the form of social status within school environments (Evans & Smokowski, 2015).

An analysis of 622 secondary school pupils found that gender did influence bystander behaviours (Cao & Lin, 2015). It was found that when witnessing a cyber bullying act, females compared to males would use positive bystander behaviour whereas boys were more likely to use negative bystander behaviour by ignoring the situation or reinforcing the bully (Baldry & Farrington, 2005; Cao & Lin, 2015). In a sample of 225 secondary school pupils, bystander behaviour was examined using hypothetical bullying scenarios and the Peer Relations Questionnaire (Hochman, 2013). In terms of gender it was noticed that females provide higher levels of help seeking behaviour strategies compared to males, although males still exhibited positive bystander behaviour (Graeff & Gardner, 2012; Hochman, 2013). On the other hand, there is inconsistent support for this notion (Trach, Hymel, Waterhouse, & Neale, 2010), with gender showing little effects on bystander behaviour, as indicated through a Meta analysis involving 172 studies (Eagly & Crowley, 1986). Overall it was found that males and females did provide effective behavioural solutions to the scenarios but failed to address effective solutions according to different types of bullying (Eagly & Crowley, 1986; Hochman, 2013). This highlights how educators need to address this issue in the classroom by providing more bullying awareness lessons and providing resources and materials to help pupils' understand how to respond to a variety of hypothetical situations (Hochman, 2013).

In a sample of 236 pupils' between primary and secondary school environments it was found that, in response to hypothetical verbal bullying scenario's, pupils' would adopt positive bystander behaviour to intervene or seek help from an adult (Innes, 2010). Research considering the effect of gender found that females compared to males were more likely to adopt positive bystander behaviour, especially younger pupils' (Gini et al., 2008). The literature strongly supports the notion that females are more likely to adopt positive bystander responses (Baldry & Farrington, 2005; Cowie, 2014; C Forsberg,

Wood, Smith, Varjas, & Jungert, 2016; Li, 2006), therefore this provides strong rationale for the current study to consider gender and age when examining pupils bystander behaviour. Previous findings leads to hypothesise that females are more likely to show positive bystander responses compared to males in both traditional (Graeff & Gardner, 2012; Hochman, 2013) and cyber bullying (Baldry & Farrington, 2005; Cao & Lin, 2015) scenarios. As research into age has shown inconsistent support with older pupils' showing greater positive bystander responses (Mishna, Khoury-Kassabri, Gadalla, & Daciuk, 2012; Rock & Baird, 2012) as well as younger pupils' (Trach et al., 2010) it is hypothesised that there will be a correlation between age and positive bystander behaviour for traditional and cyber bullying scenarios.

Using a total of approximately 2000 pupils across 16 schools, research found that positive bystander responses enhanced positive sense of social justice whereas negative bystander behaviour resulted due to low levels of empathy, moral disengagement and victimisation/perpetration experience (DeSmet et al., 2016). This provides further rationale to consider the literature on victimisation/perpetration and empathy in relation to bystander behaviour. The hypotheses for issue one are presented in Table 1 below:

Table 1: The hypotheses for issue one: bystander behaviour, type of bullying and gender/age.

Hypotheses	
1.	There will be a higher positive bystander behaviour score in cyber compared to traditional bullying scenarios.
2.a	Females will score a higher positive bystander behaviour score compared to males in traditional bullying scenarios.
2.b	Females will score a higher positive bystander behaviour score compared to males in cyber bullying scenarios.
3.a	A point biserial correlation will show a correlation between age and positive bystander behaviour scores in traditional bullying scenarios.

| 3.b | A point biserial correlation will show a correlation between age and positive bystander behaviour scores in cyber bullying scenarios. |

Issue two: bystander behaviour, victimisation/perpetration and gender

Victims and perpetrators form the bullying dyad, whereby victims represent the subject that is targeted, receiving harm from the bullying act compared to perpetrators that act as the subject initiating the harmful act, either face to face or online (Campbell, Spears, Slee, Butler, & Kift, 2012; Olweus, 1993). Adolescents are the group that are most likely to be a victim or perpetrator of traditional or cyber bullying compared to children and young adults (Bremer, 2005), which has been shown to be consistent in secondary school pupils aged 11-16, hence providing rationale for the current study to investigate pupils in secondary schools (Flaspohler, Elfstrom, Vanderzee, Sink, & Birchmeier, 2009; Hasekiu, 2013; Tokunaga, 2010; Williams & Guerra, 2007).

Victimisation experience leads to lower self-esteem and greater negative reactions within peer groups (Cao & Lin, 2015; Menesini, Modena, & Tani, 2009). An analysis into victimisation experience from traditional and cyber incidences revealed that traditional victims often feel greater negative impact on their lives whereas cyber victims reveal a greater sense of social isolation (Campbell et al., 2012; Cao & Lin, 2015). This highlights the negative implications of both traditional and cyber bullying acts, hence rationale for the current study to include both types of bullying when looking at the bystander response (Campbell et al., 2012).

Research using 1,880 pupils within a secondary school environment in China considered the relationship between victimisation and perpetration (Chan & Wong, 2015). The large sample size, providing greater power to detect a difference in gender, found that males

are more likely to be perpetrators of traditional bullying compared to females (Chan & Wong, 2015). The results revealed significant overlap between these two experiences whereby it was found pupils' that had been victims of bullying, were significantly more likely to act as a perpetrator of traditional bullying (Chan & Wong, 2015). Furthermore this relationship was found to be consistent in the opposite direction, showing previous perpetration experience leading to victimisation experience. This highlights the importance of this experience when considering bullying in a secondary school environment and has provided an insight into a unique overlap between the two factors, with consistent evidence across the literature (Espelage & Swearer, 2003; Jose, Kljakovic, Scheib, & Notter, 2012; Mishna et al., 2012; Rice, Petering, Rhoades, & Winetrobe, 2015). Therefore, this provides rationale for the current study to measure previous victimisation and perpetration experience.

Considering Facebook use of 1,676 pupils aged 13-17, bullying victimisation was examined using quantitative questionnaire data (Kwan & Skoric, 2013). The findings uncovered that traditional victimisation was a positive predictor of Facebook victimisation, which was also true for bullying perpetration. This highlights that previous victimisation/perpetration experience in traditional bullying is likely to be a positive indicator of similar experience in a cyber-bullying context (Kwan & Skoric, 2013). The practical application of this research encourages parents and educators to take an active role in observing victimised pupils' at home/school and implement greater steps to prevent online victimisation. Taking into consideration a theoretical perspective, Gouldner (1960), using the principle of reciprocity, would argue that if individuals have had previous experience of victimisation, they are likely to react in the same way to other people, by using their social shame and negative behaviour to commit perpetrating acts of bullying or negative bystander behaviour when witnessing acts of bullying (Gouldner,

1960). Therefore, under this principle, previous traditional or cyber victims are likely to be future/current traditional or cyber perpetrators due to their experience and negative intention to repeat their own experience on others.

In support of this notion, previous research has shown that previous victims tended to react negatively to their bullying experience, which leads to perpetration, possibly due to social shame and personal revenge (Cao & Lin, 2015; Menesini et al., 2009). The online format will enable previous victims of traditional bullying to use the anonymity of online social media to engage in bullying perpetration behaviour (Cross et al., 2015). This notion has been consistent across the literature, where victimisation experience leads to social rejection (Wright & Li, 2013) and social anxiety (Pabian & Vandebosch, 2016; Smith et al., 2008), leading to bullying perpetration. Participants that reported previous victimisation from a traditional bullying act or cyber bullying act where more likely to indicate positive bystander reactions to stop the bully in the given situation (Bastiaensens et al., 2014), with perpetration experience prompting negative bystander behaviour (Barlińska et al., 2013).

As previous victims of traditional or cyber bullying were more likely to intervene as a positive bystander, this could be due to previous victims interpretation of the bullying act (Allison & Bussey, 2016), as severe acts were deemed more serious by individuals with previous victimisation experience. Therefore, using rationale from the literature, it is hypothesised that previous traditional bullying (Chan & Wong, 2015; Gouldner, 1960) or cyber bullying (Cross et al., 2015; Gouldner, 1960; Kwan & Skoric, 2013) victimisation will be positively correlated with traditional/cyber bullying perpetration. In addition, based on the findings by Bastiaensens et al., (2014) and Allison and Bussey (2016) it is hypothesised that previous traditional/cyber bullying victimisation respectively will be

positively correlated with positive bystander behaviour in both traditional and cyber bullying acts. Using rationale by Barlińska et al., (2013) it is hypothesised that previous traditional/cyber bullying perpetration will be positively correlated with negative bystander behaviour in both traditional and cyber bullying acts.

It is important to consider gender when considering victimisation and perpetration. Research using a sample from 29 secondary schools involving over 3000 pupils revealed that females are more likely to experience victimisation from both traditional and cyber bullying compared to males, whereby it was noted this victimisation had a significantly greater negative impact on females (Campbell et al., 2012). The strong statistical power of this sample leads to a robust conclusion and validity in the findings and confidence that future researchers and intervention developers need to concentrate not only on cyber bullying intervention programmes but also traditional (Cozby & Bates, 2015). This has shown to be consistent across the literature with females showing greater victimisation experience in both traditional and cyber bullying acts (Barlińska et al., 2013; Black, 2014; Fox, Jones, Stiff, & Sayers, 2014; Pornari & Wood, 2010). This provides strong rationale to consider this in the current study and hypothesise that females are more likely than males to have greater victimisation experience in traditional and cyber bullying acts (Barlińska et al., 2013; Campbell et al., 2012).

An analysis of perpetration in a large Meta analysis involving 214,167 participants across 109 articles, found that males are likely to be involved in perpetration of cyber bullying acts compared to females (Barlett & Coyne, 2014; Katzer, Fetchenhauer, & Belschak, 2009). This notion is supported by previous literature showing males more likely to have perpetration experience in traditional and cyber bullying acts (Barlińska et al., 2013; Craig & Pepler, 1998; DeHue, Bolman, & Völlink, 2008; Kwan & Skoric, 2013;

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Li, 2006; Menesini et al., 2009). Therefore, using rationale from Chan and Wong (2015) and Barlett and Coyne (2014) findings, it is hypothesised that males are more likely compared to females to have greater perpetration experience in traditional and cyber bullying acts.

Overall it is clear that the literature surrounding victimisation and perpetration of traditional and cyber bullying acts is vast. Qualitative interviews have revealed that bystander behaviour is determined according to empathy response and severity of bullying scenarios (Camilla Forsberg, Thornberg, & Samuelsson, 2014) This highlights the variety of factors taken into consideration when deciding how to respond as a bystander. Therefore this provides rationale to consider severity of scenarios and empathy scores in the current study to address some of the important factors. The hypotheses for issue two are presented below in Table 2.

Table 2: The hypotheses for Issue two: bystander behaviour, victimisation/perpetration and gender.

Hypotheses	
4.a	There will be a positive correlation between victimisation and perpetration in traditional bullying scenarios.
4.b	There will be a positive correlation between victimisation and perpetration in cyber bullying scenarios.
5.a	There will be a positive correlation between traditional bullying victimisation and positive bystander behaviour scores.
5.b	There will be a positive correlation between cyber bullying victimisation and positive bystander behaviour scores.
6.a	There will be a positive correlation between traditional bullying perpetration and negative bystander behaviour scores.
6.b	There will be a positive correlation between cyber bullying perpetration and negative bystander behaviour scores.
7.a	Females will score higher victimisation scores compared to males on traditional bullying scenarios.
7.b	Females will score higher victimisation scores compared to males on

cyber bullying scenarios.

8.a   Males will score higher perpetration scores compared to females on

traditional bullying scenarios.

8.b   Males will score higher perpetration scores compared to females on

cyber bullying scenarios.

Issue three: bystanders, empathy and gender

There are two main types of empathy, affective and cognitive (Eisenberg, 2000).

Affective empathy is a built in process that involves the ability to automatically recognise

and understand other people's emotions in a given context (Eisenberg, 2000; Owusu &

Zhou, 2015). This experience occurs regularly through contact or witnessing people's

emotional states (Bandura, 1990). On the other hand, cognitive empathy is the ability to

predict and readily anticipate people's feelings and actions in a given context

(Eisenberg, 2000; Owusu & Zhou, 2015). Literature regarding empathy and bystander

behaviour will now be discussed.

Research on 79 primary school children looked at the link between individual's heart rate

and bullying intervention (Barhight, Hubbard, & Hyde, 2013). The participants that had

higher heart rate acceleration and higher levels of empathy as a result of watching

bulling videos were more likely to indicate they would intervene to stop the situation

(Barhight et al., 2013). This highlights those participants with greater empathy towards

victims and negative attitudes towards cyber bullying were more likely to act as positive

bystanders. It was shown that pupils' with high levels of empathy were more likely to

adopt positive bystander responses by seeking help from an adult or supporting the victim, whereas pupils' with lower empathy levels, adopted greater negative bystander responses by ignoring the situation and encouraging the bully (Van Cleemput, Vandebosch, & Pabian, 2014). Consistent research has shown females to score higher empathy levels and positive bystander behaviour compared to males (Bosacki & Astington, 1999; Brewer & Kerslake, 2015; Graham & Ickes, 1997; Werth, Nickerson, Aloe, & Swearer, 2015).

The findings have been supported throughout the literature showing higher empathy scores acting as a positive predictor of positive bystander behaviour in both traditional and cyber bullying acts (Machackova & Pfetsch, 2016; Mitsopoulou & Giovazolias, 2015; Nickerson, Mele, & Princiotta, 2008; Sokol, Bussey, & Rapee, 2015; Thornberg & Jungert, 2013). The theoretical rational for this can be derived from Bandura's theory on moral behaviour (Bandura, 1986). It is argued as individuals interact with others, they will develop specific morals and beliefs on appropriate behaviour and interactions. Providing helpful bystander interventions will meet moral behaviour criteria, hence increasing the individual's self-esteem and value compared to feelings of shame that is experienced when contradicting moral standards and empathy (Bandura, 1986). This provides rationale to hypothesise that higher empathy scores will correlate positively with positive bystander behaviour in both traditional (Barhight et al., 2013) and cyber bullying (Machackova & Pfetsch, 2016; Mitsopoulou & Giovazolias, 2015) scenarios.

Large-scale data from over 2000 Flemish secondary school pupils' considered the bystander response and previous bullying experience in cyber acts (Van Cleemput et al., 2014). The findings showed that pupils' with perpetration experience were significantly more likely to have lower levels of empathy (Van Cleemput et al., 2014), with similar

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findings on traditional perpetration and low empathy scores in a Spanish sample (Del

Rey et al., 2016). However contrary to previous research and the principle of reciprocal

(Gouldner, 1960), previous victimisation experience was not related to perpetration

experience but was considered an important component for positive bystander

behaviour. The notion that previous perpetrators of bullying have lower empathy levels

has been supported consistently throughout the literature on traditional bullying

scenarios (Barlińska, Szuster, & Winiewski, 2015; Perren & Gutzwiller-Helfenfinger,

2012) and cyber bullying acts (Barlińska et al., 2013; Cross et al., 2015; Gini, Albiero,

Benelli, & Altoè, 2007; Jolliffe & Farrington, 2006a, 2006b). Based on the findings by

Van Cleemput et al., (2014), Barlińska et al., (2015) and Del Rey et al., (2016), there is

strong rationale to hypothesise that higher levels of empathy will correlate negatively

with previous perpetration experience in both traditional and cyber bullying scenarios.

Based on previous literature it is hypothesised females compared to males will score

higher emotional/cognitive trait scores (Bosacki & Astington, 1999; Brewer & Kerslake,

2015; Werth et al., 2015). The overall hypotheses for issue three are presented in Table

3 below.

Table 3: The hypotheses for issue three: bystanders and empathy.

Hypotheses	
9.a	There will be a negative correlation between emotional/cognitive trait scores and traditional perpetration.
9.b	There will be a negative correlation between emotional/cognitive trait scores and cyber perpetration.
10.a	There will be a positive correlation between emotional/cognitive trait scores and positive bystander behaviour scores in traditional bullying scenarios.
10.b	There will be a positive correlation between emotional/cognitive trait scores and positive bystander behaviour scores in cyber bullying scenarios.

11	Females will score higher emotional/cognitive trait scores compared to males.

Issue four: bystanders and severity of bullying

Although bystanders intervene to enhance self-esteem and self-worth (Cappadocia, Pepler, Cummings, & Craig, 2012), the severity of bullying scenarios can have a significant effect on bystander behaviour (Allison & Bussey, 2016). If bystanders deemed a traditional bullying act as not severe, they would not intervene or adopt any positive bystander response (Cappadocia et al., 2012), consistent with cyber bullying severity (Obermaier, Fawzi, & Koch, 2016). This highlights the importance of severity when considering bystanders responses to bullying acts, hence rationale for the current study to consider how severity across traditional and cyber bullying acts would influence bystanders actions.

Large-scale data involving 1,816 pupils' with a mean age of 11.5 revealed that pupils' regard verbal bullying, significantly more severe compared to cyber bullying acts and other forms of traditional bullying (Chen, Cheng, & Ho, 2015; Williams & Guerra, 2007). Therefore this provides rationale for the current study to focus on traditionally bullying in the form of verbal scenarios across varying degrees of severity. Research using 453 Flemish pupils' aged between 12-14 looked into bystander's reactions to varying degrees of severity on social networking sites (Bastiaensens et al., 2014). The findings showed that when participants witnessed a more severe cyber bullying act on these

sites they were more likely to adopt positive bystander responses compared to participants that witnessed mildly severe scenarios (Bastiaensens et al., 2014), with consistent findings for traditional bullying scenarios (Camacho, Hassanein, & Head, 2014; Patterson, Allan, & Cross, 2015).

However, due do the methodology use of questionnaire designs to represent cyber bullying acts, future research should consider using a simulation design online to accurately re-create a cyber bullying act to truly maximise participants true bystander response, hence avoiding misinterpretation and social desirability bias (Cozby & Bates, 2015). This research has highlighted that bystander behaviour can be moderated by bullying severity, where more severe acts are likely to encourage positive bystander behaviour. Therefore it is hypothesised that as severity of scenarios increases for traditional and cyber bullying acts, pupils' positive bystander response will also increase (Bastiaensens et al., 2014; Camacho et al., 2014; Patterson et al., 2015).

Adolescents presented with severe cyber bullying scenarios are more likely to adopt positive bystander behaviour compared to severe traditional bullying scenarios (Bastiaensens et al., 2015). This was due to participants feeling a greater emphasis of control, as a result of more frequent cues online compared to traditional bullying acts (Madell & Muncer, 2007). As severe acts of traditional bullying are more difficult to intervene through communication, the online format allowed participants to provide greater positive bystander behaviour (Dredge & Gleeson, 2014; Madell & Muncer, 2007; Obermaier et al., 2014).

The practical application of these findings will allow cyber bullying intervention designers to utilise communication technology online, as this was shown to allow participants to

have control and privacy when helping a victim (Dredge & Gleeson, 2014). Research

looking into the severity of hypothetical scenarios considered how this was moderated

according to the type of bullying (Sticca & Perren, 2013). The findings revealed that

cyber bullying scenarios were deemed as more severe compared to traditional bullying

scenarios, and this was consistent when participants indicated anonymous scenarios

being more severe than non anonymous (Sticca & Perren, 2013; Sutherland, Coventry,

& Sillence, 2014). Therefore this provides rationale to hypothesise that pupils' are likely

to show greater positive bystander behaviour for severe cyber bullying scenarios

compared to sever traditional bullying scenarios (Bastiaensens et al., 2015; Dredge &

Gleeson, 2014; Madell & Muncer, 2007). The overall hypotheses for issue four are

presented in Table 4 below:

Table 4: The hypotheses for issue four: bystanders and severity of bullying.

Hypotheses	
12.a	Positive bystander behaviour scores will be higher in traditional bullying for severe compared to mild and moderate scenarios.
12.b	Positive bystander behaviour scores will be higher in cyber bullying for severe compared to mild and moderate scenarios
13.	Positive bystander behaviour scores will be higher for severe cyber bullying scenarios (C3) compared to severe traditional bullying scenarios (T3).

Method

Participants

A total of 868 participants were recruited for the study from two secondary schools in

Birmingham. The sample was comprised of year 7 pupils ($N = 405$, 46.7%) and year 8

pupils (N = 463, 53.3%). There was an approximately equal sex ratio of males and females 1:1 (males: 458, females: 410). The sample of year 7 pupils consisted of 213 males and 192 females. The sample of year 8 pupils consisted of 245 males and 218 females. The total sample of year 7 and year 8 pupils were aged between 11-13 years old.

Ethics

The current research adhered to the British Psychological Society guidelines throughout the stages of this study. Application for ethical approval from the University of Chester ethics committee was submitted and approved subject to an amendment form (Appendix A). The amendment application received ethical approval (Appendix B) for the current study. A further amendment application was also submitted to include an additional measure for a subset of the sample, which also received ethical approval (Appendix C). The Head teacher, through their loco-parentice role, meant that consent was received for the schools and pupils' participation in the study. An information sheet (Appendix D) was read out to the pupils', reiterating pupils' right to withdraw, confidentially and available sources of support.

Measures

The data was collected using a 24-item "What would I do" questionnaire, comprising of six hypothetical scenarios (Appendix E). The questionnaire was compiled of three "traditional bullying" scenarios and three "cyber bullying scenarios", which changed in severity: mild, moderate and severe. The traditional and cyber bullying scenarios were denoted by "T1/C1" mild, "T2/C2" moderate, "T3/C3" severe respectively. The four items

that followed each scenario remained consistent, comprising of one open question and three closed questions. The open question aimed to measure how pupils would respond to a given hypothetical scenario:

"What would you do in this situation? List as many things as you can think of".

Two of the closed questions that followed each scenario aimed to measure pupils' previous victimisation and perpetration in relation to that specific scenario. The final closed question aimed to measure how likely pupils would do the following in relation to the scenario. These three closed questions consisted of a ten-point response option, where pupils' could respond between 1-10, one indicating "never" and ten indicating "always".

An additional 20-item measure was also administered to a subset of the sample, the "Psychopathic Personality Traits Scale" (PPTS, see Appendix F). The PPTS was compiled of 20 statements where the pupil was required to indicate if they "agree" or "disagree" with each statement. An example of one of the statements can be seen below:

"In general, I'm only willing to help other people if doing so will benefit me as well".

The PPTS consisted of four subscales, each compiled of five items. The subscales and associated questions consisted of: Emotional Traits (1,5,9,13,17), Cognitive Traits (2,6,10,14,18), Interpersonal Manipulation (3,7,11,15,19) and Egocentricity (4,8,12,16,20). For the purpose of the current study, only the emotional and cognitive trait items were used as part of the analysis. Out of the total sample, 868 completed the "What I would do" questionnaire, with a subset of 448 further completing the PPTS.

Procedure

Secondary schools in Solihull (West Midlands) and Chester (North West) were contacted

through email, explaining the nature of the study and an invitation to participate

(Appendix G). Two schools agreed to participate in the study, in response to the email

invitations, Alderbrook School (Appendix H) and Tudor Grange School (Appendix I). An

informal discussion at the school with the head of year 7 and 8, as agreed with the

Headteacher, confirmed suitability of the measures to be used and a visitation to

complete the data collection. Participants at Alderbrook School completed the 24-item

"what I would do" questionnaire. Tudor Grange School completed both the 24-item "what

I would do" questionnaire and the 20-item PPTS.

Throughout the day the questionnaires were administered to year 7 and year 8 classes.

Classes varied in size, approximately 30-40 pupils within a class. Before the

questionnaires were handed out, an information sheet (Appendix D) was read to the

whole class, explaining the nature of the study and reminding the participants they had

the right to withdraw up to the point the questionnaires were collected. To ensure honest

responses, a number of phases were considered and reiterated to each class:

- All participants were reminded not to identify themselves on the questionnaire.
- Participants were encouraged to not copy responses from peers and provide
  honest accounts of what they would do.

- It was made clear the questionnaire was not a test of knowledge, but an important questionnaire for the researcher to help the school understand more about bullying.

Once these steps were taken into account, each scenario was clearly read out to the class, with each item that followed read out in turn. This process was done to ensure there was no misinterpretation of the items and to encourage the class to complete the questionnaire together, further encouraging the notion the questionnaire was not a test. On completion, the researcher collected the questionnaires to be coded and inputted into SPSS.

Design and analysis

The 24-item "what I would do questionnaire" included an open question after each scenario, totalling six open questions. To analyse the data, these responses had to be converted from qualitative data into quantitative data (Cozby & Bates, 2015). To do this a coding frame was developed (Appendix J). The coding frame sought to identify eight variables. The coding frame was applied to all the open responses (0=absent, 1=present) and was inputted into IMB SPSS version 22 to be analysed.

To analyse the reliability of the coding frame (Appendix J), Kappa's measurement of agreement was tested (Cohen, 1960). This considers the agreement between two coders/raters, leading to a test of inter-rater reliability (Cohen, 1960; Pallant, 2013). To test the coding agreement, 120 "what I would do questionnaires" were coded by two raters. These questionnaires included 60 males and 60 females, with 30 year 7/8 pupils respectively. Taking into account agreement across severity, 60 cyber bullying mild and

60 cyber bullying severe scenarios were used. An analysis of agreement across gender and age was considered. In this inter-rater reliability analysis, traditional bullying scenarios were not considered. Table 5 shows the Kappa measurement agreement when considering age, gender and severity.

Table 5: The inter-rater reliability analysis showing the amount/type of questionnaire and the associated Kappa (K) agreement.

Amount/type of questionnaires	Kappa (k) measurement agreement
30/year 7 males	0.706
30/year 7 females	0.586
30/year 8 males	0.760
30/year 8 females	0.453
60/year 7 pupils	0.648
60/year 8 pupils	0.598
60/mild (C1)	0.522
60/severe (C3)	0.772
60/male	0.731
60/female	0.516
Total 120 questionnaires	0.623

The inter-rater reliability analysis shows that, with the exception of "30/year 8 females", the Kappa (k) agreement is above 0.5 which is considered a moderate and fair agreement between two raters (Peat, Mellis, Williams, & Xuan, 2002). In total, the inter-rater reliability analysis for a subset of the sample revealed $k = 0.623$ ($N = 120$), indicating a good agreement (Field, 2013; Pallant, 2013; Peat et al., 2002).

Data screening was carried out across the data file to control for possible outliers and unexpected/incorrect inputs. Initial data screening revealed six detected errors (Appendix K). These six original questionnaires were checked and detected errors were corrected. Follow up data screening revealed no errors across the data.

Issue one: bystander behaviour, type of bullying and gender/age

A total positive bystander score was calculated for traditional and cyber bullying scenarios. This was calculated by adding the positive codes (adult, peer, intervene & victim – see coding frame, Appendix J) for each traditional bullying scenario. The process was repeated for cyber bullying scenarios. The positive bystander score ranged from a minimum (0) to a maximum (12) for both types of bullying.

The type of bullying and gender acted as the two independent variables with two levels. The total positive bystander score acted as the dependent variable. Type of bullying (traditional & cyber) and gender (males and females) had two levels each, hence leading to a 2X2 mixed subjects ANOVA with the equation 2(type: traditional & cyber) X 2(gender: males and females). It is predicted there will be a higher positive bystander score in traditional compared to cyber bullying scenarios, where females compared to males will score higher positive bystander scores across both types of bullying.

A point biserial correlation analysis between positive bystander behaviour score and participant age will act as the two variables. The correlation analysis will predict a correlation between age and positive bystander behaviour in traditional and cyber bullying scenarios.

Issue two: bystander behaviour, victimisation/perpetration and gender

A total victimisation score was calculated for both traditional and cyber bullying by totalling the victimisation score (item 2 for each scenario – see Appendix E). The total victimisation score for traditional bullying was divided by three, creating a 1-10 point score. This was repeated to calculate a total cyber bullying victimisation score. A total perpetration score was calculated for traditional and cyber bullying by totalling each

perpetration score (item 3 for each scenario – see Appendix E). A 1-10 point score was created. A total negative bystander behaviour score was calculated for traditional and cyber bullying. This was calculated by adding the negative codes (bully the bully, encourage, ignore – see Appendix J), for both types of bullying separately.

Several correlation analyses were conducted. Table 6 shows the predicted correlation analysis between two variables:

Table 6: A summary of the correlation analyses for issues two and predicted outcome.

Correlation analysis between two variables	Predicted outcome
Traditional victimisation and traditional perpetration	Positive
Cyber victimisation and cyber perpetration	Positive
Traditional victimisation and positive bystander behaviour	Positive
Cyber victimisation and positive bystander behaviour	Positive
Traditional perpetration and negative bystander behaviour	Positive
Cyber perpetration and negative bystander behaviour	Positive

It was further predicted that females/males would score higher victimisation/perpetration scores respectively on both traditional and cyber bullying scenarios. An independent samples t-test was conducted. A statistically significant difference between males and females mean scores on victimisation/perpetration would provide evidence to support this issue.

Issue three: bystanders, empathy and gender

An emotional and cognitive trait score (ECTS) needed to be calculated. The ECTS was calculated by adding each emotional item (1, 5, 9, 13 & 17) and cognitive item (2, 6, 10, 14, & 18) together from the PPTS (Appendix F). Items 1, 5, 9, and 18 were recoded (1 =

0, 0 = 1), meaning a higher ECTS would indicate a greater empathetic response and

emotional understanding. The range of the ECTS score was between 0-10.

Correlation analyses were conducted across variables as summarised in Table 7:

Table 7: A summary of the correlation analyses for issues three and predicted outcome.

Correlation analysis between two variables	Predicted outcome
ECTS and traditional perpetration	Negative
ECTS and cyber perpetration	Negative
ECTS and traditional positive bystander behaviour	Positive
ECTS and cyber positive bystander behaviour	Positive

An independent samples t-test would provide evidence to show that females will score

higher ECTS compared to males.

Issue four: Bystanders and severity of bullying

A total positive bystander behaviour score was calculated according to the severity of

bullying: mild, moderate and severe. This would lead to a total mild, moderate and

severe positive bystander score for traditional/cyber bullying scenarios separately. The

severity of bullying acted as the independent variable with three levels (mild, moderate &

severe). The positive bystander score acted as the dependant variable. To see if there is

a significant difference between the severity of bullying and positive bystander behaviour

score, a one-way repeated measures ANOVA was conducted. If there is significance, a

post hoc repeated measures t-test will explain the nature of the interaction and

difference. As it was predicted that positive bystander behaviour scores would be higher

for severe cyber bullying scenarios compared to severe traditional bullying scenarios, a

repeated measured t-test was conducted to analyse this.

Results

SPSS.v22 was used to conduct and analyse the statistical tests across this section.

Across the section, all descriptive statistics and results will be reported to three decimal

places. A full breakdown of SPSS outputs can be found in the appendices for issue one

(Appendix L), issue two (Appendix M), issue three (Appendix N) and issue four

(Appendix O).

Issue one: bystander behaviour, type of bullying and gender/age

Hypotheses ID: 1 and 2

A 2X2 mixed ANOVA found a significant effect for type and sex, but not for an interaction

effect.

The Levene's test of equality of error variance indicated a significance greater than the

0.05 level ($p = 0.154$) for traditional, showing an equal variance across positive

bystander behaviour scores for traditional bullying. However, the test showed a

significant result for cyber bullying with a significance below the 0.05 level ($p = 0.017$),

showing an unequal variance across positive bystander behaviour scores for cyber

bullying. Therefore, for the purpose of this two-way mixed ANOVA, a recommended

stricter significant level of 0.01 will be considered when analysing any main effects

(Pallant, 2013). An analysis of Box's M statistic showed no significance with the

significance level greater than 0.001 ($p = 0.060$), hence meeting the homogeneity of

inter-correlations between the between and within subjects assumption. The means and

standard deviations (SD) can be seen in Table 8.

Table 8: The means (SD) for gender and type of bullying for pupils' positive bystander behaviour.

	Traditional	Cyber	N
Males	3.024 (2.067)	3.297 (1.770)	458
Females	4.171 (2.163)	4.492 (1.587)	410
Total	3.566 (2.188)	3.862 (1.788)	868

A 2(type: traditional & cyber) X 2(gender: males & females) mixed subjects ANOVA was

conducted to analyse the impact of type of bullying and gender and pupils' positive

bystander behaviour score. An analysis of the interaction effect between type and

gender revealed no significant interaction, Wilks' Lambda =1.00, F (1, 866) = 0.161, $p=$

0.689, partial eta squared = 0.000. There was a statistical significance between the type

of bullying, Wilks' Lambda =0.973, F (1, 866) = 23.641, $p<0.001$, partial eta squared =

0.027, suggesting a difference between traditional and cyber bullying. This showed a

small effect size with higher positive bystander scores in cyber bullying (M = 3.862)

compared to traditional bullying (M = 3.566). There was a statistical significance for

gender, F (1, 866) = 104.329, $p<0.001$, partial eta squared = 0.108, suggesting a

difference between males and females. This showed a large effect size with higher

positive bystander scores in females (M = 4.332) compared to males (M = 3.160). Figure

1 shows the interaction between type of bullying and gender in respect to positive

bystander behaviour scores.
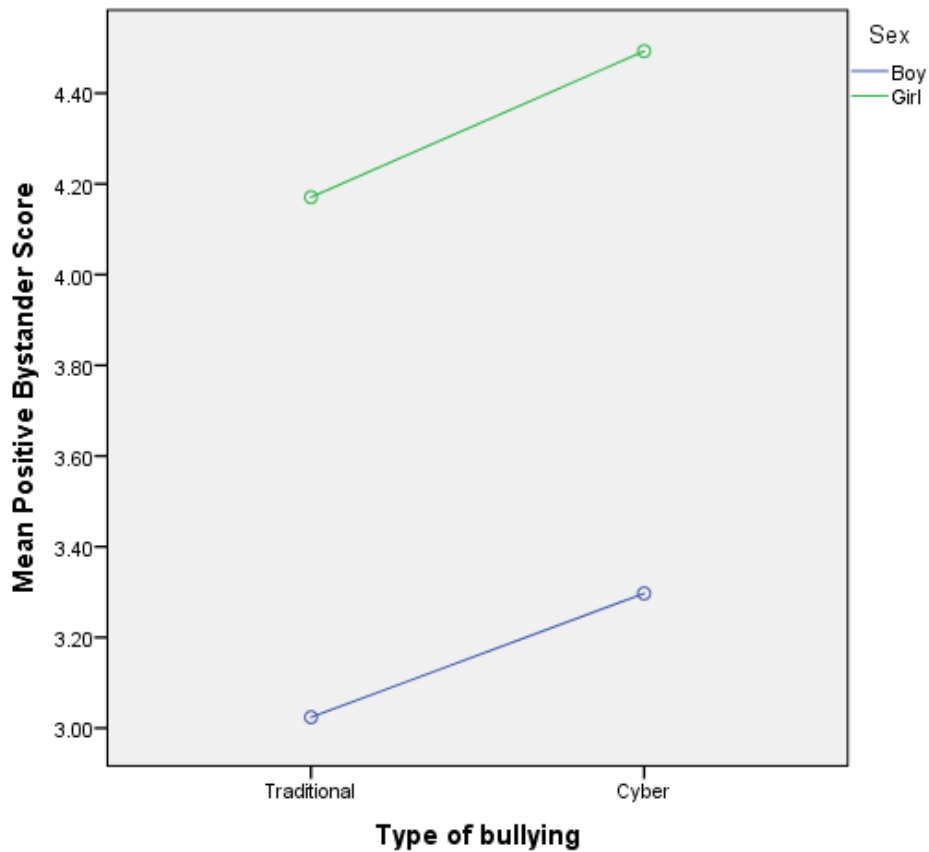
Figure 1: An interaction graph between the type of bullying and gender on mean positive bystander behaviour scores.

Hypothesis ID: 3

The relationship between positive bystander behaviour score and age was assessed for traditional and cyber bullying scenarios using a point biserial correlation analysis. The means and standard deviations (SD) for traditional/cyber positive bystander behaviour score and age can be seen in Table 9.

Table 9: The means (SD) for positive bystander behaviour score on traditional/cyber bullying and age.

	Mean (SD)	N
Traditional	3.566 (2.188)	868
Cyber	3.862 (1.788)	868

Year	7.533 (0.499)	868

Considering traditional bullying there was little or no correlation between positive bystander behaviour score and pupils' age, $r = 0.016$, $n = 868$, $p=0.639$, two tailed. This shows that positive bystander behaviour score in traditional bullying scenarios was not correlated by pupils' age. Considering cyber bullying scenarios there was also little or no correlation between positive bystander behaviour score and pupils' age, $r = -0.031$, $n = 868$, $p = 0.362$, two tailed. This shows that age did not correlate with positive bystander behaviour scores in cyber bullying scenarios. This correlation analysis showed that age does not correlate with positive bystander behaviour scores in either traditional or cyber bullying scenarios.

Issue two: bystander behaviour, victimisation/perpetration and gender

<u>Hypothesis ID: 4</u>

The relationship between victimisation and perpetration was analysed through a correlation for both traditional and cyber bullying scenarios. The means and standard deviations (SD) for traditional/cyber victimisation and perpetration can be seen in Table 10.

Table 10: The means (SD) for victimisation/perpetration for traditional/cyber bullying.

	Traditional	N	Cyber	N
Victimisation	2.517 (1.739)	838	1.755 (1.288)	850
Perpetration	1.640 (1.230)	837	1.413 (1.094)	849

Bystander Behaviour: Traditional/Cyber bullying

Considering the relationship between traditional victimisation and traditional perpetration, the analysis revealed a positive moderate correlation between the two variables, r = 0.387, n = 836, p < 0.001, with high traditional victimisation scores associated with high traditional perpetration scores. Considering the relationship between cyber victimisation and cyber perpetration, the analysis revealed a positive moderate correlation between the two variables, r = 0.435, n = 849, p < 0.001, with high cyber victimisation scores associated with high cyber perpetration scores.

Hypothesis ID: 5

The correlation analysis was used to analyse the strength and direction of the relationship between traditional and cyber bullying victimisation and associated positive bystander behaviour scores. The means and standard deviations (SD) for traditional/cyber victimisation and traditional/cyber positive bystander behaviour scores can be seen in Table 11.

Table 11: The means (SD) for victimisation and positive bystander behaviour scores for traditional/cyber bullying.

	Traditional	N	Cyber	N
Victimisation	2.517 (1.739)	838	1.755 (1.288)	850
Positive	3.566 (2.188)	868	3.862 (1.788)	868
bystander				

In terms of traditional victimisation and positive bystander behaviour, the analysis revealed no relationship between the two variables, r = 0.020, n = 838, p = 0.285, indicating no relationship between traditional victimisation and positive bystander behaviour scores. In terms of cyber victimisation and positive bystander behaviour, the analysis revealed no relationship, r = -0.088, n = 850, p = 0.005, indicating no relationship between cyber victimisation and positive bystander behaviour scores.

Hypothesis ID: 6

The relationship between traditional and cyber perpetration and negative bystander behaviour score was analysed using Pearson product-moment correlation coefficient. The means and standard deviations (SD) for perpetration and negative bystander scores can be seen in Table 12.

Table 12: The means (SD) for perpetration and negative bystander behaviour scores for traditional/cyber bullying.

	Traditional	N	Cyber	N
Perpetration	1.640 (1.230)	837	1.413 (1.094)	849
Negative bystander	1.113 (1.144)	867	0.656 (0.914)	868

In terms of traditional perpetration and negative bystander behaviour scores, the analysis revealed a positive weak/no correlation between the two variables, $r = 0.076$, $n = 836$, $p = 0.014$, indicating a weak/no correlation between traditional perpetration experience and negative bystander behaviour scores. In terms of cyber bullying perpetration and associated negative bystander behaviour scores, the Pearson correlation coefficient indicated a positive small correlation between the two variables, $r = 0.173$, $n = 849$, $p < 0.001$, where high levels of cyber bullying perpetration were associated with higher levels of negative bystander behaviour scores.

Hypotheses ID: 7 and 8

An independent samples t-test was conducted to see if there was a statistically significant difference between traditional/cyber victimisation scores between males and

females. The means and standard deviations (SD) for traditional/cyber victimisation and gender can be seen in Table 13.

Table 13: The means (SD) for victimisation scores for gender and traditional/cyber bullying.

	Traditional	N	Cyber	N
Males	2.520 (1.806)	434	1.781 (1.374)	444
Females	2.514 (1.667)	404	1.727 (1.188)	406

In terms of traditional victimisation, a significant difference was not found between males (M = 2.520, SD = 1.806) and females (M = 2.514, SD = 1.667) with t (836) = 0.049, p = 0.481, one tailed. An analysis of the effect size of the t-test revealed no variance of traditional victimisation scores explained by gender (mean difference = 0.006, 95% CI: -0.230 to 0.242, eta squared < 0.001). In terms of cyber victimisation, a significant difference was not found between males (M = 1.781, SD = 1.374) and females (M = 1.727, SD = 1.188) with t (848) = 0.612, p = 0.271, one tailed. The magnitude of the variance in cyber victimisation could not be explained by gender (mean difference = 0.0542, 95% CI: -0.120 to 0.228, eta squared < 0.001).

A further independent samples t-test was conducted to see if there was a significant difference in traditional/cyber perpetration scores between males and females. The means and standard deviations (SD) for traditional/cyber perpetration and gender can be seen in Table 14.

Table 14: The means (SD) for perpetration scores for gender and traditional/cyber bullying.

	Traditional	N	Cyber	N
Males	1.751 (1.402)	434	1.494 (1.213)	444
Females	1.521 (1.000)	403	1.326 (0.940)	406

In terms of traditional perpetration a significant difference between males (M = 1.751, SD = 1.402) and females (M = 1.521, SD = 1.000) was found, t (783.973) = 2.747, p = 0.003, one tailed. A very small effect was found to explain the variance of traditional

perpetration scores by gender (mean difference = 0.230, 95% CI: 0.066 to 0.394, eta

squared = 0.009. In terms of cyber perpetration, a significant difference between males

(M = 1.494, SD = 1.213) and females (M = 1.326, SD = 0.940) was found, t (824.511) =

2.261, p = 0.012, one tailed. The amount of variance of cyber perpetration explained by

gender was found to have a small effect (mean difference = 0.168, 95% CI: 0.0221 to

0.313, eta squared = 0.006).

Issue three: bystanders, empathy and gender

Hypotheses ID: 9 and 10

A Pearson correlation coefficient was calculated to analyse the relationship between

traditional/cyber perpetration and ECTS. The means and standard deviations (SD) for

traditional/cyber perpetration and ECTS can be seen in Table 15.

Table 15: The means (SD) for perpetration scores and ECTS for traditional/cyber bullying scenarios.

	Traditional	N	Cyber	N
Perpetration	1.640 (1.230)	837	1.413 (1.094)	849
ECTS	7.808 (2.016)	448	7.808 (2.016)	448

In terms of traditional perpetration and ECTS, a correlation analysis revealed a small

negative correlation between the two variables, r = -0.248, n = 440, p < 0.001, where

high levels of traditional perpetration associated with lower ECTS. In terms of cyber

perpetration a ECTS, the analysis revealed a small negative correlation between the two

variables, r = -0.227, n = 446, p < 0.001, where high levels of cyber perpetration

associated with lower ECTS.

To assess the relationship between traditional/cyber positive bystander behaviour scores and ECTS, a Pearson correlation analysis was conducted. The means and standard deviations (SD) for the correlation can be seen in Table 16.

Table 16: The means (SD) for positive bystander behaviour scores and ECTS for traditional/cyber bulling.

	Traditional	N	Cyber	N
Positive	3.566 (2.189)	868	3.862 (1.788)	868
bystander				
ECTS	7.808 (2.016)	448	7.808 (2.016)	448

Considering traditional positive bystander behaviour scores and ECTS, a positive moderate correlation was found, $r = 0.344$, $n = 448$, $p < 0.001$, with higher traditional positive bystander behaviour scores associated with higher ECTS. In terms of cyber positive bystander behaviour scores and ECTS, a positive moderate correlation was found between the two variables, $r = 0.390$, $n = 448$, $p < 0.00$, with higher cyber positive bystander behaviour scores associated with higher ECTS.

Hypothesis ID: 11

To test if there was a statistically significant difference in ECTS between males and females, an independent samples t-test was conducted. The means and standard deviations (SD) can be seen in Table 17.

Table 17: The means (SD) for ECTS and gender.

	Males	Females
ECTS	7.292 (2.096)	8.460 (1.706)
N	250	198

A significant difference between males ($M = 7.292$, $SD = 2.096$) and females ($M = 8.460$, $SD = 1.706$) was found, $t (446) = -6.349$, $p < 0.001$, one tailed. The amount of ECTS that

could be explained by gender was found to have a small effect (mean difference = -1.168, 95% CI: -1.529 to -0.806, eta squared 0.002.

Issue four: Bystanders and severity of bullying

Hypothesis ID: 12

To see if there is a significant difference across the three levels of severity for traditional and cyber bullying positive bystander behaviour, a one-way repeated measures ANOVA was conducted. The means and standard deviations (SD) for the three levels of severity for traditional positive bystander behaviour scores can be seen in Table 18.

Table 18: The means (SD) for levels of severity and traditional bullying.

	Traditional	N
Mild	1.006 (0.897)	868
Moderate	1.109 (0.851)	868
Severe	1.452 (0.947)	868

A one-way repeated measures ANOVA was conducted to compare positive bystander behaviour scores across the three levels of severity for traditional bullying. The analysis revealed a significant effect for severity, Wilks' Lambda = 0.823, $F(2, 866) = 92,950$, $p < 0.001$, multivariate partial eta squared 0.177, indicating a significant large effect size. An analysis of pairwise comparisons indicated a significant difference between each pair of levels. An analysis of Figure 2 shows that there is a significant difference between mild and moderate ($p = 0.001$), mild and severe ($p < 0.001$) and moderate and severe ($p < 0.001$). So as the severity of tradition bullying scenarios increases, positive bystander behaviour scores will also increase, as shown in Figure 2.
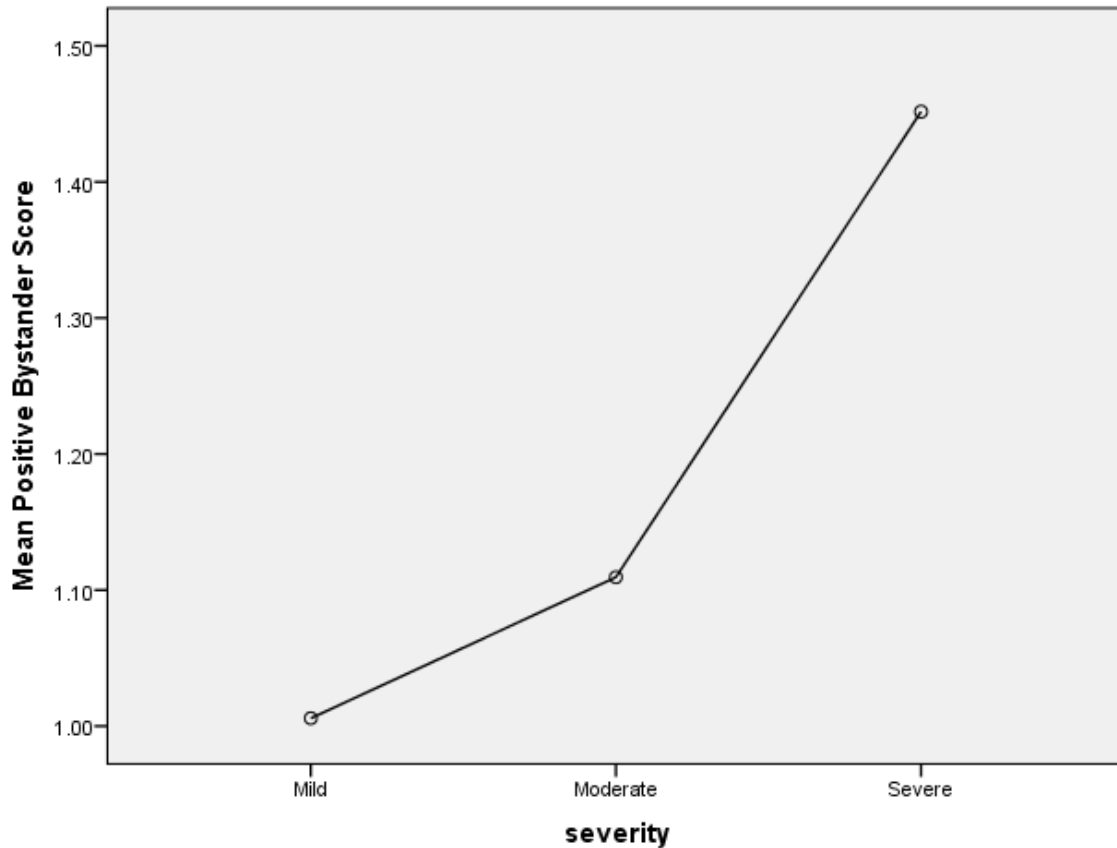
Figure 2: The interaction between levels of severity for traditional bullying and mean positive bystander behaviour score.

The means and standard deviations (SD) for the three levels of severity for cyber

positive bystander behaviour can be seen in Table 19.

Table 19: The means (SD) for levels of severity and cyber bullying.

	Cyber	N
Mild	1.061 (0.753)	868
Moderate	1.400 (0.767)	868
Severe	1.401 (0.770)	868

A one-way repeated measure ANOVA was conducted to compare the difference in positive bystander behaviour scores between the levels of severity for cyber bullying scenarios. There was a significant effect for severity, Wilks' Lambda = 0.804, F (2, 866) = 105.574, $p < 0.001$, multivariate partial eta squared = 0.196, indicating a significant large effect size. An analysis of pairwise comparisons indicated that there was a significant difference between each pair of severity levels, with the exception of moderate and severe. As seen in Figure 3, there is a significant difference between mild and moderate ($p < 0.001$), mild and severe ($p < 0.001$), but no significant difference between moderate and severe ($p = 1.00$). This shows that positive bystander behaviour scores are likely to be higher in moderate and severe scenarios compared to mild, indicating an effect for severity.
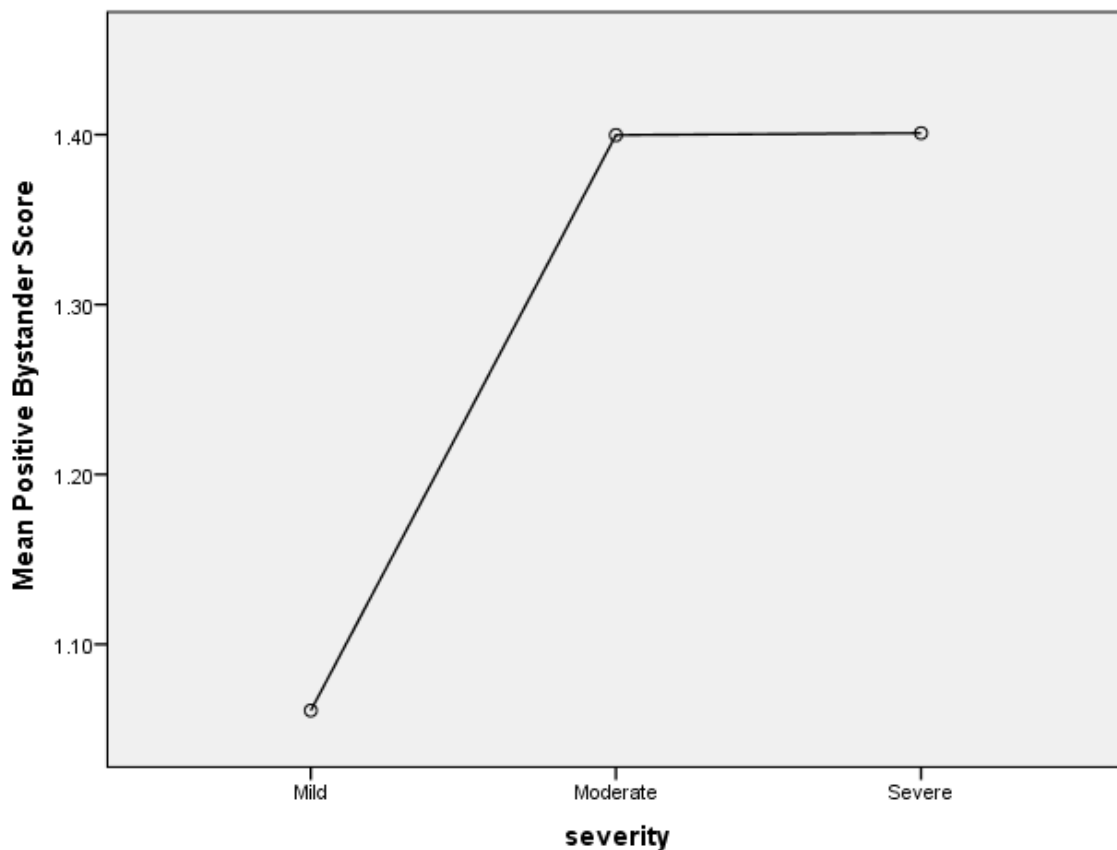
Figure 3: The interaction between levels of severity for cyber bullying and mean positive bystander behavior scores.

Hypothesis ID: 13

To see if there was a statistically significant difference between positive bystander behaviour scores between severe traditional and severe cyber bullying scenarios a repeated measures t-test was conducted. The means and standard deviations (SD) for traditional/cyber positive bystander behaviour scores for the severe scenarios can be seen in Table 20.

Table 20: The means (SD) of positive bystander behaviour scores for severe traditional and cyber scenarios.

	Mean (SD)	N
Traditional: Severe	1.452 (0.947)	868
Cyber: Severe	1.401 (0.770)	868

A repeated measures t-test found no significant difference on positive bystander behavior scores between severe traditional (M = 1.452, SD = 0.947) and severe cyber (M = 1.401, SD = 0.770), t (867) = 1.569, p = 0.059 (one tailed). The mean difference between positive bystander behavior scores concerning traditional/cyber severe scenarios was 0.051 with a 95% confidence interval ranging from -0.013 to 0.114. No main effect size was detected with an eta squared statistic = 0.003.

General discussion

The current study aimed to investigate bystander behaviour in traditional and cyber bullying scenarios. The scenarios for both types of bullying changed in severity, hence measuring the effect of severity on bystander behaviour. Victimisation and perpetration experience was also considered in relation to bystander behaviour and emotional/cognitive trait scores, where gender was considered across several of the variables. The rise of internet availability, and in turn online risks for adolescents (Slavtcheva-Petkova, Nash, & Bulger, 2014), has lead to strain and aggression resulting in traditional or cyber bullying acts (Pabian & Vandebosch, 2016; Rohani, 2014), causing negative emotions and wellbeing (Horner, Asher, & Fireman, 2015). Previous literature has shown that traditional bullying (Cook et al., 2010; Craig & Pepler, 1998; Patterson et al., 2016) and cyber bullying (Allison & Bussey, 2016; Black, 2014; Cross et al., 2015; Gradinger et al., 2009; Heirman & Walrave, 2008) are both prevalent and problematic in todays society leading to adverse outcomes for victims (Byron, 2008; Devine & Lloyd, 2012; Patchin & Hinduja, 2010). Although cyber bullying can be explained through risk taking behaviour to achieve self-actualisation (Livingstone et al., 2012; Maslow & Frager, 1987), it is clear that both forms of bullying can lead to negative outcomes, hence rationale for the current study to investigate the bystander response between traditional and cyber scenarios across the four issues.

The majority of previous literature has investigated cyber bullying among adolescent samples due to the high prevalence and report rates within this group (Allison & Bussey, 2016; Jones et al., 2012; Modecki et al., 2014). This is also consistent across traditional bullying literature and adolescent samples (Modecki et al., 2014; Patterson et al., 2016).

When considering samples across traditional/cyber bullying research, it has been shown that adolescents are more likely to provide greater truthfulness in responses to scenarios as children in primary schools can underestimate their true bullying participation and meaning in responses, hence compromising a true understanding of bystander behaviour (Salmivalli, Lagerspetz, & Björkqvist, 1996). This supports the rationale to focus on an adolescent sample in the current study by recruiting secondary school pupils' aged 11-13. As this particular age group has been used across the literature to examine traditional and cyber bullying scenarios (DeSmet et al., 2016; Livingstone & Bober, 2005), the findings from this study provide relevant insights into the bystander behaviours across traditional/cyber scenarios.

Previous literature on victimisation (Chan & Wong, 2015; Kwan & Skoric, 2013), perpetration (Barlett & Coyne, 2014; Katzer et al., 2009) and empathy (Van Cleemput et al., 2014; Del Rey et al., 2016; Machackova, Dedkova, & Sevcikova, 2015) have shown how bystander behaviours can be influenced in response to traditional/cyber bullying scenarios. This provides the current study rationale to investigate this and contribute to the body of literature. As previous literature surrounding bullying severity and bystander behaviour is minimal (Allison & Bussey, 2016), the current study will provide a unique insight into the effect of bullying severity on bystander behaviour by adopting a qualitative open-ended response design to receive an insight into how severity has an effect on bystander behaviour. This study provides support for previous literature on bystander behaviour, gender, victimisation, perpetration, empathy and severity but contributes new and unique findings. This shows the current study provides a valuable input into the field of bullying and bystander behaviour by providing a further insight into adolescents bystander responses between two types of bullying while further gaining an

insight into the roles of severity, victimisation/perpetration and empathy. The four main issues and associated findings will now be discussed.

Issue one: bystander behaviour, type of bullying and gender/age

Hypothesis 1, which predicted there would be higher positive bystander behaviour scores in cyber compared to traditional bullying scenarios, was accepted. This supports similar findings in the literature to show higher levels of positive bystander behaviour scores present in cyber bullying acts (Bastiaensens et al., 2014; Dooley et al., 2009; Hinduja & Patchin, 2013). However it contradicts recent research by Patterson et al., (2016) who found bystanders likely to provide positive bystander behaviour in traditional bullying compared to cyber bulling due to the presence of authority and physical movement from the bullying dyad. A difference between the current study and the research by Patterson et al., (2016) is the use of interviews to examine bystander behaviour. This provides a useful insight into bystander behaviour by adopting a semi-structured design to utilise participants responses to understand bystander actions (Cozby & Bates, 2015; Patterson et al., 2016).

On the other hand, when considering the sampling method, adolescents were recruited and agreed to take part alongside their parental consent (Patterson et al., 2016). Due to the requirement of parental consent it can be assumed that adolescents that were willing to take part are likely to be confident in the school system and well educated (Cozby & Bates, 2015; Patterson et al., 2016). To counteract this and avoid social desirable answers, the researcher did engage in follow up questions and adopted an objective manner throughout the semi-structured interview (Cozby & Bates, 2015). However it is unsure if these steps avoided desirable answers, therefore the results from this study should be used and generalised with caution until future research further establishes the

findings. Therefore, due to the time consuming nature of interviews (Cozby & Bates, 2015), the current study adopted a questionnaire format with the use of open-ended questions and a coding scheme to measure bystander behaviour. To avoid desirable answers, procedures were put in place to encourage honest responses across the class. Although research has highlighted that the majority of adolescents have an innate desire to help the victim and intervene (Tamm & Tulviste, 2015), it was reported that this is sometimes not the case due to adolescents limited understanding and knowledge of how to do so in a safe manner (Barnard-Wills, 2012). Therefore the finding in the current study that positive bystander behaviour is more likely in cyber compared to traditional bullying could be the result of adolescent's uncertainty to intervene in a traditional bullying act in a safe manner. This should encourage educators to enhance their teaching on bystander strategies to encourage bystanders to take positive action straight away and to ensure adolescents feel safe to act as a positive bystander for both types of bullying.

In addition, hypotheses 2a and 2b, which predicted females, would score higher positive bystander behaviour scores compared to males on traditional and cyber bullying scenarios respectively, were both accepted. Hypotheses 3a and 3b, which predicted there would be a correlation between age and positive bystander behaviour scores in traditional and cyber bullying scenarios respectively, were rejected. The finding that females are more likely than males to provide positive bystander behaviour provides consistent support alongside previous literature with similar findings (Baldry & Farrington, 2005; Cao & Lin, 2015; Graeff & Gardner, 2012; Innes, 2010). It is likely that females, compared to males are more likely to use strategic bystander responses by seeking help from an adult or peers compared to boys (Brinkman & Manning, 2016). However as this previous research considering the difference between gender utilised a

small sample between 200-650 (Cao & Lin, 2015; Graeff & Gardner, 2012; Hochman, 2013; Innes, 2010), the likelihood of a type 1 or type 2 error is more likely to occur (Pallant, 2013). Therefore the finding that females have greater positive bystander behaviour could be accepted even though it is false. Therefore the current study adopted a large sample (N = 868) to increase the statistical power of the tests and provide a stronger stability and robustness for the hypotheses by avoiding type 1 and type 2 errors (Pallant, 2013). Future research should aim to utilise a large sample when examining bystander behaviour between males and females.

The current finding that females will have higher positive bystander behaviour scores compared to males contradicts inconsistent findings in this field (Borofsky, Stollak, & Messé, 1971; Eagly & Crowley, 1986; Macháčková, Dedkova, Sevcikova, & Cerna, 2013). Although the Meta analysis by Eagly and Crowley (1986) found inconsistent findings for gender (N = 172), it is indicated that any Meta analysis with a sample below 200 should be regarded with caution as the reliability and robustness of the findings have only been shown to be strong and consistent in sample sizes above 200 (Flather, Farkouh, Pogue, & Yusuf, 1997). In addition, the issue of causality with Meta analytical findings can restrict the ability to generalise the findings to a wider context (Kowalski, Giumetti, & Schroeder, 2014). Therefore the current study provides recent evidence and contributes to the literature with a greater understanding between bystander behaviour and gender, with females showing higher positive bystander behaviours in both traditional and cyber bullying scenarios.

Considering age in the current study, no relationship between age and positive bystander behaviour was found which further contributes to the inconsistent support surrounding age (Mishna et al., 2012; Trach et al., 2010). Therefore this highlights that

future research needs to thoroughly examine the effect of age on positive bystander responses across different types of bullying. It is possible that no relationship was found in the current study due to the minimal age range across the sample (11-13), with year 7 and year 8 pupils reacting similar as bystanders due to the close transition between the year groups. Therefore future research should adopt a larger sample age range to consider how bystander behaviour changes according to age by utilising primary, secondary and college school pupils to assess how these bystander responses vary between year groups. This will provide a unique contribution to the literature by being the first study to assess the contribution of age across several year groups.

Issue two: bystander behaviour, victimisation/perpetration and gender

Hypotheses 4a and 4b, which predicted a positive correlation between traditional/cyber victimisation and traditional/cyber perpetration respectively, were accepted. This finding supports previous literature showing victimisation and perpetration experience to be positively linked (Cao & Lin, 2015; Chan & Wong, 2015; Espelage & Swearer, 2003; Rice et al., 2015). The similarities between the current study and previous research with similar findings are the use of adolescent samples when examining victimisation and perpetration experience. In terms of Chan and Wong (2015) study, a powerful sample (N = 1,880) showed similar findings to the current study. Even though the current study adopted a smaller sample than Chan and Wong (2015), the sample had stronger power to detect a difference compared with previous literature (Cao & Lin, 2015; Graeff & Gardner, 2012; Innes, 2010), hence providing greater power to detect a difference (Pallant, 2013).

Further to this, similar to the current study, Chan and Wong (2015) utilised a self-report methodology design. Although self-report designs are likely to arise social desirability bias across responses, where adolescents will specifically respond in a notion to avoid revealing their true actions (Cozby & Bates, 2015), the current study and Chan and Wong's (2015) study avoided this by using anonymity for the self-report procedure. Although adolescents will under-report their victimisation and perpetration experience due to the nature of the design, internal reliability revealed Cronbachs alpha of 0.9 and 0.8 for both victimisation and perpetration measures respectively (Chan & Wong, 2015), above the criterion of 0.7 (Field, 2013; Pallant, 2013). This highlights the findings by Chan and Wong (2015) support the current findings and provide a stronger foundation of literature on victimisation and perpetration in regards to traditional and cyber bullying scenarios.

Hypotheses 5a and 5b, which predicted a positive correlation between traditional/cyber bullying victimisation respectively and positive bystander behaviour was rejected. This contradicts previous literature that shows previous victimisation experience positively linked with positive bystander behaviour (Allison & Bussey, 2016; Bastiaensens et al., 2014; Kärnä, Voeten, Poskiparta, & Salmivalli, 2010). Hypothesis 6a, which predicted a positive correlation between traditional bullying perpetration and negative bystander behaviour, was rejected. However hypothesis 6b, which predicted a correlation between cyber bullying perpetration and negative bystander behaviour was accepted. This supports previous literature showing perpetration experience being linked with less helping behaviour as a bystander (Allison & Bussey, 2016; Barlińska et al., 2013), possibly due to perpetrator peer groups (Hinduja & Patchin, 2013).

This highlights that cyber bullying perpetration exists within peer groups. It should be taken into account that as the questionnaire was administered on a class-by-class basis, it is highly likely that peer groups with similar perpetration experience existed within the classes in the current study. Therefore it is possible that if these peer groups were seated in class proximity, presence of the peer group could lead to a underreported representation of perpetration experience and bystander responses (Hinduja & Patchin, 2013). Although the results should be used with caution, the ability to further generalise these results still needs to be established. Therefore future research should consider measuring peer group perpetration experience through individual semi-structured interviews of peer group members (Cozby & Bates, 2015). To overcome the issue of peer group influence a replication study should use a randomised seating plan for each class, hence reducing any peer group influence. When victims post personal information they are less likely to intervene in a cyber bullying due to victims responsibility and blame (Schacter, Greenberg, & Juvonen, 2016). Although this can not be applied to the current study, the notion can still explain negative bystander behaviour. This is because if pupils regard the hypothetical scenario where the victim is slightly to blame, this would result in negative bystander responses.

Hypotheses 7a and 7b, which predicted females compared to males would have higher victimisation scores in both traditional and cyber bullying scenarios respectively, were rejected. This contradicts previous research showing females to have higher victimisation experience in both forms of bullying (Barlińska et al., 2013; Black, 2014; Campbell et al., 2012; Pornari & Wood, 2010). Due to the powerful large sample (N = 3000) by Campbell et al., (2012) across 29 schools compared to the current study utilising a sample across two schools with similar demographics, it is evident the findings by Campbell et al., (2012) provide a reliable insight into victimisation experience and

gender. In terms of the current study, victimisation experience may be underreported due to victims worry of further victimisation in bullying (Slonje & Smith, 2008). When looking at schools approach to bullying and victimisation is was found that when schools implemented a student approach to tackle the issue of bullying, there was a greater success rate and less reported incidences of bullying compared to schools that approached the issue using teacher led awareness lessons (Denny et al., 2015). The practical application of this shows that developing intervention strategies using the pupils as the approach to overcome the issue of bullying are likely to succeed in its intervention.

Hypothesis 8a and 8b, which predicted males compared to females would have higher perpetration scores in both traditional and cyber bullying scenarios respectively, were accepted. This is supported by previous literature showing males compared to females to have higher perpetration in traditional and cyber bullying (Barlett & Coyne, 2014; Barlińska et al., 2013; Craig & Pepler, 1998; Dooley et al., 2009; Katzer et al., 2009; Li, 2006). This current study provides a recent contribution to this body of literature to further support the notion that males are more likely to be perpetrators compared to females in traditional and cyber bullying acts.

Considering the theoretical rationale behind this, Bandura's (1973) social learning theory argues that people that have experienced violence in the form of being a perpetrator in traditional bullying are more likely to be a perpetrator in cyber bullying. Using the concept of modelling and operant conditioning, these violent acts will influence the perpetrators moral standards and self-esteem, hence reinforcing the violent acts of bulling using mediums of modern technology (Bandura, 1973; Hochman, 2013). As males are more prone to violent acts and risk taking behaviour (Gardner & Steinberg,

2005), this can explain why males are more likely to exhibit higher perpetration levels in both types of bullying.

Issue three: bystanders, empathy and gender

Hypotheses 9a and 9b, which predicted a negative correlation between ECTS and traditional/cyber perpetration respectively, were accepted. This finding is consistent with previous literature showing perpetration experience being associated with lower levels of empathy (Barlińska et al., 2013; Van Cleemput et al., 2014; Del Rey et al., 2016; Jolliffe & Farrington, 2006a; Perren & Gutzwiller-Helfenfinger, 2012; Price et al., 2014). The previous literature has provided robust and reliable findings through statistically powerful samples (Van Cleemput et al., 2014), where the current study further confirms the notion of perpetration associated with lower levels of empathy.

The research by Barlińska et al., (2013) recorded bystander behaviour using an online messenger simulation in a laboratory setting. The artificial setting of the laboratory environment reduces participants ability to accurately represent their true bystander response (Cozby & Bates, 2015). In addition to this, the use of an online messenger simulation to measure bystander responses fails to acknowledge other online mediums and formats that bullying can occur, hence taking a reductionist view by over simplifying a complex interaction of online communication (Barlińska et al., 2013). Although there is evidence for a significant use of these social networking sites to communicate, there is a lack of research considering the medium as a platform for bullying related acts (Sengupta & Chaudhuri, 2011). Therefore, future research needs to investigate social networking sites as a key platform for cyber bullying material using a variety of online

communication mediums and consider how bystanders within these communication sites react according to public and private messages.

Hypotheses 10a and 10b, which predicted a positive correlation between ECTS and positive bystander behaviour scores in traditional and cyber scenarios respectively, were accepted. The current findings are supported by previous research (Barhight et al., 2013; Van Cleemput et al., 2014; Machackova & Pfetsch, 2016; Sokol et al., 2015; Thornberg & Jungert, 2013) where evidence has shown high levels of empathy to be associated with higher levels of positive bystander behaviour. The research by Barhight et al., (2013) is different to the current study due to the use of primary school children and observations of bullying acts in a laboratory environment. Due to the artificial surrounding of the laboratory and unfamiliar situations of the bullying acts this does not represent an accurate representation of a true bullying act in the school environment, hence participants scores need to be used with caution, especially if experimenter effects occurred during the process (Barhight et al., 2013; Cozby & Bates, 2015). Furthermore as adolescents are more likely to provide truthful and meaningful responses compared to children that are prone to experimenter effects in an artificial setting, future research should adopt a large adolescent sample (Cozby & Bates, 2015; Salmivalli, 2014). As the current study used an adolescent sample through self-report design using strict procedures to avoid desirable answers the current findings provide a robust contribution to the literature.

Hypothesis 11, which predicted females compared to males would have higher ECTS, was accepted. Previous literature has supported the notion that females compared to males will have higher empathy levels (Bosacki & Astington, 1999; Brewer & Kerslake, 2015; Graham & Ickes, 1997; Werth et al., 2015). However its been shown bystanders

will automatically have a greater empathetic response when the victim directly seeks

help from the bystander compared to witnessing the act (Machackova et al., 2015). This

highlights the importance of bystander proximity to the bullying act, therefore future

research should consider measuring bystander proximity when considering the

bystander response. Researching utilising a quantitative and qualitative design from

focus groups and questionnaire data looked into bystander behaviour and empathy

(Owusu & Zhou, 2015). The results indicated that adolescents with high cognitive and

affective empathy levels are likely to seek indirect support to help the victim, with a

greater effect in females compared to males (Owusu & Zhou, 2015), supporting the

current finding. This highlights the importance for greater empathy awareness training to

help reduce cyber bullying acts and increase positive bystander action by seeking help

from an adult. Therefore the practical application of this research should encourage

educators and intervention developers to focus on enhancing empathetic reasoning

through personal reflection and reasoning tasks.

Issue four: Bystanders and severity of bullying

Hypotheses 12a and 12b, which predicted a higher positive bystander behaviour score

for severe traditional and cyber respectively compared to mild and moderate scenarios,

were accepted. This supports previous research showing that positive bystander

behaviour is more likely to be present in severe acts of traditional and cyber bullying

(Camacho et al., 2014; Cappadocia et al., 2012; Chen et al., 2015; Obermaier et al.,

2014). Similar to the current study, previous research that found similar results utilised

an adolescent large sample to gain statistical power and adopted a self-report

methodological design (Bastiaensens et al., 2014; Chen et al., 2015). This supports the

rationale to utilise a self-report design on a large sample of adolescents in the current study.

Perpetrators regard bullying as less severe compared to victims (Runions & Bak, 2015), although due to attribution bias from previous victims, victims tend to over-exaggerate the severity of the scenario (Barnett, Nichols, Sonnentag & Wadian, 2013). Therefore future research should consider the relationship between victimisation/perpetration on severity of bullying scenarios. However, the severity of bullying scenarios was measured using hypothetical scenarios. The use of hypothetical scenarios can be considered reductionist for such a complex interaction of bullying (Allison & Bussey, 2016). Scenarios imply that the bullying act is a one off event, however it is widely recognised that bullying is a consistent and repetitive form of aggression (Brinkman & Manning, 2016; Cozby & Bates, 2015). On the other hand, although the current study did adopt the use of hypothetical scenarios to represent traditional and cyber bullying acts, the current study made use of an open ended item after each scenario so the pupils could provide a greater insight into their behavioural response (Geer, 1988).

Hypothesis 13, which predicted positive bystander behaviour would be higher in severe cyber compared to severe traditional bullying, was rejected. This findings contradicts previous research showing greater positive bystander responses in severe cyber bullying acts compared to traditional bullying (Bastiaensens et al., 2015; Chen, Chang, & Cheng, 2016; Dredge & Gleeson, 2014; Madell & Muncer, 2007). Qualitative research using interviews in Taiwan on 24 secondary school pupils considered their bystander behaviour intentions and the process involved when deciding to positively intervene or negatively intervene (Chen et al., 2016). The findings revealed that the severity of the bullying incident determines how the bystander will react with more severe scenarios

prompting greater pro-social behaviour to stop the act and support the victim (Chen et al., 2016). These findings highlight the importance of victim relationships and bullying severity when deciding how to respond. The practical application of this encourages educators and intervention developers to develop pupils' awareness and strategies pupils can adopt to positively intervene and provide positive bystander behaviour irrespective of victim relationship and severity. Due to the in-depth analysis of interviews, this data can be regarded as a meaningful insight into bystanders decision processes and therefore gives rationale to consider severity in the current study (Cozby & Bates, 2015).

Further critical evaluation

The following section will now discuss methodological considerations in regards to the current study, open/closed questions and suggestions for future research.

The methodology of the current study adopted a questionnaire format compiled of traditional and cyber bullying scenarios. However, a scenario-based questionnaire administered in a classroom environment fails to re-create true acts of traditional or cyber bullying in the real world (Allison & Bussey, 2016; Cozby & Bates, 2015). Therefore participant's bystander responses may not provide an accurate picture of true bystander responses due to misinterpretation of scenarios in a questionnaire format. On the other hand, the importance of using a self-report measure means the flexible administration of the scale to the class can encourage researchers to utilise a large sample (Cozby & Bates, 2015), hence being able to utilise a large sample in the current study. However a negative consequence of using self-report data to examine adolescent's responses to hypothetical acts of bullying is the notion of recall bias (Cozby

& Bates, 2015). To overcome this a longitudinal design should be adopted (Cozby &

Bates, 2015; Quirk & Campbell, 2015).

In the self-report measure for the current study, open and closed questions were used

within the scale. In terms of the open ended questions used, research has shown the

strong validity of using open-ended questions, highlighting that if people fail to answer

the question, it is often the result of participants cognitive understanding or ability to

understand the question (Geer, 1988). This provides future researchers with confidence

that although time consuming, open-ended questions do provide meaningful data

(Cozby & Bates, 2015; Geer, 1991). To overcome issues with interpretation researchers

should be encouraged to read out items to avoid misinterpretation, as done in the

current study. Research contradicts the use of general open-ended questionnaire items

tailored at the end of the questionnaire (O'Cathain & Thomas, 2004). This was found to

confuse respondents, restricting opportunity to provide in depth responses, hence

providing support for the current study having the open questions at the start of each

scenario. Although expensive to analyse, research should adopt a strategic plan when

developing open-ended questions and make it clear to the audience the purpose and

meaning of the open questions to avoid misinterpretation and confusing when

responding (Cozby & Bates, 2015; O'Cathain & Thomas, 2004).

Research looking into the use of surveys considered the issue of satisficing (Cozby &

Bates, 2015; Krosnick, 1991). This issue leads to participants failing to provide useful

and meaningful respondents due to poor cognitive ability leading them to provide limited

answers (Krosnick, 1991). This further explains why respondents fail to respond to

particular open questions due to lack of memory retrieval. It is possible, due to the

variety of academic ability in the classes, the issue of satisficing occurred in the current

study. To counteract this, the current study used strict procedure guidelines to ensure all participants understood each scenario and question. Furthermore, research has shown that adolescents find the use of qualitative methods an easier format to provide an insight into their feelings where they could provide meaningful responses (Cozby & Bates, 2015; Mishna, Schwan, Lefebvre, Bhole, & Johnston, 2014) compared to quantitative measures. It was noted that closed questions often failed to provide the opportunity to express feelings and understanding about scenarios (Mishna et al., 2014). This provides support for the current study to use open questions to measure participant's bystander behaviour. Although it is argued scale developers have a lack of established resources to ensure correct procedures are followed (Hinkin, 1998), future research examining bystander behaviour should utilise open questions when using an adolescent sample.

Even though bystanders react in similar ways for both traditional and cyber bullying contexts (Quirk & Campbell, 2015), contextual factors surrounding the bullying dyad need to be acknowledged for future research (Macháčková et al., 2013; Oh & Hazler, 2009). Qualitative analysis of interviews found that pupils don't have the skills or knowledge to stay safe online when using the Internet (Cranmer, 2013). The practical application of this should highlight and encourage educators to provide e-safety awareness lessons in the classroom and for online intervention developers to develop social networking sites that controls for harmful and cyber related material. Furthermore, positive bystander responses have been associated with less frequency of bullying acts (Salmivalli, Voeten, & Poskiparta, 2011). The practical application of this should encourage intervention developers to enhance pupils' positive bystander response through awareness and strategy teaching. This will encourage pupils' to understand and use positive techniques as a bystander to intervene and stop the bullying act.

Practical applications

The principle of e-safety knowledge refers to individuals knowledge on how to stay safe online and awareness of potential harmful risks available to them (Barnard-Wills, 2012). Therefore people with low levels of e-safety knowledge are more susceptible to online risks and dangers, hence more prone to victimisation of cyber bullying (Barnard-Wills, 2012). The rise of technology providing greater availability of the Internet has enabled greater networking communication, transforming the way individuals communicate with each other, but also enabled greater risk of cyber bullying acts (Campbell, Butler, & Kift, 2008). Therefore, this highlights the importance for schools to implement an e-safety awareness component in the national curriculum, to ensure all children and adolescents receive these important skills to provider a safer environment for Internet use (Campbell et al., 2008), hence reducing cyber bullying and victimisation.

Pupils fail to understand how their bystander responses have an impact on the bullying dyad (Salmivalli, 2014). Greater interventions to tackle response strategies and empathetic responsiveness need to be implemented in the school environment as it is the schools responsibility (Willard, 2011). The practical application of the current study, alongside previous literature is the need for bystander intervention programmes (Connolly, Hussey & Connolly, 2014; Ktoridou, Eteokleous, & Zahariadou, 2012; Lodge & Frydenberg, 2005; Saarento & Salmivalli, 2015; Ttofi & Farrington, 2012). This will enable adolescents to develop a greater understanding on how to behave and react when witnessing different types and severity of bullying acts. This will reduce bullying

occurrences within the school environment and provide a safe environment for learning and development.

Future research should combine self-report data, behavioural observations, teacher interviews (Chan & Wong, 2015) to provide a unique contribution to the field of bystander behaviour. In addition, longitudinal research should be conducted to examine how bystander responses to bullying videos change according to children's developmental period. This design will allow an insight into how life events, development stages and contextual factors moderate bystander behaviour (Cozby & Bates, 2015).

Conclusion

This study aimed to investigate pupils' bystander behaviour across traditional and cyber bullying scenarios that changed in severity, while considering victimisation/perpetration and empathy. In conclusion, the results for issue one showed that pupils' would show higher levels of positive bystander behaviour in cyber compared to traditional bullying scenarios, where positive bystander behaviour was shown to be higher in females compared to males in both types of bullying. Considering the relationship of age on positive bystander behaviour, no relationship was found for either traditional or cyber bullying scenarios showing equal positive bystander responses for both year groups. However due to the restricted age range in the current study, this finding does not accurately represent the relationship between age and positive bystander behaviour across different forms of bullying, hence providing rationale for future research to adopt a broad sample range including lower and upper year groups in secondary school environments.

The results for issue two showed that victimisation experience in traditional or cyber bullying scenarios is associated with perpetration in the same type of bullying. However the results showed victimisation experience in either types of bullying was not associated with positive bystander behaviour. Cyber bullying perpetration was associated with negative bystander behaviour compared to traditional perpetration, where males exhibited higher levels of perpetration experience compared to females in both types of bullying. However it was found females compared to males did not exhibit higher levels of victimisation experience in both types of bullying.

The results for issue three showed that traditional/cyber perpetration was associated with lower levels of ECTS, where high levels of ECTS was associated with higher positive bystander behaviour, especially for females. The results for issue four showed that for both traditional and cyber bullying scenarios, higher levels of positive bystander behaviour was found as severity increased, although no difference was found in severe traditional and severe cyber scenarios. The findings across these four issues provide a relevant contribution to the literature and an insight into adolescent bystander responses, especially in terms of severity, which is largely under researched.

Methodological considerations of self-report measures found that although time-consuming and susceptible to social desirability bias, the use of open questions provided a useful medium for adolescents to provide meaningful responses. The current sample size was discussed indicating a strong statistical power alongside previous large-scale studies in the field. As cyber bullying is a recent form of bullying, pupils' lack of knowledge surrounding how to stay safe online should provide rationale for future researchers and intervention developers to develop pupil's awareness of cyber bullying, hence awareness of bystander behaviour when witnessing these types of acts. The

practical application of the current study provides useful information to educators in the school system on how pupils' respond to different acts of bullying.

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Appendices

Contents

Appendix D

<u>Participant information protocol: to be read out to potential participants</u>

Our study wants to find out about what you think about a number of things. We want to know what you would do in certain situations. We will collect this information in class from a questionnaire. I am going to read out each scenario and I want you to answer the questions that follow. These scenarios will be about traditional bullying and Cyberbullyng, does everyone know the difference between these two types of bullying? There are also some questions about how you like to interact with other people. When choosing your response, be as honest as you can, your responses will be confidential so no one will know what you put. Try to make sure that other people cannot see what you have put. Actually, there is no need to try to copy because this is NOT a test and there are no right or wrong answers. There is no need to look at what anybody else thinks. We are not interested in what any one person says but we want to find out what lots of children think about these kinds of things. It would be very helpful if you could try and tell us what YOU really think.

We think you might find it interesting to take part and you can ask us questions if you want to know more about what we are studying. We do not think the questions are

upsetting but it is possible. Let us know if you are upset by anything we discuss or want any kind of help.

You do not have to take part at all if you would prefer not to and you can tell us at any time if you want to stop without giving me a reason. If you think you don't want to answer some questions that is fine too. Remember, this is not a test. And it is up to you how many questions you want to answer. If you prefer not to give me your questionnaire at the end, that is fine. If you do give it to me, then your answers will become part of our study.

Normally, we will not tell anybody else about what you have told us in this study. But if you do or say something that makes us think that you need help or support or are in danger then we will need to tell an adult from your school. If we think this is needed we will discuss it with you first and you can let us know which person you want us to tell. Is that OK with you?

If you feel like you want to talk to anybody about anything we have talked about after I have gone, you can always tell your teacher. Or if you prefer, you could contact ChildLine – there are posters up around your school with their telephone number on it.

Appendix E

<u>What I would do Questionnaire: CB2</u>

School...
Year ....   Boy/Girl ....

<u>Scenario (C3):</u>
You are using the computers for a school lesson. During the lesson you can see a message pop up on someone's computer. It reads, "Nobody likes you, go to a different school". You can see this has been happening throughout the lesson, as there are several messages like this in the message.
<u>Answer the following:</u>
1. What would you do in this situation? List as many things as you can think of.
....
....
....
....
....
....
....
....

2. How often have you experienced (been a victim) something similar to this scenario?

 Never   Sometimes   Always

1   2   3   4   5   6   7   8   9   10

3. How often have you done (been a perpetrator) something similar to this scenario?

Never   Sometimes   Always

1   2   3   4   5   6   7   8   9   10

4. How likely would you do the following?

	Never			Sometimes					Always	

a. Ignore it:

1   2   3   4   5   6   7   8   9   10

b. Intervene to help:

1   2   3   4   5   6   7   8   9   10

c. Seek help from an adult:

1   2   3   4   5   6   7   8   9   10

Scenario (T1): As you are walking home from school, you can hear the person in front of you being a **little nasty,** calling names to someone over the road that looks **a little upset** by this.

Answer the following:

1. What would you do in this situation? List as many things as you can think of.
....
....
....
....
....
....
....
....
....

2. How often have you experienced (been a victim) something similar to this scenario?

Never   Sometimes   Always

1   2   3   4   5   6   7   8   9   10

3. How often have you done (been a perpetrator) something similar to this scenario?

Never   Sometimes   Always

1   2   3   4   5   6   7   8   9   10

4. How likely would you do the following?

Never   Sometimes   Always

a. Ignore it:

1   2   3   4   5   6   7   8   9   10

b. Intervene to help:

1   2   3   4   5   6   7   8   9   10

c. Seek help from an adult:

1   2   3   4   5   6   7   8   9   10

Scenario (C1): During a lesson, the person next to you gets his phone out and starts texting. You can see that the text is going to be sent to somebody else in the class. The text reads, "you're a loser".

Answer the following:

1.What would you do in this situation? List as many things as you can think of.
....
....
....
....
....
....
....
....
....

2. How often have you experienced (been a victim) something similar to this scenario?

Never   Sometimes   Always

1   2   3   4   5   6   7   8   9   10

3. How often have you done (been a perpetrator) something similar to this scenario?

Never   Sometimes   Always

1   2   3   4   5   6   7   8   9   10

4. How likely would you do the following?

Never   Sometimes   Always

a. Ignore it:

Bystander Behaviour: Traditional/Cyber bullying

        1   2   3   4   5   6   7   8   9   10

b. Intervene to help:

        1   2   3   4   5   6   7   8   9   10

c. Seek help from an adult:

        1   2   3   4   5   6   7   8   9   10

Scenario (T2): As you are walking home from school, you can hear the person in front of you being **fairly nasty,** calling names to someone over the road that looks **fairly upset** by this.

Answer the following:

1. What would you do in this situation? List as many things as you can think of.
....
....
....
....
....
....
....
....
....

2. How often have you experienced (been a victim) something similar to this scenario?

Never   Sometimes   Always

1   2   3   4   5   6   7   8   9   10

3. How often have you done (been a perpetrator) something similar to this scenario?

Never   Sometimes   Always

1   2   3   4   5   6   7   8   9   10

4. How likely would you do the following?

               Never   Sometimes   Always

a. Ignore it:

        1   2   3   4   5   6   7   8   9   10

b. Intervene to help:

        1   2   3   4   5   6   7   8   9   10

c. Seek help from an adult:

        1   2   3   4   5   6   7   8   9   10

Scenario (C2): During your break outside someone falls over and is in pain. Someone takes a picture of this. In the next lesson you can see this person is about to post the picture online so everyone can see and laugh at them.

Answer the following:

1. What would you do in this situation? List as many things as you can think of.
....
....
....
....
....
....
....
....
....

2. How often have you experienced (been a victim) something similar to this scenario?

Never   Sometimes   Always

1   2   3   4   5   6   7   8   9   10

3. How often have you done (been a perpetrator) something similar to this scenario?

Never   Sometimes   Always

1   2   3   4   5   6   7   8   9   10

4. How likely would you do the following?

        Never   Sometimes   Always

a. Ignore it:

        1   2   3   4   5   6   7   8   9   10

b. Intervene to help:

          1   2   3   4   5   6   7   8   9   10

c. Seek help from an adult:

          1   2   3   4   5   6   7   8   9   10

Scenario (T3): As you are walking home from school, you can hear the person in front of you being **very nasty**, calling names to someone over the road that looks **very upset** by this.

Answer the following:

1. What would you do in this situation? List as many things as you can think of.
....
....
....
....
....
....
....
....
....

2. How often have you experienced (been a victim) something similar to this scenario?

Never   Sometimes   Always

1   2   3   4   5   6   7   8   9   10

3. How often have you done (been a perpetrator) something similar to this scenario?

Never   Sometimes   Always

1   2   3   4   5   6   7   8   9   10

4. How likely would you do the following?

          Never   Sometimes   Always

a. Ignore it:

          1   2   3   4   5   6   7   8   9   10

Bystander Behaviour: Traditional/Cyber bullying

b. Intervene to help:

1	2	3	4	5	6	7	8	9	10

c. Seek help from an adult:

1	2	3	4	5	6	7	8	9	10

Appendix F

Psychopathic Personality Traits Scale (PPTS)

Please indicate whether you agree or disagree with the following statements:

		Agree	Disagree
1	I don't care if I upset someone to get what I want.		
2	Before criticizing somebody, I try to imagine and understand how it would make them feel.		
3	I know how to make another person feel guilty.		
4	I tend to focus on my own thoughts and ideas rather than on what others might be thinking.		
5	What other people feel doesn't concern me.		
6	I always try to consider the other person's feelings before I do something.		
7	I know how to pay someone compliments to get something out of them. I KNOW HOW TO SAY NICE THINGS TO SOMEONE TO GET SOMETHING OUT OF THEM.		
8	I don't usually appreciate the other person's viewpoint if I don't agree with it. I DON'T USUALLY TRY TO UNDERSTAND ANOTHER PERSON'S OPINION IF I DON'T AGREE WITH IT.		
9	Seeing people cry doesn't really upset me.		
10	I am good at predicting how someone will feel.		
11	I know how to simulate emotions like pain and hurt to make others feel sorry for me. I KNOW HOW TO FAKE EMOTIONS LIKE PAIN AND HURT TO MAKE OTHER PEOPLE FEEL SORRY FOR ME.		
12	In general, I'm only willing to help other people if doing so will benefit me as well.		
13	I tend to get emotionally involved with a friend's problems. IF A FRIEND HAS PROBLEMS IT MAKES ME FEEL BAD.		
14	I'm quick to spot when someone is feeling awkward or uncomfortable.		
15	I sometimes provoke people on purpose to see their reaction.		
16	I believe in the motto: "I'll scratch your back, if you scratch mine". I BELIEVE IN HELPING ANOTHER PERSON IF IT MAKES THEM HELP ME.		
17	I get filled with sorrow when people talk about the death of their loved		

	ones.		
18	I find it difficult to understand what other people feel.		
19	I sometimes tell people what they want to hear to get what I want from them.		
20	It's natural for human behaviour to be motivated by self-interest. IT IS NATURAL THAT PEOPLE DO THINGS MAINLY TO MAKE GOOD THINGS HAPPEN FOR THEM.		

Appendix G

<u>Secondary schools</u>

Dear Headteacher,

I completed my Psychology degree (First Class) last year and I am currently studying my MSc at the University of Chester in Family and Child Psychology.

As part of my course my Dissertation project is looking at bullying and the bystander effect. I am working very closely alongside Professor Mike Boulton, a senior lecturer and leading researcher in bullying at the university.

I am emailing you to ask if your school would be interested in participating in this very exciting research looking at pupil's attitudes towards hypothetical scenarios.

If you would be interested then all that would be required is if I could come into the school for approximately a one-off 30minute session. This would involve myself providing the year 7/8 classes with a questionnaire containing six hypothetical scenarios: three on traditional bullying and three on Cyber bullying. I would read each scenario to the class to avoid miss-interpretation.

If you agreed to take part we would work around your school timetable and only come in at a time that suits the class. It is intended the findings of this project will be published in a journal so I hope that you will take time to think and consider if you would like your school to participate in this exciting area of research.

I hope to hear back from you soon.

Many thanks!

Yours faithfully,
Peter Macaulay

bullying project

MR Ms K Read <s201kread@alderbrook.solihull.sch.uk>

Wed 13/04, 10:15

PETER MACAULAY; Dr J Smith <s201jsmith@alderbrook.solihull.sch.uk> ⌄

👍   ⤺ Reply all | ⌄

MSc: Dissertation Schools

You replied on 13/04/2016 22:17.

Action Items

Dear Peter,

I am very interested in your bullying project. I have responsibility for year 7 and 8, and also SMSC development. Please contact me directly with more information.

Many thanks,

Kate Read

Appendix H

Michelle Bradshaw <MBradshaw@solihull.tgacademy.org.uk>
Tue 12/04, 16:36
PETER MACAULAY ⩔

MSc: Dissertation Schools

You replied on 14/04/2016 13:23.

Dear Peter,

Your email has been forwarded to me by our Principal, Mr Darren Turner. Please feel free to contact me on 0121 705 5100 to discuss this further.

Kind regards,
Michelle

Michelle Bradshaw
College Leader

Tudor Grange Academy Solihull
Dingle Lane
Solihull
B91 3PD

Inspiring Excellence

Part of Tudor Grange Academies Trust

Email: MBradshaw@solihull.tgacademy.org.uk

Tel: 0121 705 5100
web: www.solihull.tgacademy.org.uk

Appendix I

Appendix J

Variable	Definition	Examples
Seeking help from an adult/teacher	Responses where the child identifies seeking or looking for help from a teacher or adult close by to prevent the hypothetical situation.	- "Get a teacher" - "Get an adult" - "Report it to a teacher"
Seeking help from a peer	Responses where the child identifies seeking help from a friend or another peer close by to help and prevent the hypothetical scenario.	- "Get my friend" - "Ask somebody in the classroom"
Intervening to stop the bullying situation	Any responses that indicate the child indicate they would intervene in the hypothetical situation to stop the bully to help the victim.	- "Tell the bully to stop" - "Help the victim" - "Warn the victim" - "Tell the bully to say sorry" - "Tell the bully stop what he is about to do"
Emotional support for the victim	Responses where the child provides emotional support to the victim, providing comfort and reassurance after the hypothetical situation.	- "See if the victim is okay" - "Support the victim" - "Comfort the victim" - "Make sure the victim is not upset"
Bully the Bully	The child will intervene to stop the situation by being physically, verbally or emotional aggressive to the bully. In essence the child will take on the role of a bully.	- "Fight the bully" - "Push the bully" - "Shout at the bully" - "Be aggressive to the bully" - "Tell the bully to go away"
Encourage the bully	Responses where the child would provide encouragement and support to the bully and intervene to help the bully.	- "Laugh at the victim" - "Support the bully" - "Laugh and cheer"
Ignoring the situation	Children would ignore the situation, passively watch and actively not seek help.	- "Ignore it" - "Watch the situation" - "Run away" - "Pretend I didn't see what happened"
No knowledge of what to do	Children with limited or no knowledge of what to do in the situation.	- "Nothing" - "I don't know" - "?" - "I don't know what I would do"

Appendix K

<u>Section 1: Data screening – detected errors:</u>

c1adult

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00 Absent	499	57.5	57.5	57.5
	1.00 Present	368	42.4	42.4	99.9
	5.00	1	.1	.1	100.0
	Total	868	100.0	100.0	

c14c

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	166	19.1	19.4	19.4
	2.00	112	12.9	13.1	32.6
	3.00	47	5.4	5.5	38.1
	4.00	86	9.9	10.1	48.1
	5.00	129	14.9	15.1	63.2
	6.00	44	5.1	5.2	68.4
	7.00	52	6.0	6.1	74.5
	8.00	52	6.0	6.1	80.6
	9.00	56	6.5	6.6	87.1
	10.00	109	12.6	12.8	99.9
	53.00	1	.1	.1	100.0
	Total	854	98.4	100.0	
Missing	System	14	1.6		
Total		868	100.0		

PPTS1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00 Disagree	439	50.6	93.4	93.4
	1.00 Agree	30	3.5	6.4	99.8

		Frequency	Percent	Valid Percent	Cumulative Percent
	8.00	1	.1	.2	100.0
	Total	470	54.1	100.0	
Missing	System	398	45.9		
Total		868	100.0		

PPTS2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00 Disagree	111	12.8	23.8	23.8
	1.00 Agree	355	40.9	76.0	99.8
	2.00	1	.1	.2	100.0
	Total	467	53.8	100.0	
Missing	System	401	46.2		
Total		868	100.0		

PPTS3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00 Disagree	250	28.8	53.4	53.4
	1.00 Agree	217	25.0	46.4	99.8
	2.00	1	.1	.2	100.0
	Total	468	53.9	100.0	
Missing	System	400	46.1		
Total		868	100.0		

PPTS20

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00 Disagree	165	19.0	36.1	36.1
	1.00 Agree	291	33.5	63.7	99.8
	2.00	1	.1	.2	100.0
	Total	457	52.6	100.0	
Missing	System	411	47.4		
Total		868	100.0		

Section 2: Data screening – corrected errors:

c1adult

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00 Absent	499	57.5	57.5	57.5
	1.00 Present	369	42.5	42.5	100.0
	Total	868	100.0	100.0	

c14c

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	166	19.1	19.4	19.4
	2.00	112	12.9	13.1	32.6
	3.00	47	5.4	5.5	38.1
	4.00	86	9.9	10.1	48.1
	5.00	130	15.0	15.2	63.3
	6.00	44	5.1	5.2	68.5
	7.00	52	6.0	6.1	74.6
	8.00	52	6.0	6.1	80.7
	9.00	56	6.5	6.6	87.2
	10.00	109	12.6	12.8	100.0
	Total	854	98.4	100.0	
Missing	System	14	1.6		
Total		868	100.0		

PPTS1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00 Disagree	440	50.7	93.6	93.6
	1.00 Agree	30	3.5	6.4	100.0

	Total	470	54.1	100.0	
Missing	System	398	45.9		
Total		868	100.0		

PPTS2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00 Disagree	111	12.8	23.8	23.8
	1.00 Agree	356	41.0	76.2	100.0
	Total	467	53.8	100.0	
Missing	System	401	46.2		
Total		868	100.0		

PPTS3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00 Disagree	251	28.9	53.6	53.6
	1.00 Agree	217	25.0	46.4	100.0
	Total	468	53.9	100.0	
Missing	System	400	46.1		
Total		868	100.0		

PPTS20

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00 Disagree	166	19.1	36.3	36.3
	1.00 Agree	291	33.5	63.7	100.0
	Total	457	52.6	100.0	
Missing	System	411	47.4		
Total		868	100.0		

Appendix L

<u>Section 1: Two way mixed ANOVA:</u>

Descriptive Statistics

	Sex	Mean	Std. Deviation	N
COMPUTE Ttradpos=t3adult + t3peer + t3intervene + t3victim + t2adult + t2peer + t2intervene + t2victim + t1adult + t1peer + t1intervene + t1victim	1.00 Boy	3.0240	2.06711	458
	2.00 Girl	4.1707	2.16329	410
	Total	3.5657	2.18817	868
COMPUTE Tcybpos=c2adult + c2peer + c2intervene + c2victim + c1adult + c1peer + c1intervene + c1victim + c3adult + c3peer + c3intervene + c3victim	1.00 Boy	3.2969	1.76993	458
	2.00 Girl	4.4927	1.58730	410
	Total	3.8618	1.78789	868

Box's Test of Equality of Covariance Matrices[a]

Box's M	8.929
F	2.969
df1	3
df2	220225041.655
Sig.	.060

Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.

a. Design: Intercept + Sex
 Within Subjects Design: type

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
type	Pillai's Trace	.027	23.641[b]	1.000	866.000	.000	.027
	Wilks' Lambda	.973	23.641[b]	1.000	866.000	.000	.027
	Hotelling's Trace	.027	23.641[b]	1.000	866.000	.000	.027
	Roy's Largest Root	.027	23.641[b]	1.000	866.000	.000	.027
type * Sex	Pillai's Trace	.000	.161[b]	1.000	866.000	.689	.000
	Wilks' Lambda	1.000	.161[b]	1.000	866.000	.689	.000
	Hotelling's Trace	.000	.161[b]	1.000	866.000	.689	.000
	Roy's Largest Root	.000	.161[b]	1.000	866.000	.689	.000

a. Design: Intercept + Sex
 Within Subjects Design: type
b. Exact statistic

Levene's Test of Equality of Error Variances[a]

	F	df1	df2	Sig.
COMPUTE Ttradpos=t3adult + t3peer + t3intervene + t3victim + t2adult + t2peer + t2intervene + t2victim + t1adult + t1peer + t1intervene + t1victim	2.039	1	866	.154
COMPUTE Tcybpos=c2adult + c2peer + c2intervene + c2victim + c1adult + c1peer + c1intervene + c1victim + c3adult + c3peer + c3intervene + c3victim	5.730	1	866	.017

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Sex
 Within Subjects Design: type

Univariate Tests

Measure: MEASURE_1

	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Contrast	296.764	1	296.764	104.329	.000	.108
Error	2463.342	866	2.845			

The F tests the effect of Sex. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

Estimated Marginal Means of MEASURE_1
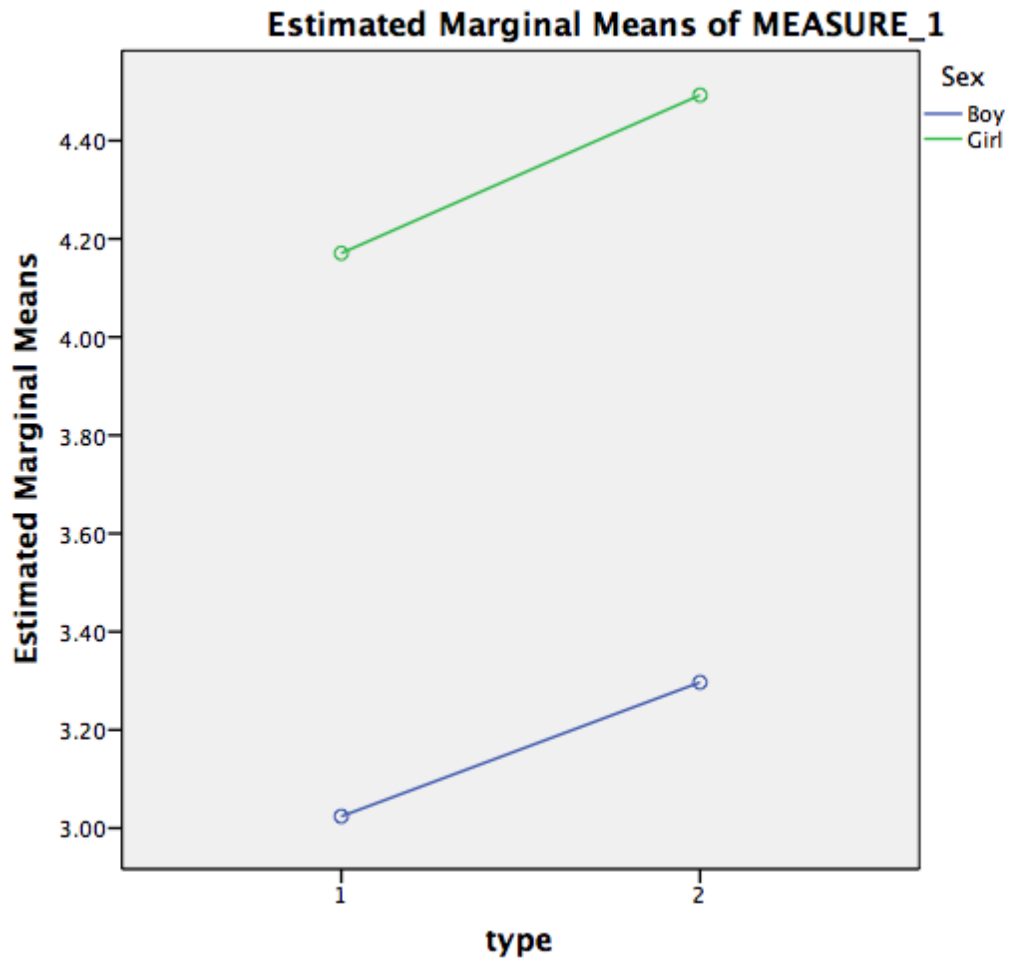
Section 2: Correlation – type of bullying and age:

Descriptive Statistics

	Mean	Std. Deviation	N
COMPUTE Ttradpos=t3adult + t3peer + t3intervene + t3victim + t2adult + t2peer + t2intervene + t2victim + t1adult + t1peer + t1intervene + t1victim	3.5657	2.18817	868
Year	7.5334	.49917	868
COMPUTE Tcybpos=c2adult + c2peer + c2intervene + c2victim + c1adult + c1peer + c1intervene + c1victim + c3adult + c3peer + c3intervene + c3victim	3.8618	1.78789	868

Correlations

		COMPUTE Ttradpos=t3adult + t3peer + t3intervene + t3victim + t2adult + t2peer + t2intervene + t2victim + t1adult + t1peer + t1intervene + t1victim	Year	COMPUTE Tcybpos=c2adult + c2peer + c2intervene + c2victim + c1adult + c1peer + c1intervene + c1victim + c3adult + c3peer + c3intervene + c3victim
COMPUTE Ttradpos=t3adult + t3peer + t3intervene + t3victim + t2adult + t2peer + t2intervene + t2victim + t1adult + t1peer + t1intervene + t1victim	Pearson Correlation	1	.016	.607[**]
	Sig. (2-tailed)		.639	.000
	N	868	868	868
Year	Pearson Correlation	.016	1	-.031
	Sig. (2-tailed)	.639		.362
	N	868	868	868
COMPUTE Tcybpos=c2adult + c2peer +	Pearson Correlation	.607[**]	-.031	1
	Sig. (2-tailed)	.000	.362	

c2intervene + N c2victim + c1adult + c1peer + c1intervene + c1victim + c3adult + c3peer + c3intervene + c3victim	868	868	868

**. Correlation is significant at the 0.01 level (2-tailed).

Appendix M

Section 1: Correlation – traditional victimisation and traditional perpetration.

Descriptive Statistics

	Mean	Std. Deviation	N
COMPUTE Ttradvic=(t32 + t22 + t12) / 3	2.5171	1.73918	838
COMPUTE Ttradperp=(t33 + t23 + t13) / 3	1.6404	1.22988	837

Correlations

		COMPUTE Ttradvic=(t32 + t22 + t12) / 3	COMPUTE Ttradperp=(t33 + t23 + t13) / 3
COMPUTE Ttradvic=(t32 + t22 + t12) / 3	Pearson Correlation	1	.387**
	Sig. (1-tailed)		.000
	N	838	836
COMPUTE Ttradperp=(t33 + t23 + t13) / 3	Pearson Correlation	.387**	1
	Sig. (1-tailed)	.000	
	N	836	837

**. Correlation is significant at the 0.01 level (1-tailed).

Section 2: Correlation – cyber victimisation and cyber perpetration:

Descriptive Statistics

	Mean	Std. Deviation	N
COMPUTE Tcybvic=(c22 + c12 + c32) / 3	1.7549	1.28818	850
COMPUTE Tcybperp=(c23 + c13 + c33) / 3	1.4134	1.09356	849

Correlations

		COMPUTE Tcybvic=(c22 + c12 + c32) / 3	COMPUTE Tcybperp=(c23 + c13 + c33) / 3
COMPUTE Tcybvic=(c22 + c12 + c32) / 3	Pearson Correlation	1	.435[**]
	Sig. (1-tailed)		.000
	N	850	848
COMPUTE Tcybperp=(c23 + c13 + c33) / 3	Pearson Correlation	.435[**]	1
	Sig. (1-tailed)	.000	
	N	848	849

**. Correlation is significant at the 0.01 level (1-tailed).

Section 3: Correlation – Traditional victimisation and positive bystander behaviour:

Descriptive Statistics

	Mean	Std. Deviation	N
COMPUTE Ttradvic=(t32 + t22 + t12) / 3	2.5171	1.73918	838
COMPUTE Ttradpos=t3adult + t3peer + t3intervene + t3victim + t2adult + t2peer + t2intervene + t2victim + t1adult + t1peer + t1intervene + t1victim	3.5657	2.18817	868

Correlations

		COMPUTE Ttradvic=(t32 + t22 + t12) / 3	COMPUTE Ttradpos=t3adult + t3peer + t3intervene + t3victim + t2adult + t2peer + t2intervene + t2victim + t1adult + t1peer + t1intervene + t1victim
COMPUTE Ttradvic=(t32 + t22 + t12) / 3	Pearson Correlation	1	.020
	Sig. (1-tailed)		.285
	N	838	838
COMPUTE Ttradpos=t3adult + t3peer + t3intervene + t3victim + t2adult + t2peer + t2intervene + t2victim + t1adult + t1peer + t1intervene + t1victim	Pearson Correlation	.020	1
	Sig. (1-tailed)	.285	
	N	838	868

Section 4: Correlation – cyber victimisation and positive bystander behaviour:

Descriptive Statistics

	Mean	Std. Deviation	N

| COMPUTE Tcybvic=(c22 + c12 + c32) / 3 | 1.7549 | 1.28818 | 850 |
| COMPUTE Tcybpos=c2adult + c2peer + c2intervene + c2victim + c1adult + c1peer + c1intervene + c1victim + c3adult + c3peer + c3intervene + c3victim | 3.8618 | 1.78789 | 868 |

Correlations

		COMPUTE Tcybvic=(c22 + c12 + c32) / 3	COMPUTE Tcybpos=c2adult + c2peer + c2intervene + c2victim + c1adult + c1peer + c1intervene + c1victim + c3adult + c3peer + c3intervene + c3victim
COMPUTE Tcybvic=(c22 + c12 + c32) / 3	Pearson Correlation	1	-.088[**]
	Sig. (1-tailed)		.005
	N	850	850
COMPUTE Tcybpos=c2adult + c2peer + c2intervene + c2victim + c1adult + c1peer + c1intervene + c1victim + c3adult + c3peer + c3intervene + c3victim	Pearson Correlation	-.088[**]	1
	Sig. (1-tailed)	.005	
	N	850	868

**. Correlation is significant at the 0.01 level (1-tailed).

Section 5: Correlation – traditional perpetration and negative bystander behavior:

Descriptive Statistics

	Mean	Std. Deviation	N
COMPUTE Ttradperp=(t33 + t23 + t13) / 3	1.6404	1.22988	837
COMPUTE Ttradneg=t3bullythebully + t3encouragebully + t3ignore + t2bullythebully + t2encouragebully + t2ignore + t1bulltthebully + t1encouragebully + t1ignore	1.1130	1.14378	867

Correlations

		COMPUTE Ttradperp=(t33 + t23 + t13) / 3	COMPUTE Ttradneg=t3bullythebully + t3encouragebully + t3ignore + t2bullythebully + t2encouragebully + t2ignore + t1bulltthebully + t1encouragebully + t1ignore
COMPUTE Ttradperp=(t33 + t23 + t13) / 3	Pearson Correlation	1	.076[*]
	Sig. (1-tailed)		.014
	N	837	836
COMPUTE Ttradneg=t3bullythebully + t3encouragebully + t3ignore + t2bullythebully + t2encouragebully + t2ignore + t1bulltthebully + t1encouragebully + t1ignore	Pearson Correlation	.076[*]	1
	Sig. (1-tailed)	.014	
	N	836	867

*. Correlation is significant at the 0.05 level (1-tailed).

Section 6: Correlation – cyber perpetration and negative bystander behaviour:

Descriptive Statistics

	Mean	Std. Deviation	N
COMPUTE Tcybperp=(c23 + c13 + c33) / 3	1.4134	1.09356	849
COMPUTE Tcybneg=c2bullythebully + c2encouragebully + c2ignore + c1bullythebully + c1encouragebully + c1ignore + c3bullythebully + c3encouragebully + c3ignore	.6555	.91382	868

Correlations

		COMPUTE Tcybperp=(c23 + c13 + c33) / 3	COMPUTE Tcybneg=c2bullythebully + c2encouragebully + c2ignore + c1bullythebully + c1encouragebully + c1ignore + c3bullythebully + c3encouragebully + c3ignore
COMPUTE Tcybperp=(c23 + c13 + c33) / 3	Pearson Correlation	1	.173**
	Sig. (1-tailed)		.000
	N	849	849
COMPUTE Tcybneg=c2bullythebully	Pearson Correlation	.173**	1

+ c2encouragebully + c2ignore + c1bullythebully + c1encouragebully + c1ignore + c3bullythebully + c3encouragebully + c3ignore	Sig. (1-tailed) N	.000 849	868

**. Correlation is significant at the 0.01 level (1-tailed).

Section 7: Independent samples t-test for trad/cyber victimisation and gender:

Group Statistics

	Sex	N	Mean	Std. Deviation	Std. Error Mean
COMPUTE Ttradvic=(t32 + t22 + t12) / 3	1.00 Boy	434	2.5200	1.80574	.08668
	2.00 Girl	404	2.5140	1.66694	.08293
COMPUTE Tcybvic=(c22 + c12 + c32) / 3	1.00 Boy	444	1.7808	1.37446	.06523
	2.00 Girl	406	1.7266	1.18771	.05895

Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper

COMPUTE Ttradvic=(t32 + t22 + t12) / 3	Equal variances assumed	.958	.328	.049	836	.961	.00594	.12031	-.23020	.24208
	Equal variances not assumed			.050	835.943	.961	.00594	.11996	-.22952	.24141
COMPUTE Tcybvic=(c22 + c12 + c32) / 3	Equal variances assumed	1.763	.185	.612	848	.541	.05418	.08849	-.11950	.22786
	Equal variances not assumed			.616	845.331	.538	.05418	.08792	-.11838	.22674

Section 8: Independent samples t-test for trad/cyber perpetration and gender:

Group Statistics

	Sex	N	Mean	Std. Deviation	Std. Error Mean
COMPUTE Tcybperp=(c23 + c13 + c33) / 3	1.00 Boy	443	1.4936	1.21315	.05764
	2.00 Girl	406	1.3259	.93972	.04664
COMPUTE Ttradperp=(t33 + t23 + t13) / 3	1.00 Boy	434	1.7512	1.40220	.06731
	2.00 Girl	403	1.5211	1.00016	.04982

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
										95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference		Lower	Upper
COMPUTE Tcybperp= (c23 + c13 + c33) / 3	Equal variances assumed	11.895	.001	2.237	847	.026	.16766	.07496		.02054	.31478
	Equal variances not assumed			2.261	824.511	.024	.16766	.07414		.02213	.31319
COMPUTE Ttradperp= (t33 + t23 + t13) / 3	Equal variances assumed	10.497	.001	2.714	835	.007	.23006	.08476		.06370	.39642
	Equal variances not assumed			2.747	783.973	.006	.23006	.08374		.06568	.39444

Appendix N

Section 1: Correlation – traditional perpetration and ECTS:

Descriptive Statistics

	Mean	Std. Deviation	N
COMPUTE Ttradperp=(t33 + t23 + t13) / 3	1.6404	1.22988	837
COMPUTE Temotionalcognitivescore=PPTS1R + PPTS2 + PPTS5R + PPTS6 + PPTS9R + PPTS10 + PPTS13 + PPTS14 + PPTS17 + PPTS18R	7.8080	2.01643	448

Correlations

		COMPUTE Ttradperp= (t33 + t23 + t13) / 3	COMPUTE Temotionalcognitivescore= PPTS1R + PPTS2 + PPTS5R + PPTS6 + PPTS9R + PPTS10 + PPTS13 + PPTS14 + PPTS17 + PPTS18R
COMPUTE Ttradperp=(t33 + t23 + t13) / 3	Pearson Correlation	1	-.248**
	Sig. (1-tailed)		.000
	N	837	440
COMPUTE Temotionalcognitivescore= PPTS1R + PPTS2 + PPTS5R + PPTS6 + PPTS9R + PPTS10 + PPTS13 + PPTS14 + PPTS17 + PPTS18R	Pearson Correlation	-.248**	1
	Sig. (1-tailed)	.000	
	N	440	448

**. Correlation is significant at the 0.01 level (1-tailed).

Section 2: Correlation – cyber perpetration and ECTS:

Descriptive Statistics

	Mean	Std. Deviation	N
COMPUTE Temotionalcognitivescore=PPTS1R + PPTS2 + PPTS5R + PPTS6 + PPTS9R + PPTS10 + PPTS13 + PPTS14 + PPTS17 + PPTS18R	7.8080	2.01643	448
COMPUTE Tcybperp=(c23 + c13 + c33) / 3	1.4134	1.09356	849

Correlations

		COMPUTE Temotionalcognitivescore= PPTS1R + PPTS2 + PPTS5R + PPTS6 + PPTS9R + PPTS10 + PPTS13 + PPTS14 + PPTS17 + PPTS18R	COMPUTE Tcybperp=(c23 + c13 + c33) / 3
COMPUTE Temotionalcognitivescore= PPTS1R + PPTS2 + PPTS5R + PPTS6 + PPTS9R + PPTS10 + PPTS13 + PPTS14 + PPTS17 + PPTS18R	Pearson Correlation	1	-.227**
	Sig. (1-tailed)		.000
	N	448	446
COMPUTE Tcybperp=(c23 + c13 + c33) / 3	Pearson Correlation	-.227**	1
	Sig. (1-tailed)	.000	
	N	446	849

**. Correlation is significant at the 0.01 level (1-tailed).

Section 3: Correlation – traditional positive bystander behaviour and ECTS:

Descriptive Statistics

	Mean	Std. Deviation	N
COMPUTE Temotionalcognitivescore=PPTS1R + PPTS2 + PPTS5R + PPTS6 + PPTS9R + PPTS10 + PPTS13 + PPTS14 + PPTS17 + PPTS18R	7.8080	2.01643	448
COMPUTE Ttradpos=t3adult + t3peer + t3intervene + t3victim + t2adult + t2peer + t2intervene + t2victim + t1adult + t1peer + t1intervene + t1victim	3.5657	2.18817	868

Correlations

		COMPUTE Temotionalcognitivescore= PPTS1R + PPTS2 + PPTS5R + PPTS6 + PPTS9R + PPTS10 + PPTS13 + PPTS14 + PPTS17 + PPTS18R	COMPUTE Ttradpos=t3 adult + t3peer + t3intervene + t3victim + t2adult + t2peer + t2intervene + t2victim + t1adult + t1peer + t1intervene + t1victim
COMPUTE Temotionalcognitivescore= PPTS1R + PPTS2 + PPTS5R + PPTS6 + PPTS9R + PPTS10 + PPTS13 + PPTS14 + PPTS17 + PPTS18R	Pearson Correlation	1	.344[**]
	Sig. (1-tailed)		.000
	N	448	448

COMPUTE Ttradpos=t3adult + t3peer + t3intervene + t3victim + t2adult + t2peer + t2intervene + t2victim + t1adult + t1peer + t1intervene + t1victim	Pearson Correlation	.344**	1
	Sig. (1-tailed)	.000	
	N	448	868

**. Correlation is significant at the 0.01 level (1-tailed).

Section 4: Correlation – cyber positive bystander behaviour and ECTS:

Descriptive Statistics

	Mean	Std. Deviation	N
COMPUTE Temotionalcognitivescore=PPTS1R + PPTS2 + PPTS5R + PPTS6 + PPTS9R + PPTS10 + PPTS13 + PPTS14 + PPTS17 + PPTS18R	7.8080	2.01643	448
COMPUTE Tcybpos=c2adult + c2peer + c2intervene + c2victim + c1adult + c1peer + c1intervene + c1victim + c3adult + c3peer + c3intervene + c3victim	3.8618	1.78789	868

Correlations

		COMPUTE Temotionalcognitivescore= PPTS1R + PPTS2 + PPTS5R + PPTS6 + PPTS9R + PPTS10 + PPTS13 + PPTS14 + PPTS17 + PPTS18R	COMPUTE Tcybpos=c2adult + c2peer + c2intervene + c2victim + c1adult + c1peer + c1intervene + c1victim + c3adult + c3peer + c3intervene + c3victim
COMPUTE Temotionalcognitivescore= PPTS1R + PPTS2 + PPTS5R + PPTS6 + PPTS9R + PPTS10 + PPTS13 + PPTS14 + PPTS17 + PPTS18R	Pearson Correlation	1	.390[**]
	Sig. (1-tailed)		.000
	N	448	448
COMPUTE Tcybpos=c2adult + c2peer + c2intervene + c2victim + c1adult + c1peer + c1intervene + c1victim + c3adult + c3peer + c3intervene + c3victim	Pearson Correlation	.390[**]	1
	Sig. (1-tailed)	.000	
	N	448	868

**. Correlation is significant at the 0.01 level (1-tailed).

Section 5: Independent samples t-test – gender and ECTS:

Group Statistics

	Sex	N	Mean	Std. Deviation	Std. Error Mean
COMPUTE Temotionalcognitivescore=PPTS1R + PPTS2 + PPTS5R + PPTS6 + PPTS9R + PPTS10 + PPTS13 + PPTS14 + PPTS17 + PPTS18R	1.00 Boy	250	7.2920	2.09578	.13255
	2.00 Girl	198	8.4596	1.70573	.12122

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
COMPUTE Temotionalcognitivescore=PPTS1R + PPTS2 + PPTS5R + PPTS6 + PPTS9R +	Equal variances assumed	7.415	.007	-6.349	446	.000	-1.16760	.18392	-1.52904	-.80615
	Equal variances not assumed			-6.500	445.658	.000	-1.16760	.17962	-1.52061	-.81459

Appendix O

Section 1: One-way repeated measures ANOVA – severity and positive bystander behavior (traditional):

Descriptive Statistics

	Mean	Std. Deviation	N
COMPUTE Ttradmildpos=t1adult + t1peer + t1intervene + t1victim	1.0058	.89660	868
COMPUTE Ttradmoderatepos=t2adult + t2peer + t2intervene + t2victim	1.1094	.85149	868
COMPUTE Ttradseverepos=t3adult + t3peer + t3intervene + t3victim	1.4516	.94666	868

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
severity	Pillai's Trace	.177	92.950[b]	2.000	866.000	.000	.177
	Wilks' Lambda	.823	92.950[b]	2.000	866.000	.000	.177
	Hotelling's Trace	.215	92.950[b]	2.000	866.000	.000	.177
	Roy's Largest Root	.215	92.950[b]	2.000	866.000	.000	.177

a. Design: Intercept
 Within Subjects Design: severity

b. Exact statistic

Pairwise Comparisons

Measure: MEASURE_1

(I) severity	(J) severity	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
1	2	-.104[*]	.028	.001	-.171	-.036

	3	-.446*	.035	.000	-.530	-.362
2	1	.104*	.028	.001	.036	.171
	3	-.342*	.029	.000	-.412	-.272
3	1	.446*	.035	.000	.362	.530
	2	.342*	.029	.000	.272	.412

Based on estimated marginal means

*. The mean difference is significant at the

b. Adjustment for multiple comparisons: Bonferroni.

Estimated Marginal Means of MEASURE_1
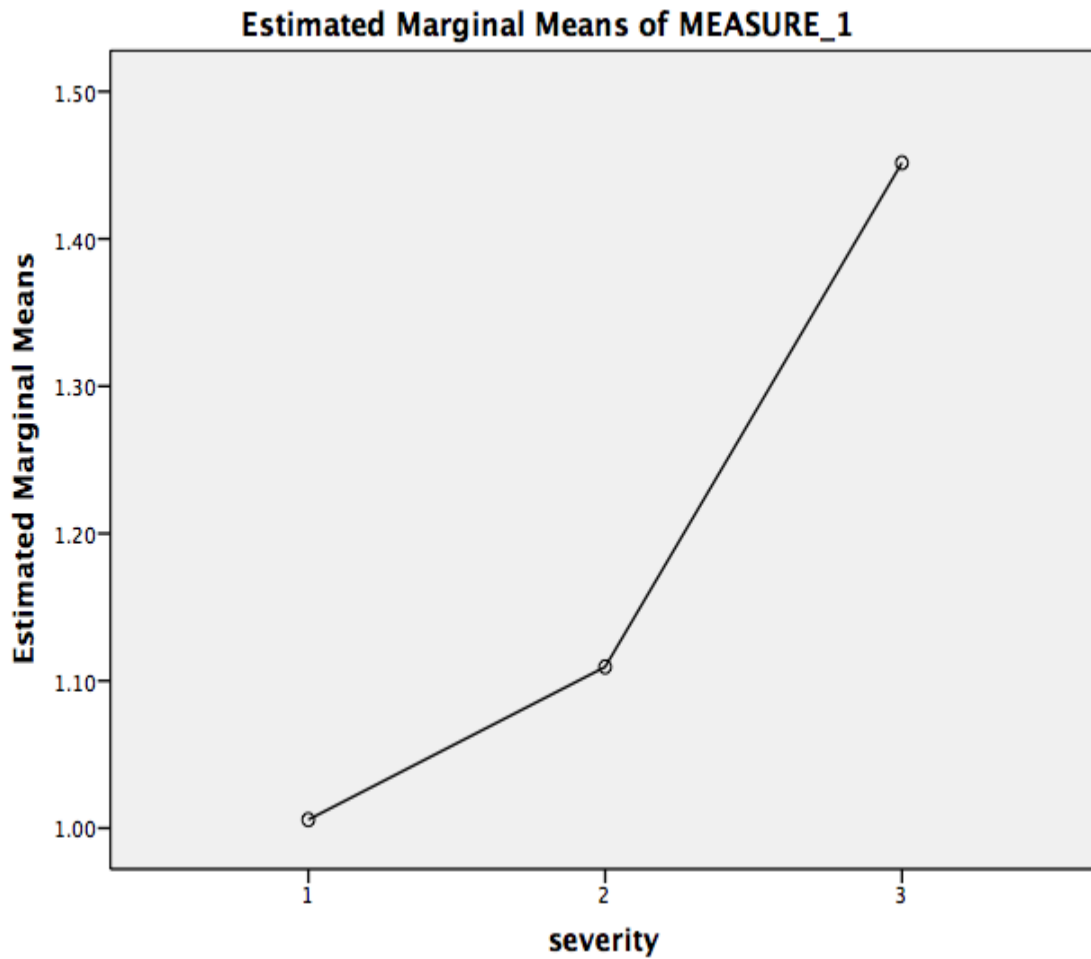
Section 2: One-way repeated measures ANOVA – severity and positive bystander behavior (cyber):

Descriptive Statistics

	Mean	Std. Deviation	N
COMPUTE Tcybmildpos=c1adult + c1peer + c1intervene + c1victim	1.0611	.75313	868
COMPUTE Tcybmoderatepos=c2adult + c2peer + c2intervene + c2victim	1.3998	.76718	868
COMPUTE Tcybseverepos=c3adult + c3peer + c3intervene + c3victim	1.4009	.77033	868

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
severity	Pillai's Trace	.196	105.574[b]	2.000	866.000	.000	.196
	Wilks' Lambda	.804	105.574[b]	2.000	866.000	.000	.196
	Hotelling's Trace	.244	105.574[b]	2.000	866.000	.000	.196
	Roy's Largest Root	.244	105.574[b]	2.000	866.000	.000	.196

a. Design: Intercept
 Within Subjects Design: severity

b. Exact statistic

Pairwise Comparisons

Measure: MEASURE_1

(I) severity	(J) severity	Mean Difference	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	

		(I-J)			Lower Bound	Upper Bound
1	2	-.339*	.027	.000	-.404	-.273
	3	-.340*	.028	.000	-.406	-.274
2	1	.339*	.027	.000	.273	.404
	3	-.001	.029	1.000	-.071	.069
3	1	.340*	.028	.000	.274	.406
	2	.001	.029	1.000	-.069	.071

Based on estimated marginal means

*. The mean difference is significant at the

b. Adjustment for multiple comparisons: Bonferroni.

Estimated Marginal Means of MEASURE_1
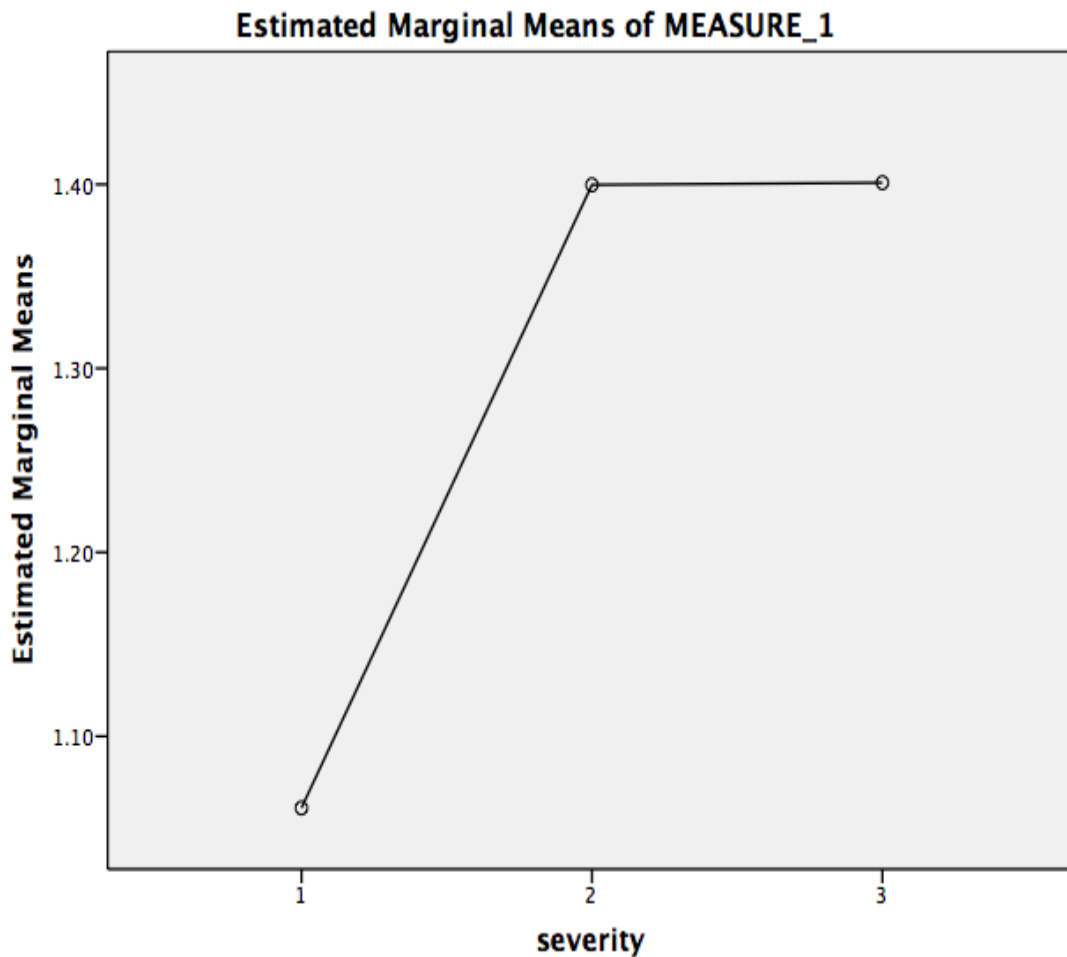
Section 3: Repeated measures t-test – traditional/cyber severe and positive bystander behaviour:

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	COMPUTE Ttradseverepos=t3adult + t3peer + t3intervene + t3victim	1.4516	868	.94666	.03213
	COMPUTE Tcybseverepos=c3adult + c3peer + c3intervene + c3victim	1.4009	868	.77033	.02615

Paired Samples Test

		Paired Differences							
					95% Confidence Interval of the Difference				Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	

Pai r 1	COMPUTE Ttradseverepos=t3adult + t3peer + t3intervene + t3victim - COMPUTE Tcybseverepos=c3adult + c3peer + c3intervene + c3victim	.05069	.95200	.03231	-.01273	.11411	1.569	867	.117