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TEENS WHO INTERVENE: IDENTIFYING FACTORS RELATED TO

ADOLESCENT CYBER-BYSTANDER INTERVENTION IN

CYBERBULLYING.

Section A: A review of factors associated with adolescent bystanders'
responses to witnessing cyberbullying.

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Section B: Adolescent cyber-bystanders in an intergroup context:
Examining empathy, self-efficacy and prosocial intentions.
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MRP portfolio summary

Part A: Cyberbullying has been related to poor adolescence mental health, highlighting why clinical psychologists should be involved in researching and developing anti-cyberbullying interventions. This narrative literature review, based on a systematic search, explored and critiqued 26 papers examining factors associated with cyber-bystander behaviour, to build on recommendations for anti-cyberbullying interventions targeting bystanders. The need for a multidimensional model was highlighted, accounting for personal and contextual factors, including cyber-bystander moral disengagement, empathy and cyberbullying severity.

Part B: This quasi-experimental study explored whether adolescent cyber-bystander empathy, self-efficacy and prosocial behavioural intentions differed when witnessing an ingroup ('U.K.-born') or outgroup ('immigrant') peer being cyberbullied. Females reported higher state empathy. State empathy statistically mediated the relationship between victim status and prosocial intentions where, surprisingly, higher state empathy was reported towards the 'immigrant victim', and higher state empathy related to higher intentions for prosocial responses to the cyberbullying. The relationship between victim status and state empathy was not moderated by cyber-bystander trait empathy. Victim status did not directly relate to prosocial cyber-bystander intentions or state self-efficacy. Findings were considered alongside limitations as well as research, theoretical and practical implications, such as the promotion of state empathy in anti-cyberbullying interventions.

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Section A: A review of factors associated with adolescent bystanders' responses to witnessing cyberbullying.

Word count: 7974 (310)

Abstract

Negative consequences of cyberbullying on adolescent mental health highlight the importance of developing anti-cyberbullying programmes. Current cyberbullying interventions have limited empirical support, despite some promising results. Some interventions target bystanders because they might reinforce cyberbullying by ignoring it. To add to previous literature in the area, the current review explored cyber-bystander responses to cyberbullying and the factors associated with these responses. A literature search of seven databases produced 26 studies in this field. The findings from these studies are synthesised and the studies themselves are critiqued using research appraisal tools for different quantitative forms of research. The findings suggest that factors related to cyber-bystander responses to cyberbullying include empathy, self-efficacy, cyberbullying severity, previous experience as a victim or bully, other bystanders' behaviours, moral standards and disengagement, perceived social norms, relationship with those involved, victim behaviour, prosocial tendency, available skills and knowledge and parent or peer approval of cyberbullying. The quality and limitations of the reviewed studies are discussed including the pros and cons of using hypothetical cyberbullying vignettes versus self-reported cyberbullying experience. Further research should explore how intergroup identity, impulsivity, fear, contextual factors and previous cyber-bystander experience relate to cyber-bystander responses, to continue to develop future anti-cyber-bullying interventions.

Keywords: adolescent, bystander behaviour, cyberbullying, online bullying, cyber-bystander.

Introduction

The problem of cyberbullying

Cyberbullying has been defined as trying to hurt, socially isolate and cause an individual distress over the internet repeatedly, or through prolonged exposure to cruel content (Tokunaga, 2010). It has been highlighted as a world-wide problem (Li, 2008). Adolescents 12-15 years old appear to experience the most cyberbullying (Tokunuga, 2010). Przybylski and Bowes (2017) reported that 27% of adolescents have experienced offline bullying whilst 3% have been cyberbullied. In a survey in the US, 88% of teenagers using social-media reported witnessing others acting cruelly or being mean on social network sites, and 15% reported being targets of this meanness (Lenhart, et al., 2011). Offline and online bullying might be related too, as Schneider, O'Donnell, Stueve, and Coulter (2012) found that many cyber-victims are also victims of offline bullying (59.7%) and 36.3% of offline victims are also cyber-victims.

However, prevalence rates and definitions differ between studies, highlighting challenges of researching cyberbullying and understanding its relationship to offline bullying (Giumetti & Kowalski, 2016; Modecki, Minchin, Harbaugh, Guerra, & Runions, 2014). Unlike offline bullying, bullying messages can be shared by multiple people online and the absence of nonverbal cues online makes it hard to distinguish bullying from 'banter' (Betts & Spenser, 2015; Englander, Donnerstein, Kowalski, Lin, & Parti, 2017). Online anonymity also makes it easier for people to bully and be bullied (The Children's Society & YoungMinds, 2018). Cyber-bullies can access their victims any time and are able to avoid monitoring from adults (Tokunaga, 2010). Worryingly, research has also suggested that cyberbullies feel less remorse than offline bullies (Slonje, Smith, & Frisén, 2012).

There appear to be similar risk factors for offline and online victimisation including poor child-parent relationships, school climate, social competence and self-concept (Katzer,

Fetchenhauer, & Belshak, 2009; Zych, Ortega-Ruiz, & Del Rey, 2015). Unsupervised

internet-use and sharing personal information online are also risk factors for victimisation

(Mishna, Khoury-Kassabri, Gadalla, & Daciuk, 2011). Cyberbullying has been considered

potentially 'worse' than offline bullying (Sticca & Perren, 2013). For example, cyber-victims

have reported significantly higher levels of depression, anxiety and social difficulties

compared to offline bullying victims (Campbell, Spears, Slee, Butler, & Kift, 2012).

Research also suggests a relationship between experiences of cyber-victimisation and poorer

academic performance, self-esteem, life satisfaction, isolation, distrust and in some

incidences, self-harm, aggression towards loved ones, and suicidal ideation and attempts

(Cassidy, Faucher, & Jackson, 2013; Field, 2018; Kowalski, Giumetti, Schroeder, & Lattaner,

2014; Patchin & Hinduja, 2010; Šléglová & Cerná, 2011). Despite the potentially huge effect

on a victim's life, victims often report that they did not seek help (Katz & Dillon, 2010; Price

& Dalgleish, 2010). This highlights the need for others who witness the cyberbullying to step

in and help in some way.

Anti-cyberbullying interventions have become a policy priority (Anti-Bullying

Alliance, 2015; Department for Education, 2017; Ofsted, 2012). Psychological intervention

for cyber-bullies and cyber-victims has been suggested (Foody, Samara & Carlbring, 2015).

Furthermore, recommendations have been made for school staff, parent and child awareness

and skills training to reduce cyberbullying (DeSmet et al., 2015; Hutson, Kelly, & Militello,

2018). Some cyberbullying intervention and prevention programs have produced promising

results (Gaffney, Farrington, Espelage, & Ttofi, 2018). However, research into interventions

is still sparse and current school anti-cyberbullying programmes and parental advice may not

be entirely empirically supported (Espelage & Hong, 2017). Further developing interventions

targeting peers and bystanders may be part of the answer to reducing cyberbullying (Field,

2018; Herkama & Salmivalli, 2018; Williford, et al. 2013; Menesini, Nocentini, & Palladino, 2012).

Cyber-bystanders

Bystanders are crucial in offline and online bullying as they can intervene in or reinforce victimization (Vanderbilt & Augustyn, 2010). Approximately only 25% of offline bystanders intervene (O'Connell, Pepler, & Craig, 1999). Offline bystanders are those physically present to bullying incidents whilst online bystanders can be unlimited (Heirman & Walrave, 2008). Bystanders are important to research in a cyberbullying context as research suggests that cyber-victims are more likely to inform peers of their experiences than adults (Connolly, Hussey, & Connolly, 2014). Seeking support from peers might also be a buffer to the mental health impact on cyber-victims (Machmutow, Perren, Sticca & Alsaker, 2012). It is also potentially safer for bystanders to intervene online where anonymity can protect them and they are not physically present (Lambe Cioppa, Hong, & Craig, 2019). However, Lenhart et al. (2011) found that 91% of cyber-bystanders decided against intervening in incidents they witnessed. This is concerning as passive cyber-bystanders may reinforce perpetrator actions, as bullies can perceive their silence as approval (O'Connell, et al., 1999). A possible relationship has also been found between negative cyber-bystander behaviour (e.g. reinforcing behaviour) and an increase in negative impact on cyber-victims (Jones, Mitchell, & Turner, 2015).

Research has also begun highlighting the possible detriment to mental health as a cyber-bystander. Research into offline school bullying has already suggested that being a bystander may place someone at a greater risk of experiencing mental health difficulties (Rivers, Poteat, Noret & Ashurt, 2009). Wright, Wachs and Harper (2018) have since found in their longitudinal study, that cyber-bystanders were more likely to experience anxiety and depression a year later. Furthermore, empathy acted as a moderator, where higher empathy

levels increased the association between cyber-bystander experience and depression (Wright et al., 2018). The above research not only highlights the benefits of targeting cyber-bystanders in the hope of reducing cyberbullying, but also demonstrates the potential impact witnessing cyberbullying has on those individuals. However, several theories might potentially explain cyber-bystander behaviour, which adds to the difficulty in knowing what to base interventions on.

Relevant psychological theory

Four different theories may help to explain cyber-bystander behaviour. The bystander intervention model proposes five stages people go through before they decide whether to intervene in a situation or not (Latané & Darley, 1970). The stages include: becoming aware of the incident, interpreting the seriousness of the incident, accepting one's responsibility to intervene, having the skills and knowledge to intervene before actually intervening (Latané & Darley, 1970). However, Allison and Bussey (2016) described how social cognitive theory may be a more apt theory to understand cyber-bystander behaviour because of the importance of context in cyberbullying. Social cognitive theory outlines the importance of an individual's sense of agency and that individuals behave in accordance with previous experience because their social environments reinforced their internal and external responses (Bandura, 1989; 2001).

Other behavioural change theories are also relevant, including the theory of reasoned action (Ajzen & Fishbein, 1980) which proposes that behavioural intentions, attitude towards a behaviour and social norms predict behaviour. The theory of planned behaviour (Ajzen, 1991) adds that an individual must believe that they have control and their skills and environment allow them to follow through with a behaviour. Combinations of these behavioural change theories have also been developed (see Fishbein & Ajzen, 2010; Montaño & Kasprzyk, 2015).

Lastly, the influence of the complex online environment on behaviour has also been captured in the online disinhibition effect model which suggests six mechanisms by which people become disinhibited in their online behaviour (Suler, 2004). This includes minimising authority, online invisibility and anonymity, imagining the online world as separate from reality, communications not needing to be responded to immediately as well as the absence of face-to-face cues leading to the assimilation or introjection of the other person's messages into one's own psyche, allowing them to become an "imaginary character" (Suler, 2004). The current review will help to determine which theory appears to align most with current research into cyber-bystander behaviour.

Previous reviews

Three reviews have been conducted on cyber-bystander behaviour. One explored cyber-bystander behaviour but was not a systematic review (Allison & Bussey, 2016). The second explored offline and online bystander behaviour in bullying using the social ecological model (Lambe, et al., 2019). The third focused on cyber-bystanders and factors that moderate their behaviour (Domínguez -Hernández, Bonell, & Martínez-González, 2018). These latter two reviews included studies covering a wide age range; specifically, nine years old to university age within the first, and nine to 18 within the second. Domínguez - Hernández et al. (2018) captured 19 studies published between 2010 and 2016. Lambe et al. (2019) captured 25 studies between 2012 and 2017.

Taken together, the reviews suggested that the following factors should be considered in anti-cyberbullying interventions targeting bystanders: cognitive and personal factors (e.g. empathy, experiences of victimisation, and moral disengagement), socio-economic and demographic factors (e.g. age and gender), and contextual factors such as relationship with those involved and adult involvement (Domínguez -Hernández et al., 2018; Lambe et al., 2019). However, Domínguez -Hernández et al. (2018) acknowledged that, at the time of their

review, there was still limited research into each of the above factors, making it difficult to draw strong conclusions around these factors' relationships to cyber-bystander behaviour. Lambe et al. (2019) also highlighted the lack of research, as well as their use of a single model to understand cyber-bystander behaviour.

Current review scope and rationale

Since the aforementioned reviews completed their literature searches, substantial new research has been published, such that the number of papers included in the current review represents a 44% (8 studies) increase on the number of relevant studies included in the previous reviews. Furthermore, neither of the previous systematic reviews reported using a critical appraisal tool to examine the quality of the studies reviewed. Therefore, a further review in the area is warranted, to provide a more comprehensive overall review, see whether methodology has since been improved in more recent studies, and whether these additional studies support previously reviewed findings.

Cyberbullying is a timely issue to explore as many adolescents are increasingly spending hours a day on the internet including on social media (Anderson & Jiang, 2018; Frith, 2017; Poushter, Bishop, & Chwe, 2018). There are many developmental differences between children and adults (Casey, Jones, & Hare, 2008; Yurgelun-Todd, 2007). The current review will therefore specifically look at adolescents, considered as those between, and including, the ages of 10 and 18 years (Canadian Paediatric Society, 2003). This is a narrower age range than previous reviews, allowing more adolescent-specific conclusions to be drawn. However, as it is still quite broad, age is attended to in relation to the findings where applicable. The current paper is a narrative review based on a systematic search (Ryan, 2013).

Review question

The current review asks:

1) What factors are associated with how cyber-bystanders psychologically and

    behaviourally respond to cyberbullying?

Methodology

Search strategy

Seven databases were used to identify relevant papers: The Applied Social Sciences

Index and Abstracts (ASSIA), British Education Index (BEI), Child Development and

Adolescent Studies (CD&AS), Education Resources Information Centre (ERIC), PsychInfo,

PubMed and Web of Science (WoS). The databases were searched from their inception, until

January 2019. The search terms used were: [cyberbullying OR cyber-bullying OR [[cyber OR

internet OR bebo OR online OR social media OR facebook OR twitter OR instagram OR

snapchat OR friendster OR youtube OR social network site OR electronic media OR net-

based] AND [bullying OR harassment OR victimization OR victimisation]] AND [cyber-

stand* OR cyberstand* OR cyberbystand* OR cyber-bystand* OR witness OR eyewitness

OR eye-witness OR bystander OR defending OR defender OR upstand*]. The truncation

symbol (*) allowed for searches of selected words with multiple possible endings. ASSIA

produced a very large number of irrelevant papers compared to the other databases.

Therefore, this search limited where the search terms could appear (anywhere except the full

text). To check for any missed relevant studies, included papers' reference lists were hand-

searched and Google Scholar was used to identify all studies that cited the included studies.

Inclusion and exclusion criteria

The inclusion criteria were that the papers had to (i) be written in English, (ii) be

empirical, peer reviewed studies from journals or conference proceedings, and (iii) examine

factors associated with cyber-bystander behaviour and/or their psychological reactions to

cyberbullying. Papers were excluded if (i) the sample age range was outside 10-18-years and findings were not presented separately for a sub-sample that was within that age range, and/or (ii) the full-text was not accessible (i.e. there was no access and authors did not respond to access requests). Lastly, studies or parts of studies which were poor quality (due to the lack of explanation of how data were analysed or how the results were obtained) were not included unless they replicated findings or were supported by more robust studies. The process of screening against the above criteria is illustrated in Figure 1.

Evidence quality

The evidence quality was critiqued using appraisal tools from The Joanna Briggs Institute (2017a; 2017b; 2017c; 2017d) covering cross-sectional, cohort, quasi-experimental and randomized control trial designs (RCT). The RCT tool was used to evaluate experimental designs, as an RCT is an experimental design and a more relevant experimental design appraisal tool could not be identified. The RCT tool covered randomization of conditions which is important for this design, and it was from the same author as most of the other tools used in the review, assisting with critiquing consistency across designs. However, the same author did not have a tool for mixed methods designs, so the Mixed Methods Appraisal Tool (MMAT) was used (Hong et al., 2018). Although numerical scoring was used with the tools, these were just an approximation of the study's quality and a narrative critique of the literature was also conducted so as not to over-simplify the evaluation and raise concerns expressed in the literature regarding problems inherent in weighting different quality domains in total scores (Higgins & Green, 2011).

Figure 1. PRISMA diagram outlining literature search
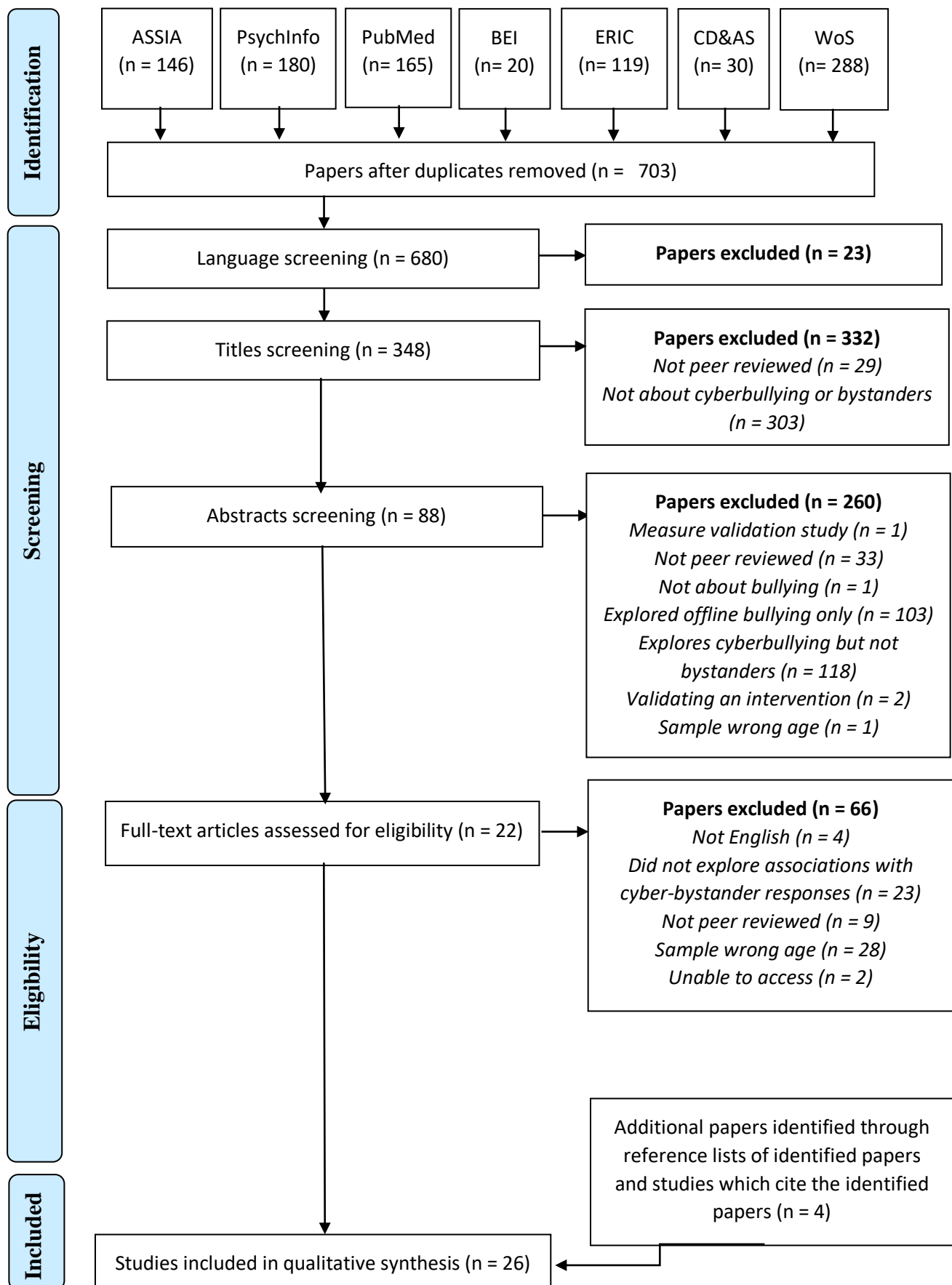
Literature review

The identified papers are summarised alongside Tables 1 to 5 which contain further details and identify papers not previously reviewed. Findings are then synthesised and critiqued. Corresponding critical appraisal of the papers can be found in Tables 6 to 10.

Overview of studies

Twenty-six papers were identified for the current review, consisting of 13 cross-sectional, one longitudinal, six mixed-methods, and six experimental designs. Three experimental papers were treated and appraised in the current review as quasi-experimental due to non-randomization of aspects of the studies such as cyberbullying experience or were a within-subject design (e.g. Patterson, Allan, & Cross, 2017a). Three mixed-methods papers were partly cross-sectional (Huang & Chou, 2010; Van Cleemput, Vandebosch, & Pabian, 2014; Veiga Simão, Ferreira, Francisco, Paulino, & de Souza, 2018), two were predominantly quasi-experimental (Holfeld, 2014; Macaulay, Boulton, & Betts, 2018), but they all also used open-ended questions in their questionnaires. Another was cross-sectional, but also conducted a focus group (Owusu & Zhou, 2015).

All studies used self-report measures and either explored cyber-bystander responses through recollection of real-life experiences or hypothetical cyberbullying vignettes, sometimes manipulating these (e.g. Bastiaensens et al., 2014; 2015). One mixed-methods study (Huang & Chou, 2010) used a video of cyberbullying to explore cyber-bystander responses. Two quasi-experimental studies and one experimental study also used a video to activate empathy in their participants (Barlińska, Szuster, & Winiewski, 2013; 2015; 2018). As can be seen in Tables 1 to 5, the age ranges varied from somewhat narrow (e.g. 10-13 or 14-16 years) to broad (e.g. 10-17 or 11-18 years). Two studies' age ranges fell partly outside 10-18 years, but their findings were split into age groups, so only the age-relevant findings are considered in this review (Erreygers, Pabian, Vandebosch, & Baillien, 2016; Van

Cleemput et al., 2014). Owusu and Zhou (2014), had an unclear age range but was not outside of 11-18-years. The papers spanned Australia, Belgium, the Czech Republic, Germany, Poland, Taiwan, the U.K. and U.S.

Table 1. *Summary of cross-sectional studies*

Study	How was the sample recruited?	Sample Size/Age/ Gender	Country/ Sample ethnicity	Procedure: constructs measured	Significant relationships	Limitations
Allison & Bussey (2017)	3 schools	563 12-15 years Grades 7 (*M* = 12.73 years) and grade 9 (*M* = 14.72) (341 males)	Australia 55.4% = Anglo/Celtic 13.4% = European 7.8% = East/South East Asian 14.3% = Mixed ethnic descent	Questionnaire: Demographic information. Technology use. Experience of cyberbullying perpetration and victimisation. Cyberbullying participant roles. Experience of witnessing and intervening in cyberbullying. Moral standards. Moral disengagement. Collective moral disengagement.	More intervention when individual and collective morals aligned (only when higher collective moral disengagement). Previous cyberbullying victimisation and witnessing positively related to intervention. 14-15-year-olds witnessed most cyberbullying. Younger students and females intervened more. Older adolescents more passive. Females had lower moral disengagement.	Correlation only. Other social cognitive constructs like empathy not measured. Possible self-report bias.
Bastiaensens, et al. (2016)	School-students who had witnessed cyberbullying within 6 months. From two waves of longitudinal study.	525 11-17 years (*M* = 15.42) (64% female)	Belgium. (Ethnicity not stated)	Questionnaire: Injunctive norm of friends, class, parents and teachers approving of cyberbullying. Descriptive norm of peers engaging in cyberbullying. Social pressure to join in cyberbullying when witnessing it. Frequency in past 6 months of joining in cyberbullying as bystander or perpetrator.	More social pressure to join in cyberbullying if participants believed their friends approved of cyberbullying. Participants more likely to join in cyberbullying if they believe their parents approve of cyberbullying. More experience as a cyberbully related to a higher likelihood of joining in as a bystander.	Injunctive and descriptive norms not specific. Cyberbullying term and some items regarding others' opinions on cyberbullying open to interpretation. Separation of "peers" from "class" not ecologically valid, may miss subgroups. Possible self-report bias.

Cao & Wan-Ying (2015)	Data from Pew Internet and American Life Project's Teens and Online Behaviour survey.	622 12-17 years (*M* = 15) (53.7% female)	United States (US) (Ethnicity not stated)	Questionnaire: Demographic information. Experience of being cyberbullied in past 12 months. Online social interactions. Bystander behaviour tendency in cyberbullying. Family income. Time spent on social network sites.	Victimisation experience significantly predicted bystander antisocial responses to cyberbullying. Females more likely to respond pro-socially and males more anti-socially. Females with cyber-victim experience more likely to act pro-socially than boys with experience. Being socially active online related to prosocial responses.	Did not measure previous experience as cyberbully or details of cyber-victim experience or contextual factors such as social norms and group membership.
DeSmet et al. (2016)	Stratified sample from 16 schools.	1979 12-15 years (*M* = 13.61) (52.7% female)	Belgium. (Ethnicity not stated)	Questionnaire: Sociodemographic information. Quality of life. Experience as a victim, witness or perpetrator of cyberbullying. Those who witnessed cyberbullying within 6 months: Relationship to the bully and victim, their response and behavioural intentions if they were to witness it again. Attitudes and expectations of outcomes of cyber-bystander responses. Perceived norms for parental approval of prosocial cyber-bystander behaviour and social pressure to join in cyberbullying by friends. Perceived importance of the internet/mobiles. Moral disengagement attitudes. Cyber-bystander behavioural self-efficacy. Coping, empathic and social skills. Class- and school-level variables. Parents asked about their awareness of their child's internet and phone activity-use.	Mostly passive responses. Most common prosocial response was comforting and giving advice to victim. High intentions to laugh at cyberbullying but low for other negative responses. Private and public defending equal. Class- and school-factors important. Positive response related to intention, victim experience, self-efficacy, attitudes towards positive and negative responses, gender, victim friendship. Intentions related to the belief one could help, not expecting personal protection, positive and negative attitudes about responses, not denying responsibility, social skills, victim experience, less victim-blaming, confidence to stop cyberbullying, coping skills, age, mothers' awareness of internet use. Negative responses related to intent, less victim-blaming and higher cognitive restructuring attitude. Negative intentions related to attitudes towards responses, expectation of protection and personal gains, poor skills.	Some items only measured by few items. Limited information about class differences. Measurements of class norms not done through adolescent's perceptions. Did not use all possible informants (e.g. teachers). Possible self-report bias. Different negative bystander behaviours not distinguished. Different incident-types not included.

Erreygers et al. (2016)	Part of larger study with primary and secondary schools. Stratified random cluster sampling.	808 (9-11) and 12-16 (M = 12.6) (50.3% male)	(Location omitted) (Ethnicity not stated)	Questionnaire: Demographical information Experiences in last 6 months with online and offline bullying as perpetrator, victim and witness. Impulsivity. Empathy. Internet and mobile use.	Impulsivity associated negatively with cyber-bystander helping behaviour. Older cyber-bystanders are more likely to have higher impulsivity, lower empathy and helping behaviour. More experience as a cyber-victim within 6 months relates to higher likelihood of helping cyber-victims. More empathic cyber-bystanders are more likely to help a cyber-victim.	Only correlation. Relationship to victim not measured. Measures for cyberbullying involvement and helping behaviour only single dichotomous items. Impulsivity limited reliability. Possible self-report bias.
Luo & Bussey (2019)*	14 independent, co-educational schools.	344 from grade 7. (M = 12.65) (194 Females) 196 from grade 9 (M = 14.63) (110 Female) 11-14 years	Australia 67.3% = Anglo/Celtic 15.9% = European 6.7% = East/South East Asian	After 2 hypothetical bullying scenarios: one on Facebook, one on a group text message (gender-matched) were shown, they completed a questionnaire: Demographical information. Constructive defending self-efficacy Aggressive defending self-efficacy. Contextual moral disengagement. Context severity. General moral disengagement.	Females more likely to intervene constructively whilst males more aggressively. Higher self-efficacy to intervene constructively when younger. General and contextual moral disengagement related to constructive and aggressive defending self-efficacy. General moral disengagement positively related to aggressive defending self-efficacy. Contextual moral disengagement stronger predictor of constructive defending self-efficacy than general moral disengagement. Higher moral disengagement in certain contexts related to a lower belief in constructive defending and greater belief in aggressive defending.	A Qualtrics error may have impacted results. Correlation only. Only one vignette for each context.
Macháčková, Dedkova, Sevcikova, & Cerna (2013)	34 'random' schools	156 12-18 years	Czech Republic.	Questionnaire: Demographical information. Experience of cyberbullying as victim, bully and others' experiences	Prosocial behaviour tendency related to supportive bystander behaviour. Without contextual variables in the analysis, a good relationship to the	Not precise measurement of cyberbullying experience.

		(*M* = 14.99) (53.9% female)	(Ethnicity not stated)	they knew about (particularly the most severe) and their supportive behaviour. Prosocial behaviour. Self-esteem. Problematic relationships with peers. Relationship with bully/victim. Fear of intervening. Upset feelings. Being asked to help the victim.	victim related to supportive responses. Positive relationship to the bully related to less support regardless of emotional response. Feeling upset by cyberbullying was strongest predictor of helping behaviour. Request for help from victim related to supportive bystander behaviour.	Only bystander rated severity of cyberbullying. Did not include behaviours such as confronting bully.
Macháčková et al. (2016)	34 primary and secondary schools. Sample of cyber-bystanders	453 12-18 years (*M* = 15.1) (60% females)	Czech Republic (Ethnicity not stated)	Questionnaire: Demographical information. Recall most severe cyberbullying incident they were witness to and their empathic responses to this. Prosocial behaviour. Self-esteem. Relationship with victim. Context of witnessing cyberbullying incident.	Contextually, only direct presence to incident and being informed by the victim of the incident related to increased empathic response. Prosocial tendencies and relationship to victim related to stronger empathic response. A weak negative relationship between empathic response and self-esteem was found.	Correlation only. Possible self-report bias. One informant only. Ambiguous phrasing of "concern" and "distress". Sample of witnesses had not reported incident, limiting generalisability. Other contextual factors not measured.
Macháčková & Pfetsch (2016)	4 secondary schools	321 12-18 years (*M* = 14.99) (56% males)	Germany 10% not born in Germany (Ethnicity not stated)	Questionnaire: Demographical information. Response to offline and online bullying within school career. Empathy (affective and cognitive) Normative beliefs about aggression.	Quite consistent levels of supportive/reinforcing responses between offline and online bullying. Higher approval of aggressive responses related to higher reporting of reinforcement as bystander (although not supporting the victim). Only affective empathy related to supportive responses (although not reinforcing).	Correlation only. Did not account for more nuanced subtypes of supportive and reinforcing responses to bullying. Possible self-report bias. Ignored some contextual factors.
Macháčková et al. (2018)*	Data from a project on children's	267	Czech Republic	Questionnaire: Demographic information.	Most cyber-bystanders showed some form of support.	Only asked about most severe incident so

	experiences of cyberbullying/ Aggression. 34 random primary and secondary schools.

Sample of cyber-bystanders. | 12-18 years (M = 15.1)

(61% females) | (Ethnicity not stated) | Responses to most severe incidents of cyberbullying witnessed. Relationship to victim. Prosocial behaviour. Self-esteem. Problematic relationships with peers. Fear of intervening. Empathic response. Victim's request for help. | More supportive when victim known from outside school. Girls offered more support, boys more passive. Supportive bystanders had more prosocial tendencies and lower self-esteem. Effect of gender and self-esteem disappeared when empathic response accounted for. All bystanders supported victims requesting help (or would have done if asked). | interpretation and generalizability limited. Small sample of passive bystanders only. Did not include previous perpetrator/ victim experience. Emotional responses measures only one item. Correlation only. |
| Quirk & Campbell (2015) | 2 schools | 716

12-18 years (Mean not known)

(540 females) | Queensland (Ethnicity not stated) | Questionnaire: Demographical information. Experiences of witnessing traditional and cyberbullying in 12 months. Reaction in most recent incident of online and/or offline bullying. | Outsider bystander role quite consistent online and offline. 45% offline defenders also defended online. Reinforcers offline tended to be 'outsider' online. ½ bystanders maintained their roles online and offline (mainly outsiders). Females more likely to witness only cyberbullying. More 15-year-olds witnessed bullying compared to other ages. 'Outsider' was most common bystander role online and offline. Most reinforced bullying. Males more likely to assist in bullying than defend victim online. Witnesses more likely to reinforce online compared to offline where. | Possible bias in samples used. Females over-represented. Possible self-report bias. Correlation only. 23% incompletion rate. |
| Schultze-Krumbholz, Hess, Pfetsch, & Scheithauer et al. (2018)* | Part of comprehensive 3-wave longitudinal study on | 834

11-17 years | Germany

(Ethnicity not stated) | Questionnaire: Demographical information. Involvement in cyberbullying/ cybervictimisation. | Bystanders (defenders and outsiders) largest group. Mixed perpetrator/victim class not very supportive of cyber-victims and | Possible self-report bias. Hypothetical examples. Relationship to victim not specified. |

cyberbullying prevention. Data taken from 1st part. 5 schools	($M =$ 13.44) (52.7% females)			Hypothetical vignette measuring cyber-bystander behaviour. Willingness to take part in cyberbullying. Proactive and reactive aggression. Self-esteem. Cognitive empathy. Affective empathy.	have fewer social competences and more aggression. Age and gender only significant in predicting 'class' when no other predictors in analysis. Roles include 'outsiders', 'defenders' (aggressive or prosocial), 'assistants' (assisting bully and likely to be male), 'bully-victims' (more bullying characteristics). Affective and cognitive empathy predict prosocial defenders (also using a variety of confronting and defending strategies) to intervene.	"Telling friends" is ambiguous. 'Outsider' class is ambiguous. Severity of cyberbullying not considered. Choice of 5-class rather than 3-class model not clear cut.
Sheppard & Campbell (2016)*	7 schools	348 12-18 years (Mean age not known) (54% male)	Queensland Australia (Ethnicity not stated)	Questionnaire: Demographical information. Witnessing offline and online bullying within the year. Questions regarding reporting, discouraging and supporting the bullying. If response was online, face-to-face or both (or no response).	Both forms of bullying reported more face-to-face, though friends told online more. Both genders equally likely to report cyberbullying to friends (but females more likely to tell parents). High percentage discouraged bullying by asking the bully to stop (online). Males believed in getting back at the bully more than females. Majority preferred to support victim.	Bystanders may not have known victim offline to intervene face-to-face or had access to help online. Older students may have had more online access. Small sample in each cell limited analysis.

* Studies which were not previously reviewed.

Table 2. *Summary of quasi-experimental studies*

Authors	Design	Recruitment	Sample Size	Sample age/ Country/ ethnicity	Constructs Measured	Findings	Limitations
Barlińska, et al. (2013)	Study 1: 2x2 (message conditions; online/offline and private/public). Between-subjects. Random group assignment.	1: Junior high schools and high schools (3 provinces).	1: 760 (50% female)	1: 11-18 years ($M = 14.91$) Poland (Ethnicity not stated)	1: Cyberbullying experience as bully and victim. Gender. Decided whether photo message from peer should be public (by choosing between two reactions).	1: Negative bystander behaviour more likely to happen in online than offline bullying. Negative bystander behaviour lower in public. Bully experience predicted negative bystander behaviour. Overall fit of model better when including experience.	Limited generalisation to other age groups. Only investigated one negative bystander behaviour. Only looked at mild cyberbullying. Only looked at one platform for cyberbullying. Private and public online communication separated. Video shown to induce empathy may have still been effective if showed non-cyberbullying situation. Pre-testing and post-testing not conducted.
	Study 2: Affective empathy activation or control conditions. Video shown on victim experience of cyberbullying to activate affective empathy. Between-subjects. Random assignment to condition.	2: As above.	2: 296 (189 males)	2: 12-18 years ($M = 15.35$) Poland (Ethnicity not stated)	2: Cyberbullying experience as above. Message from peer task as above (online version only). Gender.	2: Affective empathy activation related to reduced negative bystander behaviour. Strong effect of previous perpetrator experience in negative bystander behaviour prediction.	
	Study 3: Two cognitive empathy activation conditions and control. Video shown as above and follow-up instructions. Empathy activation; focus on emotions vs. behaviour. Control; focus on background video details. Between-subjects.	3: As above	3: 288 (148 females)	3: 12-18 years ($M = 14.83$) Poland (Ethnicity not stated)	3: Cyberbullying experience as above. Message from peer task as above. Gender.	3: Only experience as perpetrator increases odds of negative bystander behaviour. Better overall fit with model considering empathy. Both cognitive empathy conditions reduce negative bystander behaviour.	

Barlińska, et al. (2018)*	Study 1: Social network simulation. Randomly assigned to condition by drawing halves of the classes. Simple between-subjects. Video of cyber-victim shown to experimental condition (activating empathy.	1: 10 public junior high schools (3 districts)	1: 271 (151 females)	1: 11-17 years (*M* = 13.05) Poland (Ethnicity not stated)	1: Demographics. After video received message from friend. Asked how they would respond (report Vs forward). Cyber-bully/victim experience. If seen video before.	1: No significant predictors of bystander behaviour.	Used a purposefully recruited sample. Possible impact of order effects. Only reporting abuse was tested (need more possible responses) so limited generalisability. Cyberbullying severity not explored (only a mild form used).
	Study 2: Simulation and video as above. Control; focus on background details. Experimental condition; cognitive empathy activation (select emotions that victim felt. If wrong then had 3 trials). Randomly assigned conditions. Between-subjects.	2: 9 public junior high schools (3 districts)	2: 265 (168 females)	2: 10-16 years (*M* = 14.14) Poland (Ethnicity not stated)	2: Demographics. Video and instructions to focus on details. Message from friend task (reporting vs. sharing bullying). Number of trials and if seen film before. Cyberbully/victim experience.	2: If seen film before, more likely to intervene. If could not remember if had seen the video, intervened more often than those who viewed it for the first time. With every attempt at answering correctly, the probability of selecting helpful behaviour increased. Higher cognitive empathy related to higher reporting likelihood.	
Patterson, et al. (2017a).	Online survey with hypothetical vignettes (online and offline). 3x3 design: bystander relationship to perpetrator (close friends, friend but not close, stranger) x relationship to victim. Within-subjects.	6 non-government schools.	292 54.5% Female	Grade 9-10 Australia (14-16 years, *M* = 15.2) (Ethnicity not stated)	After every vignette, indicated likelihood of responding in 8 ways as a bystander. Rated hurtfulness, seriousness and funniness of scenarios. Demographic information.	Fewer public responses online. Higher serious/hurtful rating related to higher likelihood bystanders informed adults/friends or comforted the victim privately and ignored less. Bystanders rarely tell a teacher. Females more sensitive to impact on the victim, rate cyberbullying more seriously, more likely to talk to others and comfort victim. Males more likely to be passive and find situation funny. Less likely to ignore a victim who is a close friend. More likely to ask bully to stop if friends.	Participant may react in real life. May be more difficult to contact a stranger online.

* Studies which were not previously reviewed.

Table 3. *Summary of experimental studies*

Authors	Design	Recruitment	Sample Size	Sample age/ Country/ ethnicity	Constructs Measured	Findings	Limitations
Barlińska, et al. (2015)	Random assignment to experiment/ control condition. Online social media simulation. 2x2 (empathy) x (time-gap) between-subjects. Video of cyber-victim's experience to activate empathy. Time-gap between video and peer message (1-week vs immediate).	Schools	442 (227 Males)	12-17 years ($M = 13.05$) Poland (Ethnicity not stated)	Selected details from a list that appeared in video (victim's emotions and behaviour Vs background video details). Participant response to peer message (forwarding or deleting it). Age and gender.	Slightly less likely to reinforce cyberbullying in empathy activation condition. Time-gap inclusion improved overall model fit. Having a time-gap between the video and decision to forward the message or not increased the likelihood of the reinforcing cyberbullying. Empathy activation reduced reinforcing behaviour only in the short-term.	Only looked at limited bystander reaction to cyberbullying. Only looked at one online setting.
Bastiaensens, et al (2014)	2x2x2 between subjects. Random allocation. (Low Vs High severity and other bystanders reinforce the bully VS defend victim and other bystanders are acquaintances Vs good friends).	Second year of secondary education from 6 schools outside 2 cities.	453 55% Males	13-14 years ($M = 13.29$) Belgium (Ethnicity not stated)	After scenario: Behavioural intentions to help victim/reinforce bullying. Perceived incident severity. Demographics. Internet use. Social network profile ownership and use and number of contacts. Cyberbully/victim/	Higher incident severity related to higher intention to help the victim. Higher perceived severity related to lower motivation to reinforce bullying. Boys viewed incidence less severely. In low severity scenario, there were higher intentions to help the victim (comfort/give advice) when bystanders were acquaintances compared to friends. In high severity scenarios, there were higher intentions to help when bystanders were friends.	Did not measure whether harassing scenario was considered cyberbullying. Scenario was viewed on questionnaire at school which may not be ecologically valid. Possible self-report bias. Questions may not have reflected true

	Facebook harassment scenario.				bystander experience in 6 months.	Bystanders had higher intention to reinforce bully and copy bystander behaviour when other bystanders were friends compared to acquaintances. Lower intentions to reinforce bullying when good friends defended the victim. Main effect of other bystanders' identity on intentions to reinforce the bully. Girls had higher intentions to help the victim (giving advice/comforting). Boys had higher intentions to tell the bully that their bullying was funny.	behaviour or been misunderstood. Did not measure psychological processes (e.g. empathy).
Bastiaensens, et al. (2015)	2x2x2 between-subjects. Severity (low Vs high) x other bystander behaviour (reinforcing Vs defending) x relationship to bystander (acquaintance Vs friend). Random assignment to condition. Within-subjects comparison for mediacy of defending (offline vs online). Facebook harassment scenario on paper questionnaire.	6 schools.	450 (55% Males)	13-14 years. (M = 13.29). Belgium (Ethnicity not stated)	Presented with Facebook scenario. Intentions of behaviours aimed to help the victim (public, private, online or face-to-face options). Gender. Educational level. Internet use frequency. Social network profile ownership, frequency of use and number of contacts. Experience as cyber-victim, perpetrator and bystander in 6 months.	In severe situations bystanders had higher intentions to help in online ways compared to offline. Higher behavioural intentions to help victim privately compared to publicly. Other bystanders who reinforced bullying related to lower intentions to help the victim publicly. Good friends could encourage or discourage more public helping compared to acquaintances.	Read bullying incident in school limited ecological validity. Possible social desirability. Communication modalities were not rated against each other so unsure if response options compared. Participants did not report on whether took factors into account.

Table 4. Summary of longitudinal studies

Study	Recruitment	Sample Size (gender)	Sample age/ area	Procedure/ constructs measured	Significant relationships	Limitations
Pabian, Vandebosch, Poels, van Cleemput, & Bastiaensens (2016)	Random stratified cluster sample from larger study about developmental trajectories and cyberbullying involvement.	1412 49.6% Females 6.96% attrition	10-13 years (*M* = 11.57) Belgium (Ethnicity not stated)	Pilot (n = 47) first. Then survey at 2 points (6 months apart): Self-reported cyberbullying involvement (as perpetrator, bystander and victim in past 6 months). Empathy. Attitude towards cyberbullying.	1 in 4 were cyber-bystanders. Longitudinal association suggested between bystander experience at time 1 and empathic response at time 2 (more experience as a bystander relates to lower empathic response over time). Possible relationship of empathy and attitude to later cyber-bystander involvement. High empathic responsiveness related to high levels of cyberbullying witnessing. Attitude towards cyberbullying related to later cyber-bystander involvement. Those with a positive attitude towards cyberbullying witness it more frequently.	Did not control for bystander reaction in cyberbullying. Severity of scenarios not explored. Did not include all possible individual and contextual factors which influence relationship between being a cyber-bystander, empathy and attitude towards cyberbullying. Only general affective empathy levels measured.

Table 5. *Summary of mixed methods studies*

Study	Recruitment	Sample Size (gender)	Sample age/ Country and ethnicity	Procedure/ constructs measured	Significant relationships	Limitations
Holfeld (2014)	9 middle schools from two cities.	1105 (51% Males)	10-14 years (*M* = 12.75) U.S. 62.2% = Caucasian 13.9% = Asian 8.2% = Other 7.0% = Aboriginal/ Native 5.6% = Black 3.0% = Hispanic	Assigned to same-gender hypothetical cyberbullying scenario where bullying continued after a response. 3x2 between-subjects: Victim response type (ignoring behaviour Vs reporting Vs confronting) x participant/ blogger gender. Perceptions of the cause of the incident. Open ended question. Perception of victim's control, responsibility and blame for the incident. Whether the participant considered it cyberbullying. Cyberbullying seriousness.	Over half (particularly males) attributed incident to the victim's internal characteristics. Nearly a third believed the victim had control and responsibility. 1/3 believed victims were helpless and attributed the incident to internal, stable and uncontrollable factors. 32% males and 43% females believed the bully's characteristics led to the bullying. Victim perceived as having more control, responsibility and blame for the incident when they ignored the situation compared to reporting it or confronting the bully. Male blamed victims more than females.	Limited generalisability due to location of sample. Only one cyberbullying scenario described (with a negative outcome too). Relationship with victim not defined.
Huang & Chou (2010)	16 classes of 8 junior high schools.	545 (52.9% Female).	7th-9th grades. (12-15 years, Mean unknown) Taiwan. (Ethnicity not stated)	Survey (with 6 additional open-ended questions). 1st part: gender, grade level, academic achievement, computer use. 2nd part: cyberbullying experiences (perpetrator, victim and bystander). 6 open-ended questions in each section about reasons for not reporting cyberbullying to adults and responses to cyberbullying.	Bystanders stated they did not report because they: did not feel it was their responsibility, was not their 'business' and believed cyberbullying was not a 'big deal'. They also believed intervening would invade others' privacy. Some reported they did not intervene as those involved were not their friends. Very few told parents/teachers because they were afraid of getting in trouble or it was 'useless' to ask adults for help.	Possible self-report bias. Only one informant (students). Correlation only. Other context such as school climate and psychological conditions not explored.

Macaulay, et al. (2018)*	Urban schools.	868 52.8% Males	11-13 years (Mean = not known). UK Midlands (Ethnicity not solicited but described as "a range" of ethnicities)	2x3x2 within-subjects. Type of bullying (online Vs offline) x Severity (Mild Vs Moderate Vs Severe) x Gender. 6 hypothetical vignettes (3 traditional, 3 cyberbullying). Mild, moderate and severe scenario. After each scenario, listed as many things that they could think of that they could do.	More willing to intervene positively in cyberbullying compared to offline. Females more likely to intervene. Positive behaviour responses reduced from severe through to mild scenarios. Within moderate severity scenarios, positive behaviour response were higher in cyberbullying but did not differ at other levels.	Not real-life scenarios. Possible self-report bias. Limited forms of bullying used in vignettes.
Owusu & Zhou (2015)*	High schools and middle schools	14 50% Male	(unclear age – could be between 11-18 maximum). U.S. (Ethnicity not stated)	Survey and focus group: Survey: 4 videos of cyberbullying scenarios. Questions about how happy/sad the cyber-victim was and whether the reader was upset. Likelihood of reactions as a bystander. Focus groups held to get understanding for responses.	Cognitive empathy related to positive bystander behaviour only. Empathic accuracy related to physical attractiveness of the cyber-victim. Focus group cited emotional contagion, natural empathy and upbringing (which also mattered for moral development). Cyberbullying sometimes considered bad regardless of the motivations whereas some were less empathic. Most did not wish to intervene directly and expected victims to cope. Feared repercussions and that their intervention would not work. All participants would report the incidents to adults/teachers. Cited not forwarding bullying messages, not taking part in online bullying forums and would block bullies online.	Small sample size. Affective empathy scale not very reliable. Possible moderating factors not explored.
Van Cleemput et al. (2014)	Stratified random cluster sample (grade and type of schooling)	519 Gender % = unknown	(9-11) and 12-16 years (Mean not known) Belgium	Questionnaire: Experience with online and offline bullying in last 6 months. Details of bullying. Reaction to bullying (open-ended question).	Empathic concerns most important predictor for reactions to cyberbullying (higher empathy led to helping to victim, lower empathy led to remaining passive/joining in the cyberbullying).	Cognitive empathy not studied. Analysis could not be conducted on single incidents of cyberbullying, only generally.

			(Ethnicity not stated)	Internet/mobile phone use Socio-demographic information Personality traits. Empathy. Social anxiety.	Those who had cyberbullied/bullied in last 3 months more often joined in cyberbullying too. Experience of being an offline or online bullying victim positively related to helping victims online. Offline bullying victims less likely to stay passive online. Moral disengagement occurred when witnesses remained passive in cyberbullying. Also noted fear of retaliation and lack of social skills/efficacy to help, not knowing the victim/not being able to access the situation (no context to the bullying)/timing of the event.	Self-report bias.
Veiga Simão, et al. (2018)*	Convenience sample 10 schools	1607 Phases: 1st: 529 (53.7% Female) 2nd: 402 (55.7% Female) 3rd: 676 (55.5% Male)	Phases: 1st phase = 7-12th grades (M = 14.27) 2nd + 3rd phases = 5-12th grades (M = 13.12 and 14.10 respectively) (10-17 years) Portugal (Ethnicity not stated)	Questionnaire: Noting expressions of verbal aggression in witnessed cyberbullying. Personal and normative moral beliefs about cyberbullying. Self-efficacy to solve cyberbullying. Using content from online verbal aggression in cyberbullying. Gender. Age.	Personal moral beliefs positively associated with normative moral beliefs and negatively associated with using online aggressive content witnessed in cyberbullying within online communication. Normative moral beliefs mediated the connection between personal moral beliefs and using aggressive online content. Self-efficacy to stop cyberbullying positively associated with personal moral beliefs and negatively with using online aggressive content. Self-efficacy mediated the connection between personal moral beliefs and using aggressive online content.	Could have used larger set of expressions found online. Correlation only. Did not explore group self-efficacy. Did not explore perceived behavioural control or various determinants of cyberbullying behaviour.

* Studies which were not previously reviewed.

Table 6. *Cross-sectional appraisal checklist (The Joanna Briggs Institute, 2017a)*

Study	Questions*									Notes
	Were the criteria for inclusion in the sample clearly defined?	Were the study subjects and the setting described in detail?	Was the exposure measured in a valid and reliable way?	Were objective, standard criteria used for measurement of the condition?	Were confounding variables identified?	Were strategies to deal with confounding factors stated?	Were the outcomes measured in a valid and reliable way?	Was appropriate statistical analysis used?	Total Score (/16)**	Notes
Allison & Bussey (2017)	Y	U	Y	N/A	Y	Y	Y	Y	13	+ Controlled for experience. + Used hierarchical regression. + Outlined demographics of sample. + Explored associations/moderation as hypothesised. - Never clearly explicit why chose sample age.
Bastiaensens, et al. (2016)	Y	U	U	N/A	Y	Y	N	U	7	+ Clear inclusion criteria of cyber-bystanders. + Explored several variables. - Ethnicity unknown. - Some causal suggestions in hypothesis made which cannot be assumed with design/analysis used. - Single item/unvalidated measures used.

Cao & Wan-Ying (2015)	Y	U	U	N/A	Y	Y	U	Y	11	+ Control variables identified. + Regression appropriate for moderation/ relationship analysis + Clear focus on teenagers. - Sample ethnicity unclear and where recruited from. - Some psychometrics reported but measures do not appear validated.
DeSmet et al. (2016)	Y	Y	Y	N/A	Y	Y	U	Y	13	+ Clearly looking at school-age sample. + Measures referenced/previously used or if not, factor analysis conducted. + Regression appropriate for hypotheses. + Controlled for variables in regression steps. - Ethnicity of sample unknown. - Some measures have items with lower psychometric properties.
Erreygers et al. (2016)	Y	U	U	N/A	Y	Y	U	Y	11	+ Clear focus on adolescents. + Regression analysis appropriate for hypothesis. + Control variables identified and managed. + Some measures appear to be validated/have good reliability.

										- Ethnicity of sample unknown. - Limited behaviour options for bystanders and unvalidated measure. - Internal reliability of some items only just sufficient.
Luo & Bussey (2019)	U	Y	Y	N/A	Y	Y	Y	Y	13	+ Sample clearly described. + Measures appear reliable/validated. + Appropriate control of variables. + Regression analysis appropriate for exploring associations. - Was not explicit why current sample used.
Macháčková et al. (2013)	Y	U	Y	N/A	Y	Y	U	Y	12	+ Clearly looking at school children. + Sample of cyber-bystanders clearly described. + Most measures appeared reliable/validated. + Variables appeared controlled for. + Regression analysis appropriate for exploring associations. - Ethnicity of sample unknown - Some constructs measured by only single item.

Macháčková et al. (2016)	Y	U	U	N/A	Y	Y	U	Y	11	+ Regression analysis appears appropriate to explore associations. + Clearly looking at school-aged cyber-bystanders. + Controls identified and managed. + Regression analysis appears appropriate to explore associations. - Only some validated measures and some had good psychometric properties, most were not validated and were single items to measure constructs. - Ethnicity of sample unknown.
Macháčková & Pfetsch (2016)	Y	U	Y	N/A	Y	Y	Y	Y	13	+ Clear aim to look at adolescent bystanders. + Measures appear validated and generally reliable. + Path analysis with controls. + Analysis appears appropriate to understand associations. - One item had borderline internal consistency. - Ethnicity of sample unknown.

Macháčková et al. (2018)	Y	U	U	N/A	Y	Y	U	Y	11
Quirk & Campbell (2015)	Y	U	Y	N/A	N	N	Y	Y	5
Schultze-Krumbholz, et al. (2018)	Y	U	Y	N/A	Y	Y	U	Y	12

Macháčková et al. (2018):
+ Clear looking at young cyber-bystanders.
+ Controls identified and managed.
+ Regression appears appropriate for exploring associations.
- Sample ethnicity not known
- Mixed measures in terms of validity and reliability.
- Some constructs measured with single item.

Quirk & Campbell (2015):
+ Clearly looking at school-aged sample.
+ Chi-squared analysis/one-way ANOVA/post hoc tests appears in line with hypotheses.
+ Measures based off several references and internal reliability good.
- Ethnicity of sample unknown.
- Did not appear to identify or control for additional variables.

Schultze-Krumbholz, et al. (2018):
+ Measures appear to be validated/have good internal reliability.
+ Latent class analysis/regression in line with aims of study.

										+ Control variables managed. - Some measures not validated/psychometrics not reported. - Ethnicity of sample unknown.
Sheppard & Campbell (2016)	Y	U	Y	N/A	N	N	U	Y	4	+ Clearly looking at school-aged sample. + Z-test appears appropriate for aims. + Gender and age easily measured. - Psychometrics of main measure not reported/does not appear entirely validated. - Ethnicity of sample unknown. - Confounding variables not identified/controlled.

* Key for answers: Yes (Y), No (N), Unclear (U), Not applicable (NA)

** Score for answers: Y=2, N = -1, U = 1, NA = 0

Table 7. *Quasi-experimental Appraisal Checklist (The Joanna Briggs Institute, 2017c)*

Questions*	Study		
	Barlińska et al. (2013)	Barlińska et al. (2018)	Patterson et al. (2017a)
Is it clear in the study what is the 'cause' and what is the 'effect' (i.e. there is no confusion about which variable comes first)?	Y	Y	Y
Were the participants included in any comparisons similar?	U	U	U
Were the participants included in any comparisons receiving similar treatment/care, other than the exposure or intervention of interest?	U	U	U
Was there a control group?	Y	Y	N
Were there multiple measurements of the outcome both pre and post the intervention/exposure?	N	N	N
Was follow up complete and if not, were differences between groups in terms of their follow up adequately described and analysed?	Y	Y	Y
Were the outcomes of participants included in any comparisons measured in the same way?	Y	Y	Y
Were outcomes measured in a reliable way?	U	U	U
Was appropriate statistical analysis used?	Y	Y	Y
Total Score (/18)**	**11**	**11**	**7**

Notes*	+ Measure of experience validated and reliable.	+ Measures previously used (but only just sufficient reliability).	+ Within-subjects and between-subjects checking for overall group difference (but not reported whether there was a difference).
	+ Regression appropriate for aims.	+ Regression appropriate for aims.	+ Participants treated the same aside from randomization of scenario order to avoid order effects from vignettes.
	+ Groups treated the same aside from manipulation.	+ Groups treated the same aside from manipulation.	+ ANOVA and post-hoc tests appear appropriate for aims.
	- Ethnicity of sample unknown.	- Only two bystander behaviour options.	- No control group.
	- Limited bystander action options.	- Ethnicity of sample unknown.	- Measures based on evidence but do not appear validated.
	- Group equality/ differences not clear.	- Group equality/ differences unclear.	- Unclear if already gone through anti-cyberbullying program.
	- No two measures explored same construct/ no pre-measures.	- No two measures explored same construct/ no pre-measures.	- No two measures explored the same construct/ no pre-measures.
	- Unclear if already gone through anti-cyberbullying program.	- Some participants had previously seen film (+ controlled for).	

* Key for answers: Yes (Y), No (N), Unclear (U), Not applicable (NA)

** Score for answers: Y=2, N = -1, U = 1, NA = 0

Table 8. *Experimental research appraisal: randomized-control trial appraisal checklist (The Joanna Briggs Institute, 2017d)*

Question*	Study		
	Barlińska et al. (2015)	Bastiaensens et al. (2014)	Bastiaensens et al. (2015)
Was true randomization used for assignment of participants to treatment groups?	U	U	U
Was allocation to treatment groups concealed?	U	U	U
Were treatment groups similar at the baseline?	U	Y	Y
Were participants blind to treatment assignment?	U	U	U
Were those delivering treatment blind to treatment assignment?	N/A	N/A	N/A
Were outcomes assessors blind to treatment assignment?	U	U	U
Were treatment groups treated identically other than the intervention of interest?	Y	Y	Y
Was follow up complete and if not, were differences between groups in terms of their follow up adequately described and analysed?	Y	U	Y
Were participants analysed in the groups to which they were randomized?	Y	Y	Y
Were outcomes measured in the same way for treatment groups?	Y	Y	Y
Were outcomes measured in a reliable way?	U	U	U
Was appropriate statistical analysis used?	Y	Y	Y
Was the trial design appropriate, and any deviations from the standard RCT design (individual randomization, parallel groups) accounted for in the conduct and analysis of the trial?	Y	Y	Y
Total** (/23)	18	18	19
Notes	+ Appeared as appropriate design and randomised. + Regression appears appropriate for aims. - Measure unvalidated	+ Appeared as appropriate design and randomised. + Treatment groups equal. + Severity manipulation	+ Appeared as appropriate design and randomised. + Treatment groups equal. +ANOVA appears appropriate for aims.

(+ but has internal consistency). - Did not describe how randomised. - Group differences not described. - Only two bystander behaviour options. - Unclear if researchers blind to randomization. - No pre-measures/multiple measures for same construct.	check conducted with "perceived severity". +ANOVA appears appropriate for aims. - Some excluded for missing data (n = 12) - Did not describe how randomised. - Unclear if researchers blind to randomization - No pre-measures/multiple measures for same construct.	- Measure not validated but appears to have face validity and based on real experience. - Did not describe how randomised. - Unclear if researchers blind to randomisation. - No pre-measures/multiple measures for same construct.

* Key for answers: Yes (Y), No (N), Unclear (U), Not applicable (NA)

** Score for answers: Y=2, N = -1, U = 1, NA = 0

Table 9. *Longitudinal appraisal checklist (The Joanna Briggs Institute, 2017b)*

Question*	Study
	Pabian et al. (2016)
Were the two groups similar and recruited from the same population?	Y
Were the exposures measured similarly to assign people to both exposed and unexposed groups?	Y
Was the exposure measured in a valid and reliable way?	U
Were confounding factors identified?	Y
Were strategies to deal with confounding factors stated?	Y
Were the groups/participants free of the outcome at the start of the study (or at the moment of exposure)?	N
Were the outcomes measured in a valid and reliable way?	U
Was the follow up time reported and sufficient to be long enough for outcomes to occur?	Y
Was follow up complete, and if not, were the reasons to loss to follow up described and explored?	U
Were strategies to address incomplete follow up utilized?	Y
Was appropriate statistical analysis used?	Y
Total (/22)	15
Notes	+ Only one group and everyone treated the same.
	+ No significant differences between waves and dropouts.
	+ Pilot completed.
	+ One measure validated (empathy).
	+ Controlled for cyber-victimisation and perpetration.
	+ Cross-lagged structural equation model appears appropriate.
	- Reasons not provided for some dropouts.
	- Two unvalidated measures (but good psychometric properties).

* Key for answers: Yes (Y), No (N), Unclear (U), Not applicable (NA)
** Score for answers: Y=2, N = -1, U = 1, NA = 0

Table 10. *Mixed methods appraisal checklist (Hong et al., 2018)*

Question*	Study					
	Holfeld (2014)	Huang & Chou (2010)	Macaulay et al. (2018)	Owusu & Zhou (2015)	Van Cleemput et al. (2014)	Veiga Simão et al. (2018)
Is there an adequate rationale for using a mixed methods design to address the research question?	U	U	Y	Y	U	Y
Are the different components of the study effectively integrated to answer the research question?	Y	Y	Y	U	Y	Y
Are the outputs of the integration of qualitative and quantitative components adequately interpreted?	U	U	Y	U	Y	Y
Are divergences and inconsistencies between quantitative and qualitative results adequately addressed?	N	N	N	N	N	N
Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?	U	U	Y	U	U	Y
Total** (/ 10)	3	3***	6	3***	4	6
Notes	+ General sample clearly described. +MANCOVA appears	+ Good psychometric properties for	+ Coding and ANOVA in line with aims.	+ Brief rationale given for using mixed-methods.	+ Structural model appears appropriate.	+ Clearly looking at adolescents.

appropriate for aims/design. + Covariates identified. + Groups treated the same aside from manipulation. + Brief rationale for open-ended question. - Qualitative analysis unclear. - Some unvalidated single-item measures. - No two measures explored the same construct/ no pre-measures. - No control group. - Group equality/ differences unclear. - Unclear if already gone through anti-cyberbullying program.	measures but adapted for current study. + Participants appear to have been treated the same. + Quantitative analysis appears appropriate (e.g. MANOVA). - Qualitative analysis and stance not detailed. - Ethnicity of sample unknown. - Examples not provided consistently for qualitative section. - Discrepancies to quantitative section not described. - Reasons for not using mixed-methods not explicit but in line with hypotheses.	+ Participants all treated the same. + Clear rationale for design. + Measurement of constructs based on references but not validated. - Inconsistencies between qualitative and quantitative findings not explored. - No two measures explored the same construct. - No control group. - Ethnicity of sample unknown. - Unclear if order effects occurred with vignettes. - Unclear if already involved in anti-cyberbullying program.	+ Some examples of qualitative analysis given. + Results brought together generally. + Internally reliable measure. + Regression appropriate for aims. - Small sample. - Measure not validated. - Qualitative analysis and stance not detailed. - Ethnicity of sample unknown. - Inconsistencies in results not discussed.	+ Qualitative analysis detailed. + Measures appear generally validated with good psychometric properties (- aside from one excluded item). + Reason for open-ended questions only briefly described. - Ethnicity of sample unknown. - Any inconsistent results not described.	+ Structural equation modelling and content analysis appear appropriate for aims. + Examples given for content analysis. + Controls identified and managed. + Measures appear validated/have good psychometric properties. - Divergences not clear - Ethnicity of sample unknown.

* Key for answers: Yes (Y), No (N), Unclear (U), Not applicable (NA)

** Score for answers: Y=2, N = -1, U = 1, NA = 0

*** Results partly excluded from review due to low quality of study and lack of support from other studies

Cyber-bystanders' reactions

Ten studies looked in general at frequency and methods of cyber-bystander intervention in cyberbullying. Cross-sectional and mixed-methods papers suggested that approximately 53-59% of adolescent cyber-bystanders remain passive (DeSmet et al., 2016; Quirk & Campbell, 2015; Van Cleemput et al., 2014). Quirk and Campbell (2015) found 16% also supported cyberbullying or joined in. These studies relied upon accurate self-report of witnessed cyberbullying incidents rather than controlled, but less ecologically valid vignettes. However, individuals may still respond in socially desirable ways to hypothetical vignettes, possibly explaining why Schultze-Krumbholz et al. (2018) found higher prosocial intervention rates (52%), although 9.5% intervened in an aggressive way (e.g. confronted the bully). Other papers also identified cyber-bystanders as generally supportive towards victims or had low intentions to reinforce cyberbullying (DeSmet et al., 2016; Macháčková et al., 2018). Varying study designs might explain these inconsistent results, as it differed whether participants were asked to recall any, or only, severe incidents as well as whether these incidents occurred within six months, a year, or throughout their school career.

When cyber-bystanders intervene, many appear to prefer helping the victim or asking the bully to stop (Sheppard & Campbell, 2016). However, cyber-bystanders rarely informed adults, particularly teachers (Huang & Chou, 2010; Patterson et al., 2017a). Contrastingly, Owusu and Zhou (2015) found that cyber-bystanders claimed they would behave pro-socially and report cyberbullying to adults and teachers, but this sample size was very small. Preference for public or private intervention was unclear as an experimental study suggested there was no difference but a study with self-reported real-life incidents suggested private intervention was preferred (Bastiaensens et al., 2015; DeSmet et al., 2016). The latter cross-sectional study had a slightly broader age range and a much larger sample size too, which could help to explain why a significant result was found. Despite some contradicting

evidence, generally passive cyber-bystanding appears common, followed by informing friends or helping the victim. Details of what related to higher or lower cyber-bystander intervention rates will be considered throughout the remainder of the report.

Factors relating to cyber-bystander behaviour

      Cyber-bystander demographics.

      Gender.

      Eighteen studies explored cyber-bystanders' gender. Several cross-sectional studies suggested that female cyber-bystanders more confidently intervene constructively in cyberbullying (Allison & Bussey, 2017; Cao & Wan-Ying, 2015; DeSmet et al., 2016; Luo & Bussey, 2019; Sheppard & Campbell, 2016). Males had higher self-efficacy to defend aggressively, such as to threaten the bully (Luo & Bussey, 2019) and were more likely to reinforce cyberbullying (Cao & Wan-Ying, 2015; Quirk & Campbell, 2015). Patterson et al. (2017a) also found males more often ignored cyberbullying. Most of these studies had roughly equal male-female split samples, although Quirk and Campbell (2015) had more females which might have skewed their findings.

      In contrast, several correlational and experimental studies found no relationship between gender and cyber-bystander intervention (Barlińska et al., 2013; 2015; 2018; Erreygers et al., 2016; Veiga Simão, et al, 2018). However, studies only measured two or three possible cyber-bystander responses. It may be that gender differences only occur for certain responses and these were missed in these latter studies. This is supported by cross-sectional findings where no gender differences existed for telling friends about cyberbullying or supporting the victims, but girls were more likely to tell their parents and boys were more likely to get back at the bully (Sheppard & Campbell, 2016). Studies with less ecologically valid quasi-experimental designs had slightly different results, as girls had higher intentions than boys to comfort or give advice to cyber-victims (Bastiaensens et al., 2014; Patterson et

al., 2017a). However, measures used to explore cyber-bystander behaviour in these latter three studies were either unvalidated or had unclear psychometric properties, bringing into question the reliability of the results.

Many cross-sectional studies found that gender effects diminished or disappeared once accounting for contextual and personal factors such as prosocial tendencies, cyber-bystander aggression and social competence, empathy and the victim asking for help (Macháčková et al., 2013; 2016; 2018; Macháčková & Pfetsch, 2016; Schultze-Krumbholz et al., 2018). Other factors may explain gender differences. For example, quasi-experimental studies found, compared to females, males perceived cyberbullying as funnier, less severe and were less sensitive to its impact on victims (Bastiaensens et al., 2014; Patterson et al, 2017a). In cross-sectional research, females were less likely to morally disengage when witnessing cyberbullying (Allison & Bussey, 2017). These variables were not all controlled for in all the above studies, which might mean that any behavioural gender differences were possibly due to confounding variables. Therefore, mixed findings may be in part due to studies' various outlined designs or quality differences and significant gender differences for some cyber-bystander responses might be explained by other factors.

Age.

Fourteen studies explored cyber-bystanders' age. Within cross-sectional research, cyber-bystanders in middle adolescence, approximately 14-15 years, appeared to witness more cyberbullying (Allison & Bussey, 2017; Quirk & Campbell, 2015). However, younger cyber-bystanders might be more likely than older teens to intervene (Allison & Bussey, 2017). In a sample of 12-15-year-olds, younger cyber-bystanders also reported higher intentions to intervene pro-socially (DeSmet et al., 2016). Adding to this, older cyber-bystanders, in a sample of 9-16-year-olds, helped cyber-victims less and were less empathic

(Erreygers et al., 2016). Macháčková et al. (2016) found no age differences in empathic response, but this was a single-item measure of state empathy compared to trait empathy which the previous study explored.

Luo and Bussey (2019) found that despite an age difference in constructive intervention self-efficacy, no age difference existed for aggressively intervening (e.g. being nasty to the bully). This is supported by Schultze-Krumbholz et al.'s (2018) latent class analysis with 11-17-year-olds which found being younger was a predictor for being a prosocial defender, but age was not a predictor for a less supportive 'class' after accounting for aggression and social competence. However, participants might have given biased answers when admitting to aggressive behaviour. A lower quality study also identified that when asking the cyberbully to stop, 14-16-year-olds tended to do so online, and younger teens offline (Sheppard & Campbell, 2016). Six studies varying in design and quality, but all with wide age-ranges, found no relationship between cyber-bystander age and responses (Barlińska et al., 2015; 2018; Cao & Wan-Ying, 2015; Macháčková et al., 2013; Macháčková & Pfetsch, 2016; Veiga Simão, et al., 2018). Most of these studies appeared to have slightly smaller sample sizes compared to the studies with significant findings, which might suggest a power issue. Additionally, most non-significant findings, bar one study, were from different countries to studies with significant findings, raising potential cultural differences. However, the number of non-significant findings makes it difficult to draw clear conclusions regarding age and, similar to gender findings, other factors might explain any differences found.

Prior cyberbullying experience.

Ten studies explored cyber-bystanders' previous experience with cyberbullying. One study found a relationship between previous experience as a cyber-bystander and higher levels of intervention (Allison & Bussey, 2017). However, this was only a correlational finding. Largely, across various study designs, there was support for a relationship between

previous experience as a cyberbully and negative cyber-bystander behaviour. Although these studies were susceptible to self-report bias and scale-quality varied, those exploring general cyberbullying and specific incidents revealed significant results. Previous cyberbullies were found to be more likely to either reinforce cyberbullying as a bystander (Barlińska et al., 2013; 2015) or join in (Van Cleemput et al., 2014). Bastiaensens et al. (2016) also found higher levels of previous cyberbully experience related to higher rates of joining in cyberbullying as a bystander. Interestingly, Barlińska et al. (2018) found no such relationship, but this may have been because their cyber-bystander behaviour measure had only two possible responses and so was not sufficiently sensitive.

In general, previous experience as an online or offline bullying victim related to greater intentions or likelihood in intervening as a cyber-bystander (Allison & Bussey, 2017; DeSmet et al., 2016; Erreygers et al, 2016; Van Cleemput et al., 2014). Moreover, these cyber-bystanders were less likely to remain passive (Van Cleemput et al., 2014). Although using self-report measures allowed for exploration of real-life cyberbullying experience in these studies, biased results may have occurred due to inaccurate recall or socially desirable answering. Causality also cannot be assumed with correlational research. However, three studies of quasi-experimental design found no relationship between previous cyber-victim experience and cyber-bystander response (Barlińska et al., 2013; 2015; 2018). This contradictory finding may have been due to developmental factors influencing the results as a broader age range was used.

Contrasting findings were also identified by Cao and Wan-Ying (2015) where cyber-victim experience associated positively with joining in cyberbullying. This finding may be a result of using an unvalidated measure, but previous experience might also not have a straightforward relationship with cyber-bystander behaviour. This complexity is highlighted by Schultze-Krumbholz et al. (2018) in their latent class analysis where those with experience

as a cyberbully or victim were likely to be in one of two very different 'classes'. One class was predicted by greater likelihood of reinforcing cyberbullying, lower empathy, social competence and higher aggression, whereas the other group tended to intervene in cyberbullying confrontationally or tell peers (Schultze-Krumbholz et al., 2018). Gender may also interact with previous experience where girls with cyber-victim experience are more likely than boys to be prosocial cyber-bystanders (Cao & Wan-Ying, 2015). Overall, previous experience does appear relevant to cyber-bystander behaviour but might interact with other factors.

Social context.

Eleven studies explored social pressures cyber-bystanders might experience including perceived approval of others and relationship to those involved. One cross-sectional study suggested that cyber-bystanders' perceived friends' and parents' approval of cyberbullying related to an increase in social pressure to reinforce cyberbullying (Bastiaensens et al., 2016). Having to respond to a public cyberbullying incident in a quasi-experimental study also appeared to deter cyber-bystanders from responding negatively (Barlińska et al., 2013). Two experimental studies proposed that relationship to other witnesses in these public situations was important, as cyber-bystanders more often mirrored other bystanders' behaviour when they were friends, compared to acquaintances (Bastiaensens et al., 2014; 2015). They were also less likely to help victims publicly if others were reinforcing cyberbullying (Bastiaensens et al., 2015). A strength of many of these studies included random assignment to conditions, although the randomisation process was not described. Using hypothetical vignettes may have limited ecological validity but, their benefits include greater control and exploring real-time responses (see Bellmore, Ma, You & Hughes, 2012; Patterson et al., 2017b).

Cyber-bystander relationship to the victim also appeared important. A quasi-experimental study found that cyber-bystanders asked the bully to stop more and ignored the

victim less if they were friends (Patterson et al., 2017a). Cross-sectional studies also found

positive cyber-bystander behaviour related to closer victim-relationships (DeSmet et al.,

2016; Macháčková et al., 2018). Cyber-bystanders in two mixed-methods studies also cited

unfamiliarity with victims as a barrier to helping (Huang & Chou, 2010; Van Cleemput et al.,

2014). Elsewhere, having any kind of relationship with the victim, even negative, was

correlated to higher cyber-bystander empathic responses (Macháčková et al., 2016).

However, this surprising finding might be explained by the study's use of one vague question

to measure emotional response.

An earlier study by Macháčková et al. (2013) only found the association of cyber-

bystander behaviour with victim friendship when not considering contextual variables, but

this study may have been underpowered due to a smaller sample size. The same study also

suggested that cyber-bully friendship related to reduced cyber-bystander helping behaviour

(Macháčková et al., 2013). Cyber-bystander relationships with bullies requires further study,

but victim-relationship findings appear relevant in understanding cyber-bystander behaviour,

even if only correlational at present.

Cyberbullying severity.

Experimental and quasi-experimental studies showed that cyber-bystanders had lower

intentions to reinforce and higher intentions to help in more severe cyberbullying situations

(Bastiaensens et al., 2014; Macaulay et al., 2018; Patterson et al., 2017a). Despite the

reliability strengths of experimental studies due to manipulation of incident context, the

concerns around ecological validity are again raised. However, a mixed-methods study

looking at real life experience of cyber-bystanding found that participants cited cyberbullying

as not being a big enough issue to intervene (Huang & Chou, 2010). Additionally, two cross-

sectional studies asking cyber-bystanders to report how they responded in the most severe

cyberbullying incident they had witnessed, revealed quite high intervention rates of 76.3%-88% (Macháčková et al., 2013).

How cyber-bystanders chose to intervene related to situation severity too. Bastiaensens et al. (2015) found that in severe cyberbullying situations, cyber-bystanders reported higher intentions to help victims through online means. Another quasi-experimental study found that serious cyberbullying was ignored less, and witnesses were more likely to inform adults or friends or privately approach victims (Patterson et al., 2017a). Overall, severity appears to be associated with cyber-bystander behaviour but could benefit from more ecologically valid research.

Personal and social morals.

Bandura, Barbaranelli, Caprara and Pastorelli (1996) suggested that people might act in immoral ways because they engage in reasoning that convinces them that moral standards do not apply within situations. This could be through processes such as diffusion of responsibility or reasoning that a victim brought it on themselves to be victimised (Bandura et al., 1996). It was also theorised that morality is interrelated with social influences around an individual (Bandura, 2002). Seven seemingly good quality studies explored morality and cyber-bystander behaviour. However, they all only produced correlational findings susceptible to self-report bias.

A good mixed-methods study found that personal moral beliefs negatively related to using witnessed aggressive content (Veiga Simão et al., 2018). Higher moral disengagement appears to be associated with passive cyber-bystander behaviour (Van Cleemput et al., 2014) as well as higher self-efficacy to defend aggressively, such as threatening the bully, which could be considered cyberbullying itself (Luo & Bussey, 2019). However, moral decisions based on specific contexts appeared to relate more strongly to cyber-bystander behaviour than

their general levels of moral disengagement (Luo & Bussey, 2019). Social context also appears relevant as a cross-sectional study found a relationship emerged at high levels of collective moral disengagement, where cyber-bystanders were more likely to intervene when their morals aligned with their perception of others' morals (Allison & Bussey, 2017).

Concerning more specific processes, Huang and Chou (2010) revealed that cyber-bystanders believed intervening would be 'invasive of privacy'. A strong cross-sectional study showed cyber-bystander intentions to respond pro-socially related to multiple factors including denial of responsibility and victim-blaming, whereas actual prosocial responding related to believing in helping victims and not ignoring them (DeSmet et al., 2016). Intentions to ignore or reinforce cyberbullying related to accepting passive witnessing and believing intervening would bring personal gains and protection whereas actual negative behaviour related to rationalising cyberbullying but blaming the victim less, suggesting cyber-bystanders potentially sometimes unintentionally behaved negatively (DeSmet et al., 2016). Macháčková and Pfetsch (2016) found a similar correlation between higher approval of antisocial cyber-bystander responses towards a cyberbully and higher reported cyberbullying reinforcement. Both these latter studies acknowledged that their measurement of cyber-bystander behaviour could have been more distinguished and accounted for more nuanced responses (DeSmet et al., 2016; Macháčková & Pfetsch, 2016). In summary, findings highlight a relationship between morals and cyber-bystander behaviour, but context and the perception of others' beliefs relate too.

Victim-related factors.

Three studies explored whether victim characteristics and behaviour were associated with cyber-bystander responses. Cross-sectional findings suggested that cyber-bystanders were more likely to help a victim if they asked for help or would have done were they asked

(Macháčková et al., 2013; 2018). However, as this was answered through self-report, socially desirable answers may have been given.

One way in which Bandura et al. (1996) proposed that bystanders morally disengage from a situation, making it less likely for them to get involved, is by blaming the victim. A mixed-methods study found that one third of participants perceived cyber-victims as helpless and attributed the cyberbullying to uncontrollable internal victim qualities (Holfeld, 2014). However, nearly another third believed the victim had control and responsibility over the situation, particularly when victims ignored the situation (Holfeld, 2014). Boys appeared more likely than girls to cite internal victim characteristics as reasons for the cyberbullying whilst 43% of girls blamed the bully (Holfeld, 2014). However, Holfeld (2014) did not identify the relationship of the victim to the cyber-bystander which could have influenced the results. Although the correlational studies were of generally good quality, the mixed-methods study was weaker due to the absence of a control group. Cyber-bystanders appear to take into consideration cyber-victim characteristics, but their importance is unclear.

Self-esteem, self-efficacy and social anxiety.

Seven studies explored either self-esteem, social anxiety or self-efficacy. Cyber-bystanders sometimes report uncertainty over their helpfulness. In response to Van Cleemput et al.'s (2014) open-ended question about cyberbullying situations, 50% of cyber-bystanders felt they lacked the ability to help. This may translate into cyber-bystander behaviour, as a positive correlation was found between prosocial responses and confidence to stop cyberbullying; whereas, negative cyber-bystander behaviour related to lower problem-solving and social skills (DeSmet et al., 2016). Self-efficacy to stop cyberbullying also appears to relate to lower level of reinforcing cyber-bystander behaviour in addition to statistically mediating the connection between personal moral beliefs and reinforcing cyberbullying (Veiga Simão et al., 2018). These studies only measured self-efficacy to perform specific

responses within specific scenarios, meaning findings cannot be generalised to other scenarios or help to understand whether general self-efficacy relates to cyber-bystander response. Overall, these findings suggest both direct and indirect ways self-efficacy may relate to cyber-bystander behaviour.

Cross-sectional research also explored self-esteem and social anxiety. No convincing relationship has been found to self-esteem (Macháčková et al., 2013; 2018; Schultze-Krumbholz et al., 2018) or to social anxiety (Van Cleemput et al., 2014). Studies used a measure for self-esteem which had good psychometric properties (Rosenberg, 1965). However, the studies exploring social anxiety only provided three possible cyber-bystander responses which may have lacked sensitivity. Additionally, only correlational conclusions are possible. In summary, it appears evidence only exists for a relationship between cyber-bystander behaviour and self-efficacy.

Empathy.

Empathy was explored in 13 studies. Cross-sectional and mixed-methods research found that higher empathy related to cyber-bystander helping behaviour (Erreygers et al., 2016; Macháčková et al., 2013; Schultze-Krumbholz et al., 2018; Van Cleemput et al., 2014). A further study found differences in empathy separated supportive from passive cyber-bystanders (Macháčková et al., 2018). Similarly, Schultze-Krumbholz et al. (2018) found in their latent class analysis that lower empathy related to allocation to classes of reinforcing or passive cyber-bystanders. Furthermore, cyber-bystanders only experienced an emotional response to cyberbullying when witnessing it live or being informed by a victim (Macháčková et al., 2016). Findings from Macháčková et al. (2013; 2016; 2018) are limited as they used a single-item measure of general empathy.

It has been proposed that empathy can be split into two forms, cognitive and affective empathy. Affective empathy is the process by which someone naturally reacts to another person's emotional state by experiencing the same emotion, whereas cognitive empathy refers more to intellectually being able to understand someone's emotional experience (e.g. Duan & Hill, 1996; Spinella, 2005). Studies differed on whether cognitive or affective empathy related most to cyber-bystander behaviour. One study found that when experimentally activating affective and cognitive empathy, both reduced reinforcing behaviour when giving participants a choice to forward or delete a cyberbullying message (Barlińska et al., 2013). However, when changing this choice to forwarding or reporting the message, compared to affective empathy activation, activating cyber-bystander cognitive empathy related to a higher likelihood in reporting cyberbullying (Barlińska et al., 2018). However, effects of cognitive empathy activation appear to only be short-term (Barlińska et al., 2015). There are generalisability limitations to these studies which only provided two possible behavioural responses.

Correlational findings revealed that lower affective empathy related to increased passive or reinforcing cyber-bystander behaviour (DeSmet et al., 2016; Van Cleemput et al., 2014). Another study suggested that affective empathy related to prosocial responding, unlike cognitive empathy, but neither related to reinforcing behaviours (Macháčková & Pfetsch, 2016). This study explored cyber-bystander responses over participants' lives at school compared to the previous study exploring incidents within the previous six months. Therefore, the latter result could be affected by inaccurate recall of historical incidents. In another study, cognitive, but not affective empathy related to positive cyber-bystander behaviour (Owusu & Zhou, 2015). However, the questionnaire used in this study was unvalidated.

Pabian et al.'s (2016) longitudinal study showed that the more experience a participant had as a cyber-bystander at the start of the study, the lower their affective empathy-response was over time. This is the only study to measure cyber-bystander responses over time, but associations were small and confounding variables between the measurement dates may have influenced the results. Even when providing a cyberbullying definition, self-reported cyber-bystander experience may have been unreliable. For instance, those with higher empathy, may have interpreted more ambiguous situations as cyberbullying (Pabian et al., 2016). Although empathy appears to relate to cyber-bystander behaviour, whether cognitive or affective empathy is more important or whether both relate to prosocial and antisocial responses is unclear.

Prosocial and impulsive tendencies.

One study explored impulsivity and surprisingly found that impulsive cyber-bystanders were less likely to help in cyberbullying scenarios and that older cyber-bystanders were more impulsive (Erreygers et al., 2016). The findings appear to fit with older cyber-bystanders responding more passively to cyberbullying (e.g. Allison & Bussey, 2017). Erreygers et al. (2016) suggested that helpful cyber-bystanders may be less impulsive as they need to have self-regulation, reflection and inhibition skills to perform helping behaviours. However, the impulsivity scale had borderline psychometric properties with the sample used which could have influenced the results.

Three cross-sectional studies explored cyber-bystanders' tendency to behave pro-socially. Macháčková et al. (2013; 2018) found that cyber-bystanders were more supportive when they had a greater general tendency to act pro-socially. Macháčková et al. (2016) also found this tendency was associated with a stronger empathic response in cyber-bystanders. These findings are so far only correlational and require further causal exploration.

Fear.

Two cross-sectional studies explored associations between fear and cyber-bystander behaviour but neither returned a significant result (Macháčková et al., 2013; 2018). However, using a single-item to measure fear raises reliability concerns. Three mixed-method studies highlighted fear as a barrier to cyber-bystander intervention. Adolescents feared that if they intervened in cyberbullying, they might lose friends or be victimised (Van Cleemput et al., 2014). Cyber-bystanders in Huang and Chou's (2010) Taiwanese study did not inform adults because parents were perceived as unable to help and cyber-bystanders might get into trouble, possibly highlighting fear of exclusion (thought to be particularly relevant to collectivist cultures). Most of the reviewed papers are from the US or Europe so these findings help to bring in cross-cultural perspectives. Furthermore, Owusu and Zhou (2015), found in their focus groups that cyber-bystanders feared possible repercussions of trying to stop cyberbullying and doing so ineffectively. As qualitative sections of these mixed-methods studies highlighted fear as an important factor and only a single item measure was used in the quantitative studies, the attempts to quantitatively measure fear might so far be insufficient.

Contextual factors.

DeSmet et al. (2016) found that, in addition to the above factors, prosocial cyber-bystander behaviour and intention related to contextual factors, including mothers monitoring internet usage and schools hosting an online bullying education day. In addition, Cao and Wan-Ying (2015) highlighted how more socially active teens online were more likely to behave pro-socially as cyber-bystanders. Although these studies explored real-life scenarios, this may have made it difficult to control for confounding variables and their quantitative design possibly limited any nuanced understandings of why these factors were important. Van Cleemput et al.'s (2014) open-ended survey questions revealed that a barrier to positive cyber-bystanding was not being able to access the online situation to determine the context

and feeling unsure whether the situation had already been resolved when incidents were not witnessed live. These unique characteristics of cyberbullying require further investigation to understand how they might hinder or facilitate intervention.

Discussion

This review aimed to examine factors associated with how cyber-bystanders psychologically and behaviourally respond to cyberbullying. Seven out of 26 identified papers had been published since previous reviews in this area and one had been previously missed.

Factors associated with cyber-bystander behaviour

The findings from the present review suggest that most often, cyber-bystanders remain passive when witnessing cyberbullying, though they are more likely to intervene in more severe situations. If cyber-bystanders decide to step in, they are most likely to inform friends or help the victim and less likely to inform adults. From the current review, several tentative conclusions can be drawn despite mixed findings on which factors relate to cyber-bystander responses. Gender and age differences are not consistently found for cyber-bystander responses, but generally younger and female cyber-bystanders appear to intervene more constructively and boys more aggressively. It might be that this is due to possible differences in gender norms regarding prosocial behaviour (Hine & Leman, 2014). However, other factors such as empathy, and prosocial tendencies might potentially explain these differences (e.g. Schultze-Krumbholz et al., 2018).

Previous experience as a bully relates to a higher likelihood of negative cyber-bystander behaviour, but the review suggests that experience as a victim is more complex. Although prior cyber-victims appear more likely to get involved than those without this experience, cyber-bystander empathy or social competence might indicate whether prosocial or antisocial

responses are used (Schultze-Krumbholz et al., 2018). The review highlights that cyber-bystanders appear more likely to help cyber-victimised friends. However, even online, social pressures seem to appear where, if other witnesses are friends, respond pro-socially, and are perceived as disapproving of cyberbullying, cyber-bystanders seem less likely to reinforce cyberbullying. Whether cyberbully-friendships relate to cyber-bystander behaviour requires further research.

Although the review highlights higher moral disengagement as associated with lower prosocial cyber-bystander intervention, it may also be related to responding in a way which may itself be a cyberbullying act. Additionally, context, attitude towards cyberbullying and perception of the victim correlated with morally engaging as a cyber-bystander. There is preliminary support for low self-efficacy relating to lower likelihood of intervention, but fear of intervening requires further support using alternative measures to draw firmer conclusions. Research across several methods supports an association between empathy and cyber-bystander behaviour, but it is unclear whether affective or cognitive empathy is most important and whether frequent witnessing of cyberbullying relates to bystanders becoming desensitised to it. An emerging picture was revealed in the review, highlighting that more prosocial and less impulsive cyber-bystanders appear to intervene more online. Moreover, the online context appears to be important, but only preliminary findings point to specific factors potentially associated with cyber-bystander behaviour such as internet use and access, parental monitoring and timing of incidents.

The current research varies greatly in quality and many findings are correlational, highlighting the need for more longitudinal and experimental studies. One difficulty in comparing the studies using self-reported real-life cyberbullying incidents was that, even with a cyberbullying definition, variation could have occurred in the type of incidents recalled. Furthermore, reliability and validity issues could have arisen according to whether

participants were asked to recall incidents witnessed within six months, a year or more or only severe incidents (e.g. Macháčková et al., 2013). The more historic the incident, the more difficult it might have been for participants to accurately recall details. This, alongside possible socially desirable answers, highlights the need for multiple informants in future studies, such as getting the perspectives of cyberbullies, cyber-victims, parents and teachers too so that cyber-bystanders' self-report can be corroborated.

Although using hypothetical vignettes reduced ecological validity, studies using this method had more design control over the type and severity of the cyberbullying situation to be examined (e.g. Barlińska et al., 2015; Macaulay et al., 2018; Patterson et al., 2017a). However, this limited generalisability, as did measuring only certain cyber-bystander responses (e.g. Barlińska et al., 2015). The frequent use of unvalidated or single-item measures in studies to explore factors like fear or empathy, also may not have been sensitive enough to capture such complex constructs (Macháčková et al., 2013). Although mixed-methods designs appeared to try to capture more detail or nuances with behaviour, only two studies clearly described and integrated their methods and findings (Macaulay et al., 2018; Veiga Simão et al., 2018). Lastly, in addition to the critique in Tables 6 to 10, many studies did not control for potentially relevant personal or contextual variables, which may have influenced the results, particularly in a longitudinal study (Pabian et al., 2016).

Links to literature and theory

Taken together, the previous reviews within the area identified the factors detailed above, except they concluded that previous cyber-victim experience related only to prosocial cyber-bystander behaviour and differed on whether gender and age were meaningless or not (Domínguez -Hernández et al., 2018; Lamb et al., 2018). More recent studies in the present review appear to build on these conclusions and more detailed critique helped to weigh up the quality of findings. Qualitative papers exploring cyber-bystanders' perspectives also

generally support the above findings in which moral, social and relational factors, as well as

knowledge and context, were all discussed in relation to witnessing and responding to

cyberbullying in adolescence (DeSmet et al., 2012; 2014; Patterson et al., 2016; 2017b; Price

et al., 2014). Considering theory, experimental studies identifying the increased likelihood of

cyber-bystanders responding to more severe cyberbullying situations align with the second

step of the bystander intervention model, where a threat is first interpreted before someone

responds to an incident (Latané & Darley, 1970). The third step of 'accepting responsibility'

and fourth step of 'having the ability to defend' are also in line with the findings around low

moral disengagement, high self-efficacy and possibly friendship with the victim increasing

the likelihood of cyber-bystander pro-social intervention (e.g. DeSmet et al., 2016). However,

this appears more complicated than initially thought as studies identified contextual factors,

perceived peer attitudes and morals related to cyber-bystander responses too (Allison &

Bussey, 2017; Luo & Bussey, 2019). This theory also does not acknowledge the potential

importance of previous experience in cyberbullying situations (e.g. Allison & Bussey, 2017).

Although there is no straightforward pattern highlighted in the present review that shows how

previous experience relates to cyber-bystander behaviour, a relationship appears to exist.

Therefore, social cognitive theory is supported as it includes the consideration of previous

experience, social norms, and cyber-bystander agency when understanding behaviour

(Bandura 1989; 2001).

Other behavioural change theories (e.g. Fisbein & Ajzen, 2010; Montaño &

Kasprzyk, 2015) also account for norms and environment in addition to an individual's skills

when understanding what facilitates or hinders behaviour. One finding from the review was

that the relationship the cyber-bystander has with those involved, particularly the victim,

appears to be important. This may also highlight the importance of those involved in

cyberbullying being ingroup or outgroup members in line with 'social identity theory' (Tajfel

& Turner, 1979). This ingroup-member preference in bullying occurs in offline bullying too (e.g. Gini, 2006; Ojala & Nesdale, 2010). Individuals who are bullied offline are also likely to be bullied online (Juvonen & Gross, 2008). Therefore, this inter-group bullying phenomenon should also be explored in cyberbullying.

The findings from the current review appear to overlap with several relevant theories but no theory seems to cover all personal, social and environmental factors which relate to cyber-bystander behaviour. This therefore supports the development of more complex multi-dimensional models which outline both direct and indirect relationships between potential influential factors and cyber-bystander responses. In addition, theories on group identity (e.g. Tajfel & Turner, 1979) and online disinhibition (Suler, 2004) could be further considered alongside cyber-bystander research to explore whether specific online or group processes relate to cyber-bystander behaviour.

Clinical and research implications

This review helps to map out factors associated with cyber-bystander behaviour. This potentially highlights relevant factors to consider in anti-cyberbullying interventions targeting peers and cyber-bystanders such as Herkama and Salmivalli's (2018) Kiva program and Menesini, et al.'s (2012) peer-led intervention. Despite many findings being correlational in nature, the current review highlights the possible relevance of providing education on how bystanders can help victims and report cyberbullying, providing skills to recognise when friends are being cyberbullied. Even by facilitating a small increase in pro-social responses to cyberbullying, the present review also highlights how, through 'copycat' behaviour, other cyber-bystanders may also be more likely to intervene or discouraged from ignoring situations (e.g. Bastiaensens et al. 2014; 2015; 2016). Regular education on the severity and impact of cyberbullying on individuals may also help to activate empathy, particularly as reviewed findings suggest cognitive empathy activation only encourages pro-social cyber-

bystander behaviour in the short-term. Additionally, the review highlighted morals as important, suggesting that through encouraging a sense of responsibility and reducing victim blaming, cyber-bystanders may also be more likely to step in.

Considering the current and previous reviews, research should continue to explore direct and indirect relationships between cyber-bystander behaviour and factors such as self-efficacy, impulsivity, victim characteristics, intergroup context and contextual importance. For example, research could investigate intergroup cyberbullying as some marginalised adolescents may be at greater risk of victimisation (Anti-Bullying Alliance, 2017). Studies should detail their methodology and analysis clearly because some findings within the current review were excluded due to uncertainty over how results were obtained, making evaluation difficult (e.g. Huang & Chou, 2010; Owusu & Zhou, 2015). More longitudinal and experimental research is needed to develop stronger causal conclusions in the literature. Designs should include multiple questionnaires to measure constructs and multiple informants for real-life cyberbullying scenarios for accuracy. Considering the mixed findings around the association between gender and cyber-bystander responses, future research may also benefit from exploring factors which may mediate this relationship and explain why gender differences sometimes occur. Furthermore, using narrower age-ranges could reduce the likelihood of developmental differences influencing the results. Lastly, to address sampling issues, future studies across other continents, such as Huang and Chou's (2010) study in Taiwan, would enhance knowledge in world-wide differences and similarities in cyber-bystander behaviour.

Conclusions

Overall, there is still a need for more research in the field of adolescent cyber-bystanders. The current review has highlighted some factors which appear to have a relationship with cyber-bystander responses such as empathy, moral disengagement and

cyberbullying severity. However, social and environmental context appears to be important and there are several contradicting findings in the research, suggesting a need for a multidimensional model to explain cyber-bystander responses as well as higher quality research to explore these associations. More cross-cultural research and studies which allow causal conclusions to be drawn are needed. This research can then help to further develop anti-cyberbullying interventions targeting cyber-bystanders to add to the initial promising results from current programmes aimed at reducing passive cyber-bystanding.

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Section B: Adolescent cyber-bystanders in an intergroup context: Examining empathy,

self-efficacy and prosocial intentions.

for submission to the Journal of Adolescence

Word Count: 7928 (387)

Abstract

Introduction. Cyberbullying experiences have been linked to mental health difficulties, highlighting the need to refine anti-cyberbullying interventions, particularly for at-risk groups, and understand what encourages bystanders to intervene. The current study compared adolescents' prosocial cyber-bystander intentions in an intragroup ('UK-born' victim status) and intergroup ('immigrant' victim status) cyberbullying context. State empathy and state self-efficacy were examined as potential mediators, accounting for baseline trait levels of these two factors and gender.

Methods. British adolescents (N=129; 13.5-15 years old; 59.7% female; predominately White) from two comprehensive schools in the UK took part in a two (gender: female/male) by two (victim status: U.K.-born/immigrant) between-subjects quasi-experimental study. Participants were randomly assigned to read a gender-matched hypothetical cyberbullying vignette with an adolescent cyber-victim who was either 'U.K.-born' or an 'immigrant'. Self-report questionnaires captured participants' prosocial bystander intentions, state and trait self-efficacy and empathy, alongside demographic information.

Results. Findings showed that victim status did not relate to self-efficacy or prosocial cyber-bystander intentions. Higher empathy was reported by females and, unexpectedly, within the 'immigrant victim' condition. An indirect relationship was found between victim status and prosocial cyber-bystander intentions, with state empathy as a statistical mediator. Trait empathy did not moderate the path between victim status and state empathy.

Conclusions. The present study supports promoting bystander state empathy in anti-cyberbullying programmes, but the importance of intergroup context is unclear. To reduce cyberbullying impact, future research should explore cyber-bystander behaviour towards at-

risk groups inter-sectionally, controlling for additional intergroup variables which potentially

caused a suppressor effect in the results.

Keywords: cyberbullying, bystander, adolescent, intergroup, empathy, self-efficacy.

Introduction

A growing number of studies over the past decade have explored cyberbullying, which is defined as attempting to isolate, hurt and distress an individual online, either repeatedly, or via extended exposure to upsetting material (e.g. Kowalski, Giumetti, Schroeder, & Lattanner, 2014; Tokunaga, 2010). Clinical psychologists should work together with other researchers in the cyberbullying field to understand how to reduce cyberbullying because of the serious detrimental effects it can have on adolescents' mental health (Aboujaoude, Savage, Starcevic, Wael, & Salame, 2015; Bottino, Bottino, Regina, Correia, & Ribeiro, 2015). Even witnessing cyberbullying has been related to later anxiety and depression (Wright, Wachs, & Harper, 2018). However, there is still very limited research into cyberbullying interventions and little empirical support for current school programmes and parental advice (Espelage & Hong, 2017). It is uncertain whether offline bullying processes apply to cyberbullying, or whether cyberbullying requires more tailored interventions (Cantone et al., 2015). To identify a possible focus for cyberbullying interventions, the underlying processes in cyberbullying need to be understood, including from a psychological perspective.

One process well researched in offline bullying is bystander behaviour, as by encouraging witnesses to intervene, they may be able to reduce bullying and its effects on victims (Machmutow, Perren, Sticca & Alsaker, 2012; Salmivalli, 2010). However, cyber-bystanders (cyberbullying witnesses) have received little attention in research (T. Field, 2018). Offline bullying interventions have already found promising results in reducing bullying through targeting bystanders (e.g. Polanin, Espelage, & Pigott, 2012; Salmivalli, Kaukiainen, & Voeten, 2005). Furthermore, Kiva (a programme developed in Finland) has preliminary support for reducing cyberbullying frequency in teens up to approximately 13 years of age by targeting bystanders, though the effect size was small (Williford et al., 2013).

Studies therefore continue to explore determinants of cyber-bystander behaviour in adolescence (e.g. Domínguez-Hernández, Bonell, & Martínez-González, 2018).

DeSmet et al. (2016) proposed the need for a multidimensional model for cyber-bystander behaviour, accounting for contextual, environmental and personal determinants. Therefore, the current study drew on more than one psychological theory. Firstly, Social Cognitive Theory proposes that contextual, behavioural and personal factors, such as agency, are important in bystander behaviour (Bandura, 1989; 2001). Having a sense of agency, or self-efficacy, is where an individual has the confidence that they can control both themselves and their environment (Bandura, 2001). Preliminary evidence highlights how higher self-efficacy correlates with higher levels of prosocial cyber-bystander behaviour (DeSmet, et al., 2016; Veiga Simão, Ferreira, Francisco, Paulino, & de Souza, 2018).

Empathy may also be relevant; defined as being able to share someone's emotional state through the process of taking on their perspective and becoming attuned to how they feel (e.g. Eisenberg, 2000). Offline, auditory and visual cues can assist someone in accurately understanding others' emotions (Zaki, Bolger, & Ochsner, 2009). Despite missing non-verbal cues online, bystander empathy also appears to be related to prosocial responses to cyberbullying (Barlińska, Szuster, & Winiewski, 2018; Van Cleemput, Vandebosch, & Pabian, 2014). However, cyberbullying context may also influence these personal factors. For example, Luo and Bussey (2019) found context was important when exploring cyber-bystander behaviour and moral disengagement (reasoning that one does not need to abide by typical moral standards in a situation).

One context not yet explored in relation to cyber-bystander behaviour is group identity. Social Identity Theory proposes that an individual's sense of identity within a group can lead to them viewing members 'inside' their group more favourably and potentially

developing more prejudiced attitudes towards individuals 'outside' of their group (Tajfel & Turner, 1979). This has been demonstrated in text-message bullying, where bystanders identifying the victim as an ingroup member were more likely to feel anger towards the bully, and those who felt angry were more likely to tell a teacher (Jones, Manstead, & Livingstone, 2011). However, Eisenberg, Eggum and di Giunta (2011) suggests that higher empathy might help an individual 'overcome' intergroup boundaries and be more likely to assist outgroup members, though they may also require self-efficacy to intervene as they may feel 'vulnerable' from taking the victim's perspective. Within the intergroup context of gender, children have reported higher self-efficacy in understanding, communicating and engaging in activities with same-gender peers (Zosuls, Field, Martin, Andrews, & England, 2013). It may be that uncertainty and apprehension reported in cross-group communication can be overcome by increasing confidence in engaging with outgroup members (Mazziotta, Mummendey, & Wright, 2011; Stathi, Crisp, & Hogg, 2011). Therefore, it would be of interest to see whether ingroup members report lower self-efficacy for intervening in outgroup bullying scenarios, particularly when considering evidence suggesting that people are more anxious about interacting with stigmatised individuals (Blascovich, Mendes, Hunter, Lickel, & Kowai-Bell, 2001). It is unclear whether these findings apply to cyberbullying and whether cyber-bystanders high in empathy and self-efficacy will empathise and feel able to help a victim regardless of their intergroup status. This could be particularly important to explore for marginalised adolescents more at risk of cyberbullying (Anti-Bullying Alliance, 2017).

There are mixed findings regarding the impact of intersectional factors such as race, sexuality and gender in school cyberbullying rates (Stoll & Block, 2015). However, 'adolescent immigrants' may be particularly vulnerable to experiencing aggression, victimisation, exclusion, bullying and cyberbullying, highlighting the potential need for

tailored interventions (e.g. Beatbullying, 2009; 2012; Hong & Espelage, 2012; Peguero, 2009; Maynard, Vaughn, Wright, & Vaughn, 2015). To explain why this might be, Maynard, et al. (2015) described how 'immigrants' might be perceived by majority ingroup members as part of a 'threatening' minority outgroup. This is supported by a qualitative study exploring what students believed led to the offline bullying of a peer either from a different city or a different country (Mazzone, Thornberg, Stefanelli, Cadei, & Caravita, 2018). Students reported 'fearfulness' of the new peer who was an 'immigrant', who was rejected because of their perceived 'deviance', where their physical, cultural, and/or personality differences were seen as 'negative' qualities (Mazzone, et al., 2018).

It can be stressful for immigrants to adjust to a new culture (acculturation), so it is concerning when, alongside immigration status, this might predict being victimised (Peguero, 2009). At the time of writing, an estimated one in seven people in the U.K. had been born abroad (Office for National Statistics, 2017). Fears surrounding immigration have been live narratives in the recent U.K. political climate in relation to feared 'reduced resources' (Gietel-Basten, 2016, Goodwin & Milazzo, 2017). Furthermore, the media has used the word 'migrant' in the context of the 'refugee crisis' and even terror attacks, potentially heightening any perceived 'threat' (Nightingale, Goodman, & Parker, 2017). It is unclear whether these narratives have travelled through to adolescents, but research suggests that parent-adolescent intergroup attitudes are similar (Degner & Dalege, 2013). It would be of interest to understand whether immigrant cyber-victims are viewed as 'outgroup' members and if adolescent cyber-bystanders' are less likely to help them.

Bringing together the outlined theories and findings, as well as the suggestion for tailored anti-cyberbullying interventions, one potential approach to reduce intergroup victimisation might be to target bystanders. Research could explore the underlying processes of bystander behaviour in intergroup cyberbullying scenarios, such as whether preference for

ingroup members exists and whether this can be overcome by empathy and self-efficacy. The current study aimed to address the literature gaps, focusing on 'immigrant bullying'.

Current study aims

The present study focused on 13.5-15-year-old cyber-bystanders because cyberbullying peaks around this age (Tokunaga, 2010), and exploring a narrow age range reduced the possibility of developmental differences influencing the results. The age-range was also governed by school year groups at the time the study was conducted (year nine and ten). The study examined cyberbullying on social media as this reportedly occurs at a higher rate than text messaging and email bullying (Schade, Larwin, & Larwin, 2017). More specifically, the study looked at 'mean' public messages on social media because this form of cyberbullying is one of the most common and is considered more 'severe' than private messages (Dredge, Gleeson, & de la Piedad Garcia, 2014; Sticca & Perren, 2013).

The current study aimed to explore cyber-bystander behavioural intentions when witnessing intergroup cyberbullying and whether a difference existed in intentions when witnessing an 'immigrant' versus a 'U.K.-born' victim being bullied. Recommendations could then be considered around the need for tailored anti-cyberbullying interventions targeting the bullying of marginalised groups (Stoll & Block, 2015). As gender differences have occurred in bystander responses to offline intergroup bullying, the current study explored whether this also occurred online (Levine & Crowther, 2008). This hoped to clarify mixed findings on the association between cyber-bystander gender and behaviour (DeSmet et al., 2016; Schultze-Krumbholz, Hess, Pfetsch, & Scheithauer, 2018). Finally, the present study aimed to build on literature exploring the relationship between cyber-bystander empathy, self-efficacy and prosocial behavioural intentions, to see what happened to these relationships when cyber-bystanders witnessed 'immigrant cyberbullying'. Prosocial intention is someone's reported likelihood of responding to a situation in a way in which their

actions help someone else (Eisenberg, 1982). Baseline trait levels of empathy and self-efficacy are also separated from state levels in the present study to see how these related to victim status. Trait empathy is someone's general empathic ability whereas state empathy is their empathic response within specific situations (Wiseman, 1996). Trait self-efficacy is someone's general perceived agency and performance or coping ability whilst state self-efficacy is their perceived ability to respond to specific situations considering their context (Chen, Gully, & Eden, 2001).

The present study's aims are relevant to the work of clinical psychologists because they explore underlying processes which could contribute to research trying to reduce, or minimise the effects of, a serious problem related to adolescent mental health difficulties (Bottino et al., 2015; Fahy et al., 2016). Additionally, this study aligns with several NHS values which clinical psychologists aim to promote including compassion, equality, respect and dignity (Department of Health, 2015). Findings suggest cyberbullying targets social image and dignity even more than offline bullying, emphasising the need for intervention (e.g. Faccio, Iudici, Costa & Belloni, 2014). Additionally, it is important to build a compassionate, fair environment that gives equitable support to all, including those from minority groups potentially at greater risk of victimisation (see Anti-Bullying Alliance, 2017).

To these ends, the current study employed a between-subjects quasi-experimental procedure examining adolescent cyber-bystanders' responses to a hypothetical intergroup cyberbullying situation. Factors explored included cyber-bystander trait and state empathy and self-efficacy as well as prosocial intentions. Drawing on the described theory and findings, four hypotheses were proposed:

1. Adolescent bystanders are more likely to report prosocial cyber-bystander intention in response to a cyberbullying vignette describing cyberbullying of an adolescent, 'U.K.-born' victim, compared to an 'immigrant' victim.

2.

   a. Adolescent cyber-bystanders will show higher levels of state self-efficacy towards the adolescent 'U.K.-born' victim, than the adolescent 'immigrant' victim.

   b. Adolescent cyber-bystanders will show higher levels of state empathy towards the adolescent 'U.K.-born' victim, than the adolescent 'immigrant' victim.

3.

   a. Cyber-bystander state self-efficacy will mediate the relationship between the immigration status of the victim and prosocial cyber-bystander intentions.

   b. Cyber-bystander state empathy will mediate the relationship between the immigration status of the victim and prosocial cyber-bystander intentions.

4.

   a. The mediated relationship hypothesised in 3a will be moderated by trait self-efficacy. More specifically, for participants with high trait self-efficacy, they will tend to show high levels of state self-efficacy regardless of victim status, whereas for participants with lower trait self-efficacy, their state self-efficacy will be more dependent on victim status. This hypothesis is outlined in Figure 1 where trait self-efficacy (W) will affect the *a* path, moderating the mediated effect of state self-efficacy.
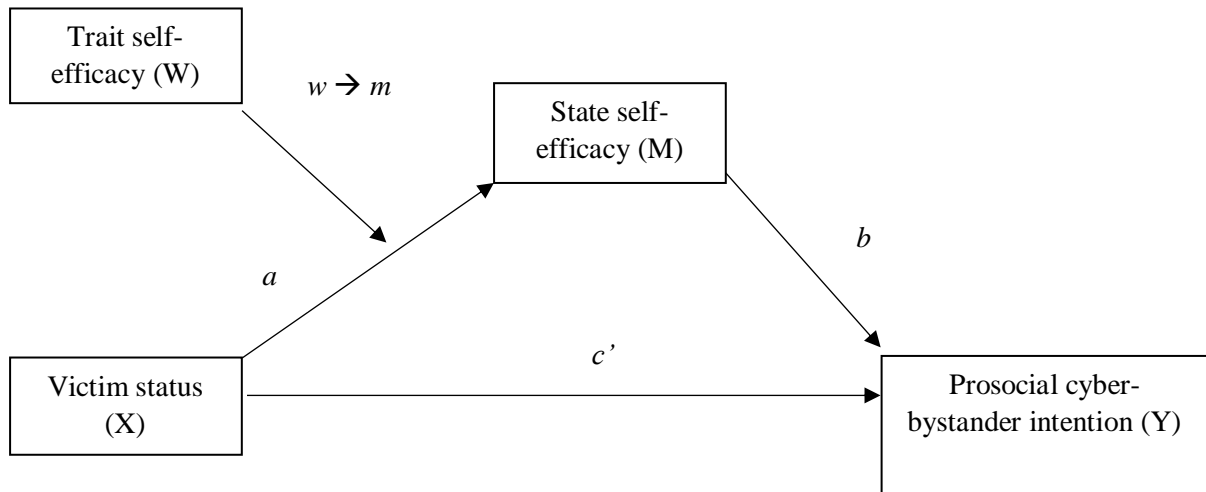
Figure 1. Hypothesised model where state self-efficacy mediates the relationship between victim status and prosocial cyber-bystander intention and trait self-efficacy acts as a moderator on the path between victim status and state self-efficacy.

b. The mediated relationship hypothesised in 3b will be moderated by trait empathy. More specifically, for participants with high trait empathy, they will tend to show high levels of state empathy regardless of victim status, whereas for participants with lower trait empathy, their state empathy will be more dependent on victim status. This hypothesis is outlined in Figure 2 where trait empathy (W) will affect the *a* path, moderating the mediated effect of state empathy.
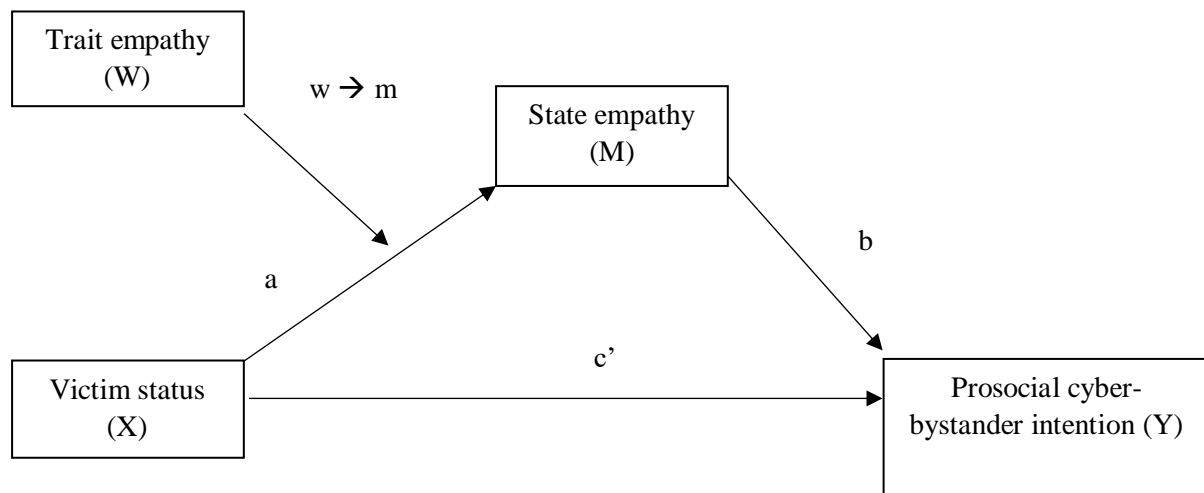
Figure 2. Hypothesised model where state empathy mediates the relationship between victim status and prosocial cyber-bystander intentions and trait empathy acts as a moderator on the path between victim status and state empathy.

Additional exploratory hypothesis: A more exploratory follow-up analysis was planned to examine whether cyber-bystander gender moderates the relationship between victim immigration status and cyber-bystander prosocial intentions to cyberbullying. This is not a formal hypothesis because the literature suggests mixed findings for the relationship between gender and cyber-bystander intention (e.g. Allison & Bussey, 2016; Schultze-Krumbholtz et al., 2018).

Method

Participants

Prior to recruitment, 'GPower' was used to calculate the power for the current study. As ANOVAs had not been conducted before for similar hypotheses, the calculation was based on a *t*-test in a study exploring victim group allocation, bystander helping behaviour and empathy (Tarrant, Dazeley, & Cottom, 2009). The effect size of victim group allocation was medium (*d*= .487) and large for bystander empathy (*d*= .812). Assuming α= .05, and power = .80, using the more conservative effect size, the estimated sample size for

Hypothesis 1 was 106 and 40 for Hypothesis 2. It was predicted that $N= 106$ would also be sufficient for the final two hypotheses, in accordance with recommendations by Fritz and MacKinnon (2007). To allow for data errors or dropouts, a sample of approximately 120 adolescents was aimed for.

Adolescents ($N= 129$) between 13.5-15-years old ($M= 13.98$, $SD= 0.58$) were recruited from two comprehensive schools in South-East England, one mixed-sex ($n= 88$), the other single-sex (female; $n= 41$). The study was run in one school in June 2018 and the other in January 2019. Females comprised 59.7% ($n= 77$) of the sample which was also predominantly White British (see Table 1). Unfortunately, as there was not a big enough sub-sample of adolescents identifying as 'non-binary' to conduct meaningful analyses, one participant had to be excluded, leaving a sample of 128.

Table 1. *Sample demographic information (race and ethnicity).*

Race and ethnicity	n	%
White British	114	89.1
Asian Other	4	3.1
White and Black Caribbean	2	1.6
White Eastern European	2	1.6
Mixed Other	1	0.8
Other Ethnicity	1	0.8
White Asian	1	0.8
White Irish	1	0.8
White Gypsy/Roma	1	0.8
White Other	1	0.8

Design

The study was a two ('immigrant'/ 'U.K.-born') by two (male/female) between-subjects quasi-experimental design. Participants were randomly assigned, using 'Qualtrics' (2017), to either a 'U.K.-born' or 'immigrant' victim condition where they read one gender-matched hypothetical cyberbullying scenario. Approximately 20 minutes was required for briefing, consent, debriefing and 20 minutes for the vignette and measures. The online study was conducted in-class using individual computers or tablets during normal school hours with the researcher and a familiar teacher present to assist with any concerns that arose (only the researcher answered questions specific to the study). If more classes were due to take part in the school, participants were asked to wait until everyone had completed the study to discuss it with peers to avoid this influencing participants' answers.

Hypothetical vignettes

After opting-in to the study, participants were asked to silently work through the questionnaire on 'Qualtrics' (2017) so as not to influence each other's results. After completing demographical information, trait empathy and trait self-efficacy measures, participants were presented with the following instructions prior to being shown a hypothetical cyberbullying vignette:

> You are now going to be shown a public Facebook conversation between two people. We would like you to imagine that you are seeing this in real life. We will then ask you to answer some questions about what you have seen and what you think you would do next, if this was real life. There are no right or wrong answers, and this is not a test. No one will be able to see your answers and we do not tell anyone else what answers you put.

Hypothetical vignettes have been useful tools to explore bystander behavioural intentions in controlled conditions within several studies (e.g. Bellmore, Ma, You & Hughes, 2012; Palmer, Rutland & Cameron, 2015; Patterson, Allan, & Cross, 2017b). In the present study, participants were assigned to read one of four possible cyberbullying vignettes. Two had a 'U.K.-born' cyber-victim and two had an 'immigrant' cyber-victim, each with a male and female version to match participants. Gender-matched vignettes were used to avoid the introduction of another intergroup context, where bystanders are more likely to help their ingroup, i.e. same-gender peers (Levine & Crowther, 2008; Sainio, Veenstra, Huitsing, & Salmivalli, 2010). The names in each scenario were selected for their gender-neutrality. The vignettes were identical aside from a slight difference in the description of the victim in the instructions and the bully's 'mean comment' (see Figure 3 and 4). Overall, 68 participants were randomly allocated the 'immigrant victim' scenario whilst 61 received the 'U.K.-born victim' scenario.
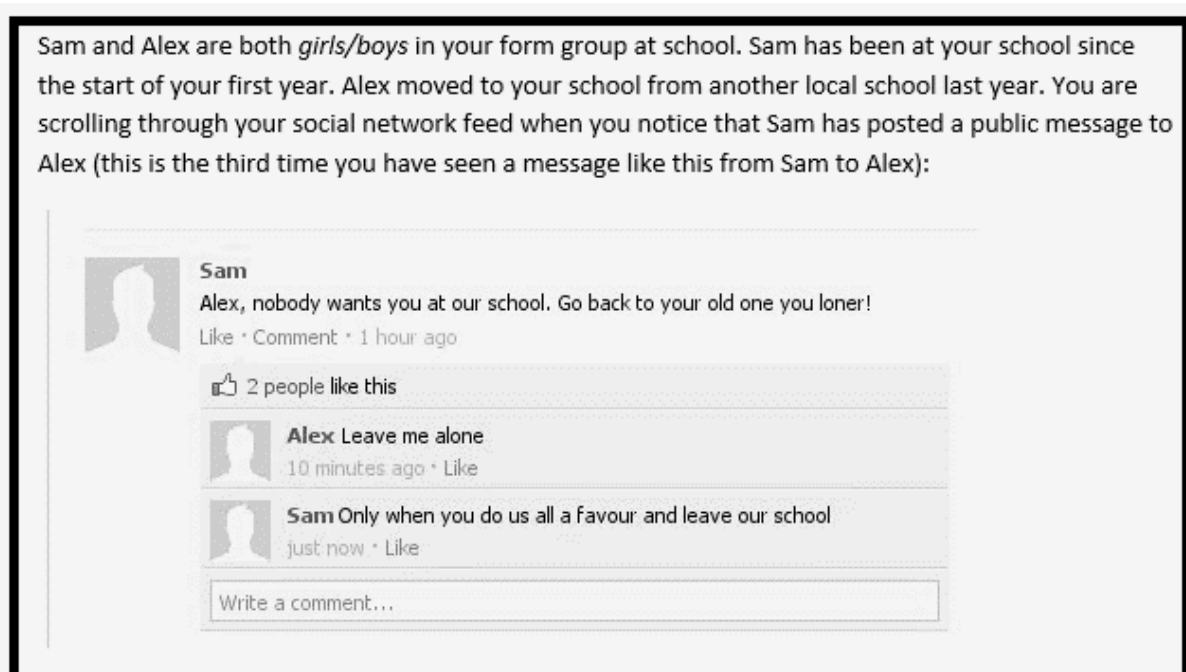
Figure 3. 'U.K.-born' cyberbullying scenario as presented to the participants (words in italics showing both male/female version).

Sam and Aalam are both *girls/boys* in your form group at school. Sam has been at your school since the start of your first year. Aalam moved to the UK last year. You are scrolling through your social network feed when you notice that Sam has posted a public message to Aalam (this is the third time you have seen a comment like this from Sam to Aalam):

> **Sam**
> Aalam, nobody wants you at our school. Go back to your old country you loner!
> Like · Comment · 1 hour ago
>
> 👍 2 people like this
>
> > **Aalam** Leave me alone
> > 10 minutes ago · Like
> >
> > **Sam** Only when you do us all a favour and leave our country
> > just now · Like
> >
> > Write a comment...

Figure 4. 'Immigrant' cyberbullying scenario as presented to participants (words in italics showing both male/female version).

The scenario design was kept simple so that participants did not need to be familiar with Facebook to follow the scenarios. This platform was chosen because, when the study was designed, it was still one of the more popular social media sites amongst teens (e.g. Lenhart, 2015). Additionally, public messages can be posted on this site without the need for an image or video which could have introduced possible confounding variables.

Several design considerations were made for the scenarios to try and limit unmeasured factors hindering cyber-bystander intervention. Firstly, the victim and bully were introduced as peers within the same class to imply that the participant knew them because cyber-bystanders might be less likely to help a stranger (see Macháčková et al., 2016). To enhance ecological validity and limit the influence of time on cyber-bystander response, the situation was displayed as 'live' (see Van Cleemput et al., 2014). The message was 'liked' by other witnesses to indicate the public nature of the message, but only by two people, so as not to discourage participants from responding because of the number of observers (Obermaier,

Fawzi, & Koch, 2016). The victim in the scenario responded to the bully once to reduce the likelihood that they would be blamed for ignoring the bullying (e.g. Holfeld, 2014). Lastly, the situation was described as happening repeatedly to fit the definition for cyberbullying (Tokunaga, 2010). After the scenario, participants completed cyber-bystander intentions, state self-efficacy and state empathy measures.

Measures

Demographic information included gender, age, race/ethnicity, country of birth, strength of British identity, contact with non-British people, social media use and Facebook use. Participants then completed the measures below.

Trait empathy was measured next using Joliffe and Farrington's (2006) Basic Empathy Scale which measures adolescent cognitive and affective empathy. Affective empathy means sharing another person's emotional state through a natural reaction, whilst cognitive empathy requires intellectually working out someone else's perspective and emotions (e.g. Duan & Hill, 1996; Spinella, 2005). A two-factor structure has been supported and the scale correlates moderately highly with other empathy measures but is influenced less by socially desirable answers (Joliffe & Farrington, 2006). The scale is cross-culturally validated, showing good convergent and concurrent validity in addition to test-retest reliability (D'Ambrosio, Olivier, Didon, & Besche, 2009). Joliffe and Farrington (2006) found the scale had acceptable internal consistency (Cronbach's a =.79) but it was borderline within the current sample (Cronbach's a =.64). The scale consists of 20 items (e.g. "I get caught up in other people's feelings easily"), 11 for affective and nine for cognitive empathy. Participants rated their agreement of how much each item reflected them on a five-point Likert scale (from one 'strongly disagree', to five 'strongly agree'). Eight negatively worded items were reverse-coded, and scores were summed to create a composite score with a possible range of 20 to 100 where higher scores indicated higher trait empathy levels.

Trait self-efficacy was measured next, prior to the vignette, using Muris' (2001) Self-Efficacy Questionnaire for Children, which measures emotional, social and academic self-efficacy and, at the time of validation, had acceptable internal consistency for overall self-efficacy (Cronbach's a =.88). Similar internal consistency was found for the current sample (Cronbach's a =.87). This measure adequately loads on to three factors, has criterion-related validity, correlating with related constructs, and has been cross-culturally validated (Suldo & Shaffer, 2007). Participants rated 24 items (e.g. 'How well can you become friends with other children?') on a five-point Likert scale (from one 'not at all', to five 'very well'). Scores were summed to create a composite score with a possible range of 24 to 120, where higher scores indicated higher trait self-efficacy levels.

Cyber-bystander intentions were measured via six items immediately after the vignette alongside the state self-efficacy measure, each describing a potential cyber-bystander response. Participants rated their likelihood in engaging each response (e.g. 'How likely is it that you would ignore the situation?') on a seven-point Likert scale (from one 'not very likely' to seven 'very likely'). This scale, though unvalidated, appeared most appropriate for the current study as it is based on bystander behaviour research and has been used with children in intergroup bullying studies using hypothetical vignettes (see Palmer, Rutland, & Cameron, 2013, April; Palmer, et al., 2015). This type of bystander behaviour measure is commonly used in the field (e.g. Bastiaensens, et al., 2014). The present study was mostly interested in prosocial cyber-bystander intentions. Therefore, as used in Palmer et al. (2015), the ignoring item was reverse-coded so that higher scores indicated action would be taken, and this score was added to three prosocial response items to form a prosocial intentions scale. Overall scores could range from four to 28, where higher scores indicated higher intent to engage in prosocial responses. The subscale had borderline internal consistency (Cronbach's a =.66) but correlated with expected constructs like trait self-efficacy.

State self-efficacy was measured alongside each item in the cyber-bystander behaviour measure. Participants rated how well they could perform each behaviour on a seven-point Likert scale (from one 'not well', to seven 'very well'). Scores were summed to create a composite score with a possible range of six to 42 where higher scores indicated greater confidence in carrying out possible responses. The scale was adapted for the present study as another more suitable measure could not be identified, and similar methods are used in adolescent bystander literature to measure self-efficacy in responding to bullying scenarios (e.g. Barchia & Bussey, 2011; Luo & Bussey, 2019). This measure correlated with expected constructs in the present study (e.g. trait self-efficacy) and had reasonable internal reliability (Cronbach's a =.74).

State empathy was measured last using a scale designed by Tarrant, et al., (2009) based on empathy literature, whereby participants rated on a nine-point Likert scale how much they felt six empathic emotions in relation to the cyber-victim's situation (e.g. 'sympathy', 'warmth' and 'compassion'). The scale spanned from one ('absolutely not'') to nine ('absolutely) where a higher score indicated higher state empathy. Items were summed to create a composite score with a possible range of six to 54. Although the scale had previously only been used with undergraduates, it was simple and assessed empathy for outgroup members similar to the current study (Tarrant et al., 2009). Commonly studies in the field just use trait empathy measures or single-item empathy measures which lack sensitivity (e.g. Macháčková et al., 2016). As no other better or more suitable state empathy measure could be found, a readability check was conducted using 'Microsoft Word' to ensure the language was suitable for the current sample. The scale had reasonable reliability and all items loaded clearly on to a single factor (Tarrant, et al., 2009). Good internal consistency was achieved with the current sample (Cronbach's a =.92).

Recruitment and consent

Initially, 21 secondary schools were sent information about the study and an invitation letter. Schools were given the option of having a school talk by the researcher as well as a report summarising study findings. However, participants were not offered any kind of payment for taking part as this may have resulted in coercion. Common reasons given by schools for not taking part included 'lack of time' and the school never taking part in research. The invitation was followed up with a phone call within two weeks to discuss the study further, with the key aim to see if the school wished to take part. After receiving informed consent to proceed with the study from the head-teacher (or a teacher designated by the headteacher), a suitable day to run the study at the school was agreed.

As participants were under 16 years old, they were considered 'vulnerable' and so parents or guardians, as well as their school, acted as 'gatekeepers' to minimise the chance of any detriment to participant wellbeing and dignity (the British Psychological Society [BPS], 2014). The schools were sent parental consent forms as well as parental and participant information sheets, which they distributed via email to parents with children in the appropriate school years available to take part on the study day. The headteacher, or designated teacher, provide written consent to opt-in to the study and acted in loco parentis, identifying prior to the study if it was not appropriate for particular adolescents to take part if they might feel distressed by the content (e.g. due to mental health concerns or recent bullying experience). Participant and parent information sheets also suggested that adolescents should not take part if they might find the topic upsetting or have recent related experience.

Children and parents were sent information regarding the study at least three days prior to it taking place to allow for discussion with each other and an informed decision to be made regarding taking part. Questions from participants could be passed on through their parents, who were provided with a designated phone number on which to reach the

researcher, or through teachers who could email the researcher. If parents did not wish for their child to take part, they were asked to return an opt-out slip or inform the designated teacher of this prior to the study (following the consent procedure adopted by similar studies exploring bullying with child participants, e.g. Abbott & Cameron, 2014; Sulkowski et al., 2014). The designated teacher informed the researcher on the day which students were not going to take part. No parent opted their child out of the current study.

Finally, with both parent and school consent gained, adolescents were given the opportunity to assent (opt-in) to the study. Participants were given paper copies of the information sheet again on the day of the study, which was read aloud by the researcher to bypass any literacy difficulties and displayed on 'Qualtrics' (2017) alongside an opt-in consent form which required completion to start the study. To help adolescents feel able to choose not to take part, they were reminded they could decide not to participate and could withdraw at any point, without giving a reason. A space to answer questions was provided before the start of the study and participants were encouraged to ask questions individually if they felt unable to ask in front of the class. All participants decided to opt-in to the study. As in, Patterson et al.'s (2016) study, children who did not complete the study, or who finished early, were given another task to quietly complete, provided by the researcher or teacher. Further ethical considerations are detailed below.

Additional ethical considerations

The study received favourable opinion from Salomons Institute for Applied Psychology, Canterbury Christ Church University ethics panel. Approval was given for the procedure, questionnaires used, cyberbullying vignettes and any adaptations to the study made after the original panel. Research ethical guidelines were followed throughout the study, including those published by the British Educational Research Association (2011) and the BPS (2014) code of human research ethics.

Prior to schools being contacted, a teacher was consulted to check the information sheets and consent forms to discuss any problems they foresaw with schools being able to take part in the study and for clarity reasons. These documents were adjusted accordingly following this consultation. Furthermore, the documents provided to adolescents were checked using 'Microsoft Word' readability statistics to make sure they would not disadvantage those with literacy difficulties.

A plan was made with the designated teacher regarding students who were not given consent to take part so that they did not feel 'excluded'. Additionally, any specific child protection procedures within the school were followed. A familiar teacher, and the researcher, were present throughout the study to support participants with any concerns. As the cyberbullying vignettes were hypothetical, participants were not anticipated to disclose personal experiences, but were encouraged to speak to parents or teachers if they had any concerns. Online resources were also provided around additional support and information about cyberbullying. Parents, staff and participants were also informed that any risk concerns shared with the researcher would need to be shared with their teacher.

The study itself was designed to be short to minimise disruption to the school day. Participants were reminded, in line with child research guidelines, that the answers they give have no right or wrong answers and they were not taking part in a test (Shaw, Brady, & Davey, 2015). Many opportunities for additional questions were provided and the process for complaints was made clear. In addition to the consent procedure detailed above, participants were informed that they could ask for their data to be deleted up until analysis was conducted.

On study completion, debriefing information was read aloud to avoid comprehension difficulties, but participants also read this online and were given a copy to take home. Space

was provided for further questions and participants could ask their parents or teacher to get in touch with the researcher if there were questions or concerns after the study day. Study data were kept confidential, secure and anonymous after collection. Identifiable information (school name, participant initials and date of birth) was separated from the rest of the data. Only the researcher and supervisors had access to data, which was also kept securely by the University and destroyed after five years.

Analysis

For Hypothesis 1, the effect victim status had on prosocial cyber-bystander intention was explored using an independent samples *t*-test. Hypothesis 2, exploring the effect victim status had on state self-efficacy and state empathy, was explored using two between-participant ANCOVAs; controlling for the co-variates trait self-efficacy and trait empathy respectively. Both ANCOVAs had two factors; namely *gender* (male/female) and *victim status* ('U.K.-born'/ 'immigrant'). All assumptions for the analyses were met aside from some minor violations with respect to normality. However, given the study's sample size, it was still appropriate to continue with the planned analysis based on guidance by Blanca, Alarcón, Arnau, Bono, and Bendayan (2017). Furthermore, a check was conducted on any significant effects by conducting non-parametric equivalent analyses, which produced no different results. Therefore, parametric test results are detailed in the current report.

For Hypothesis 3 and 4, Hayes' (2018) bootstrapping approach was used to conduct two moderated mediation models. These examined the mediating roles of state self-efficacy and state empathy in the relationship between victim status and cyber-bystander behavioural intention. They also explored whether participants' trait (baseline) levels of self-efficacy moderated the paths between victim status and state self-efficacy and whether trait empathy moderated the path between victim status and state empathy. Data was screened for extreme outliers. Some possible outliers were identified in line with A. Field (2018). Therefore,

analysis was repeated with outliers excluded, but no material difference was found so results are reported with these included. Data was also repeated including and excluding participants born outside the U.K. Again, no material difference was found so they were included.

Finally, for the exploratory hypothesis examining gender differences, all analyses were repeated with the inclusion of gender. An ANOVA was conducted to explore whether gender related to the results found for Hypothesis 1. Two ANCOVAs were then conducted to examine whether gender interacted with the result in Hypothesis 2. It was also planned for gender to be added as a moderator, if appropriate, to the moderated mediation analyses.

Results

Demographical information

Tables 2 and 3 show that no significant difference was found between groups in terms of demographic information. Most participants, 64.6% (n= 81), identified as 'completely British', whilst only 2.3% (n= 3) identified as 'not at all British'. Regarding social media use, 53.9% (n= 69) reported never using Facebook, but 78.9% (n= 101) reported using social media daily. Four missing data entries for school and four for extended contact were excluded in the descriptive statistics, but these variables were not needed in the main analysis. Some small violations occurred regarding normality within Table 3, so results were checked alongside non-parametric equivalents, though neither produced significant findings.

Table 2. *Demographic frequencies and whether they differ between condition*

Measure	Response	Condition			Statistical difference *
		U.K.-born victim (n=60) Count (%)	Immigrant victim (n=68) Count (%)	Overall (N=128) Count (%)	
Gender	Male	25 (41.7%)	26 (38.2%)	51 (39.8%)	ns
	Female	35 (58.3%)	42 (61.8%)	77 (60.2%)	ns
Race/ethnicity	White British	56 (93.3%)	58 (85.3%)	114 (89.1%)	ns
	Other	4 (6.67%)	10 (14.71%)	14 (10.9%)	ns
School	1	41 (68.3%)	46 (67.6%)	87 (68%)	ns
	2	19 (31.7%)	22 (32.4%)	41 (32%)	ns
U.K.-born	Yes	59 (98.3%)	65 (95.6%)	124 (96.9%)	ns
	No	1 (1.7%)	3 (4.4%)	4 (3.1%)	ns

Note. ns=Not significant

*Significance determined by Chi-Square test aside from 'U.K-born' which had too small a

count per cell so Fischer's Exact test was used.

Table 3. *Demographic means and standard deviations and whether they significantly differ between condition.*

Measure	Condition		Overall Mean (SD)	Significant difference *t* value (*p* value)	Non-parametric equivalent *p* value
	UK-born victim Mean (SD)	Immigrant victim Mean (SD)			
Age	13.91 (.59)	14.10 (.52)	14.00 (.56)	1.92 (.40)	.06
British Identity[a]	4.46 (.87)	4.46 (.92)	4.46 (.89)	-.04 (.88)	.96
Intergroup contact[b]: Cross-group friendship	5.71 (1.87)	5.73 (2.14)	5.72 (1.99)	.05 (.27)	.90
Intergroup contact: Extended contact	15.77 (4.33)	16.14 (4.40)	15.94 (4.35)	.47 (.99)	.67
Social media use[c]	4.75 (.58)	4.78 (.53)	4.77 (.55)	.26 (.56)	.93
Facebook use	2.09 (1.27)	1.90 (1.28)	2.00 (1.28)	-.93(.79)	.30

[a]*Higher scores indicate stronger British identity (range =1-5)*

[b]*Higher scores indicate more contact with non-British people (cross-group contact score range =2-10, extended contact score range =5-25)* see Turner, Hewstone, Voci, and Vonofakou (2008).

[c]*Higher scores indicate more social media and Facebook use (ranges=1-5).*

Descriptive statistics

Table 4. describes midpoints and ranges for the scales used.

Table 4. *Scales with range and midpoint for primary variables explored*

Variable	Score possible range	Scale midpoint
Prosocial cyber-bystander intentions	4-28	16
Trait self-efficacy	24-120	72
Trait empathy	20-100	60
State self-efficacy	6-42	24
State empathy	6-64	35

Table 5 describes the means, standard deviations, confidence intervals and range within the current study for primary variables in each condition. The average scores for each scale appear to approximately mirror the midpoint for each scale but participants gave a broad range of answer. More detailed exploration of prosocial intentions revealed that, on average, standing up to the bully was rated the highest in terms of intentions ($M= 4.95$, $SD= 1.66$). However, prior to reverse-coding, participants had higher intent to ignore the situation ($M= 3.40$, $SD= 1.82$) than inform a teacher or member of staff ($M= 3.29$, $SD= 1.81$).

Table 5. *Descriptive statistics for prosocial cyber-bystander intention and both state and trait self-efficacy and empathy.*

Variable	Condition	Mean	95% CI (Lower bound-Upper bound)	SD	Range
Prosocial cyber-bystander intentions	Combined	17.55	(16.66-18.43)	5.06	5.00-27.00
	U.K.-born	17.88	(16.57-19.20)	4.05	6.00-27.00
	Immigrant	17.25	(16.03-18.47)	5.06	5.00-27.00
Trait self-efficacy	Combined	75.80	(73.47-78.14)	13.35	41.00-106.00
	U.K.-born	77.32	(73.79-80.84)	13.64	41.00-106.00
	Immigrant	74.47	(71.31-77.63)	13.05	45.00-104.00
Trait empathy	Combined	59.14	(57.42-60.86)	9.81	34.00-81.00
	U.K.-born	58.83	(56.11-61.56)	10.56	34.00-81.00
	Immigrant	59.41	(57.19-62.63)	9.17	36.00-75.00
State self-efficacy	Combined	26.58	(25.34-27.81)	7.07	7.00-42.00
	U.K.-born	26.77	(24.85-28.68)	7.40	7.00-40.00
	Immigrant	26.41	(24.76-28.06)	6.81	13.00-42.00
State empathy	Combined	31.79	(29.72-33.85)	11.80	5.00-54.00
	U.K.-born	28.98	(26.38-31.58)	10.07	5.00-45.00
	Immigrant	34.26	(31.19-37.34)	12.71	6.00-54.00

Main analysis

As per Hypothesis 1, an independent-samples *t*-test was conducted to explore whether prosocial cyber-bystander intentions significantly differed between condition. It had been predicted that higher prosocial cyber-bystander intention would be reported in the 'U.K.-

born' victim condition compared to the 'immigrant' victim condition. The scores for prosocial cyber-bystander intentions in the 'U.K.-born' condition (M= 17.88, SD= 5.08) and the 'immigrant' condition (M= 17.25, SD= 5.06) did not significantly differ from each other, $t(126)$= -.71, p= .87. Therefore, Hypothesis 1 was not supported as there was no evidence that prosocial cyber-bystander intention differed across victim status.

To address Hypothesis 2, one-factor ANCOVAs were conducted. The first ANCOVA investigated whether state self-efficacy was significantly higher in the 'U.K.-born' victim condition compared to the 'immigrant' victim condition, while controlling for trait self-efficacy. There was no significant main effect of victim status on cyber-bystander state self-efficacy, after controlling for the effect of trait self-efficacy, $F(1, 125)$= .29, ηp^2= .00, p= .94. Therefore, the Hypothesis 2a was not supported. The covariate, trait self-efficacy, was significantly related to state self-efficacy, $F(1, 125)$= 12.12, ηp^2= .09, $p<.01$.

The second ANCOVA investigated whether state empathy was significantly higher in the 'U.K.-born' victim condition compared to the 'immigrant' victim condition, while controlling for trait empathy. A significant main effect was found for victim status on cyber-bystander state empathy, after controlling for the effect of trait empathy, $F(1, 125)$= 7.62, ηp^2= .06, $p<.01$. However, contrary to Hypothesis 2b, cyber-bystanders reported higher state empathy for the 'immigrant' cyber-victim (M= 34.26, SD= 12.71) compared to the 'U.K.-born' victim (M= 28.98, SD= 10.07). The covariate, trait empathy, was also significantly related to state empathy, $F(1, 125)$= 9.70, ηp^2= .072, $p<.01$.

Although there were no formal hypotheses for gender, to conduct the exploratory analysis of whether gender moderates the above results, one 2x2 ANOVA and two 2x2 ANCOVA's were conducted to explore gender differences for Hypotheses 1 to 3. Table 6

details the descriptive statistics for state self-efficacy, state empathy and prosocial cyber-bystander intentions, according to victim status and gender.

Table 6. *Descriptive statistics for prosocial cyber-bystander intentions, state self-efficacy and state empathy according to victim status and gender.*

		Prosocial cyber-bystander intentions	State self-efficacy	State Empathy	
Gender	Victim	Mean (SD)	Mean (SD)	Mean (SD)	n
Male	Total	16.69 (5.76)	28.41 (7.26)	27.06 (11.10)	51
	U.K.-born	17.72 (5.37)	29.40 (6.12)	26.20 (9.05)	25
	Immigrant	15.69 (6.04)	27.46 (8.22)	27.89 (12.89)	26
Female	Total	18.12 (4.49)	25.36 (6.71)	34.92 (11.26)	77
	U.K.-born	18.00 (4.94)	24.89 (7.74)	30.97 (10.41)	35
	Immigrant	18.21 (4.13)	25.77 (5.78)	38.21 (10.99)	42

As can be seen in Table 7, there was no significant main effect of cyber-bystander gender on prosocial cyber-bystander intentions. There was also no significant interaction between victim status and cyber-bystander gender on prosocial cyber-bystander intentions. Figure 5 illustrates the estimated marginal means of prosocial cyber-bystander intentions for each gender, in each condition.

Table 7. *Prosocial cyber-bystander intentions 2x2 ANOVA*

Prosocial cyber-bystander intentions	*df*	*MS*	*F*	η*p*²	*p*
Cyber-bystander gender	1	60.00	2.37	.02	.13
Victim status	1	25.13	1.00	.01	.32
Interaction	1	38.42	1.52	.01	.22
Error	124	25.27	-	-	-
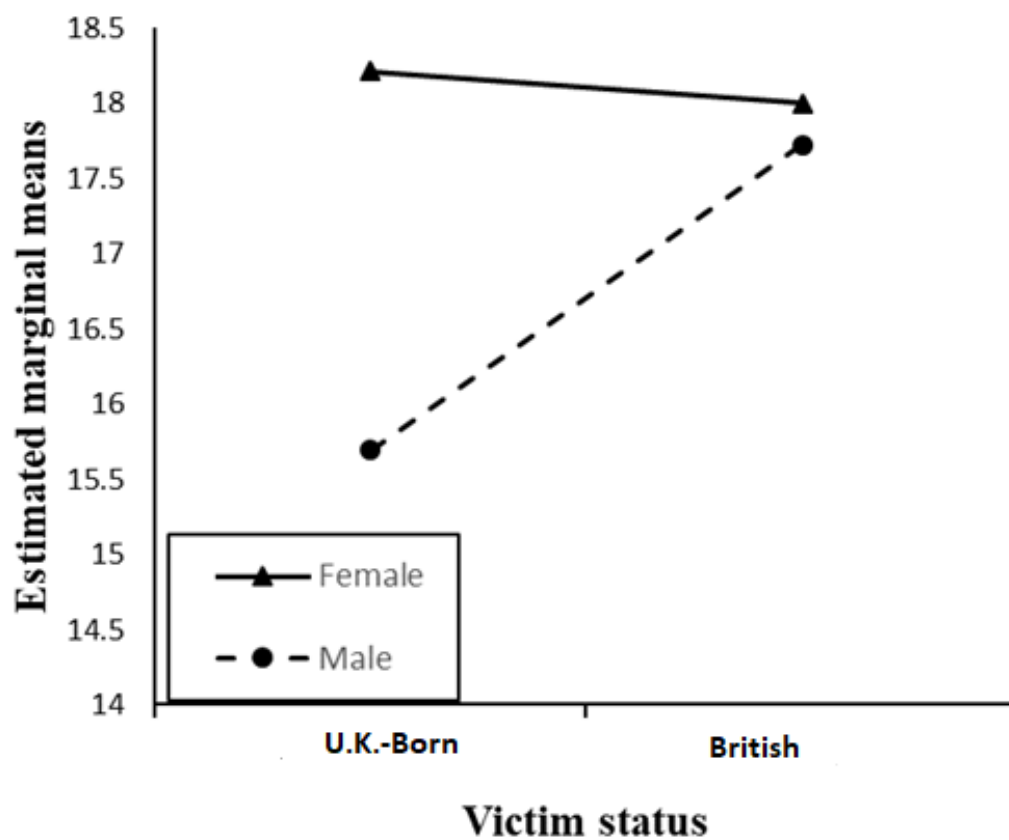
Figure 5. *Estimated marginal means of prosocial cyber-bystander intention, by gender and victim status.*

A 2x2 ANCOVA was conducted to explore whether gender moderated the results for cyber-bystander state self-efficacy, when controlling for trait self-efficacy. As can be seen in Table 8, there was no significant main effect of gender for state self-efficacy (although the effect came close to achieving significance), nor was there a significant interaction between

victim status and gender for cyber-bystander state self-efficacy. Figure 6 shows the estimated

marginal means of state self-efficacy for each gender in each condition.

Table 8. Cyber-bystander state self-efficacy *2x2 ANCOVA controlling for trait self-efficacy*

Cyber-bystander state self-efficacy	*df*	*MS*	*F*	ηp^2	*p*
Trait self-efficacy	*1*	*443.60*	*9.83*	*.07*	*.002**
Cyber-bystander gender	1	146.89	3.26	.03	.07
Victim status	1	1.28	0.03	.00	.87
Interaction	1	86.88	1.93	.02	.17
Error	123	45.12	-	-	-

*Significant at *p*<.005

Figure 6. Estimated marginal means for state self-efficacy, by gender and victim status.

A 2x2 ANCOVA was conducted to explore whether gender moderated the results for cyber-bystander state empathy, when controlling for trait empathy. Table 9 shows that cyber-bystander gender had a significant main effect for cyber-bystander state empathy, $F(1, 123)=$ 10.66, $\eta p^2= .08$, $p<.005$, where females had significantly higher mean levels of state empathy than the males. However, there was no significant interaction effect of victim status and cyber-bystander gender for state empathy levels. Figure 7 displays the pattern between condition for state empathy for each gender.

Table 9. *Cyber-bystander state empathy 2x2 ANCOVA controlling for trait empathy*

Cyber-bystander state empathy	df	MS	F	ηp^2	p
Trait empathy	1	668.41	5.84	.045	.017*
Cyber-bystander gender	1	1221.28	10.66	.080	.001**
Victim status	1	658.56	5.75	.045	.018*
Interaction	1	236.39	2.02	.016	.16
Error	123	114.56	-	-	-

 * Significant at $p<.05$
**Significant at $p<.005$

Figure 7. Estimated marginal means of state empathy, by gender and victim status.

Hayes' (2018) mediation and moderation analysis.

Due to the non-significant main effect of victim status for the dependent variable state self-efficacy (detailed earlier), mediation analyses were not conducted using state self-efficacy. In addition, due to the absence of a significant relationship between gender and prosocial cyber-bystander intentions (detailed earlier), further analysis of gender was also not conducted. However, as there was a significant relationship between victim status and state empathy, according to the earlier ANCOVA, the planned moderated mediation analysis was conducted for the hypothesised mediator state empathy.

As per Hypothesis 3b, it was predicted that state empathy would statistically mediate the relationship between victim status and prosocial cyber-bystander intentions. Hypothesis 4b predicted that trait empathy would moderate this relationship. The term 'effect' refers to a statistical effect and does not imply causation (Hayes, 2018). Findings revealed that the bootstrap confidence interval for the moderating effect of trait empathy crossed zero, point

estimate = .02; 95% CI[-.03, .09], and the interaction effect of trait empathy and victim status

was not significant, b= -.14, $t(124)$= -.69, p= .49. Thus, there was no evidence of moderation

and so no support for Hypothesis 4b. Therefore, the moderator (trait empathy) was removed

from the model and the analysis was repeated to examine the mediation as presented in

Figure 8 and Table 10.
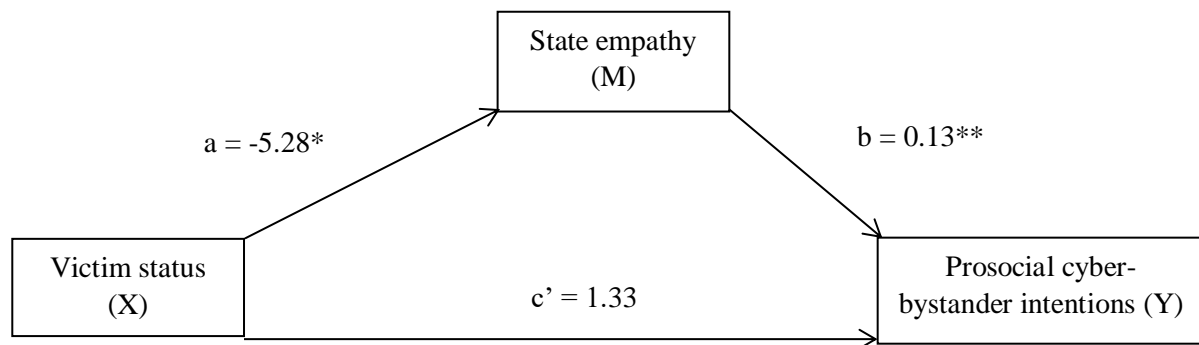
*significant at $p<.05$

**significant at $p<.001$*

Figure 8. Un-standardised regression coefficients for the relationship between victim status

and prosocial cyber-bystander intention as mediated by state empathy.

No total effect was identified for the mediation model, b= .63, SE= .90, p= .48, 95%

CI[-1.14,2.41]. Additionally, no direct effect was found between victim status and prosocial

cyber-bystander intentions, path c', b= 1.33, $t(2.125)$= 1.51, p= .13, 95% CI[-.41, 3.08].

However, there was a significant indirect effect as the confidence interval for this did not

contain zero, point estimate = -.70, 95% CI[-1.54,-.10]. Figure 8 shows this significant

indirect effect, via paths *a* and *b*, where higher state empathy was reported in the immigrant

victim condition and higher state empathy statistically predicted higher prosocial cyber-

bystander intentions. The presence of an indirect effect in the absence of a total effect (i.e.

relationship between victim status and prosocial intentions) can be explained by the fact that

the direct and indirect effect are in opposite directions (i.e. one is positive, one is negative)

and hence the former weakens the latter, resulting in an absence of a total effect, causing a

suppressor effect (see MacKinnon, Krull, & Lockwood, 2010).

Table 10. *Results of the state empathy mediation analysis*

Antecedent		Consequent						
		M (State self-empathy)				Prosocial cyber-bystander intention		
		Coeff.	*SE*	*p*		*Coeff.*	*SE*	*p*
X (victim status)	a_1	-5.28	2.05	<.05	*c'*	1.33	.88	.13
M (state empathy)	-	-	-	-	*b*	.13	.04	<.001
Constant	i_m	39.55	3.17	<.0001	i_γ	11.38	2.00	<.0001
							1.26	
		$R^2 = .05$				$R^2 = .09$		
		$F(1, 126) = 6.67$, p <.05				$F(2, 125) = 6.53$, p < .005		

Discussion

The current study explored whether responses of adolescents, 13.5 to 15 years old, differed when witnessing cyberbullying of a 'U.K.-born' versus an 'immigrant' peer. Hypothesis 1 was not supported as victim status did not relate to prosocial cyber-bystander intention. Hypotheses 2a, 3a and 4a were also not supported as cyber-bystander state self-efficacy was not related to victim status. It might be that cyber-bystander's confidence in their actions and intentions to intervene do not differ according to victim intergroup status like in offline studies (e.g. Hawkins, Pepler & Craig, 2001; Levine, Cassidy, Brazier, & Reicher, 2002; Stewart, Pederson, & Paradies, 2014). However, design issues may have also influenced results if the vignette's description of the victims did not capture realistic intersecting identities which may make someone more vulnerable to victimisation, such as which part of the world the victim was from (Espinoza & Wright, 2018). For example, Ghavami, Katsiaficas, and Rogers (2016) highlight how in real life, immigration status is

likely to be interlinked with other parts of someone's identity such as their race, gender and sexual orientation. In the current study, as participants did not actually know the victims from school, many of these identifying factors were not known.

However, a significant relationship between state empathy and victim status was found in the opposite direction to Hypothesis 2b. Moreover, Hypothesis 3b was supported as state empathy statistically mediated the relationship between victim status and prosocial cyber-bystander intention. More specifically, participants reported higher state empathy for the 'immigrant' victim than 'U.K-born' victim and higher state empathy related to greater prosocial cyber-bystander intentions. These surprising findings contradicted evidence that bystanders show a preference towards ingroup victims (e.g. Jones, et al., 2011). Firstly, findings may have been a result of socially desirable answering. Another possible explanation is that the cyber-bystanders interpreted the immigrant victim scenario as more serious because they viewed it as discrimination. A similar result was found in Aboud and Joong's study (2008) where intergroup bullying was viewed as discrimination and therefore possibly perceived as having more severe psychological harm on the victim. Previous research also shows how higher levels of cyber-bystander intervention occur in more severe cyberbullying incidents (Bastiaensens et al., 2014; Macaulay et al., 2018).

The non-significant overall effect between victim status and prosocial cyber-bystander intentions might be explained by a suppressor effect; whereby the effect is cancelled out by an unmeasured confounding variable (see MacKinnon, et al., 2010). Thornberg et al. (2012) described a conceptual framework where some factors might work against each other when bystanders are deciding whether to intervene in bullying. For example, when considering the above results, even though cyber-bystanders reported more empathy for the 'immigrant' victim, anxiety around intergroup communication might have deterred them from helping (Abbott & Cameron, 2014).

Hypothesis 4b was not supported, suggesting that the relationship between state empathy and victim status was not moderated by cyber-bystander trait empathy. It might be that cyber-bystanders with higher baseline empathy levels are no more or less susceptible to the intergroup dynamics than those with lower baseline empathy. This might be explained by the importance of context in cyber-bystander behaviour and empathy (e.g. DeSmet et al., 2016; Macháčková et al., 2016). Another factor potentially complicating the current findings is that Mazzone et al. (2018) described immigrants being perceived as 'deviant'. In the online world, these perceived 'deviant' factors may be less prominent (e.g. someone's accent) and so intergroup boundaries may be more blurred.

The gender difference in state empathy is supported by previous studies. For example, Patterson et al. (2017a) found in their quasi-experimental study that girls were more sensitive to how cyberbullying impacted on the victim and rated scenarios as more serious and hurtful. The non-significant effect of gender for prosocial cyber-bystander behavioural intentions is also supported by several other cyber-bystander studies (e.g. Barlińska et al. 2018; Veiga Simão, et al, 2018). However, whilst the relationship between gender and prosocial cyber-bystander intention was not significant, the relationship between gender and state self-efficacy came close to significance. If a future study with greater power found an effect, it would be in line with research suggesting that boys report higher defending state self-efficacy as bystanders than girls (e.g. Thornberg & Jungert, 2013). Alternatively, any possible gender differences might also be explained by other variables such as social competence (Schultze-Krumbholz et al., 2018).

Implication of findings

Overall, the current study supports social cognitive theory and how personal factors like empathy, as well as context, as important for bystander intervention (Bandura, 1989; 2001). However, the current findings did not align with social identity theory, because the

ingroup victims were empathised with less than the outgroup victim (Tajfel & Turner, 1979).

It might be that, for the age group studied, intergroup context does not work in the same way

as it does offline in terms of bystander responses. The present study supports the promotion

of state empathy in interventions targeting adolescent cyber-bystanders (Williford, et al.,

2013). Furthermore, current findings might suggest that cyber-bystander state empathy is

important for helping outgroup members, in line with offline research (Eisenberg et al.,

2011). There has been some preliminary support for an intervention in Australia with adults

that promotes empathy to increase bystander activism when witnessing intergroup prejudice

talk (Pedersen, Paradies, Hartley, & Dun, 2011). Similar promotion of empathy in online

adolescent intergroup bullying could be beneficial, considering the identified indirect

relationship between victim status and prosocial intentions via state empathy. However,

further research is needed before clear recommendations for tailored intergroup anti-

cyberbullying interventions can be made as other unmeasured processes appear to be

potentially hindering cyber-bystander intentions.

Interventions targeting bystanders will also need to consider potential risks

adolescents may expose themselves to through 'unhelpful' responses without adult support,

and not place sole responsibility on adolescents (Lambe, Cioppa, Hong, & Craig, 2019;

Smith et al., 2008). This is important because internet accessibility makes parental

monitoring challenging and children as young as nine years old use social media (Ofcom,

2019). Targeting bystanders should be part of wider systemic cyberbullying interventions

targeting multiple factors such as the broader community, child education as well as parent

and school support (Cioppa, O'Neil, & Craig, 2015; Hutson, Kelly, & Militello, 2018;

Tanrikulu, 2018). Current cyberbullying interventions do not cover all these factors, but

'Kiva' and 'No Trap' target several levels including bystanders and 'Cyber Friendly Schools'

takes a whole school approach (Cantone, et al., 2015; Cross, et al., 2015; Menesini,

Nocentini, & Palladino, 2012). Effective components of interventions should be examined and combined to reduce cyberbullying.

Strengths and limitations

Amongst the study's limitations, though the design was simple, using a Facebook scenario may not have been relatable for participants who had never used the site. Furthermore, findings can only be generalised to adolescents 13.5-15 years old as well as only to the form of cyberbullying presented in the vignette. Despite the support for the use of hypothetical vignettes to measure behavioural intentions (e.g. Bellmore et al., 2012), they can limit ecological validity. Although no better alternative measures could be found when the study was designed, there were several limitations to the scales used. Firstly, self-report measures can lead to socially desirable answers. Additionally, though the state empathy measure appeared more robust than previously used single-item measures in the literature (e.g. Macháčková et al., 2016), it had only been used with older samples than the current study which might limit validity. Borderline internal consistency of the trait empathy and prosocial intentions measures may have added noise to the data and made it harder to observe significant effects with respect to these variables. Furthermore, despite no other more suitable measures being identified, the prosocial intentions scale did not include options to support the victim, which reportedly is one of the more common prosocial cyber-bystander responses (Sheppard & Campbell, 2016). Lastly, other unmeasured variables may have influenced the results such as previous cyberbullying experience or perceived severity of cyberbullying which could have also been affected by prior school education on cyberbullying or racist bullying (e.g. Allison & Bussey, 2016; DeSmet, et al., 2016; Patterson et al., 2017a).

However, there are also strengths to the current study including using a narrow age range to limit possible developmental differences between participants influencing findings. It is the first study, to the author's knowledge, that has explored cyber-bystanders in an

intergroup context (specifically cyberbullying of immigrant youth) and explored state and trait empathy and self-efficacy separately. The design of the study allowed for several variables to be measured and for conditions to be manipulated. Additionally, most of the scales used had adequate to strong internal consistency and were quick to administer, allowing a large sample to be collected. Findings support previous evidence in the cyber-bystander literature such as the relationship between empathy and cyber-bystander behavioural intention (e.g. DeSmet et al., 2016). The unexpected findings have also raised interesting questions, leading the way for future research.

Future research

To improve on methodological limitations, DeSmet et al.'s (2018) validated measure, which was published after the current study was designed, could be used to explore determinants of cyber-bystander behaviour. Additionally, using multiple informants, such as cyber-victims in addition to cyber-bystanders, might reduce self-report bias. In the future, different forms of 'immigrant' cyberbullying could be looked in to, either through hypothetical scenarios, like the current study, or through discussion of real-life witnessed experiences (e.g. Macháčková et al., 2016). This might clarify whether these incidents are perceived as more serious and whether cyber-bystander response is context-dependent (Allison & Bussey, 2016). Qualitative research could also allow for a more nuanced exploration of cyber-bystanders' responses to immigrant cyberbullying, like previous cyber-bystander studies (e.g. Price et al., 2013).

The current study explored intergroup bullying of adolescent immigrants. Unfortunately, there are many different groups vulnerable to victimisation (Anti-Bullying Alliance, 2017). To understand what unmeasured variables may have influenced the current findings, studies could focus on factors which might hinder intergroup helping such as intergroup anxiety (Abbott & Cameron, 2014). It could be of interest to explore narratives

cyber-bystanders believe about 'minority groups' to see if this influences their decision to help a victim from that group. For example, whether adolescents' tolerance and levels of xenophobia, as well as the perceived 'deviance' of the victim, relates to their intentions to intervene (Mazzone, et al., 2018; Van Zalk, Kerr, Van Zalk, & Stattin, 2012).

Conclusion

The current study aimed to understand whether cyber-bystanders responded differently to adolescent 'immigrant' victims compared to 'U.K.-born' victims. More specifically, whether differences occurred in cyber-bystander state empathy, self-efficacy and prosocial intentions. Overall, victim status did not directly relate to prosocial cyber-bystander intentions or state-self-efficacy. However, an indirect effect was found between victim status and prosocial cyber-bystander intentions through state empathy as a mediator. Surprisingly, cyber-bystanders reported higher state empathy in the immigrant condition, and those with higher empathy showed higher levels of prosocial intention. However, other unmeasured factors might reduce the likelihood in cyber-bystanders supporting these victims (e.g. intergroup anxiety).

Lastly, females reported higher state empathy levels, but this did not translate into greater prosocial intentions. Gender also did not interact with victim status when exploring prosocial intentions, self-efficacy or empathy. However, the relationship of gender to state self-efficacy approached significance, suggesting a Type II error may have occurred due to insufficient power in the study. Future research could look at these effects again and build on the methodology used within this study, controlling for additional variables as well as considering intersectional factors of outgroup victims. The present study supports the use of state empathy promotion in cyber-bystander-targeted anti-cyberbullying interventions, whereas the recommendations are still unclear as to whether or how programmes should be

tailored to support minority groups. Therefore, research should be extended to explore other

'at-risk' groups of adolescents and understand the role of context in intergroup cyberbullying.

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Section C: Appendices of supporting material

Appendix A. Ethics panel approval letter

This has been removed from the electronic copy.

Appendix B. End of study letter to ethics panel/template report to participating schools

<u>**End of study summary**</u>

(this version contains no school-specific results)

Title: Adolescent cyber-bystanders in an intergroup context: Examining empathy, self-efficacy and prosocial intentions.

Researcher: Yasmin Mackay [title]

Supervised by: Dr Nicola Abbott [title] and Dr Fergal Jones [title]

Thank you to all who took the time to participate in this research project. This brief report outlines the study and its findings.

Study aims

The study was completed as part of a doctorate in Clinical Psychology. Cyberbullying is a serious problem which appears to relate to later mental health difficulties. It seems to peak when adolescents are roughly 12-15 years old. This study focused on the cyberbullying of 'adolescent immigrants' as they may be at higher risk of cyberbullying and its effects.

Anti-cyberbullying research is exploring ways to encourage bystanders (people who witness bulling) to help when they see cyberbullying. In offline bullying, people seem to show a preference to help people they view as part of their 'ingroup' compared to people 'outside' of their group. This study explored prosocial intentions (intentions to help), empathy (understanding and sharing someone's emotions), and self-efficacy (confidence in one's actions) within a pretend scenario where either a 'U.K.-born' or 'immigrant' victim was being cyberbullied.

What happened in the study

129 British adolescents (13.5-15 years old) from two schools took part in this study (77=girls). After schools agreed to take part, information was sent out to parents and they let the school know if they did not want their child to participate in the study. Adolescents then could choose if they wanted to take part.

The study took place on one day at each school with a teacher and researcher present. Participants completed an anonymous 20-minute online questionnaire and read a brief gender-matched cyberbullying scenario which was randomly assigned to them, describing either an 'immigrant' or a 'UK-born' victim being cyberbullied (e.g. Figure 1). Participants answered demographic questions, questions about their empathy and self-efficacy day-to-day as well as within the situation specifically. They also rated their intentions to respond to the situation in several ways.

Figure 1. Example of a hypothetical scenario

Sam and Alex are both *girls/boys* in your form group at school. Sam has been at your school since the start of your first year. Alex moved to your school from another local school last year. You are scrolling through your social network feed when you notice that Sam has posted a public message to Alex (this is the third time you have seen a message like this from Sam to Alex):

> **Sam**
> Alex, nobody wants you at our school. Go back to your old one you loner!
> Like · Comment · 1 hour ago
>
> 👍 2 people like this
>
> > **Alex** Leave me alone
> > 10 minutes ago · Like
> >
> > **Sam** Only when you do us all a favour and leave our school
> > just now · Like
>
> Write a comment...

Results.

- There was no difference in cyber-bystander self-efficacy or prosocial intentions when seeing either victim get cyberbullied.
- Higher empathy was reported by girls overall (see Figure 2).

Figure 2. Levels of empathy towards cyber-victims by gender.
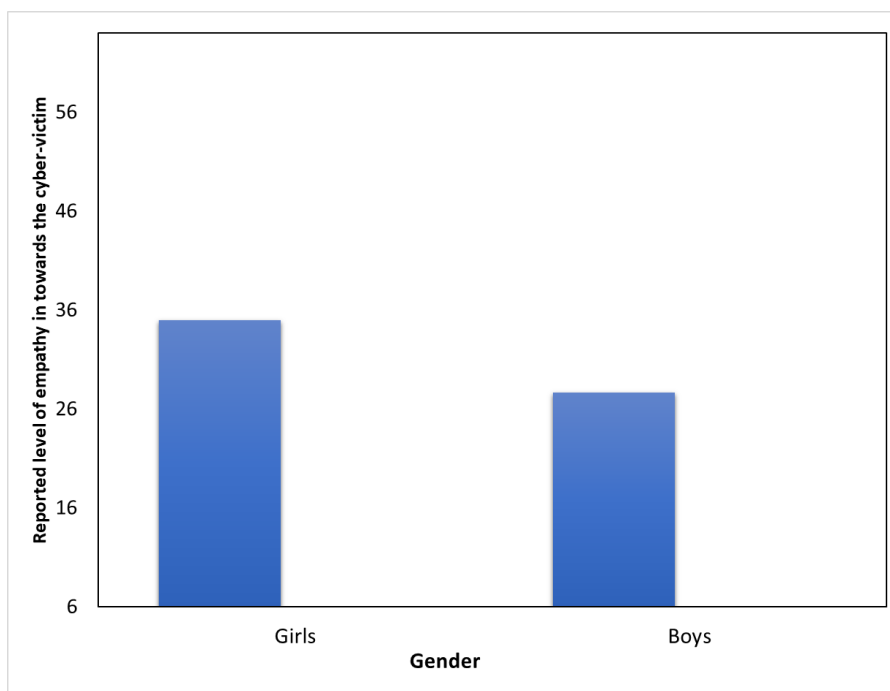
- Unexpectedly, higher empathy was reported towards the 'immigrant' victim compared to the 'U.K.-born' victim. Participants with higher empathy then reported higher intentions to help in some way (see Figure 3 and 4). Whether someone had higher or lower general empathy levels day-to-day did not affect this relationship

Figure 3. Levels of empathy reported towards each victim
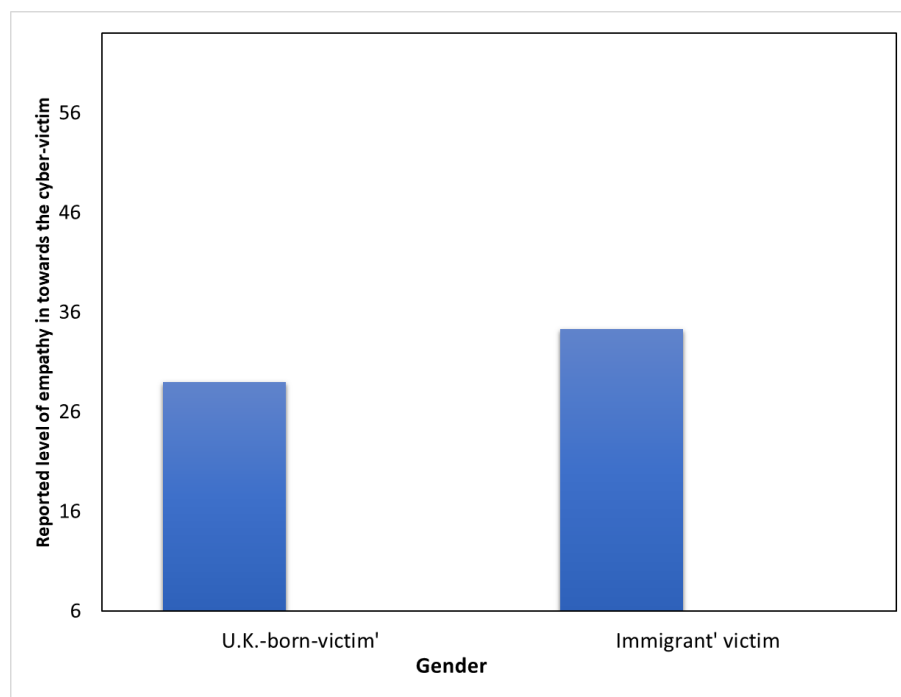
Figure 2. The relationship between victim status, empathy and cyber-bystander intentions.

Victim status	Empathy for the victim	Higher intention to help
('U.K-born' or 'immigrant' victim being cyberbullied).	(Higher empathy for the 'immigrant' victim)	(Higher helping intention with higher empathy)
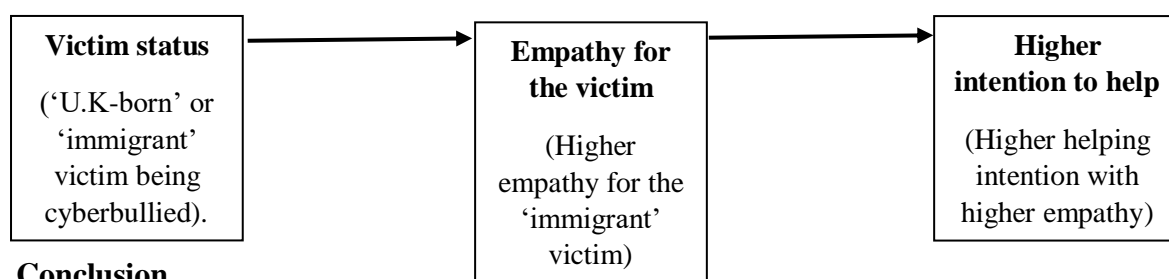
Conclusion

Anti-cyberbullying programmes targeting cyber-bystanders could benefit from promoting empathy. Design limitations of the study may have led to the results. Participants might have had higher empathy for the 'immigrant victim because they felt this cyberbullying was more 'serious'. More research needs to be done to understand cyberbullying and intergroup context, particularly with other 'at risk' groups.

What happens next?

This research might help to develop anti-cyberbullying interventions. It will be submitted to a journal for publication but details about schools and participants will remain anonymous.

Appendix C. Template invitation letter to schools

Salomons Centre for Applied Psychology

Canterbury Christ Church University,

1 Meadow Road,

Tunbridge Wells,

TN1 2YG

[School address]

[Insert date]

Dear [Head teacher name]

My name is Yasmin Mackay and I am a trainee clinical psychologist at Salomons, Canterbury Christ Church University. I am writing to you as I am conducting research on what influences bystanders of cyberbullying and I am currently recruiting participants from secondary schools (children aged 14-15 years of age). Please find attached to this letter a description of my research which has been reviewed and given favourable opinion by The Salomons Ethics Panel, Salomons Centre for Applied Psychology, Canterbury Christ Church University.

The research requires access to a computer lab as the study is computer-based and would be expected to take 40 minutes in total. Furthermore, it would need to be within normal school hours to reduce daily disruption for the children. It will require parental opt-out consent forms and information sheets to be sent out a minimum of a week prior to the study taking place. This would be to allow sufficient time for parents and children to discuss the study and think about whether they wish to take part. Children would then be required to opt-in to the study on the day if their parents have not already withdrawn them from the study.

I would be very interested in discussing more details about the research and the possibility of conducting part of it at your school. All participating schools and pupils would remain anonymous when reporting the research findings. I will be in touch within the next 2 weeks via phone call to discuss whether you would be interested in participating in this research.

Many thanks for your time and I look forward to speaking with you soon.

Yours sincerely,

Yasmin Mackay

Trainee Clinical Psychologist

Salomons, Canterbury Christ Church University, TN1 2YG.

Research telephone number: 01227 92 7070

Appendix D. Head teacher consent form

<u>**Head Teacher Consent Form**</u>
(Two copies to be signed, one to be kept by school, the other by the researcher)

Project title: Adolescent bystanders and cyberbullying: what influences their decision to intervene in online bullying?
Name of Researcher: Yasmin Mackay

Please initial box:

1. I confirm that I have read and understood the information sheet for the above cyberbullying study and have had the opportunity to ask questions.

2. Parents/guardians/carers and children have been sent information letters fully informing them about the nature of the research a minimum of 1 week prior to the study taking place so as to give a reasonable period of time to opt-out from participating in the study.

3. I understand that the children participating are doing so voluntarily and that they (or their parent/guardian/carer) are free to withdraw their consent at any time without explanation (aside from after data has been analysed).

4. I understand how to contact the researcher if I have any concerns or questions.

5. I am willing to act in loco parentis in regard to consenting children whose parents have not contacted me, into the study.

Name of school_____ Date_____

Year Group(s) taking part who fall in the age bracket of 14-15* years
_____

Name of Head Teacher (or designated other)_____Date_____

Signature_____

Name of researcher taking consent _____ Date_____

Signature _____
* Changed to 13.5-15 for one school.

Appendix E. Headteacher information sheet

Information Sheet for Head Teacher

Project title
Adolescent bystanders and cyberbullying: what influences their decision to intervene in online bullying?

Hello. My name is Yasmin Mackay and I am a trainee clinical psychologist at Salomons, Canterbury Christ Church University and I have DBS clearance. I am working under the supervision of Dr Nicola Abbott (Senior Lecturer at the School of Psychology, Politics and Sociology, Canterbury Christ Church University) and Dr Fergal Jones (Reader in Clinical Psychology at Salomons Centre for Applied Psychology). I would like to invite your students to take part in a research study. Before you decide if you wish for your school to take part, it is important that you understand why the research is being done and what it would involve for your school.

Talk to others about the study if you wish.

(Part 1 tells you the purpose of this study and what will happen if your students take part. Part 2 gives you more detailed information about the conduct of the study).

What is the purpose of the study?
This project is to help add to current knowledge around bullying online. This study is looking to understand people's experiences when witnessing bullying online. It will examine whether bystander behaviour is influenced by immigration status of the victim, gender and ethnicity, contact with others who are not British, empathy levels and confidence in performing 'prosocial (helping) behaviours'.

Why has my school been invited to take part?
As studies have suggested that adolescents are most likely to experience or see bullying online between 12 to 15 years of age, your school is being invited to help us understand what may happen at this age with regards to those who witness bullying online and what may influence their behaviour online.

Does my school have to take part?
Your school does not have to take part. If you agree for your school to take part, I will then ask you to distribute opt-out consent forms to the parents of children that fall between the ages of 14-15. I will also ask you to send information to the children who will be asked to take part at the same time so that they can discuss the study with their parents/guardians/carers. I will ask each child to provide their consent on a computer programme prior to beginning the study which would take place at school during normal school hours. If you decide you would be happy for your school to take part please sign the attached form and return it to me as soon as possible. You are free to decline for your school to take part without giving a reason. If you do not return your consent form, we will assume that you do not wish for your school to take part and I will not send you further information.

What will happen to children if they take part?
The study will last for roughly 40 minutes and will only require the children to complete the study once. They will be asked to log on to a programme online at school (we will require a space with access to computers for all pupils taking part) and read a brief description of an online bullying scenario as well as complete five brief questionnaires. We would also wish for a teacher to be present during the study who is familiar with the students to help to provide an alternative activity for children who do not take part. A few questions will ask participants

to note down a few basic details about themselves including their age, ethnicity and gender but they will not need to write down their name or which school they go to as this will all be made anonymous and any answers they personally give will not be shared with school or families personally. We will not report which child gave which answers and each child will be given a "study number" so that they can remain anonymous (although these will also not be used when reporting the results of the study).

What are the possible disadvantages and risks of taking part?
It may be that the scenario the children will read about is similar to experiences they have personally experienced or has happened to someone they know. I will be available on the day of the study for your students to ask any questions or raise any concerns. They will also be encouraged to speak to parents and teachers if they have any concerns or find additional support around bullying on the following websites:

- **Bullying.co.uk**: http://www.bullying.co.uk/
- **Childline:** https://www.childline.org.uk/info-advice/bullying-abuse-safety/types-bullying/
- **Anti-bullying Alliance:** https://www.anti-bullyingalliance.org.uk/
- **Internet Matters.org:** https://www.internetmatters.org/issues/cyberbullying/?gclid=CJPN0bfomtQCFQIcGwodI60COw

What are the possible benefits of taking part?
We cannot promise the study will help each child/school personally but the information we get from this study will help improve the support for people who experience bullying online and guide further research in the area.

What if there is a problem?
Any complaint about the way you, parents or the children have been dealt with during the study or any possible harm the children might suffer will be addressed. The detailed information on this is given in Part 2. If, before the study takes place, parents or children have questions then parents can approach teachers or send me an email on their child's behalf. If children have questions on the day, they can ask me directly. However, if any children have questions that they would rather were addressed individually rather than in front of the class, they will be advised to speak to their teacher in advance and/or their parent/guardian/carer so that I can speak to them individually or respond via email. This can be discussed with the school to decide upon the most suitable way to speak to any child that has a concern in advance.

    If any child has any concerns during the study they will be informed that they can approach me on the day to discuss them. However, they will also be informed that should I be worried about theirs' or others' safety including any bullying experiences, I would let their teacher know so that they can be helped to get appropriate support.

Will information from or about my school or pupils when taking part in the study be kept confidential?
Yes. We will follow ethical and legal practice and all information about you will be handled in confidence. The details are included in Part 2.

This completes part 1.
If the information in Part 1 has interested you and you are considering participation, please read the additional information in Part 2 before making any decision.

Part 2 of the information sheet
What will happen if I don't want to carry on with the study?

During the study, children can withdraw at any time and any incomplete questionnaires will not be included in the study. Following the study, should children or parents (or yourself) wish to withdraw from the study this will only be possible before data is analysed as after this all information will be merged.

What if there is a problem?
If parents or children have any concerns we will encourage them to speak to the researcher or a teacher. You can also personally get in touch with us and/or make a formal complaint if you have any concerns.

Complaints
If you wish to contact me about the study please call 01227 92 7070 to leave a message (please state that you wish to speak to Yasmin Mackay and leave your contact details in the message) or email me on (y.o.mackay71@canterbury.ac.uk) and I will do my best to address your concerns.

You are also welcome to contact me at the below address:
Salomons Centre for Applied Psychology
Canterbury Christ Church University
1 Meadow Road
Tunbridge Wells
TN1 2YG

If you remain unhappy and wish to complain formally, you can do this by contacting Professor Paul Camic, Research Director, Salomons Centre for Applied Psychology – paul.camic@canterbury.ac.uk

Will information from or about me from taking part in the study be kept confidential?
The answers each child gives for the questionnaires will be kept securely and will be confidential and made anonymous (so that nobody can tell which answers are which child's and from which school). The data will be kept for 5 years as is required by Canterbury Christ Church University for any research projects. Only those authorised to look at data (the researcher and supervisors) will have access to the questionnaire answers. I hope to get this study published in a psychology journal but all identifying details of schools and pupils will remain anonymous.

What will happen to the results of the research study?
The results will be submitted for publication in a journal for other psychologists and professions to see. Both the school name and all children's names will not be included in this publication. Your school will also be sent an overall summary of the results of the study as well as the results from their school but no children's names will be included in this and it will not be possible to tell who gave which answers.

Who is organising and funding the research?
Canterbury Christ Church University.

Who has reviewed the study?
This study has been reviewed and given favourable opinion by The Salomons Ethics Panel, Salomons Centre for Applied Psychology, Canterbury Christ Church University.
You/each child will be given a copy of the information sheet and you will be able to keep a signed consent form to keep from the study.

If you would like to speak to me and find out more about the study or have questions about it answered, you can leave a message for me on a 24-hour voicemail phone line

at 01227 92 7070. Please say that the message is for me (Yasmin Mackay) and leave a contact number so that I can get back to you.

Appendix F. Information sheet and opt-out consent form for parents/guardians/carers

Information sheet for parents/guardians/carers

Dear parent, guardian or carer,

Hello. My name is Yasmin Mackay and I am a trainee clinical psychologist at Salomons, Canterbury Christ Church University and I have DBS clearance. I am working under the supervision of Dr Nicola Abbott and Dr Fergal Jones. I would like to invite your child to take part in a research study about 'cyberbullying' (online bullying). Before you decide whether you wish for your child to take part or not, it is important that you understand why the research is being done and what it would involve for you and your child. ***If, following reading this through, you are happy for your child to take part, you do not need to do anything. However, if you do not wish for your child to take part in the study, please tear off the slip at the end of this letter and return it to the school before ___/___/___ when the study is due to take place. [Date to be inserted once agreed with school].***

Talk to others about the study if you wish.
(Part 1 tells you the purpose of this study and what will happen if your child takes part. Part 2 gives you more detailed information about the conduct of the study).

Project title: Adolescent bystanders and cyberbullying: what influences their decision to intervene in online bullying?

What is the purpose of the study?
This project is to help add to current knowledge around bullying online. This study is looking to understand people's experiences when witnessing bullying online, how they feel about it when they see it and how confident they feel in doing something about it. It is trying to understand whether people feel more confident in helping certain people and why.

Why have has my child been invited?
As studies have suggested that adolescents are most likely to experience or see bullying online between 12 to 15 years of age, your child is being invited to help us understand what may happen at this age with regards to those who witness bullying online and what may influence their behaviour online.

Does my child have to take part?
It is up to you to decide whether you would be happy for your child to join the study. If you agree for your child to take part, I will ask each child to provide their consent on a computer programme prior to beginning the study which will take place at their school during normal school hours. If you decide you would **not** be happy for your child to take part please return the attached form to your school as soon as possible. You are free to decline for your child to take part without giving a reason. ***If you do not return your consent form, we will assume that you are happy for your child to take part in the study.***

What will happen to my child if they take part?
The study will last for roughly 40 minutes and will only require your child to complete the study once. They will be asked to log on to a programme online at school and read a brief description of a hypothetical online bullying scenario. Following this, each child will complete five brief questionnaires about their reactions to the scenario including what they might do and why. A few questions will ask them to note down a few basic details about themselves (e.g. age, ethnicity etc.). All answers will be confidential and nobody will be able to identify individual responses or the names of participating schools. Any answers each child

personally gives will not be shared with school or families personally to allow confidentiality to be maintained for each child.

What are the possible disadvantages and risks of taking part?
It may be that the scenario your child will read about is similar to experiences they have personally experienced or has happened to someone they know. If you are aware that your child has recently been involved in a bullying incident and may find this topic upsetting, we would advise that this may not be the best time for them to take part in the study. I will be available on the day of the study for your child to ask any questions or raise any concerns. They will also be encouraged to speak to parents/guardians/carers and teachers if they have any concerns or find additional support around bullying on the following websites:

- **Bullying.co.uk**: http://www.bullying.co.uk/
- **Childline:** https://www.childline.org.uk/info-advice/bullying-abuse-safety/types-bullying/
- **Anti-bullying Alliance:** https://www.anti-bullyingalliance.org.uk/
- **Internet Matters.org:** https://www.internetmatters.org/issues/cyberbullying/?gclid=CJPN0bfomtQCFQIcGwodI60COw

What are the possible benefits of taking part?
We cannot promise the study will help your child personally but the information we get from this study will help improve the support for people who experience bullying online and guide further research in the area.

What if there is a problem?
Any complaint about the way you or your child have been dealt with during the study or any possible harm your child might suffer will be addressed. The detailed information on this is given in Part 2. If, before the study takes place, you or your child have questions then you can approach teachers or send me an email on your child's behalf. If children have questions on the day, they can ask me directly. However, if any children have questions that they would rather were addressed individually rather than in front of the class, they will be advised to speak to their teacher in advance and/or yourself so that I can speak to them individually or respond via email. This will be discussed with the school to decide upon the most suitable way to speak to any child who has a concern in advance.

If your child has any concerns during the study they will be informed that they can approach me on the day to discuss them. However, they will also be informed that should I be worried about theirs' or others' safety including any bullying experiences, I would let their teacher know so that they can be helped to get appropriate support.

Will information from or about my child from taking part in the study be kept confidential?
Yes. We will follow ethical and legal practice and all information about you will be handled in confidence. The details are included in Part 2.

This completes part 1.
If the information in Part 1 has interested you and you are considering participation, please read the additional information in Part 2 before making any decision.

Part 2 of the information sheet
What will happen if I don't want my child to carry on with the study?
During the study, children can withdraw at any time and any incomplete questionnaires will not be included in the study. Following the study, should you or your child wish to withdraw

from the study this will only be possible before data is analysed as after this all information will be merged.

What if there is a problem?
If your child has any concerns we have encouraged your child to speak to you and/or a teacher. You can also personally get in touch with us and/or make a formal complaint if you have any concerns.

Complaints
If you wish to contact me about the study please call 01227 92 7070 to leave a message (please state that you wish to speak to Yasmin Mackay and leave your contact details in the message) or email me on (y.o.mackay71@canterbury.ac.uk) and I will do my best to address your concerns.

You are also welcome to contact me at the below address:
Salomons Centre for Applied Psychology
Canterbury Christ Church University
1 Meadow Road
Tunbridge Wells
TN1 2YG

If you remain unhappy and wish to complain formally, you can do this by contacting Professor Paul Camic, Research Director, Salomons Centre for Applied Psychology – paul.camic@canterbury.ac.uk

Will information from or about me from taking part in the study be kept confidential?
The answers your child gives for the questionnaires will be kept securely and will be confidential and made anonymous (so that nobody can tell which answers are your child's). The data will be kept for 5 years as is required by Canterbury Christ Church University for any research projects. Only those authorised to look at data (the researcher and supervisors) will have access to the questionnaire answers. I hope to get this study published in a psychology journal but all identifying details of schools and pupils will remain anonymous.

What will happen to the results of the research study?
The results will be submitted for publication in a journal for other psychologists and professions to see. Both the school name and all children's names will not be included in this publication. Your school will also be sent an overall summary of the results of the study as well as the results from their school but no children's names will be included in this and it will not be possible to tell who gave which answers.

Who is organising and funding the research?
Canterbury Christ Church University.

Who has reviewed the study?
This study has been reviewed and given favourable opinion by The Salomons Ethics Panel, Salomons Centre for Applied Psychology, Canterbury Christ Church University. .

If you would like to speak to me and find out more about the study or have questions about it answered, you can leave a message for me on a 24-hour voicemail phone line at 01227 92 7070. Please say that the message is for me (Yasmin Mackay) and leave a contact number so that I can get back to you.

Thank you for taking the time to read this information,

Yasmin

....

I **do not** give permission for my child to participate in the research project.

Child's name_____

Name of Parent/Guardian _____

Signature_____

Appendix G. Participant information sheet

<u>Participant Information Sheet</u>

<u>Project title</u>
Adolescent bystanders and cyberbullying: what influences their decision to intervene in online bullying?

Hello. My name is Yasmin Mackay and I am a trainee clinical psychologist at Salomons, Canterbury Christ Church University. I would like to invite you to take part in a research study. Before you decide if you would like to take part, it is important that you understand why the research is being done and what it would involve for you.

Talk to others about the study if you wish.
(Part 1 tells you the purpose of this study and what will happen to you if you take part. Part 2 gives you more detailed information about the conduct of the study).

What is the purpose of the study?
This project is to help add to current knowledge around bullying online. This study is looking to understand what someone experiences when seeing bullying online, how they feel about it and how confident they feel in doing something about it. It is trying to understand whether people feel more confident in helping certain people and why.

Why have I been invited?
As studies have suggested that adolescents are most likely to experience or see bullying online between 12 to 15 years of age, you are invited to help us understand what may happen at this age.

Do I have to take part?
It is up to you to decide to join the study. If you agree to take part, I will then ask you to sign a consent form. You are free to withdraw at any time, without giving a reason.

What will happen to me if I take part?
The study will last for roughly 40 minutes and will only ask you to complete the study once. You will be asked to log on to a programme online at school and read a brief online bullying scenario as well as complete five brief questionnaires. A few questions will ask you to note down a few basic details about yourself including your age, ethnicity and gender but you will not need to write down your name or which school you go to as this will be all anonymous and any answers you personally give will not be shared with your school or parents personally.

What are the possible disadvantages and risks of taking part?
The bullying scenario you will read may be similar to experiences you have had personally or has happened to someone you know. If you have recently been involved in bullying or believe that this topic may be upsetting to you at this time then this may not be the best time to complete the study. If you do not want to take part then please let the researcher know and you will be provided with another activity to continue with. If you decide to complete the study and find this at all upsetting we would encourage you to inform your parent/guardian or teacher.

If you have any concerns during the study, please let me know. However, if I have any concerns around yours or others' safety or of any bullying that you or anyone else experiences, I will need to let your teacher know so that they can help think about giving you

or others the right support. Also, if you would like to understand more about bullying or find out about additional support around bullying, you can do so by looking at these websites:

- **Bullying.co.uk**: http://www.bullying.co.uk/
- **Childline:** https://www.childline.org.uk/info-advice/bullying-abuse-safety/types-bullying/
- **Anti-bullying Alliance:** https://www.anti-bullyingalliance.org.uk/
- **Internet Matters.org:** https://www.internetmatters.org/issues/cyberbullying/?gclid=CJPN0bfomtQCFQIcGwodI60COw

What are the possible benefits of taking part?
We cannot promise the study will help you but the information we get from this study will help improve the support for people who experience bullying online.

What if there is a problem?
Any complaint about the way you have been dealt with during the study or any possible harm you might suffer will be addressed. The detailed information on this is given in Part 2. If, before the study takes place, you have questions then you can approach teachers or your parents to ask to send me an email on your behalf. If you have questions on the day, you can ask me directly. However, if you have questions that you want addressed individually rather than in front of the class, you should speak to your teacher in advance and/or your parent/carer/guardian so that I can speak to you individually or respond via email.

   If you have any concerns during the study, you can approach me on the day to discuss them. However, should I be worried about your or others' safety, including any bullying experiences, I would need to let your teacher know so that you or whoever else may need support can get it as soon as possible.

Will information from or about me from taking part in the study be kept confidential?
Yes. We will follow ethical and legal practice and all information about you will be handled in confidence. The details are included in Part 2.

This completes part 1.
If the information in Part 1 has interested you and you are considering participation, please read the additional information in Part 2 before making any decision.

Part 2 of the information sheet
What will happen if I don't want to carry on with the study?
During the study, you can withdraw at any time without giving a reason. Any incomplete questionnaires will not be included in the study. Following the study, should you or parents wish to withdraw from the study, this will only be possible before data is analysed as after this all information will be merged together and I will not be able to tell which answers you gave.

What if there is a problem?
If you have any concerns on the day of the study then please speak to me or your teacher. If you have a concern after the day of the study then we would encourage you to speak to your parent or teacher who can get in touch with us and/or make a formal complaint.

Complaints
If you wish to contact the research team to make a formal complaint, please discuss this with your teacher or parent who have been given the details to be able to do this.

Will information from or about me from taking part in the study be kept confidential?

The answers you give for the questionnaires will be kept securely and will be confidential and anonymous (so that nobody can tell which answers are yours). The data will be kept for 5 years as is required by Canterbury Christ Church University for any research projects. Only those authorised to look at data (the researcher and supervisors) will have access to the questionnaire answers. The researcher hopes to get this study published in a psychology journal but all identifying details of schools and pupils will remain anonymous.

What will happen to the results of the research study?
The results will be submitted for publication in a journal for other psychologists and professions to see. Both the school name and all children's names will not be included in this publication. Your school will also be sent an overall summary of the results of the study as well as the results from their school but no children's names will be included in this and it will not be possible to tell who gave which answers.

Who is organising and funding the research?
Canterbury Christ Church University.

Who has reviewed the study?
This study has been reviewed and given favourable opinion by The Salomons Ethics Panel, Salomons Centre for Applied Psychology, Canterbury Christ Church University.

Appendix H. Participant consent form on Qualtrics (2017)

Before continuing please read the information sheet on the previous page.

If you have any questions, please put your hand up and we will come and talk to you.

Please do not speak to anyone next to you or use your phone during this study, even though this is not a test, it is important to us that you answer this on your own.

When you have read the information sheet, please click on next to continue.

Once you have read all of the information sheet and if you are happy to continue with the study, the please fill in the following.

Please read and click each box to show you are happy to take part in this study:

1. I have read and understand the information sheet for this study. I have had the chance to think about the study, ask questions and have had these answered.

2. I understand that I have chosen to take part in this study but do not have to take part if I do not want to and I understand that I can stop taking part in the study at any time without giving any reason.

I understand that the answers I give will be used within the study but will be made anonymous so that nobody will be able to tell which answers I personally gave.

I agree to take part in this study.

If you agree to all the above statements, then please click next. If you do not agree to take part then please let me or your teacher know now so that we can give you a different activity to complete quietly.

Appendix I. Debrief information

Debrief

Thank you for taking part in this study on cyberbullying. Remember, there were no right or wrong answers! We were just interested in your opinion and your answers will help us understand more about online bullying. We were interested in how possible it feels for adolescents to intervene when they notice someone else being bullied and other potential things that might affect that.

Once I have analysed the data, I will come back to the school to explain more about what was found from the study. This research hopes to build on anti-bullying interventions to help people feel more able to stand up to bullying when they see it.

You may know of other children in the school who will also take part in this study. We kindly ask you to wait to talk to them about the study until after they have taken part. This is to make sure that their answers are not influenced by any discussions they have with you beforehand. Thank you.

It may be that some of you have had similar experiences to what you read in today's study and I would encourage you to let either your parents, guardians or teacher know if this is something that has brought up any worries for you. You can also get in touch with the following online services for more information and support:

- **Bullying.co.uk**: http://www.bullying.co.uk/
- **Childline:** https://www.childline.org.uk/info-advice/bullying-abuse-safety/types-bullying/
- **Anti-bullying Alliance:** https://www.anti-bullyingalliance.org.uk/
- **Internet Matters.org:** https://www.internetmatters.org/issues/cyberbullying/?gclid=CJPN0bfomtQCFQIcGwodI60COw

Please do let me know today if you would like to ask me any further questions about the study, have any concerns , feel upset from the study or would like to give me any feedback. However, if you were to tell me about any personal experiences of bullying or I was concerned about your safety or anyone else's, I would need to share this with your teacher so that they can help support you with any difficult experiences. Once again, thank you for taking part in the research and if you have any questions please ask your parent/guardian/carer/teacher to get in contact.

Many thanks, Yasmin

Appendix J. Basic demographic questions on Qualtrics (2017)

Project title: Adolescent bystanders and cyberbullying: what influences their decision to intervene?

IMPORTANT – please do not type your name anywhere throughout this study. Instead, fill out the information below.

Today's date: ……

Your initials (for example, Yasmin Mackay is YM)**:** ……………………………………………………………..

Your birthday as Day/Month/Year (for example, 2nd February 1989 is 02/02/1989)…………………………

Please enter your age in years (e.g. If you are 14 years old please write 14):………………………………

Your gender (please select one):   Male   Female   Other/Non-binary

School code (please ask the researcher if you are not sure what this is):………………………………………

Have you got someone sat with you to help you to complete this study today? Yes/No

What is your Race/Ethnicity? (Please select one that you think best describes you):

White:	Black:	Asian:	Dual Heritage:	Other ethnicity:
White British White Irish Eastern European Traveller of Irish heritage Gypsy/Roma White Other	Black African Black British Black Caribbean Black Other	Bangladeshi Indian Pakistani Sri Lankan Asian Other	White & Black Caribbean White & Black African White & Black British White & Asian Black & Asian Mixed Other	Other

Were you born in the UK?   Yes   No

If you clicked 'No' to the above question (and you were born abroad) please write which country you were born in below (e.g. Germany):..

Some people were born outside of the United Kingdom but feel they are completely British. Also, some people who live in the United Kingdom do not feel British at all. We would like to know how much you identify as being British (whether you were born in the United Kingdom or not).

How British do you feel? (Please select a number below to show your answer)

1	2	3	4	5
I do not feel British at all	I mostly do not feel British	I feel half British	I feel mostly British	I feel completely British

How regularly do you use Facebook?

1	2	3	4	5
I have never used it	I use it a few times every year	I use it a few times every month	I use it a few times every week	I use it every day

How regularly do you use social media?

1	2	3	4	5
I have never used it	I use it a few times every year	I use it a few times every month	I use it a few times every week	I use it every day

Intergroup contact measures, cross-group friendship and extended contact scales (Based on Turner, Hewstone, Voci & Vonofakou's, 2008)

Instructions: Please select one number which represents your answer under each question.

"How many friends do you have at school who are not British?"

1	2	3	4	5
none	one	two to five	five to ten	over Ten

"How often do you spend time with non-British friends when you are at school?"

1	2	3	4	5
Never	occasionally	sometimes	quite a lot	all the time

Scoring: Higher scores reflect greater experience of cross-group friendships.

Extended contact:

Instructions: Please select one number which represents your answer under each question.

"How many British people do you know who have friends who are not British?"

1	2	3	4	5
None	a few	about half	more than half	most

"How many of your British neighbours do you think have friends who are not British?"

1	2	3	4	5
None	one	two to five	five to ten	over ten

"How many of your British friends have friends who are not British?"

1	2	3	4	5

None   one   two to five   five to ten   over ten

"How many of your very best British friends have friends who are not British?"

   1   2   3   4   5

None   one   two to five   five to ten   over ten

"How many members of your family (including parents, brothers and sisters, cousins, etc.) have friends who are not British?"

   1   2   3   4   5

None   one   two to five   five to ten   over ten

Scoring: Higher scores reflected more experience of extended contact.

Appendix K. Basic Empathy Scale

Joliffe and Farrington (2006).

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Appendix L. Self-Efficacy questionnaire for children (SEQ-C)

Muris (2001)

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Appendix M. Bystander behaviour and state self-efficacy measures

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Appendix N. State Empathy Scale

Batson, Sager, et al (1997); Tarrant, Dazeley, and Cottom (2009)

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Appendix O. Distribution tables/graphs

Table 1. *Descriptive statistics*

	N	Minimum-Maximum	M	SD	Skewness		Kurtosis	
					Statistic	SE	Statistic	SE
Prosocial cyber-bystander intentions	128	5.00-27.00	17.55	5.06	-.40	.21	-.22	.43
Trait self-efficacy	128	41.00-106.00	75.80	13.35	-.05	.21	-.11	.43
Trait empathy	128	34.00-81.00	59.14	9.81	-.49	.21	-.24	.43
State self-efficacy	128	7.00-42.00	26.58	7.07	-.02	.21	-.37	.43
Trait self-efficacy	128	5.00-54.00	31.79	11.80	-.42	.21	-.17	.43

Table 2. *Tests of normality*

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Prosocial cyber-bystander intentions	.09	128	.01*	.97	128	.01*
Trait self-efficacy	.05	128	.20	.99	128	.82
Trait empathy	.09	128	.01*	.97	128	.01*
State self-efficacy	.08	128	.06	.99	128	.21
State empathy	.10	128	.00***	.97	128	.01*

[a]Lilliefors Significance Correction

*significant at p<.05

**significant at p<.01

**significant at p<.005

Table 3. *Test of homogeneity of variance*

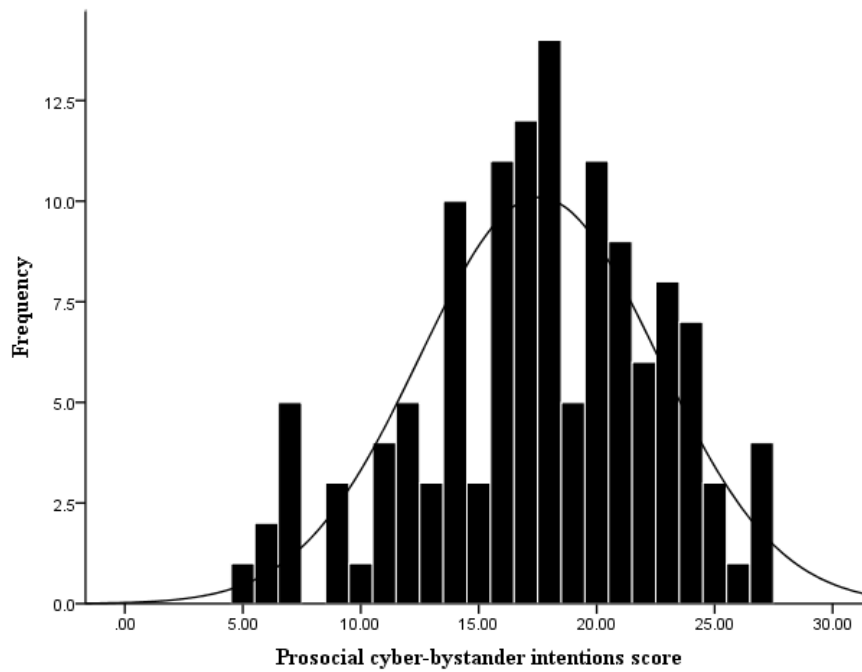|	Levene Statistic	df1	df2	Sig.
Prosocial cyber-bystander intentions	.03	1	126	.87
Trait self-efficacy	.12	1	126	.73
Trait empathy	.62	1	126	.43
State self-efficacy	.78	1	126	.38
State empathy	3.68	1	126	.06

Figure 1. Distribution for prosocial cyber-bystander intentions scores.
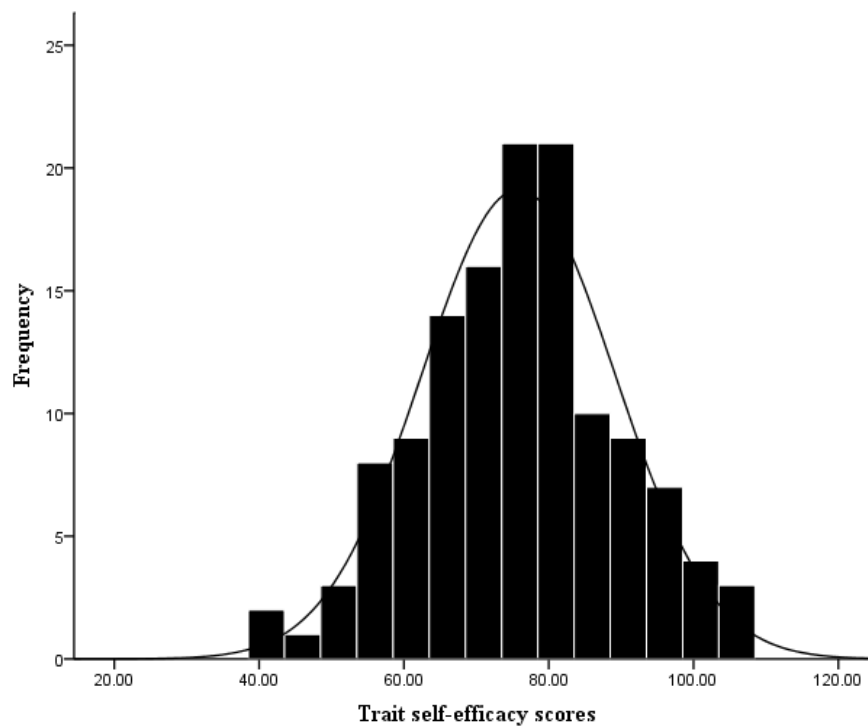

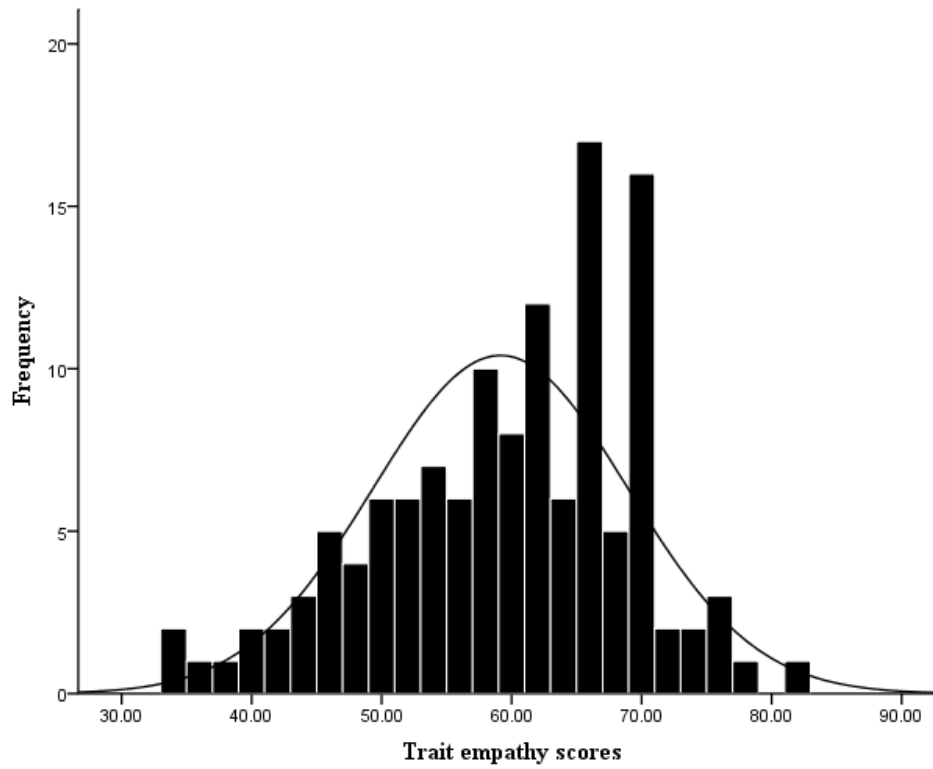*Figure 2.* Distribution of trait self-efficacy scores.

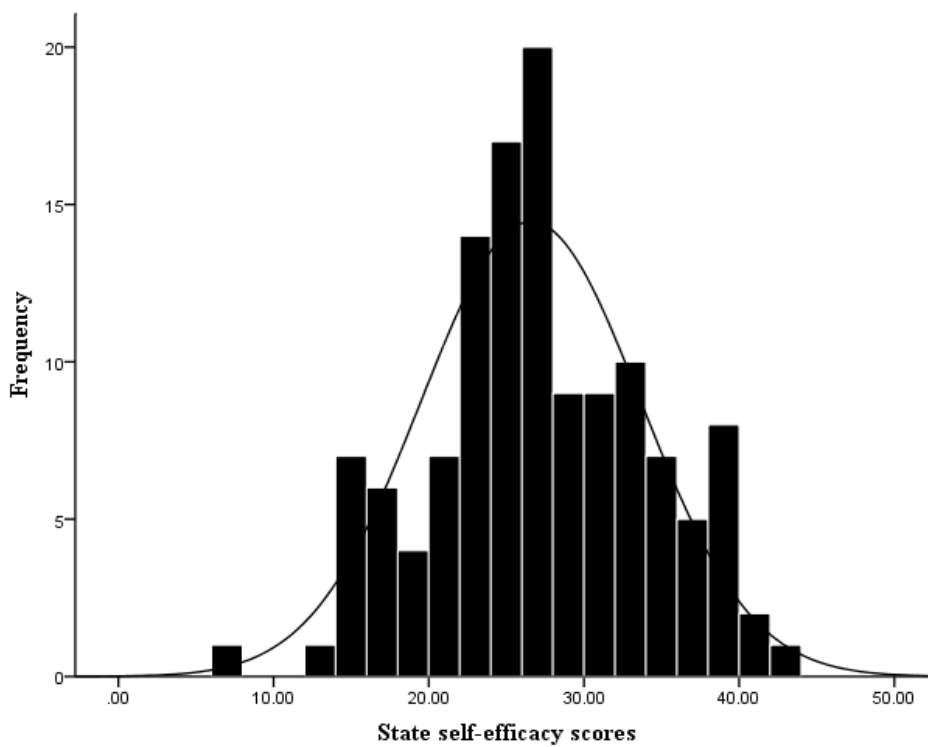*Figure 3.* Distribution of trait empathy scores

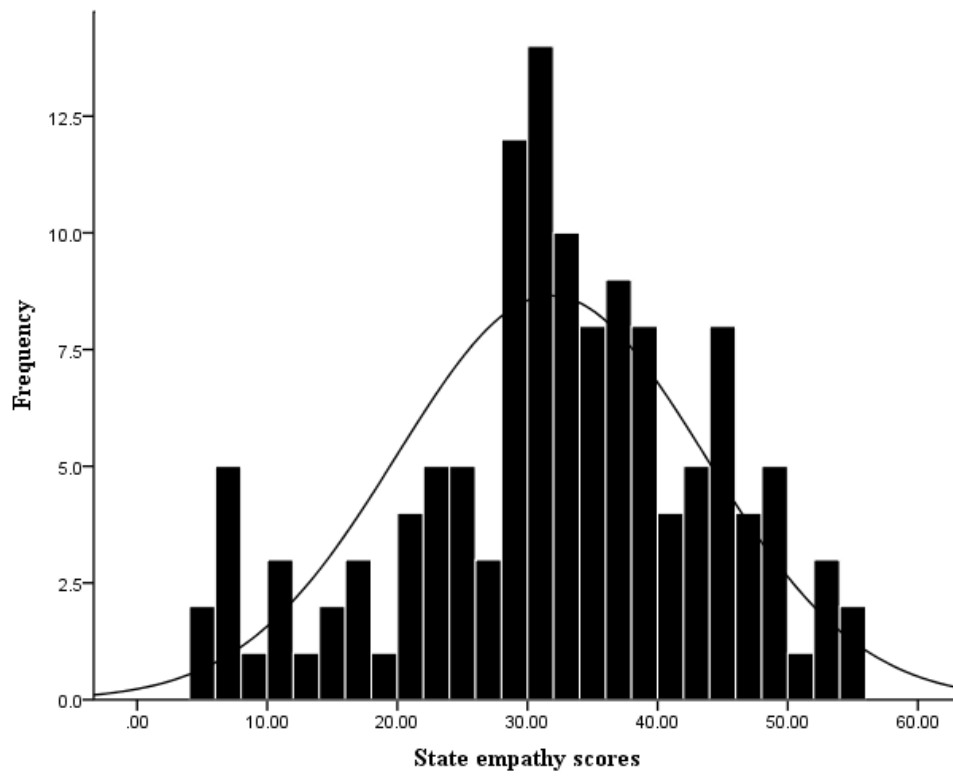*Figure 4.* Distribution of state self-efficacy scores

Figure 5. Distribution of state empathy scores.

Appendix P. Pearson's correlation analysis

Table 4. Correlations (above the diagonal separation are the 'immigrant victim' condition results, below are the 'U.K.-born' condition).

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Age	-	.02	-.23	.23	-.01	.18	.15	.21	.04	.14	.05	-.01	.11	-.03	.13	.03
2. British Identity	-.06	-	-.16	-.15	-.10	-.13	.10	.08	.13	.02	-.20	-.15	-.18	.04	.02	.05
3. Facebook use	.03	-.04	-	.17	.01	.01	**-.34****	-.16	**-.30***	**-.30***	-.15	-.15	-.08	.18	-.19	-.01
4. Social media use	.22	-.12	.07	-	.02	.14	-.21	.02	-.20	**-.27***	-.04	-.03	-.03	.21	.04	-.23
5. Cross-group friendship	-.07	-.18	**.40****	.18	-	**.52****	.22	.19	.22	.10	.01	.02	-.01	.07	-.13	.07
6. Extended contact	.07	-.15	.09	.20	**.52******	-	.14	.19	.05	.10	-.03	-.02	-.03	-.11	.02	.10
7. Trait self-efficacy	**.29***	**-.06**	-.21	**-.33****	-.21	-.09	-	-	-	-	.03	.03	.01	.11	-.01	.02
8. Social self-efficacy	.20	.07	-.02	-.11	.01	-.02	**-**	-	-	-	-.06	-.09	-.00	.15	-.02	-.15
9. Emotional self-efficacy	.15	-.06	**-.26***	-.24	**-.26***	-.09	-	-	-	-	.11	.15	.01	.10	-.80	.04
10. Academic self-efficacy	**.31***	-.20	-.16	**-.40****	-.19	-.08	-	-	-	-	-.01	-.02	.02	.02	.08	.13
11. Trait empathy	-.11	.12	.05	**-.26***	-.22	-.15	-.20	-.25	.05	-.07	-	**-**	-	.08	**-.28***	-.09
12. Affective empathy	-.02	.11	.07	-.22	-.20	-.13	-.02	-.10	.10	-.07	-	-	-	.10	**-.27***	-.05
13. Cognitive empathy	-.07	.10	.00	-.21	-.18	-.12	-.17	**-.37****	-.05	-.05	-	-	-	.02	-.18	**-.25***
14. State self-efficacy	.18	-.20	.03	.01	.07	-.02	**.48****	**.58****	**.45****	.14	**-.36****	**0.26***	**-.37****	-	-.20	-.05
15. State empathy	**.33***	.05	-.09	-.10	.06	-.17	**.35****	**.33***	.12	**.39****	**-.26***	-.22	-.22	.17	-	.20
16. Prosocial intention	.11	-.11	-.04	-.20	-.08	-.29*	**.42*****	**.41*****	.13	**.46*****	**-.27***	-.18	**-.29***	**.31****	**.45*****	-

* significant at the p <.05 level

**significant at the p < .01 level

*** significant at the p< .005 level

****significant at the p< .001 level

Appendix Q. Journal of adolescence guide for authors

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