

TEACHERS' PERCEPTIONS TOWARDS CYBERBULLYING

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Perceptions and responses towards cyberbullying: A systematic review of teachers in the
education system

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Abstract

The rise and availability of digital technologies for young people have presented additional challenges for teachers in the school environment. One such challenge is cyberbullying, an escalating concern, associated with wide-reaching negative consequences for those involved and the surrounding community. The present systematic review explored teachers' perceptions and responses towards cyberbullying in the education system. Once the search strategy was applied across the six databases, 20 studies fulfilled the inclusion criteria for the current review. The studies were reviewed and examined for common themes. Five themes were identified: (a) Cyberbullying characteristics and student involvement, (b) Cyberbullying training and guidance for teachers, (c) School commitment and strategies to manage cyberbullying, (d) The impact and extent of cyberbullying prevalence and consequences, and (e) Teachers' confidence and concern towards cyberbullying. The themes are discussed in a narrative synthesis with reference to implications for teachers and for the continued development and review of anti-cyberbullying initiatives.

Keywords: cyberbullying; perceptions; teachers; education; school; systematic review

1. Introduction

1.1 Cyberbullying: Defined

Bullying, a sub-set of aggression, involves a repeated act of intentional aggressive behaviour by a powerful perpetrator, inflicting harm to the victim (Heinemann, 1973; Olweus, 1978). Bullying is often distinguished between two forms: 'traditional' and 'cyber', with the latter established as a definitional term in 2003 by Bill Besley (Bauman & Bellmore, 2015). Relative to bullying, cyberbullying is an intentional aggressive act to inflict psychological harm on another individual, repeatedly, through digital technologies and online mediums (Hinduja & Patchin, 2014). Recognised features of bullying (i.e., repetition, power imbalance, and intent) are also common features of cyberbullying, although the latter can be characterised by anonymity, instant dissemination, and unrestricted scope to target victims (Heirman & Walrave, 2008; Kowalski, Limber, Limber, & Agatston, 2012).

The widespread development of the cyber world through digital technologies and renewal of online communication apps means that pupils of all ages across the education system can be vulnerable to cyberbullying involvement (Livingstone, Haddon, Görzig, & Ólafsson, 2011). Teachers play a pivotal role in the prevention of this international issue, and so their perceptions should be acknowledged at the forefront of any interventions.

1.2 Cyberbullying: Prevalence

Development of anti-cyberbullying strategies requires an awareness of the prevalence and consequences associated with cyberbullying to provide an understanding of the complexities of cyberbullying behaviour (Smith, 2014). Despite this, issues in assessment methods may hinder application of the research to develop such strategies, so an understanding of teachers' perspectives on this issue can guide future research investigations when measuring bullying (Patchin & Hinduja, 2015; Volk, Veenstra, & Espelage, 2017). For example, a meta-analysis across 80 studies identified some reports give an estimate for cyber

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victimisation at 15% and others at 72% (Modecki, Minchin, Harbaugh, Guerra, & Runions, 2014), while perpetration rates have been reported as high as 60.4% (Xiao & Wong, 2013). This variability in reported prevalence has caused misunderstanding amongst teachers on the state of cyberbullying in the school environment. To provide transparency on effective interventions, teachers' perspectives, training needs, and knowledge towards cyberbullying need to be accounted for.

Children have access to technology both within and outside the school environment, with children (8-18 years) spending at least seven hours a week on social media applications (Rideout, Foehr, & Roberts, 2010). As such, children are exposed to online risks and dangers outside of controlled educational settings, so it is essential teachers' perceptions concerning cyberbullying are addressed. The National Society for the Prevention of Cruelty to Children (NSPCC, UK) in 2014/2015, found that children aged 11 and under (25%), adolescents aged 12-15 (9%) and 16-18 (6%) had attended counselling due to cyberbullying involvement, showing that all young people can be vulnerable to cyber-related risks. In 2016/2017, the NSPCC had reported a 12% increase in cyberbullying counselling sessions for young people, compared to the previous year. This demonstrates a growing concern that needs to be addressed within both research and application.

1.3 Importance of teachers

The advancement of technology has allowed schools and teachers to provide positive experiences for children through online materials and engagement in lessons (Byron, 2008; Ertmer & Ottenbreit-Leftwich, 2010). As the internet presents online risks (Soeters & van Schaik, 2006), teachers have a responsibility to supervise children when they use the internet, while promoting awareness of e-safety issues (Patchin & Hinduja, 2006; Popović-Ćitić, Djurić, & Cvetković, 2011). Research has shown that when children do come into contact with online risks, they will adopt positive (i.e., seek help from a peer) or neutral (i.e., ignore

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the situation) coping strategies (Staksrud & Livingstone, 2009). Differences in reported strategies between victims (i.e., problem-solving strategies) and perpetrators (i.e., emotion-focused strategies) have been found (Völlink, Bolman, Dehue, & Jacobs, 2013) and as such, teachers' management of cyberbullying is vital. These strategies exclude adult help (Staksrud & Livingstone, 2009), perhaps due to the fear of disclosure to adults (i.e., technology confiscated, detention, and belief in adults' ability to address the problem) (Agatston, Kowalski, & Limber, 2007; Li, 2006, 2007; Mishna, Saini, & Solomon, 2009; Thomas, 2006). Understanding teachers' management of cyberbullying can help develop new strategies to encourage pupils to disclose information and seek help, which in turn, will contribute to the identification and prevention of further cyberbullying incidents.

Teachers have a key role in the successful implementation of anti-bullying interventions (Biggs, Vernberg, Twemlow, Fonagy, & Dill, 2008; Epstein & Kazmierczak, 2006), with the same being extended to anti-cyberbullying initiatives (Stewart & Fritsch, 2011). Yet, teachers' experience and knowledge of bullying can impact on their preventive strategies to address the issue within the school (Kokko & Pörhölä, 2009; Sakellariou, Carroll, & Houghton, 2012). This accentuates the need for understanding teachers' knowledge towards cyberbullying. Previously, a content analysis across 142 schools in the UK, identified only a small proportion of schools that have actually addressed cyberbullying in their anti-bullying policies (Smith, Smith, Osborn, & Samara, 2008). Such policies are important in the guidance of appropriate behaviour within the school (Von Marées & Petermann, 2012), and as such, schools need to respond to the growing concern (Englander, 2013). Further, as pre-service teachers go through a period of intense teaching, assessment, and learning in preparation to teach as an in-service teacher (Ryan, 2009), their views towards cyberbullying would provide a useful insight into Initial Teacher Training (ITT). The confidence and commitment of teachers can contribute to their awareness and management of

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bullying/cyberbullying incidences (Boulton, 1999; Oldenburg et al., 2015; Olweus, 2003; Schmitz, Hoffman, & Bickford, 2012), so it is important to acknowledge the preparation of ITT for future in-service teachers.

Teachers play a fundamental role in providing continued education to assist students academic goals, while providing social and emotional support to young people. Teachers have a responsibility to provide a strong leadership within the education system, to improve coexistence and emerging issues in the school environment (Epstein & Kazmierczak, 2006). Therefore, teachers have a key role in providing this ongoing education to encourage appropriate behaviours in the school environment. In terms of pre-service teachers, it is important to address ITT as the quality of the training can attenuate or precipitate student academic outcomes, based on teaching quality (Musset, 2010). ITT can provide preparation to address complex issues in the school, consequently having a responsibility to prepare prospective teachers to be more competent when addressing cyberbullying (Musset, 2010). Continued education and training for prospective and current teachers will provide a valuable platform to promote school culture and attitudes, in the hope to reduce cyberbullying situations.

Conceptualisations of bullying can vary across the school level, with intervention during bullying incidents predicted by teachers' beliefs. For example, teachers that had normative views towards bullying were less likely to intervene compared to those that identified with assertive or avoidant beliefs (Kochenderfer-Ladd & Pelletier, 2008). In addition, teachers' attitude and beliefs towards cyberbullying can significantly predict disclosure intentions of students. For example, due to fear of confiscated online privileges and overreaction by teachers, young people perceived they could not seek help from adults (Baas, Jong, & Drossaert, 2013). To work towards tackling and reducing cyberbullying, policy and intervention developers need to collaborate with teachers, in order to recommend

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effective anti-cyberbullying interventions (Spiel, Schober & Strohmeier, 2016). Together, the previous findings highlight the need for a systematic review of teachers' perceptions and beliefs on cyberbullying; no such systematic review currently exists. As noted earlier in the Introduction, the prevalence of cyberbullying involvement is largely inconsistent, and as such, creates difficulty predicting the true extent in the school environment. In a recent review of prevalence studies ($n = 159$), cyberbullying involvement across victimisation and perpetration ranged from 1.5% to 72% in the last year, and 0.5% and 63.4% in the last six months (Brochado, Soares, & Fraga, 2017). However, these variations can partly be attributed to methodological issues within the research (Brochado et al., 2017). This provides further justification for a systematic review of teachers' perceptions to explore for inconsistencies in teachers' knowledge and understanding.

2. Method

2.1 Aims of the study

This review identifies and examines teachers' perceptions towards cyberbullying. Study findings will be reviewed to identify themes. A narrative synthesis across the themes will provide an overview of teachers' conceptualisation and responses towards cyberbullying.

Prior research has largely applied reviews of the literature to explore the impact of cyberbullying and intervention programs (e.g., Cassidy, Faucher, & Jackson, 2013; Couvillon & Ilieva, 2011; Hong & Espelage, 2012; Notar, Padgett, & Roden, 2013). In this case, a systematic review was more preferable compared to a standard literature review because an explicit, objective, and standardised approach was undertaken following a methodological stance (Booth, Sutton, & Papaioannou, 2016). For example, prior to conducting the systematic review, a protocol was registered with PROSPERO (CRD42017057228), to provide explicit information about the design and methodical stance of the review. This provided transparency in the review process, adhering to a structured and registered protocol.

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As such, this systematic review followed prescribed guidelines by the Centre for Reviews and Dissemination (2009). This systematic review addresses emerging knowledge to provide an insight into teachers' perceptions and responses towards cyberbullying in the school environment.

2.2 Search strategy and selection

A review of the literature was conducted to determine appropriate search terms. The following search terms were drawn from the literature and formed the search strategy: ((cyberbullying OR 'cyber bullying' OR 'online bullying' OR 'internet bullying') AND (teachers OR educators OR faculty) AND (perceptions OR attitudes OR beliefs OR conceptualisation OR definitions OR knowledge OR concerns OR response OR prevention OR practices)). The term 'internet harassment' was not used as the aim was to address teachers' perceptions and responses towards *cyberbullying*. Cyberbullying is defined under set criteria, whereas internet harassment, a form of cyber aggression, does not need to meet these established features of cyberbullying. While cyberbullying can also be considered a cyber aggressive act, a cyber aggressive act like internet harassment does not constitute cyberbullying. The search terms were used in combination and consistently from the following electronic databases: PsychINFO, Scopus, Web of Science, ERIC, ScienceDirect and Wiley. An additional search was conducted on Google Scholar for identification of grey literature, which can sometimes be absent from formal electronic databases. Additional searches were also conducted from the references of included articles. The search strategy was conducted between February 2017 – June 2017.

2.3 Inclusion criteria

Papers included in the systematic review had to meet the following inclusion criteria: (i) studies that have been published between 2003-2017 (cyberbullying was recognised as a definitional term in 2003; Bauman & Bellmore, 2015); (ii) English language studies; (iii)

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studies that have been published in peer-reviewed journals; (iv) empirical studies with a quantitative, qualitative, or mixed methods analysis of primary data; and (v) studies that consider perceptions towards cyberbullying from teachers' perspectives, including pre-service (trainee) teachers, teachers of compulsory education (primary/secondary/college), support teachers, school administrators, school counsellors, school management/leadership, and educational psychologists. Following a review of titles and abstracts to assess eligibility for inclusion, full-text articles were then retrieved to assess further eligibility for final inclusion.

3. Results

3.1 Search results

Search records across the search terms were recorded in an in-depth spreadsheet. This provided a systematic approach for the identification of records. A total of 1718 records were identified from the initial search strategy, across PsychINFO (582 records), Scopus (262 records), Web of Science (382 records), ERIC (342 records), ScienceDirect (32 records), Wiley (95 records), and Google Scholar (23 records). Once duplicates (1340 records) were removed, 378 records were eligible for screening. After the initial screening of the 378 records, 69 records were identified for full-text screening to assess eligibility against the inclusion criteria. Against the inclusion criteria, 49 records were excluded. For example, as shown in Figure 1, full-text articles were excluded due to the following reasons: not published in English (2 records), not published in a peer-reviewed journal (24 records), not related to cyberbullying perceptions (11 records), and teachers' perspectives missing (12 records). A total of 20 studies met the inclusion criteria for the systematic review. To enhance identification, references and author publications across the 20 included articles were screened for eligibility. Inclusion remained at 20 records. A flow diagram in Figure 1 illustrates the selection process from identification, screening, eligibility and inclusion.

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The studies identified in Table 1 were conducted in the UK (n = 3) (Betts & Spenser, 2015; Boulton et al., 2014; Monks, Mahdavi, & Rix 2016), USA (n = 3) (Pelfrey & Weber, 2015; Stauffer et al., 2012; Styron et al., 2016) and Canada (n = 3) (Cassidy, Brown, & Jackson, 2012; Li, 2008; Ryan, Kariuki, & Yilmaz, 2011). The other studies identified represented Australia (n = 2) (Barnes et al., 2012; Compton, Campbell, & Mergler, 2014), Turkey (n = 2) (Sezer, Yilmaz, & Yilmaz, 2015; Yilmaz, 2010) and Belgium (n = 2) (DeSmet et al., 2015; Vandebosch, Poels, & Deboutte, 2014), with one study each representing Lithuania (Baraldsnes, 2015), Israel (Eden, Heiman, & Olenik-Shemesh, 2013), New Zealand (Green et al., 2016), Taiwan (Republic of China) (Huang & Chou, 2013), and Northern Ireland and the Republic of Ireland (Purdy & Mc Guckin, 2015). Thirteen of the twenty studies utilised a survey methodology, with four taking a qualitative approach through focus groups (Betts & Spenser, 2015; Compton, Campbell, & Mergler, 2014; Monks, Mahdavi, & Rix, 2016) or interviews (Pelfrey & Weber, 2015). Three studies utilised a mixed methods approach, with a combination of focus groups and surveys (Purdy & Mc Guckin, 2015), interviews and closed questions (Cassidy, Brown, & Jackson, 2012), or surveys and open questions (Stauffer et al., 2012).

Cross-cultural differences in bullying and cyberbullying are notable, so can have an impact on how the issue is measured, perceived and responded to. For example, cross-cultural differences in cyberbullying involvement have been found across six European countries (Schultze-Krumbholz et al., 2015). In addition, cross-cultural differences have been reported from the EU Kids Online survey, with cyberbullying prevalence estimates between 2-14% across 25 countries (Livingstone et al., 2011). In terms of pre-service teachers, different teacher training programs in different countries could explain variability in reported confidence and awareness to identify and manage cyberbullying. For example, different countries will have different challenges, so ITT courses will vary depending on financial

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factors and teacher shortage or surplus, meaning some prospective teachers will be fast-tracked into the education system, without adequate preparation and training to address cyberbullying (Musset, 2010). This variability could extend into teachers' perceptions and responses towards cyberbullying, so a synthesis across these identified studies will provide a clearer insight due to the international nature of the many studies.

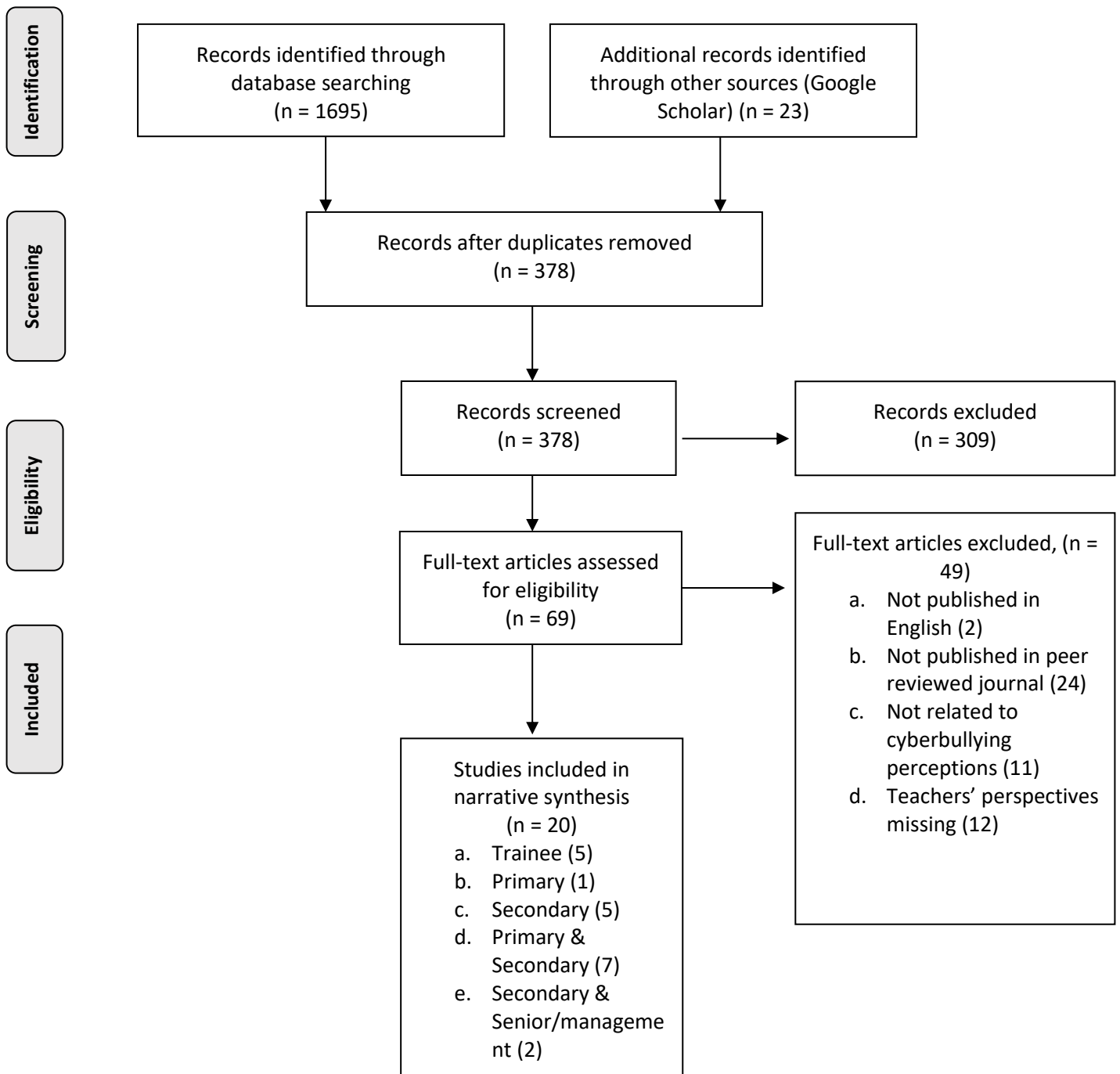


Figure 1: A flow diagram of the systematic review selection process.

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Table 1: The study characteristics and main findings of the included studies

Study	Sample	Design	Main Findings
Baraldsnes (2015)	1062 teachers (92.7% female). Teachers (34.9% - 41-50 years). Origin: Lithuania	Quantitative; online survey.	<ul style="list-style-type: none"> • Cyberbullying occurrence through mediums of mobile phones and internet sources. • Disagreement and inconsistencies across teachers' belief towards cyberbullying mediums. • Strategies to address cyberbullying to focus on self-esteem and positive school culture were highly endorsed by teachers.
Barnes, Cross, Lester, Hearn, Epstein, and Monks (2012)	453 primary and secondary teachers (66.3% female) across 106 schools (55 primary). Secondary teachers (52%; 234). Origin: Australia.	Quantitative; paper survey; developed by lead author with modifications of Peer Relations Assessment Survey (Rigby, 1997).	<ul style="list-style-type: none"> • Responsibility to address cyberbullying incidents. • Lack of effective intervention strategies in the school. • Further training to manage cyberbullying needed.
Betts, and Spenser (2015)	14 secondary school teachers (two focus groups). Focus group one: eight teachers (six female), aged between 22-61 years. Focus group two: six teachers (three female),	Qualitative; focus groups; Interpretative Phenomenological Analysis.	<ul style="list-style-type: none"> • Digital technology has an impact on students online behaviour and school policies. • Lack of cyberbullying disclosure across young people. • Difficulty addressing cyberbullying incidents beyond the school gates.

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aged between 38-52 years. Origin: UK.

Boulton, Hardcastle, Down, Fowles, and Simmonds (2014)

222 pre-service teachers (68.5% female), with an age range between 18-54 (M=27.1). Origin: UK

Quantitative; paper survey; Original survey (Craig et al., 2000), modified by Yoon and Kerber (2003) and Bauman and Del Rio (2006) – introduction of cyberbullying vignettes.

- Cyberbullying response intervention similar to verbal bullying.
- Cyberbullying severity and belief to cope predicted intervention.

Cassidy, Brown, and Jackson (2012)

17 secondary school teachers across two secondary schools. Origin: Canada.

Qualitative; interviews (16 semi-structured open questions); quantitative; three closed Likert style questions.

- Limited cyberbullying awareness within the school.
- Cyberbullying recognised to be problematic.
- Limited understanding on prevention strategies.

Compton, Campbell, and Mergler (2014)

11 teachers (seven male). Aged range: 25-60 across 3-31 years teaching experience. Origin: Australia.

Qualitative; focus groups.

- Limited knowledge of cyberbullying characteristics.
- Perceived motivations for cyberbullying perpetration (anonymity; power/status; fun/boredom).

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DeSmet et al. (2015)	451 educators (66.2% female) across 147 schools. Teachers (272; 60.9%), school counsellors (50; 11.2%), principals (57; 12.8%) and combination roles (68; 15.2%). Origin: Belgium.	Quantitative; online survey; based on Handling Bullying Questionnaire (Bauman, Rigby, Hoppa, 2008).	<ul style="list-style-type: none"> • Recommended strategies endorsed to address cyberbullying (i.e., professional support & pupil discussion). • Four educator clusters identified; referrers (65%), disengaged (14%), concerned (12%), and use of all means (9%).
Eden, Heiman, and Olenik-Shemesh (2013)	328 teachers (88.4% female). High (151; 45.3%), middle (67; 20.7%) and elementary (110; 34%) schools. Aged between 22-63 years (M=37.9; SD 9.80). Origin: Israel	Quantitative; online survey; adapted version of School Cyberbullying for preservice teachers (Li, 2008).	<ul style="list-style-type: none"> • Further training to enhance awareness and knowledge across teachers. • Provisions to provide preventive and coping strategies for parents are needed. • Urgent attention to address school policies.
Green, Johnston, Mattioni, Prior, Harcourt, and Lynch (2016)	888 staff members (51% school managers). 68% female educators. Most respondents taught at primary level (49%). Origin: New Zealand.	Quantitative; online survey based and adapted on Cross et al., (2009), Li, (2008), and Rigby (1997).	<ul style="list-style-type: none"> • Traditional bullying is more serious, although cyberbullying can be more problematic across girls. • There is a high level of concern amongst teachers regarding cyberbullying. • Further action needs to be implemented to prevent cyberbullying.

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Huang, and Chou (2013)	2781 teachers (54.9% male). High (310; 11.1%), middle (976; 35.1%) and elementary schools (1490; 53.6%). Majority of teachers (75%) had between 6-20 years' experience. Origin: Taiwan.	Quantitative; postal survey; adapted version of Huang and Chou (2010) student survey.	<ul style="list-style-type: none"> • Instant messaging was the most commonly used communication tool. • Embarrassing pictures/videos considered a prevalent issue. • Administrative responsibilities impacted awareness of cyberbullying incidents. • Lack of confidence in preventive strategies.
Li (2008)	Convenience sample. 154 pre-service teachers (76.2% female). Origin: Canada.	Quantitative; paper survey developed by lead author (Li, 2008).	<ul style="list-style-type: none"> • High level of concern towards negative consequences on pupils. • Low level of confidence to manage incidents. • University teacher training did not prepare for cyberbullying.
Monks, Mahdavi, and Rix (2016)	20 teachers (80.95%: 17 female). Teachers aged between 26-35 years old, with 45% (9) having 5-10 years teaching experience. Origin: UK	Qualitative; focus groups; thematic analysis.	<ul style="list-style-type: none"> • Good understanding of cyberbullying forms and mediums. • Cyberbullying evolved due to digital literacy, access to technology and group pressure. • Supervision strategies in school highly endorsed.
Pelfrey and Weber (2015)	One school staff focus group and four school staff interviews. Origin: USA	Qualitative; focus group; interviews; grounded	<ul style="list-style-type: none"> • Further training needed for teachers to address preventive strategies.

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		theory.	<ul style="list-style-type: none"> • Educating cyberbullying consequences to pupils perceived as effective. • Cyberbullying involvement due to limited security/privacy settings.
Purdy, and McGuckin (2015)	<p>Qualitative: 14 head teachers and senior teachers across primary and post-primary schools.</p> <p>Quantitative: Head teachers and senior management from primary (34: 43%) and post-primary (45: 57%), across Northern Ireland. Primary (33: 51.6%) and post-primary (31: 48.4%) head teachers and senior management from the Republic of Ireland. The primary teachers represented 46.9% of the sample. Origin: Republic and Northern Ireland.</p>	<p>Qualitative; focus groups; quantitative; postal questionnaire; based on McGuckin and Lewis, (2008).</p>	<ul style="list-style-type: none"> • Guidance and support are needed to promote understanding and awareness of cyberbullying. • Uncertainty on teachers legal responsibility to address cyberbullying. • Support sought through local schools compared to recommended strategies.
Ryan, Kariuki, and Yilmaz (2011)	<p>241 pre-service teachers (60% female). Origin: Canada.</p>	<p>Quantitative; online survey; adapted version of Li's (2006) cyberbullying survey.</p>	<ul style="list-style-type: none"> • Low level of confidence in the identification and management of cyberbullying, although addressed as a serious issue. • Educating pupils on the consequences of cyberbullying endorsed as an effective strategy.

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Sezer, Yilmaz, and Yilmaz (2015)	184 teachers, with 106 (57.6%) female. Technology teachers (36; 19.5%), classroom teachers (62; 33.7%), guidance teachers (38; 20.6%) and branch teachers (48; 26.2%). Origin: Turkey.	Quantitative; online survey; Sensibility Scale on Cyber Bullying” by Tanrikulu et al., (2013).	<ul style="list-style-type: none"> • Pre-service teachers are unprepared to address cyberbullying.
Stauffer, Heath, Coyne, and Ferrin (2012)	66 teachers (59% male). Average teaching experience; 15.5 years (SD=9.27). Origin: USA.	Quantitative & qualitative; online survey; open responses.	<ul style="list-style-type: none"> • Cyberbullying awareness varied across teachers. • Frequency of internet use impacted awareness of cyberbullying, with higher internet frequency linked with higher cyberbullying awareness.
Styron, Bonner, Styron, Bridgeforth, and Martin (2016)	120 pre-service teachers (90% female), aged between 17-62. Majority of participants (47.5%) were aged between 20-24. Origin: USA.	Quantitative; online survey; modified version of the Cyber Savvy Survey (Willard, 2012).	<ul style="list-style-type: none"> • Cyberbullying does not lead to negative consequences for the pupil. • Formal prevention strategies are not effective. • Educating the consequences of cyberbullying to pupils was highly endorsed as effective.
			<ul style="list-style-type: none"> • Good awareness and knowledge of cyberbullying types and mediums. • Teachers were aware of the negative impact and consequences of cyberbullying on pupils. • Lack of understanding on appropriate prevention strategies.

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Vandebosch, Poels, and Deboutte (2014)	309 primary and secondary school teachers. Principals (72.2%), teachers (10%), IT staff (4.9%), and other (12.9%). Origin: Belgium.	Quantitative; online survey; inspired by research (Baker, 2010; Samara & Smith, 2008; Sharples et al, 2009).	<ul style="list-style-type: none">• Educating pupils on the extent of cyberbullying an effective solution.• Although strategies are implemented, the effectiveness and usefulness of these were unknown.• Recognise cyberbullying to be a problem, although uncertainty amongst teachers.
Yilmaz (2010)	163 pre-service teachers (88 females; 54%). Origin: Turkey	Quantitative; online survey; adapted version of School Cyberbullying for preservice teachers (Li, 2008).	<ul style="list-style-type: none">• Understand the negative consequences and impact on the pupil.• Good awareness of cyberbullying and understanding of school commitment to address the issue.• Agreement to implement further cyberbullying training and guidance.

3.2 Identified themes

Extending on principles of thematic analysis (Braun & Clarke, 2006) and following procedures of thematic synthesis (Thomas & Harden, 2008) which has been applied to systematic reviews previously (Ohly et al., 2016), the current review applied these methods to generate the identified themes. In each identified article, the findings were organised to provide initial patterns to compare across each study. The coding of the findings was collated and refined into themes to represent common patterns across the included studies (Thomas & Harden, 2008). This provided a platform to synthesize the findings across each theme. Five themes were identified, which include: (a) Cyberbullying characteristics and student involvement, (b) Cyberbullying training and guidance for teachers, (c) School commitment and strategies to manage cyberbullying, (d) The impact and extent of cyberbullying prevalence and consequences, and (e) Teachers' confidence and concern towards cyberbullying. The aforementioned themes are presented in Table 2, illustrating the presence of each theme across the included articles.

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Table 2: A summary table showing the included articles and the themes present, marked X.

	Cyberbullying characteristics and student involvement	Cyberbullying training and guidance for teachers	School commitment and strategies to manage cyberbullying	The impact and extent of cyberbullying prevalence and consequences	Teachers' confidence and concern towards cyberbullying
Baraldsnes (2015)			X	X	
Barnes et al. (2012)	X	X	X		X
Betts and Spenser (2015)	X			X	
Boulton et al. (2014)			X		
Cassidy et al. (2012)			X		X
Compton et al. (2014)	X				
DeSmet et al. (2015)			X		X

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Eden et al. (2013)		X				X
Green et al. (2016)		X				X
Huang and Chou (2013)	X		X			
Li (2008)		X			X	X
Monks et al. (2016)	X				X	
Pelfrey and Weber (2015)			X			
Purdy and Mc Guckin (2015)		X			X	
Ryan et al. (2011)		X	X		X	X
Sezer et al. (2015)					X	
Stauffer et al. (2012)			X		X	

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Styron et al. (2016)	X	X		
Vandebosch et al. (2014)		X	X	
Yilmaz (2010)	X	X	X	X

4. Synthesis and Discussion

The systematic review identified 20 articles that considered teachers' perceptions and responses towards cyberbullying in the education system, 5 of which examined pre-service teachers. This synthesis and discussion will draw on key issues across the identified themes to provide a better understanding of the perspectives of teachers towards cyberbullying.

4.1 Cyberbullying characteristics and student involvement.

This theme explores the role of students in cyberbullying and how it is particularly important in gaining a working definition of the problem. Reflecting on the characteristics of cyberbullying, teachers recognised it was bullying through the use of digital technologies. While teachers recognised the criteria of intent, no evidence was found to suggest they were aware of power imbalance, repetition, or unique facets of cyberbullying, such as anonymity and accessibility (Compton et al., 2014). The definitional issues applying these criteria to cyberbullying can help explain the discrepancy in teachers' views (Smith, 2015). For example, while posting a malicious comment in a public online space could be considered a one-off incident, it is the repeated exposure to the targeted victim as the distribution escalates as the bystanders to the incident grow (Dooley, Pyżalski, & Cross, 2009; Kiriakidis & Kavoura, 2010). Evidence of power imbalance has traditionally been portrayed through social status or physical strength, a characteristic removed in the online environment. Despite this, the possibility to remain anonymous online provide opportunities for bullies to target their victims without the compromise of being identified (Smith, 2015; Thomas, Connor, & Scott, 2015). Exploring anonymity, teachers' (81.7%) perceived that most bullies would conceal their identity online, which creates difficulty in the identification of these behaviours (Huang & Chou, 2013). On the one hand, this holds true as bullies use anonymity as an opportunity to target individuals, actions that wouldn't necessarily be equivalent to their physical world interactions. By concealing one's identity, bullies feel empowered to engage in cyberbullying

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without any immediate physical world consequences (Mishna, Schwan, Lefebvre, Bhole, & Johnston, 2014). On the other hand, it is likely cyber victims are aware of their cyber bully, attributed to the close proximity of school environments with conflicting peer group friendships (Li, 2007; Slonje, & Smith, 2008), with victims experiencing increased impact when the identity of their bully is known (Bryce, & Fraser, 2013). This suggests efforts to reinforce a positive school culture and effective disclosure procedures should be at the forefront of intervention initiatives within the education system.

While young people are vulnerable to a variety of cyberbullying behaviours (Livingstone et al., 2011), teachers identified teasing (80.7%), harassment (70.7%), rumour-circulation (66.3%), and circulating embarrassing pictures or videos (51.9%), as key concerns in the school environment (Huang & Chou, 2013). Although identified by a smaller proportion of teachers, embarrassing photos or videos was perceived to be the most prevalent type of cyberbullying, with rumour-circulation the least prevalent issue among young people. While this may suggest teachers have a good awareness concerning different types of cyberbullying within the school, it is important to note this is not generalisable for all teachers' perspectives. Teaching experience has been closely related to cyberbullying identification (Barnes et al., 2012), and so future investigations should examine the influence of peer-mentoring between experienced teachers and prospective candidates.

Turning now to disclosure intentions, while more than half of the teachers' (53.3%) perceived students would not disclose their involvement, 60.7% recognised bystanders would disclose cyberbullying to a teacher or adult (Huang & Chou, 2013). The lack of evidence and confidence in the teachers' ability to manage cyberbullying were the perceived reasons from teachers as to why young people choose not to disclose (Betts & Spenser, 2015). Therefore, strategies to encourage disclosure in the school environment, with a particular focus on bystanders, should be at the centre of their anti-bullying initiatives. However, it could be that

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teachers are overestimating the positive role of bystanders in the school environment. While positive responses are attributed to help-seeking behaviour, bystanders can also react negatively by supporting the bully or ignoring the incident, precipitating the negative impact of cyberbullying on those involved (Pöyhönen, Juvonen, & Salmivalli, 2012). While bystanders to cyberbullying may act to respond positively due to the anonymity and increased control in the online environment, the lack of authority figures may encourage less help-seeking behaviour (Patterson, Allan, & Cross, 2016; Wong-Lo & Bullock, 2014). As such, efforts to highlight the positive role of bystanders in the online domain may act to encourage cyberbullying disclosure through increased awareness and understanding of appropriate reporting systems. In addition, future investigations should examine the influences of prosocial bystander behaviour, to inform recommendations within the school to encourage help-seeking intentions.

Young people have increased access to the online environment, which makes them vulnerable to online risks such as cyberbullying (Monks et al., 2016). Exploring perpetration motives, teachers identified young siblings are more likely to engage in cyberbullying behaviours, due to the increased access at home (Monks et al., 2016). In addition, social status or power in peer groups and the unique facet of anonymity online were key features identified behind perpetration motives (Compton et al., 2014). Anonymity can increase cyberbullying frequency (Barlett, 2015), as bullies are inhibited from any immediate consequences, so strategies to keep young people safe online is recommended. For example, use of a cross-age teaching intervention was found to elicit positive effects to increase children's e-safety knowledge (Boulton et al., 2016).

4.2 Cyberbullying training and guidance for teachers

In relation to ITT programs, 50-60% of pre-service teachers' believed their program did not prepare them to manage cyberbullying in the school environment (Ryan et al., 2011).

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This reflects previous findings, with 82% (Li, 2008) and 51.5% (Yilmaz, 2010) of pre-service teachers' expressing a lack of training from their ITT. This suggests these teachers are unprepared to address cyberbullying, which impacts on their ability to manage bullying related issues as an in-service teacher (Oldenburg et al., 2015; Olweus, 2003). In particular, reflecting on the guidance offered, ITT programs only offer moderate guidance addressing different forms of cyberbullying (Styron et al., 2016). In contrast, many pre-service teachers highly endorsed the need for specific training on cyberbullying. For example, pre-service teachers had a desire to learn more on cyberbullying from their ITT program, with 45% (Li, 2008), 79.1% (Yilmaz, 2010), and 68.1% (Styron et al., 2016) wanting to learn more. While pre-service teachers recognise a lack of training and guidance from ITT, they held positive views on the importance of such training. This suggests ITT programs need to review the guidance associated with cyberbullying and collaborate with in-service teachers to continually update and offer relevant training to address cyberbullying in the school environment. ITT courses need to implement cyberbullying specific curriculum to ensure pre-service teachers' understand the detrimental consequences associated with cyberbullying, and to provide fundamental knowledge to handle the issue in the school environment. For example, one such strategy is to incorporate cyberbullying discussions and conferences for prospective teachers to provide a platform to share experiences and knowledge.

Reflecting on ITT programs, in-service teachers agreed (65%) or strongly agreed (68%) that teacher preparation programs need to do more to address cyberbullying (Eden et al., 2013). This suggests ITT course administrators need to collaborate with current teachers in the education system to gain an insight into current cyberbullying issues and concerns. Addressing training offered to current teachers in the education system, in a sample of 888, 50% had attended an anti-cyberbullying training program, where senior managers (66%) had attended more cyberbullying training events compared to only a third of teachers (Green et

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al., 2017). Those that had received training were more likely to take a greater responsibility to manage cyberbullying, to help young people stay safe. Implications of this suggest schools should provide training and guidance to all members of staff, in the hope to increase the identification and prevention of cyberbullying in the classroom and wider school setting. As teacher attitudes in the classroom can impact on bullying frequency (Saarento et al., 2013), additional training provided to teachers may help to change their perspectives on the issue. Considering teachers' desire for training, a large majority (91.5%) indicated a need for additional guidance, which is needed across all members of the teaching staff (Purdy & Mc Guckin, 2015). Despite this, training can be time-consuming, difficult to administer, and hinder additional financial costs on the school (Purdy & Mc Guckin, 2015). This suggests schools should review their current guidance and support for teachers to provide adequate training to help increase teachers' knowledge and understanding of cyberbullying.

4.3 School commitment and strategies to manage cyberbullying

Related to the teachers need for guidance and training, school commitment to managing cyberbullying is important in providing the right infrastructure for teachers to be able to tackle the issue. In terms of pre-service teachers, 75.3% (Li, 2008), 90.2% (Yilmaz, 2010), and 91%/90% of Canadian/Turkish teachers' (Ryan et al., 2011) perceived implementing school policies would be an effective strategy to tackle cyberbullying. Despite this, while others perceive cyber-specific (24.2%) and bullying policies (20%) could be effective, 40.8% perceived a zero-tolerance policy can help manage cyberbullying related issues (Stryon et al., 2016). While in line with the Department for Education: "Schools should apply disciplinary measures to pupils who bully in order to show clearly that their behaviour is wrong" (England: DfE, 2017, p.13), it is recommended schools and teachers establish standalone guidelines to manage cyberbullying, to explore its complexity (Dooley et al., 2009). For example, this suggests teachers need to work more closely to create a clear and

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distinctive policy in the school environment which addresses cyberbullying incidents, while promoting a shared responsibility to address cyberbullying across different ecological levels including the family, peers, school and wider community (Cross et al., 2015).

Pre-service teachers (91.4%) also endorsed implementing cyberbullying awareness and education into the curriculum (Yilmaz, 2010), further supported by Canadian (59%) and Turkish (91%) teachers (Ryan et al., 2011). On the other hand, addressing cyberbullying on a situation basis was identified to be least effective (Stryon et al., 2016), suggesting fundamental guidelines and procedures need to be provided to all teaching personnel. In addition, other pre-service teachers' perceived their intervention on cyberbullying would be predicted by the perceived seriousness, empathy for the victim, and confidence to cope, which accounted for 67.2% of the variance for intervention (Boulton et al., 2014). This implies ITT programs need to provide a comprehensive module on cyberbullying, to deliver detailed training to prospective teachers on the management of cyberbullying within the school. Prior studies have shown how teachers' commitment and skills to respond to bullying are closely related to the successful management of the issue (Boulton, 1999; Oldenburg et al., 2015; Olweus, 2003), and so ITT should work to increase prospective teachers' awareness, to reinforce the belief that all incidences of cyberbullying are serious and should be acted on appropriately.

Parental involvement through discussions concerning cyberbullying issues was also recognised as an effective strategy by 85.3% of pre-service teachers (Yilmaz, 2010), with 90%/85% of Canadian/Turkish pre-service teachers' endorsing this strategy (Ryan et al., 2011). Parenting behaviour can impact on bullying involvement, so increased discussions with parents/guardians could mitigate cyberbullying issues in the school and home environment (Axford et al., 2015). For example, young people were more likely to engage in risky online behaviours due to restrictive parenting styles in the home environment (Sasson &

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Mesch, 2014). This implies the important role of parents/guardians in the management of cyberbullying in the home environment. Teachers recognise a discrepancy in digital literacy across parents (Purdy & Mc Guckin, 2015), and so strategies at the school level should encourage further support for parents/guardians to increase this knowledge. This suggests teachers have a responsibility to not only inform appropriate school response teams regarding cyberbullying, but also ensure parents/guardians are appropriately informed about their child's involvement within the school. By doing so, this will increase the awareness and monitoring of children's behaviour in the home environment. However, while parental involvement is needed to ensure the appropriate management of cyberbullying within the home, a digital generational divide can result in some adults feeling unprepared to address cyberbullying in the home (Robinson, 2013). Therefore, recommendations to promote a stronger collaborative relationship between the home and school environment would aid the responses and prevention of cyberbullying across different ecological environments.

Similar to pre-service teachers, in-service teachers' (94.5%) perceived cyberbullying policies would be an effective strategy (Huang & Chou, 2013), although, 25% of teachers were unsure if their school had a school policy (Barnes et al., 2012). Previously, Smith et al. (2008), identified only 8.5% of schools in the United Kingdom had addressed cyberbullying in their school policy. Policies can be effective to encourage appropriate behaviour (Von Marées & Petermann, 2012), so schools should review the guidelines associated with their cyberbullying policies, to avoid disruptive classroom behaviour (Kowalski et al., 2014) and declining academic achievement/attainment associated through cyberbullying (Beale & Hall, 2007; West, 2015). However, while policies are directed at those who bully others, they fail to acknowledge the educational aspect of using digital technologies in a safe and responsible manner (Cassidy et al., 2012). This suggests additional guidance should be provided to encourage young people to be responsible when using the internet. In-service teachers have

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also recommended advice for the victim (69.5%), professional support (37%) (DeSmet et al., 2015), promoting school culture (70.12%) (Baraldsnes, 2015), cyberbullying education (Pelfrey & Weber, 2015), and staff supervision (77%) (Barnes et al., 2012) as effective preventive strategies to manage cyberbullying. While teachers are inevitably unable to manage all cyberspace interactions to reduce cyberbullying involvement, with a collaborative approach it can be possible to promote a stronger sense of belonging through a positive school culture, in the hope to reduce cyberbullying involvement.

On the other hand, other strategies such as disciplining the bullying have been suggested as ineffective (DeSmet et al., 2015). As education can highlight the positive uses of the internet and why people bully online (Cassidy et al., 2012), schools can encourage teachers to provide additional e-safety guidance to young people. Desmet et al. (2015), identified four teacher clusters: 'referrers', 'disengaged', 'concerned', and 'use of all means'. Teachers identified as 'referrers' were more likely to offer support to the victim or seek professional advice, whereas 'disengaged' teachers would provide limited victim support. In addition, whilst 'concerned' teachers were least likely to ignore an incident, they would more likely offer victim support, while 'use of all means' teachers would use a combination of strategies to manage the incident (DeSmet et al., 2015). Although there is a lack of consensus concerning appropriate prevention strategies to manage cyberbullying, one such strategy to develop the school commitment to address cyberbullying is by providing platforms and opportunities for teachers to discuss their views and perspectives. By doing so, schools can provide additional information and training according to the needs of teachers.

4.4 The impact and extent of cyberbullying prevalence and consequences

The perceived impact and prevalence of cyberbullying is an important theme when considering how teachers and schools have approached the problem. Canadian (72%) and Turkish (77.9%) pre-service teachers identified cyberbullying as being a problem within the

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school environment, with 89% and 85.9% respectively perceiving cyberbullying to affect children in the school (Ryan et al., 2011; Yilmaz, 2010). On the other hand, the prior research identified 10.5% of pre-service teachers' perceiving the issue to have minimal to no impact on young people. However, they did recognise cyberbullying was a problem in the school environment (31.9%), which they were concerned about (49.7%) (Li, 2008). The anonymous nature of cyberbullying incidents may hinder pre-service teachers' perceived perception of cyberbullying. This suggests ITT programs can illustrate unique facets associated with cyberbullying, to demonstrate the impact and extent it can have on young people.

Turning now to in-service teachers, 74.3% (Purdy & Mc Guckin, 2015) were aware of cyberbullying in the school, with 55% concerned of the impact on young people (Vandebosch et al., 2014). However, 25% (Stauffer et al., 2012) and 22% (Vandebosch et al., 2014) of teachers' perceived cyberbullying was not a problem in the school environment (Stauffer et al., 2012). This suggests that while teachers are perhaps aware of cyberbullying within the school, the extent of which they do not regard as a problem denotes a possible lack of experience and/or judgement on the negative impact of cyberbullying to those involved. While some teachers' (40%) perceived cyberbullying did not occur through the internet or mobile phones (Baraldsnes, 2015), others were concerned about social media or text-based bullying instances (Purdy & Mc Guckin, 2015). Although victims of cyberbullying can be vulnerable to a larger audience, potentially prolonging the negative experience (Smith et al., 2008; Smith, 2015), only 25% of teachers' perceived the impact was higher compared to traditional forms of bullying (Monks et al., 2016). This suggests a degree of uncertainty pertaining to the impact of cyberbullying, a concern that can be overturned through additional training offered through schools.

Betts and Spenser, (2015) identified that teachers' understand the positive uses of technology such as facilitating young peoples communication and maintenance of social and

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romantic relationships. However, teachers' perceived that young people did not engage in self-monitoring behaviour or regulation in terms of what was said online, and this would often lead to negative consequences for the individual. Linking back to school commitment and teacher training, increased online supervision and electronic restrictions could promote positive uses of the internet and digital technologies (Monks et al., 2016). Long-term exposure to bullying can lead to prolonged and substantial negative consequences across childhood and further into adulthood (Takizawa, Maughan, & Arseneault, 2014). Therefore, it is important for teachers to recognise the growing extent of the issue and aim to reduce bullying involvement and long-term exposure.

4.5 Teachers confidence and concern towards cyberbullying

The confidence of teachers to address and manage cyberbullying can largely predict their ability to manage cyberbullying instances. Within the research, there is considerable variation in how different studies of pre-service teachers' felt in confidence in relation to this issue. For example Yilmaz (2010) identified 48.5% of pre-service teachers' felt moderately confident to manage cyberbullying while in other studies, 60.1% (Li, 2008), 17.2% (Yilmaz, 2010), and 30-40% (Ryan et al., 2011) of pre-service teachers did not feel confident to manage cyberbullying. This suggests a large discrepancy in trainee teachers' confidence to address cyberbullying in the school environment and potentially an issue to be addressed in ITT. For example, 53.3% of teachers could not identify cyberbullying, with only 11.1% feeling confident to do so (Li, 2008). Implications of this suggest ITT courses can encourage prospective teachers to design and discuss innovative strategies to manage cyberbullying within the classroom to help broaden their understanding while developing confidence through engagement and discussions within the course.

In-service teachers recognised that cyberbullying was a problem in the school, with 65-72% (Eden et al., 2013) and 59% (Cassidy et al., 2012) concerned over the issue.

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However, teachers generally felt less skilled to address cyberbullying, with only 8.2% feeling confident and skilled to address the issue, with 19.2% and 31.6% of teachers' perceiving a lack of skill and assurance to address cyberbullying (Barnes et al., 2012). Primary teachers (23%) felt less skilled to address cyberbullying compared to secondary teachers (16%) (Barnes et al., 2012). Teachers of younger pupils had more concern regarding cyberbullying and believed there was an urgent issue to increase awareness and knowledge across the school environment (Eden et al., 2013). This suggests that many pre-service and in-service teachers lacked confidence when identifying and managing cyberbullying in the school environment. Therefore, this highlights an important issue that in order to help teachers deal with cyberbullying there perhaps not only needs to be guidelines/policies on what to do but specific training so that teachers are confident in implementing policy. The issue with confidence brings together key elements of all the previous themes identified as teachers not only need to be aware and able to define and conceptualise what cyberbullying is but also need to be trained appropriately in order to be able to act on school-level policies with confidence.

4.6 Methodological issues and future directions

As seen in Table 1, the quantitative studies identified used a variety of cyberbullying measures and instruments to address teachers' perceptions towards cyberbullying. The application of different assessment methods highlights a lack of consensus on this issue, and as such, could influence variability in teachers' knowledge and understanding (Berne et al., 2013). Therefore, the development of an instrument to measure teachers' understanding and knowledge that can be applied cross-culturally would provide opportunities to compare knowledge across different settings and cultures.

Although some recommendations have been proposed in this paper, it is important to note that teachers' perceptions may have been influenced by context-dependent factors. For

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example, current school culture, management and administration of education systems in different cultures, and culture norms or values according to the location. Therefore, the teachers' perceptions across this review should be interpreted with caution. For example, an examination across four counties (i.e. Estonia, Italy, Germany, and Turkey) identified differences across adolescents' perceptions on perceived severity across a series of hypothetical cyberbullying scenarios (Palladino et al., 2017), and so the same is possible with teachers in the education system.

The systematic review identified a selection of studies which examined teachers' perceptions and understanding towards cyberbullying, although differences and methodological issues across the studies may explain discrepancies interpreting the findings. Methodological issues in cyberbullying research can hinder the application of the findings due to inconsistencies of study reports (Brochado et al., 2017; Patchin & Hinduja, 2015; Volk, Veenstra, & Espelage, 2017). As such, it is important to acknowledge some methodological concerns of the studies discussed in the current review, to provide context when interpreting the findings. The identified studies used quantitative ($n = 13$), qualitative ($n = 4$) and mixed method ($n = 3$) approaches. Concerning the quantitative approaches used, the studies relied on anonymous self-report data across paper, postal and online surveys. The qualitative approaches relied predominantly on focus groups or interviews, with mixed method studies using interviews with closed questions, or focus groups with surveys, or surveys with open responses. Each of these approaches has different virtues and limitations which need to be highlighted when interpreting findings on teachers' perceptions and knowledge towards cyberbullying.

While surveys eliminate pressures of time or resources and can be distributed in a way to target a multitude of populations through extensive sampling, they are also associated with low response rates, leading to issues on the representation of the final sample

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(Coughlan, Cronin, & Ryan, 2009). One solution to overcome this and encourage wider participation is to contact school leaders directly to distribute the survey within the schools. This would also overcome any fraudulent responses by controlling the distribution of the survey (Lefever, Dal, & Matthiasdottir, 2007). If school leaders can offer incentives and incorporate the survey within staff meetings and training sessions, teachers are more likely to participate, especially when participation does not impact on lesson preparations and other school-related activities. Despite this, it is still possible teachers' perceptions may not accurately represent their actual intentions due to misinterpretations of ambiguous survey items, and as such, the findings should be interpreted with caution. Therefore, qualitative approaches allow for a more in-depth exploration and insight on teachers' views towards cyberbullying.

In the identified qualitative studies, focus groups were used to examine teachers' perceptions. In comparison to other qualitative approaches (i.e. interviews), focus groups would provide a greater insight on a social issue in the school environment, as teachers are able to reflect and discuss their perceptions to gain a broader understanding of cyberbullying in the school environment (Ritchie, Lewis, Nicholls, & Ormston, 2013). As cyberbullying is a social issue within the school, it is also dealt with by appropriate staff members of the school and so group discussions provide an insight on the procedures and management of cyberbullying. However, an issue prone across both qualitative and quantitative approaches is the risk of self-selection bias, where teachers with stronger attitudes towards cyberbullying are more likely to participate. While this restricts the opportunity to consider attitudes of other teachers, the self-selection bias may also act to stimulate and encourage discussions in focus groups (Ritchie et al., 2013). To optimise on the virtues and limit restrictions, mixed-method approaches have been used to offer a combination of designs to truly capture teachers' perceptions and their correlates with additional measures (Creswell, 2008).

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The current systematic review has provided a synthesis on teachers' perceptions and responses towards cyberbullying and with the identified studies and methodological issues discussed, it is important to suggest future research to further enhance our understanding of cyberbullying in the education system. Future research should address the limited qualitative research in this area, particularly to gain a further insight into the management and reporting procedures of cyberbullying within the school. Further qualitative research can aid the development of a larger survey to test for teachers' perceptions longitudinally to examine the extent of cyberbullying. This can also be applied to pre-service teachers to examine their training across their ITT course. Finally, the systematic review has identified a need for future research to acknowledge wider ecological environments to consider perceptions of teachers, parents/guardians and students.

5.0 Conclusion

In summary, this review identified 20 studies against the inclusion criteria exploring teachers' perceptions and responses towards cyberbullying. While digital technologies become more accessible, allowing young people to engage in risky online behaviour such as cyberbullying (Livingstone et al., 2011), teachers face growing challenges managing this issue in the school environment (Aoyama & Talbert, 2009). While this review offers an important insight and understanding on teachers views towards cyberbullying, shortcomings of the review should be noted. First, the rigorous selection and inclusion process means a selection of studies were removed from the current review. Second, although this review offers a specific focus on teachers, future studies should explore parental and adolescent perspectives towards the issue.

Teachers recognised cyberbullying was a problem in the school environment (Eden et al., 2013; Monks et al., 2016; Purdy & Mc Guckin, 2015; Ryan et al., 2011; Yilmaz, 2010), although teachers' perspectives on effective prevention strategies to address this were largely

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inconsistent (Barnes et al., 2012; Cassidy et al., 2012; DeSmet et al., 2015; Huang & Chou, 2013). While teachers did perceive educating pupils on cyberbullying awareness would be effective (Pelfrey & Weber, 2015; Ryan et al., 2011), teachers were not confident in their ability to identify and manage the issue (Barnes et al., 2012; Li, 2008; Yilmaz, 2010). In addition, teachers expressed a desire for additional training on cyberbullying, to increase their awareness and knowledge to manage cyberbullying (Li, 2008; Purdy & Mc Guckin, 2015; Styron et al., 2016; Yilmaz, 2010). Implications of this review suggest ITT programs and schools need to review their training and guidelines on cyberbullying to ensure they offer consistent recommendations on the appropriate management of the issue in the school environment.

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