



Review

Following you home from school: A critical review and synthesis of research on cyberbullying victimization

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ABSTRACT

More than 97% of youths in the United States are connected to the Internet in some way. An unintended outcome of the Internet's pervasive reach is the growing rate of harmful offenses against children and teens. Cyberbullying victimization is one such offense that has recently received a fair amount of attention. The present report synthesizes findings from quantitative research on cyberbullying victimization. An integrative definition for the term cyberbullying is provided, differences between traditional bullying and cyberbullying are explained, areas of convergence and divergence are offered, and sampling and/or methodological explanations for the inconsistencies in the literature are considered. About 20–40% of all youths have experienced cyberbullying at least once in their lives. Demographic variables such as age and gender do not appear to predict cyberbullying victimization. Evidence suggests that victimization is associated with serious psychosocial, affective, and academic problems. The report concludes by outlining several areas of concern in cyberbullying research and discusses ways that future research can remedy them.

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1. Introduction

The number of children and teens who use the Internet at home is rapidly growing, with now over 66% of fourth to ninth graders able to go online from the comfort of their bedrooms (ChildrenOnline, 2008). Children can engage in numerous Internet-based activities such as game playing, seeking information, and talking with friends. The constellation of benefits, however, has been recently eclipsed by numerous accounts of the Internet's undesirable social implications, which appear in both scholarly literature and popular media. A fair amount of attention has been given to Internet offenses, including cyberstalking (Seto, 2002), sexual predation (Dombrowski, Lemasney, Ahia, & Dickson, 2004), and cyberbullying (Bhat, 2008; David-Ferdon & Hertz, 2007), which collectively place the safety of children and teens who use the Internet into question.

Cyberbullying victimization has ascended to the forefront of the public agenda after a number of anecdotal cases unfolded in the media (Benfer, 2001; Doneman, 2008; Tomazin & Smith, 2007). Concerns were raised after several children and teens reported experiencing health and psychological harms after being bullied through electronic devices (e.g., cellular phone, e-mail, etc.). In particular, the story of 13-year-old Megan Meier brought notoriety to the subject of cyberbullying when she committed suicide after

being harassed through a popular social networking site (ABC News, 2007). The cyberbully, a mother of Megan's former friend, created a false identity to correspond with and gain information about Megan, which she would later use to humiliate Megan for spreading rumors about her daughter.

Cyberbullying victimization is associated with a host of negative problems similar to those of traditional bullying. Victims of cyberbullying have lower self-esteem, higher levels of depression, and experience significant life challenges (Ybarra, Mitchell, Wolak, & Finkelhor, 2006). Children and teens also have greater internalized negative affect toward the cyberbully (Patchin & Hinduja, 2006; Topcu, Erdur-Baker, & Capa-Aydin, 2008). The psychosocial and physical problems that emerge with cyberbullying underscore the serious nature of the phenomenon.

There is a noticeable paucity of research on cyberbullying and victimization, despite the high level of concern associated with its occurrence (Patchin & Hinduja, 2006). The available research on cyberbullying to date relates to its prevalence, frequency among specific groups, and negative outcomes; information that would be expected in the early formative stage of research. The way research on cyberbullying can advance beyond this stage is by surveying what is already known and establishing a roadmap of where future research should be directed. The end goal of the present review is to direct research toward exploring those areas that still remain uncharted.

The broad aim of this report is to examine findings in quantitative research on cyberbullying victimization through meta-synthesis.

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Table 1
Conceptual definitions of cyberbullying used in research.

| Study | Conceptual definition of cyberbullying |
|----------------------------|---|
| Besley (2009) | The use of information and communication technologies to support deliberate, repeated, and hostile behavior by an individual or group, that is intended to harm others |
| Finkelhor et al. (2000) | <i>Online harassment</i> : Threats or other offensive behavior (not sexual solicitation) sent online to the youth or posted online about the youth for others to see (p. x) |
| Juoven and Gross (2008) | The use of the Internet or other digital communication devices to insult or threaten someone (p. 497) |
| Li (2008) | Bullying via electronic communication tools such as e-mail, cell phone, personal digital assistant (PDA), instant messaging, or the World Wide Web (p. 224) |
| Patchin and Hinduja (2006) | Willful and repeated harm inflicted through the medium of electronic text (p. 152) |
| Slonje and Smith (2007) | Aggression that occurs through modern technological devices and specifically mobile phones or the Internet (p. 147) |
| Smith et al. (2008) | An aggressive, intentional act carried out by a group or individual, using electronic forms of contact, repeatedly or over time against a victim who cannot easily defend him or herself (p. 376) |
| Willard (2007) | Sending or posting harmful or cruel texts or images using the Internet or other digital communication devices (p. 1) |
| Ybarra and Mitchell (2004) | <i>Internet harassment</i> : An overt, intentional act of aggression towards another person online |

Meta-synthesis is a process of summarizing an entire body of literature by providing a comprehensive overview on a specific subject (Zimmer, 2006). Meta-synthesis can be used to amass the body of cyberbullying literature, which aids in ascertaining consistencies among the findings. Additionally, areas of agreement and discrepancy may be isolated and evaluated against studies' research designs. Although the methodological technique is conventionally used to interpret findings in qualitative research, meta-synthesis has been recently applied to quantitative research as well (see Byun et al., 2009). Cyberbullying victimization is an ideal topic for review and synthesis for two reasons. First, there is an inherent need to locate trends and methodological inconsistencies in cyberbullying research, considering the wide areas of disagreement in its study. Second, there is enough research to make the synthesis meaningful, but not enough data to conduct a traditional meta-analysis. In the following sections, a composite definition of cyberbullying is offered, the differences between traditional bullying and cyberbullying are explained, areas of convergence and divergence in the literature are considered, and critical concerns and subsequent directions for future research are discussed.

2. Toward an integrative definition of cyberbullying

Research on traditional bullying is commonplace in the education literature. Olweus (2003) suggests that bullying occurs when a person or group of people engage in any "negative action" intended to inflict injury or discomfort on others. In a similar vein, Stephenson and Smith (1989) suggest that a prerequisite for an event to be considered bullying is the inclusion of an aggressive behavior, which causes marked distress in the person bullied. In many ways, traditional bullying and cyberbullying share considerable overlap in their core motivations. Individuals who cyberbully others wish to inflict harm on their targets and execute a series of calculated behaviors to cause them distress.

Cyberbullying mainly differs from traditional bullying in the reach of the offenders. Cyberbullies are able to extend the bullying beyond the school grounds and follow targets into their homes (Patchin & Hinduja, 2006). Cyberbullying is an umbrella term related to similar constructs such as online bullying, electronic bullying, and Internet harassment. Several cyberbullying definitions have been offered in the literature, many of which are derived from definitions of traditional bullying. Each definition of cyberbullying contains some aggressive, hostile, or harmful act that is perpetrated by a bully through an unspecified type of electronic device. The distinctions between the definitions include details of those involved in the event (e.g., groups or individuals; Besley, 2009; Smith

et al., 2008), and requirements for the act to be deliberate and willful, and repeated over time (e.g., Besley, 2008; Patchin & Hinduja, 2006; Smith et al., 2008). Dehue, Bolman, and Vollink (2008) suggest that three necessary conditions must be met for a situation to be considered cyberbullying: the behaviors must be repeated, involve psychological torment, and be carried out with intent. A list of definitions of cyberbullying and Internet harassment offered in the literature is provided in Table 1.

The differences among the definitions are necessarily problematic for a number of reasons. First, conceptual and operational definitions affect, to a large extent, how participants respond to measurement items. Inconsistencies among definitions lead scholars to study vastly different phenomena under the same title. The absence of the word "repeatedly" in some cyberbullying definitions, for instance, limits the conclusions that are able to be drawn from those studies and restricts the ability to make cross-study comparisons with other research that only considers repeat offenses. Second, reliable and valid measures of cyberbullying are unable to be developed without conceptualizations that share some level of agreement among scholars. The lack of valid measures has plagued much of the research on cyberbullying conducted to date. In addition, given that proposed measurement tools are infrequently used by more than one researcher, threats to the validity of the findings are apparent. Indeed, the need for an integrative definition of cyberbullying is crucial for both conceptual and operational clarity. The following definition of cyberbullying is provided with the aim of uniting the inconsistent definitions that appear in the literature:

Cyberbullying is any behavior performed through electronic or digital media by individuals or groups that repeatedly communicates hostile or aggressive messages intended to inflict harm or discomfort on others.

Additionally, the following addendum may be included with the definition when presented to research participants to clarify what is meant by cyberbullying.

In cyberbullying experiences, the identity of the bully may or may not be known. Cyberbullying can occur through electronically-mediated communication at school; however, cyberbullying behaviors commonly occur outside of school as well¹.

¹ Although cyberbullying can take place outside of the school setting, a vast majority of cyberbullying research is conducted on school students. This addendum to the cyberbullying definition reflects the trends in current research; yet, it can be amended or excluded based on investigations using non-student participants.

3. Traditional bullying and cyberbullying

Traditional bullying differs from cyberbullying in many ways, despite the fact that cyberbullying research and theorizing is largely guided by findings in the traditional bullying literature. A study of college freshmen conducted by the Massachusetts Aggression Reduction Center (MARC; Englander, 2006) demonstrates how the primary differences between traditional bullying and cyberbullying are attributable to the qualities of the electronic device through which the bullying occurs. Students who would not otherwise engage in traditional bullying behaviors do so online in response to the anonymity offered through electronic media. Englander and Muldowney (2007) describe cyberbullying as an opportunistic offense, since it results in harm without physical interaction, requires little planning, and reduces the threat of being caught. In general, however, at least 40–50% of those who are victimized by cyberbullies know the identity of the perpetrator (Kowalski & Limber, 2007; Wolak, Mitchell, & Finkelhor, 2007). The finding suggests that although anonymity may compel certain individuals to use electronic devices to bully, the opportunity for anonymous communication is not seized by all cyberbullies.

Apart from anonymity, other issues that make cyberbullying conceptually distinct from traditional bullying relate to the lack of supervision in electronic media (Patchin & Hinduja, 2006). Enforcement or regulation of potentially harmful exchanges has been discussed in relation to cyberstalking (Basu & Jones, 2007) and sexual offenses against children (Akdeniz, 2000); yet, the lack of a policing agent is also a significant problem in cyberbullying. Instructors or school administrators are seen as agents of enforcement in traditional bullying (Holt & Keyes, 2004). In cyberbullying, however, there is no clear individual or groups who serve to regulate deviant behaviors on the Internet.

The final noteworthy distinction between traditional bullying and cyberbullying is the accessibility of the target (Patchin & Hinduja, 2006; Slonje & Smith, 2007). In traditional accounts of bullying, the aggressive behaviors generally occur during school hours and cease once victims return home. Cyberbullying, in contrast, is far more pervasive in the lives of those who are victimized. Victims can be reached through their cellular phones, e-mail, and instant messengers at any given time of the day. The persistence of the bullying behaviors may result in even stronger negative outcomes than traditional bullying.

Research reveals that individuals who are victims of cyberbullying are targets of traditional bullying as well. Descriptions of cyberbullies “moving beyond the schoolyard” (Patchin & Hinduja, 2006) underscore the link between traditional bullying and cyberbullying. Ybarra, Diener-West, and Leaf (2007) report that 36% of children in their nationally-representative sample concurrently experience traditional bullying and cyberbullying. A second study finds that as many as 85% of children and teens who are victimized electronically are also victims at school (Juvonen & Gross, 2008). Moreover, the aggressive behaviors can be enacted by the same person or different people (Ybarra et al., 2007). Thus, for some bullies, traditional bullying is used in conjunction with cyberbullying to maximize the effect of the harmful behaviors. The statistical relationship between the frequency of traditional bullying and cyberbullying events is consistently documented in the literature (Didden et al., 2009; Juvonen & Gross, 2008; Katzer, Fetchenhauer, & Belschak, 2009; Slonje & Smith, 2007; Smith et al., 2008).

4. Method

4.1. Data source

A search for peer-reviewed research reports on cyberbullying victimization published prior to June, 2009, was conducted. Four

electronic databases—EbscoHost, Lexis Nexis, JSTOR, and WorldCat—were searched. In EbscoHost, *Academic Search Premier*, *Business Source Premier*, *Computer Source*, *Communication and Mass Media Premier*, *ERIC*, *Psychology and Behavioral Sciences Collection*, and *PsychInfo* were identified as relevant databases for the search. The search terms included “cyberbully,” “Internet harassment,” “online bully,” “electronic bully,” and “online harassment.” A wildcard character (i.e., an asterisk) was used after the word bully, which allows the search to automatically include terms such as “cyberbullying.” Reference sections of reports were also searched for relevant research articles. The literature search collected more than 75 unique citations.

4.2. Selection criteria

Three criteria were used in selecting reports for the meta-synthesis. First, the report had to address the topic of cyberbullying victimization or some derivative of cyberbullying. Second, the relationship between cyberbullying victimization and age, gender, negative outcomes, or coping strategies, and/or incidence rates, must have been quantitatively evaluated. Third, the research report must have been published in a peer-reviewed academic journal. A total of 25 articles, which met the selection criteria, were included in this study. Some studies, which use secondary data reported on multiple occasions, were excluded from the synthesis (e.g., Mitchell, Wolak, & Finkelhor, 2007).

5. Meta-synthesis of cyberbullying and demographic factors

In and beyond the social sciences, the survey method is regularly employed in exploratory stages of research after the discovery of a new social phenomenon. Evaluating the prevalence of a given phenomenon and its association with demographic factors such as age and gender are common designs used to survey multifaceted constructs. Meta-synthesis can accumulate what is known about these first-order factors and bring clarity to future directions of research. The following section evaluates the prevalence of cyberbullying victimization and examines the associations between demographic variables and victimization.

5.1. Prevalence

The preponderance of evidence suggests that cyberbullying victimization is not limited to an insignificant proportion of children and teens. On average, approximately 20–40% of youths report being victimized by a cyberbully (Aricak et al., 2008; Dehue et al., 2008; Hinduja & Patchin, 2008; Li, 2006, 2007a, 2007b, 2008; Patchin & Hinduja, 2006; Smith et al., 2008; Topcu et al., 2008; Ybarra & Mitchell, 2008). Some studies restricted the time frame (e.g., incident took place within the last year) in which the cyberbullying could have occurred (Dehue et al., 2008; Williams & Guerra, 2007; Wolak et al., 2007; Ybarra, 2004; Ybarra & Mitchell, 2004, 2008), naturally attenuating the prevalence rates of victimization.

Juvonen and Gross (2008) find that as much as 72% of the 12–17 year olds in their sample encountered cyberbullying at least once in their life. In their study, however, the term bullying was replaced with the phrase “mean things,” which was defined as “anything that someone does that upsets or offends someone else” (p. 499). The broader connotation of the definition best explains the inflated percentage in comparison to other studies. Moreover, since the bullying behaviors in some instances were not repeated, many of the cases do not represent genuine episodes of cyberbullying. In contrast, data from the Youth Internet Safety Survey (YISS), a national telephone survey, suggest that the incidence rate of cyber-

bullying victimization may be as low as 6.5% (Ybarra, 2004; Ybarra & Mitchell, 2004). The YISS evaluates only one dimension of cyberbullying—Internet harassment—with a two-item dichotomous-choice measure (see Finkelhor, Mitchell, & Wolak, 2000), which clarifies the relatively deflated percentage.

Basic information about cyberbullying accounts, beyond proportions of incidence, is infrequently obtained. The duration of the victimization, for example, is one quality of cyberbullying experiences that should influence negative outcomes. Yet, this information is rarely collected from respondents (Aricak et al., 2008). Additionally, obtaining information about the average length of time between each encounter would supply a better understanding of cyberbullying and its effects.

5.2. The role of age in cyberbullying victimization

Cyberbullying is not restricted by age and may emerge from elementary school to college. *Flaming*, conceptually related to cyberbullying, is abusive or abrasive language used against children and adults on the Internet (Lea, O'Shea, Fung, & Spears, 1992; Witmer, 1997). Although cyberbullying arises among all age groups in varying degrees, a large majority of the research is targeted at children and teens. In fact, it is worth noting that all but one article (i.e., Slonje & Smith, 2007) in the meta-synthesis exclusively investigate cyberbullying victimization among minors under the age of 18.

Exploring whether age is a significant predictor in cyberbullying victimization is common in the literature. The study of the relationship between age and victimization lends important insights into the grade level in which cyberbullying most frequently surfaces. Bringing clarity to the relationship can provide suggestions of where resources aimed at cyberbullying prevention in schools can be targeted to achieve the most effectual responses. Mixed results in the literature, however, muddle the relationship. The majority of studies demonstrate the lack of association between age and cyberbullying victimization (Beran & Li, 2007; Didden et al., 2009; Juvonen & Gross, 2008; Katzer et al., 2009; Patchin & Hinduja, 2006; Smith et al., 2008; Varjas, Henrich, & Meyers, 2009; Wolak et al., 2007; Ybarra, 2004). Other studies, however, have substantiated the relationship (Dehue et al., 2008; Hinduja & Patchin, 2008; Kowalski & Limber, 2007; Slonje & Smith, 2007; Ybarra & Mitchell, 2008; Ybarra et al., 2007).

The incoherent findings result from the diverse range of age groups included within samples. Noteworthy trends are discernable when the findings of studies that use smaller ranges of grade levels are considered. For instance, Kowalski and Limber (2007) and Ybarra et al. (2006) demonstrate positive associations between age and frequency of victimization in their studies examining 11–14 year olds and 10–15 year olds, respectively. Slonje and Smith (2007), in contrast, uncovered an inverse relationship between age and victimization in their sample of 12–20 year olds. Similar negative trends are reported in other studies as well (e.g., Dehue et al., 2008). Williams and Guerra (2007) offer the most compelling data on the relationship in their study of fifth, eighth, and eleventh graders. They find fifth graders experience the least victimization, with a prevalence rate of 4.5%. The proportion of students who have been cyberbullied reaches the highest point in eighth graders (12.9%) and drops among high school students (9.9%).

Collectively, the data suggest that the mixed findings may be attributed to a curvilinear relationship between age and frequency of victimization. Mapping the trends of the significant associations in the literature and taking into consideration nonsignificant findings provide a possible anchor in which prevalence is highest among the age groups. It appears that the greatest frequency of victimization occurs in seventh and eighth grades. If the curvilinearity argument is accurate, then studies in which no age associa-

tions are found should have samples with larger ranges of age (around seventh and eighth grades) than studies that demonstrate age effects. Indeed, most of the studies that had nonsignificant results use samples with diverse age groups (e.g., Didden et al., 2009; Juvonen & Gross, 2008; Katzer et al., 2009; Patchin & Hinduja, 2006; Smith et al., 2008; Wolak et al., 2007; Ybarra, 2004).

The null results on age and cyberbullying located in previous research are troubling for both scholars and practitioners. The results promote the belief that victimization occurs uniformly across age groups, which in reality may not necessarily be the case. The belief leads to uncertainty with regard to where resources used in cyberbullying prevention would be best implemented. The curvilinearity hypothesis is consonant with trends from traditional bullying literature; however, the peak of traditional bullying generally occurs at a younger age (see Slee, 1995).

5.3. The role of gender in cyberbullying victimization

As with age group differences in cyberbullying victimization, the study of gender discrepancies can also serve to identify vulnerable populations. Research on gender differences in cyberbullying victimization is fraught with inconsistent findings. The majority of studies reveal that no particular gender is targeted in victimization more than the other (Beran & Li, 2007; Didden et al., 2009; Hinduja & Patchin, 2008; Juvonen & Gross, 2008; Katzer et al., 2009; Li, 2006, 2007a; Patchin & Hinduja, 2006; Topcu et al., 2008; Varjas et al., 2009; Williams & Guerra, 2007; Wolak et al., 2007; Ybarra, 2004; Ybarra et al., 2007). A minority of studies provide support for viewing gender as a significant predictor of victimization (Dehue et al., 2008; Kowalski & Limber, 2007; Ybarra & Mitchell, 2008; Ybarra et al., 2007). These latter studies find that females are disproportionately represented among victims.

The fact that females are cyberbullied more often than males is at odds with much of what is known about gender differences in traditional bullying literature. When gender differences are uncovered in traditional bullying, boys are more involved as both bullies and victims than girls (Boulton & Underwood, 1992; Lagerspetz, Bjorkqvist, Berts, & King, 1982; O'Moore & Hillery, 1989). Females may be at greater risks of being cyberbullied by virtue of the inaccessibility to physical bullying in electronic contexts. In traditional contexts, males tend to bully others and be bullied through physical threats and aggression (Bosworth, Espelage, & Simon, 1999). Females, in contrast, are more likely to be implicated in bullying experiences involving psychological torment (Stephenson & Smith, 1989). It still remains, however, that no predominate gender differences in the research on victimization could be uncovered.

No definitive conclusions are able to be drawn from the meta-synthesis of research related to the relationship between demographic variables and cyberbullying victimization. The data indicate that males and females are equally represented among victims; neither subgroup is more vulnerable to cyberbullying than the other. The findings also appear to demonstrate that age is curvilinearly related to the frequency of victimization, with its peak at around seventh and eighth grade. Taken together, the accumulated findings suggest the largest frequency of cyberbullying occurs in junior high school (i.e., according to the US education system) among both males and females. In response, training should be provided to junior high school teachers, counselors, and school administrators for the detection and remediation of this social problem. Parents of seventh or eighth graders should be made aware of their child's potential victimization and ways they can open and maintain communication to prevent or remedy such incidences. Prevention programs intended to dissuade would-be cyberbullies from engaging in the harmful behaviors is best implemented prior to seventh grade, long before the frequency of cyberbullying cases reaches its peak.

Although an investigation of factors that promote cyberbullying victimization is important to the identification of vulnerable populations, it provides limited information on the episodic process of victimization taken as a whole. A complete understanding of cyberbullying victimization must include a discussion about its potential deleterious effects on victims. The following section considers problems that are associated with experiences of cyberbullying.

5.4. Disturbances associated with cyberbullying victimization

The disturbances in one's life with which cyberbullying victimization is associated can range from trivial levels of distress and frustration to serious psychosocial and life problems. Several negative conditions proposed as outcomes of cyberbullying depend on the frequency, length, and severity of the malicious acts.² Cyberbullying that occurs infrequently has much less potential to cause long-term problems than ongoing harassment. In addition, severe forms of cyberbullying are related to higher likelihoods of mental health and social problems than less threatening behaviors. The negative conditions that covary with victimization have been operationalized in two ways. Some studies examine the link between victimization and a noticeable drop in academic performance and the quality of family relationships (e.g., Beran & Li, 2007), while other studies investigate the development of psychosocial problems and affective disorders (e.g., Didden et al., 2009; Juvoven & Gross, 2008).

Victims of cyberbullying consistently report academic problems in relation to the preoccupation with the cyberbullying experience. Students report a sudden drop in their grades (Beran & Li, 2007), increased absences and truancy (Katzer et al., 2009), and emergent perceptions that school is no longer safe (Varjas et al., 2009). Other serious academic problems such as cutting class, accumulating detentions and suspensions, and carrying weapons onto campus are also reported (Ybarra et al., 2007). Decrements in academic performance can be credited to victims' poorer concentration and higher levels of frustration with the bully and situation (Beran & Li, 2007; Patchin & Hinduja, 2006). In addition, one-fourth of victims feel their home life has noticeably suffered from being cyberbullied (Patchin & Hinduja, 2006).

One study that found no support for the relationship between academic performance and victimization deserves mention. Li's (2007b) data reveal that encounters with cyberbullying are not related to the grades victims receive in schools. The discrepant finding to other studies may be due, in part, to the methodology Li employs. Students in the study were asked to rate what their "school grades are usually" (p. 1789) on a three-point scale with the choices "above average," "average," and "below average." First, the term "usually" used in Li's study obfuscates much of the findings. There is no indication of whether usually refers to recently, over the course of one's entire academic career, or within the last school year. Clearly, the interpretation of the word has implications on how victims answer the question. Second, the absence of an objective measure for academic performance (e.g., grade point average) invalidates the conclusions that are able to be made. For instance, a grade of "B" may be considered below average to an

overachiever, but above average for those who regularly receive grades of "C" and below, which draws attention to the subjectivity of the multiple choices. Finally, the definition of cyberbullying used in the study is operationalized as "hurtful events" and includes the possibility of single episodes (i.e., not repeated). Indeed, an event can be considered hurtful and not intentionally harmful, a requisite for cyberbullying acts. The definitions and methodology used in this study complicate the interpretability of the results and cross-study comparisons.

Psychosocial problems and negative moods are also demonstrated in those who are cyberbullied. Depression, for instance, is associated with the degree to which individuals experience cyberbullying victimization (Didden et al., 2009; Ybarra, 2004). Additionally, psychosocial problems such as social anxiety (Juvoven & Gross, 2008) and depreciated levels of self-esteem (Didden et al., 2009; Katzer et al., 2009) have been documented in victims of cyberbullying. The victimization may be related to affective disorders as well. Emotional distress, anger, and sadness toward the cyberbully and the offense (Patchin & Hinduja, 2006; Topcu et al., 2008; Ybarra, 2004) are correlates of victimization. Victims also develop a host of social problems including detachment, externalized hostility, and delinquency.

The negative outcomes of cyberbullying share many similarities with traditional bullying that occurs in schools. Lower achievement scores, for instance, are more frequently reported in children who are bullied than those who are not (Glew, Fan, Katon, Rivara, & Kernic, 2005; Holt, Finkelhor, & Kantor, 2007). Moreover, adjustment problems emerge from encounters with traditional bullying among younger children (Arseneault et al., 2006). Victims are compelled to internalize problems, display their unhappiness, and less likely to participate in pro-social activities and behaviors.

5.5. Strategies for dealing with cyberbullying

Several methods for coping with cyberbullying experiences are identified in the literature. The results indicate that technological coping strategies are commonly used by those who are cyberbullied to circumvent future victimization. Examples of technological coping strategies include instituting strict privacy settings on Internet-based technologies such as instant messengers and e-mails (Aricak et al., 2008; Juvoven & Gross, 2008; Smith et al., 2008), and changing usernames and or e-mail addresses (Juvoven & Gross, 2008; Smith et al., 2008). Indeed, employing stricter privacy settings or changing online identities is appealing to those who are cyberbullied, but the overall effectiveness of these strategies in thwarting future harmful behaviors remains unknown. Technological coping strategies, however, have been used with considerable efficacy against other Internet offenses such as online obsessive relational intrusions (i.e., a mild form of cyberstalking) (Tokunaga, 2007).

Passive strategies are infrequently employed in handling experiences with cyberbullying. Only about 25% of victims surveyed said they did nothing in response to being victimized (Patchin & Hinduja, 2006). The percentage Patchin and Hinduja report may be inflated, since it includes single episode cases, even though such inclusions contradict the conceptual definition they offer (i.e., "repeated harm," p. 152). Ignoring encounters of cyberbullying can be a viable option if the events are limited to solitary instances. As the frequency and threat of harm increase, noticeable differences in the use of coping strategies are likely to emerge. Other studies indicate that victims seek active strategies to thwart future cyberbullying encounters. Roughly 15–35% of youths confront cyberbullies by telling them to stop (Aricak et al., 2008; Juvoven & Gross, 2008; Patchin & Hinduja, 2006). Informing cyberbullies to end the aggressive and harmful behaviors is often communicated in collaboration with threats of telling an adult if the behaviors continue.

² It should be noted that the associations described in this section do not reflect true causal relationships. All of the findings in this section come from cross-sectional data, which do not provide necessary evidence for causality. Although it is speculated that such academic and psychosocial problems are negative outcomes of cyberbullying victimization, it is arguable that the inverse claim might also be true: psychosocial problems could be an antecedent of cyberbullying. Although some researchers make the correlation-causality distinction clear, most describe the academic and psychosocial problems along the lines of negative effects. To be consistent with the literature, the term "negative outcomes" is used in this report, albeit with caution. Further studies that test the relationships over time (i.e., longitudinally) are necessary to infer causality with greater confidence.

Although threats of telling an adult are communicated to the perpetrator, in actuality, children only occasionally inform their parents or other adults about the victimization. Most studies report that victims of cyberbullying told their parents 1–9% of the time (Aricak et al., 2008; Dehue et al., 2008; Slonje & Smith, 2007). Victims rarely report instances of cyberbullying to adults for several reasons. Many youths believe that learning how to effectively manage problems emerging from the use of communication technologies is a necessary skill to possess (Juvoven & Gross, 2008). Reaching out for parental help is perceived as a behavior used only by kids. Moreover, victims believe their own freedoms may be limited by alerting parents to the victimization. Children and teens are reluctant to tell their parents for fears that their own Internet privileges would be lost. Personal management of the victimization is seen as a small cost in exchange for the benefits of going online (Agatston, Kowalski, & Limber, 2007). In place of informing parents, cyberbullying victims consult friends for support and advice (Aricak et al., 2008; Dehue et al., 2008; Slonje & Smith, 2007; Topcu et al., 2008). The social support offered by friends may help to relieve some of the stress (Cohen & Wills,

1985; Segrin, 2003) that develops as a byproduct of cyberbullying. Table 2 offers a summary of all cases included in the meta-synthesis.

6. General discussion

Cyberbullying and victimization is a phenomenon that has only recently gained attention. As evidence, the literature search of cyberbullying reports, conducted for the present meta-synthesis, yielded no articles published before 2004. The notoriety cyberbullying has received is due, in part, to media's coverage of teen suicides, which were ostensibly precipitated by experiences with cyberbullying. The ill effects and frequency of cyberbullying have led to its characterization as a serious societal-level health concern.

Much of the research on cyberbullying victimization is replete with mixed findings, which not only impedes the progression of research for scholars but also provides little clarity to practitioners whose principal aim is to prevent cyberbullying. The objectives of the current report were to provide a conceptual definition for

Table 2
Annotated findings from literature on cyberbully victimization.

| Study | N | Sample type | % Male | % Victim | Age | Gender | Negative outcomes | Coping strategies |
|--|------------------|---|-------------------|--|-----------------|------------------|---|---|
| Aricak et al. (2008) | 269 | Sixth to tenth graders (school sample) | 49.8 | 36.1 | – | – | – | Blocked messages (30.6%) Tell bully to stop (16.4%) |
| Beran and Li (2007) | 432 | Seventh to ninth graders (school sample) | 44.7 | 57.4 | ns | ns | Missed school* Marks dropped* Poor concentration* | – |
| Dehue et al. (2008) | 1211 | Primary and secondary school (school sample) | 50.5 | 22.0 ^c | sig | sig | – | – |
| Didden et al. (2009) | 114 | 12–19 year olds (school sample) | 72.0 | 5–12 | ns | ns | Lower self-esteem* Depression* | – |
| Hinduja and Patchin (2008) | 1378 | Under 18 years (online sample) | 49.3 | ≈35.0 | sig | ns | – | – |
| Juvoven and Gross (2008) | 1444 | 12–17 year olds (online sample) | – | 72.0 | ns | ns | Social anxiety* | Restricted messages/SNs (33%) Switched names (26%) Tell bully to stop (25%) |
| Katzer et al. (2009) | 1700 | Fifth to eleventh graders (school sample) | 44.7 | – | ns | ns | Lower self-concept* School truancy* | – |
| Kowalski and Limber (2007) | 3767 | Sixth to eighth graders (school sample) | 49.2 | 11.0 | sig | sig | – | – |
| Li (2006) | 264 | Seventh–ninth graders (school sample) | 48.5 | ≈25.0 | – | ns | – | – |
| Li (2007a) | 461 | Seventh graders and HS students (school sample) | 51.4 | 28.9 | – | ns | – | – |
| Li (2007b) | 177 | Seventh graders (school sample) | 49.2 | 24.9 | – | – | Academic grades, ns | Told an adult (34.1%) |
| Li (2008) | 359 | Seventh graders (school sample) | 49.6 | 25.0 ^a 33.0 ^b | – | – | – | – |
| Patchin and Hinduja (2006) | 577 | 9–17 year olds (online sample) | 19.9 | 29.4 | ns | ns | Frustration (42.5%) Anger (39.8%) Sadness (27.4%) | Tell bully to stop (36.3%) Get away (31.9%) Did nothing (26%) |
| Sharpley, Graber, Harrison, and Logan (2009) | 2611 | Eighth to tenth graders (school sample) | NA | 15.5 | – | – | – | – |
| Slonje and Smith (2007) | 360 | 12–20 year olds (school sample) | 56.4 | 17.6 ^a 3.3 ^b | sig | ns | – | Told a friend (35.7%) |
| Smith et al. (2008) | 92 ^a | 11–16 year olds (school sample) | 46.7 ^a | 22.2 ^a | ns ^a | sig ^a | – | Restricted messages/SNs (75%) |
| | 528 ^b | | 49.4 ^b | 58.1 ^b | ns ^b | ns ^b | – | Told someone (63.3%) Changed address/phone (56.7%) Told a friend (46.4%) |
| Topcu et al. (2008) | 183 | 14–15 year olds (school sample) | 55.7 | 20.9 | – | ns | Anger (50.7%) Sadness (27.5%) Ignore (24.6%) | – |
| Varjas et al. (2009) | 437 | Sixth to eighth graders (school sample) | 50.1 | – | ns | ns | Less perceived school safety* | – |
| Williams and Guerra (2007) | 3339 | Fifth to eleventh graders (school sample) | – | 9.4 ^c | sig | ns | – | – |
| Wolak et al. (2007) | 1500 | 10–17 year olds (online sample) | – | 9.0 ^c | ns | ns | – | – |
| Ybarra (2004) ^d | 1501 | 10–17 year olds (telephone) | – | 6.5 ^c | ns | ns | Depression* Emotional distress* | – |
| Ybarra and Mitchell (2004) ^d | 1501 | 10–17 year olds (telephone) | 55.0 | 6.5 ^c | – | – | – | – |
| Ybarra and Mitchell (2008) | 1588 | 10–15 year olds (online sample) | 52.2 | 34.0 ^c | sig | sig | – | – |
| Ybarra et al. (2006) ^d | 1500 | 10–17 year olds (telephone) | 49.3 | 11.1 | sig | ns | – | – |
| Ybarra et al. (2007) | 1515 | 10–15 year olds (online sample) | – | – | sig | sig | – | – |

* Reported association in study is significant.

^a From sample 1.

^b From sample 2.

^c Time frame provided (e.g., within the last year, through specific media, etc.).

^d Same sample used in studies.

cyberbullying, consider the prevalence rates of cyberbullying victimization across multiple studies, discuss and attempt to reconcile mixed findings, and provide clarity to the directions for future research.

Cyberbullying is a widespread problem that can be experienced at any age. Children and teens are especially vulnerable to these offenses, given that approximately 20–40% of them will encounter or have encountered some form of cyberbullying during their youth. The age at which teens are the most susceptible to victimization is 12–14 (i.e., when they are in junior high school). Gender does not play a predominate role in cyberbullying victimization; both males and females appear to report similar frequencies of being cyberbullied. Despite cyberbullying precluding physical harm, males are not underrepresented as victims. Victimization is related to a number of personal difficulties including psychosocial problems, declining academic performance, and troubles at home. In response to the cyberbullying, children and teens often consult friends or unilaterally confront cyberbullies. In rare instances, victims tell their parents or simply try to ignore the problem. The comparison between traditional bullying and cyberbullying yield more similarities than differences. In fact, the most discernable difference in the meta-synthesis relates to gender differences: males are overrepresented as bullies and victims in traditional bullying, but there appear to be no differences between gender representations in cyberbullying.

7. Critical concerns and directions for the future research

Several critical concerns are offered in response to the inconsistent findings in cyberbullying research. Bringing attention to these conceptual and methodological shortcomings at this juncture may provide much needed clarity to the field. Four concerns are leveled, which serve not as critiques of previous research but areas that require more attention from scholars in order to produce a cohesive body of research and bring meaningful progress to the field. The defining concerns of cyberbullying literature relate to definitional inconsistencies, atheoretical inquiry, an over reliance on cross-sectional data, and the simplistic relationships investigated. In the following sections, each of these concerns is expanded, and ways of moderating them in future research are considered.

7.1. Conceptual and operational definition issues

The most pervasive methodological drawback in cyberbullying research relates to the conceptualization of cyberbullying. Cyberbullying has been defined in several ways, with a fair amount of overlap across the definitions. The nuances among the definitions, however, have led to research that uses the same term but refers to different meanings based on implicit biases. The fundamental characteristics of cyberbullying and how it differs from traditional bullying still remain unclear even after five years of steadfast inquiry. A prerequisite of repetition and intentionality, for instance, are not trivial characteristics that, if excluded, have modest impact on how the concept is interpreted. Instead, these traits are crucial elements in the categorization and labeling of an event. An overview of the multiple ways cyberbullying is defined and operationalized across studies is provided in Table 3 for comparison.

Despite perceptible differences among the conceptual definitions of cyberbullying, discussions related to their benefits or shortcomings rarely transpire. Instead, scholars appear to rely on intuition and biases to guide the selection of definitions, based on what appears most reasonable to them. The selection of inconsistent or even poor definitions seldom results in dire consequences, since the way in which the study is framed in response to the poor selection can be amended at a later time. In cyberbullying research, however, methodological strength hinges on the

definition of cyberbullying used. This is due, in part, to the novelty of cyberbullying behaviors and the equivocality of the term among lay people. The absence of a definition would invariably lead respondents astray and invalidate subsequent findings, since most people lack an even rudimentary understanding of cyberbullying. Some individuals, for example, may think that only the most menacing behaviors resulting in suicide are considered genuine cyberbullying cases, and fail to answer the question accurately. Others may believe arguments that take place over telephones represent cyberbullying incidences, and again inaccurately respond. As a result, researchers have realized the necessity for including cyberbullying definitions in their surveys. The definitions provided to respondents, in turn, profoundly influence the way in which they answer. Inadequate definitions used in studies have the potential to limit conclusions and eliminate the possibility of drawing meaningful cross-study comparisons.

The inconsistent use of operational measures between studies is equally as troubling as the absence of a universal cyberbullying definition. Again, researchers tend to develop their own instrument without providing a rationale for its necessity or superiority over others already proposed. There are occasions in which the same measure is used multiple times, but only in circumstances where the same researcher publishes more than one study. Cyberbullying occurrence is most frequently operationalized in the form of one- or two-item measures based on dichotomous choice, yes/no responses, following a supplied definition of traditional bullying, cyberbullying, or both.

A number of concerns emerge from the conventional and ever-present methodology employed in cyberbullying research. First, the multidimensionality of the cyberbullying construct renders a simple yes/no response almost impossible to accomplish, much less interpret. The reliance placed on a child's ability to breakdown a multipart definition and respond accurately to whether they have experienced such behaviors in the past is concerning. Given such multifaceted definitions, it seems unreasonable to request respondents to sum the individual characteristics of cyberbullying and respond to questions such as "have you been bullied online." Additionally, there is confusion regarding when individuals should respond affirmatively to these questions: when they meet at least one of the criteria, all of the criteria, or more than half of the criteria. Second, the one- or two-item measures utilized make issues of reliability pronounced. In the context of operationalization, the aim of future research on cyberbullying should focus on the development of a reliable and valid measure of the cyberbullying construct based on summated scales. Valid and reliable measures improve the overall quality of research by allowing scholars from divergent perspectives the opportunity to measure constructs equitably.

The quality of an operational measure rests heavily on the clarity and richness of the conceptual definition from which it derives. In the case of cyberbullying research, measures are unable to flourish in the absence of a universally-accepted definition. Thus, the pivotal initial step for scholars is committing to a single definition that is amenable to them. Whether it is the definition offered within this review or developed elsewhere, this first step should no longer be ignored. Without greater attention to the core definition of cyberbullying, literature cannot progress, make significant contributions, or effect change. Ultimately, a field of research is only as valid as the conceptual and operational definitions on which it is built.

7.2. Theoretical issues

Research on cyberbullying has been conducted largely in the absence of theory. Theory neither guides the hypotheses that are derived nor are there faithful attempts made at theory building

Table 3
Operational definitions of cyberbullying used in research.

| Study | Definition of cyberbullying provided to participants | Operationalization |
|----------------------------|---|--------------------|
| Aricak et al. (2008) | NR | SDFS |
| Beran and Li (2007) | Harassment occurs when a student, or several students, says mean and hurtful things or makes fun of another student or calls him or her mean and hurtful names, completely ignores or excludes him or her from their group of friends or leaves him or her out of things on purpose, tells lies or spreads false rumors about him or her, sends mean notes and tries to make other students dislike him or her, and other hurtful things like that. When we talk about harassment, these things happen repeatedly, and it is difficult for the student being harassed to defend himself or herself. We also call it harassment, when a student is teased repeatedly in a mean and hurtful way. But we do not call it harassment when the teasing is done in a friendly and playful way. Also, it is not harassment when two students of about equal strength or power argue or fight (Olweus, 1996) | SDFS |
| Dehue et al. (2008) | NR | Adapted BPS |
| Didden et al. (2009) | NR | SDFS |
| Hinduja and Patchin (2008) | Willful and repeated harm inflicted through the medium of electronic text | SDFS |
| Juoven and Gross (2008) | Anything that someone does that upsets or offends someone else | SDFS |
| Li (2005) | See Li (2007b) | Li (2007b) |
| Li (2007a) | See Li (2007b) | Li (2007b) |
| Li (2007b) | Harassing using technology such as e-mail, computer, cell phone, video cameras, etc. Bullying occurs when people say mean and hurtful things or make fun of another person or calls him/her mean and hurtful names, completely ignore or exclude him/her from their group of friends or leaves him/her out of things on purpose, tells lies or spreads false rumors about him/her, sends mean notes and tries to make other students dislike him/her, and other hurtful things like that | SDFS |
| Li (2008) | See Li (2007b) | Li (2007b) |
| Katzer et al. (2009) | NR | Adapted OBVQ |
| Kowalski and Limber (2007) | <i>Bullying</i> : We say that a student is being bullied when another student, or several other students do any of the following: say mean and hurtful things or make fun of him or her or call him or her mean and hurtful names; completely ignore or exclude him or her from their group of friends or leave him or her out of things on purpose; hit, kick, push, shove around, or lock him or her inside a room; tell lies or spread false rumors about him or her or send mean notes and try to make other students dislike him or her; and other hurtful things like that | Adapted OBVQ |
| Patchin and Hinduja (2006) | NR | SDFS |
| Sharples et al. (2009) | NR | SDFS |
| Slonje and Smith (2007) | Used Olweus's (1996) of bullying (see Beran & Li, 2007). Cyberbullying is bullying through text message, e-mail, mobile phone calls, or picture/video clip | CQ |
| Smith et al. (2008) | <i>Bullying</i> : A student is being bullied when another student, or several other students: (a) say mean and hurtful things or make fun of him or her and call him or her mean and hurtful names, (b) completely ignore or exclude him/her from their group of friends or leave him/her out of things on purpose, (c) hit, kick, push, shove around, or lock him or her inside a room, (d) tell lies or spread false rumors about him/her or send mean notes and try to make other students dislike him/her, and (e) other hurtful things like that. These things happen repeatedly, and it is difficult for the student being bullied to defend himself/herself. We also call it bullying, when a student is teased repeatedly in a mean and hurtful way <i>Cyberbullying</i> : Includes bullying: (a) through text messaging, (b) through pictures/photos or video clips, (c) through phone calls, (d) through e-mail, (e) in chat rooms, (f) through instant messaging, and (g) through websites. Bullying can happen through text messages/pictures/clips/e-mail/messages/etc. sent to you, but also when text messages/pictures/clips/e-mail/messages/etc. are sent to others about you | CQ |
| Topcu et al. (2008) | NR | CBI |
| Varjas et al. (2009) | NR | SSBB-R2 |
| Williams and Guerra (2007) | NR | Adapted BPS |
| Wolak et al. (2007) | NR | SDFS |
| Ybarra (2004) | NR | YISS |
| Ybarra and Mitchell (2004) | NR | YISS |
| Ybarra et al. (2006) | NR | GWMS |
| Ybarra et al. (2006) | NR | YISS-2 |
| Ybarra et al. (2007) | Harassment victimization is feeling worried or threatened because someone was bothering or harassing the youth online, or someone used the Internet to threaten or embarrass the youth by posting or sending messages about the youth for other people to see | YISS-2 |

Note: NR = not reported; SDFS = scale developed for study; BPS = bullying perpetration scale (Espelage, Holt, & Henkel, 2003); CQ = cyberbullying questionnaire (Smith, Mahdavi, Carvalho, & Tippett, 2006); CBI = cyberbullying inventory (Erdur-Baker & Kavut, 2007); OBVQ = Olweus Bully/Victim Questionnaire (Olweus, 1989); GWMS = growing up with media survey (Harris Interactive, 2006); SSBB-R2 = Survey of Bullying Behavior—Revised 2 (Varjas, Meyers, & Hunt, 2006); YISS = Youth Internet Safety Survey (Finkelhor et al., 2000); YISS-2 = Second Youth Internet Safety Survey (Ybarra et al., 2006).

in the cyberbullying literature. Theory building can cultivate cohesiveness to a body of research by establishing an order to the variables already tested (Dublin, 1978). Moreover, the use of established theories in predicting behaviors has utility when broader processes are unclear. In cyberbullying research, there is an inherent need for both types of theoretical inquiry.

On a conceptual level, it is clear that cyberbullying is an episodic process, which has the potential to be modeled as such. For example, borrowing a conventional antecedent-outcome framework of model building, some set of theoretically-derived antecedents (e.g., poor social skills, social isolation, etc.) make an

individual susceptible to cyberbullying encounters, which in turn, lead to negative outcomes (e.g., depression, academic problems). The interrelationships between the constructs may be recursively or non-recursively modeled. In recursive models, cyberbullying is viewed as a one-way process. The more feasible way to model cyberbullying experiences, however, is through non-recursive models, which incorporate feedback loops to denote a cyclical process. Non-recursive models identify the ongoing nature of cyberbullying by reflecting the influence negative outcomes exert on constructs that make people more vulnerable to cyberbullying victimization.

There are several ways to model cyberbullying and cyberbully-victimization. Researchers may choose to stratify cyberbullies from cyberbullying victims and model each respective of the other or include them in a larger integrative model to investigate the influence of interdependence on their personal behaviors. The latter model, consistent with actor-partner interdependence modeling, requires that victims know and have access to their perpetrators. Although dyadic data collection in cyberbullying research is an arduous, and sometimes impossible, task, the analysis would be particularly insightful in this domain.

The indifference of cyberbullying researchers to already established theories in new technology, mass media, and traditional bullying research is perplexing. These theories not only help to predict behaviors of bullies and victims but may be able to explain why the effects of cyberbullying would be amplified in comparison to those of traditional bullying. There are, however, some notable attempts to apply established theoretical frameworks to cyberbullying. Li (2005) alludes to the possible application of theory of planned behavior (TPB; Ajzen, 1985, 1991) to cyberbullying. Yet, no further explanation is provided for the theory or the corresponding constructs of cyberbullying related to the theory by Li. One remarkable omission to the discussion of TPB's appropriateness in cyberbullying research is the question of volitional control. An argument must initially be made that cyberbullying is beyond one's volition for a person to judge the self- and response-efficacy of bullying behaviors.

A socio-cultural discourse approach, used by Mayer (2008), may lend valuable insight into the learning processes that underlie cyberbullying. This approach views learning as a social process that is communicated through mediated interactions (Vygotsky, 1978). The socio-cultural discourse framework explains cyberbullying behaviors as a product of the minimal social cues, or anonymity, available on the online media through which the bullying occurs. Internet-supported technologies such as chat rooms, e-mails, and instant messengers offer fewer social cues than traditional interpersonal interactions, which renders divergent learning practices and behaviors (Culnan & Markus, 1987).

A few theories are proposed as possible areas from which theoretically-derived predictions can be made. Social cognitive theory (Bandura, 1986, 1989) may hold utility in explaining the phenomenon of victims or observers of cyberbullying who eventually become cyberbullies themselves, through the process of social learning from direct experiences or vicarious observations. Loosely defined tenets from uses and gratifications theory (Blumler & Katz, 1974) may provide insight into why certain individuals choose the Internet and other electronic devices to bully others, and why they return to the same media (i.e., to receive similar or higher levels of needs fulfillment). The buffering hypothesis (Cohen & Wills, 1985) offers a basic understanding for the choices victims make to consult friends after their encounters with cyberbullying. Aside from the fear induced by the possible Internet-related restrictions parents may enforce in response to notice of the encounters, friends may provide valuable social support to marshal the stress cyberbullying can have on victims. Finally, dual-perspective theory of bullying (Veenstra et al., 2007) can be adapted to include the role of technology in the dyadic nature of the cyberbully-victim relationship. Indeed, all of the theoretical perspectives offer some level of promise in explaining or predicting cyberbullying experiences.

The rationales underlying each proffered theoretical application are far less important than the main point of this entire section. Some application of theory and theory building must be employed in cyberbullying research for there to be any chance of scholarly advances. Theories may provide valuable information not only to scholars but practitioners as well. In the case of cyberbullying, information from models can identify individuals who are particularly vulnerable to cyberbullying victimization. The identification

and protection of susceptible others may serve to thwart possible cyberbullying encounters or assuage ongoing bullying. If the negative outcomes of victimization are clearly explicated, then it is possible to predict and treat the ensuing conditions. The collective benefits that theories and models offer to both scholarship and practice stress their importance to the field of cyberbullying.

7.3. Cross-sectional data

A generally expected reliance on self-report, cross-sectional data is observable in cyberbullying research, with the exception of the YISS. However, even data from the two-waves of the YISS have yet to be interpreted in statistically meaningful ways to broaden the field's understanding of temporal causality in cyberbullying experiences. Causal relationships in cyberbullying research are unable to be substantiated through experimental designs. Instead, longitudinal panel data may be the only hope for making tenuous claims of causality over time.

There are clear benefits for obtaining longitudinal data. For example, there is a distinct possibility that psychosocial problems may serve as both an antecedent condition, making individuals more exposed to cyberbullies, and negative outcome, identifying its reciprocal role in the process. Using longitudinal data, researchers are able to test whether depressive symptoms or other psychosocial disorders related to cyberbullying are causes and/or effects of such encounters. Longitudinal analyses make it possible to use phrases such as "consequences of victimization" with stronger confidence than inference. Several scholars have speculated about possible long-term effects of cyberbullying and its potential to exceed the powerful effects of traditional bullying (Kowalski, Limber, & Agatston, 2008; Willard, 2007; Ybarra & Mitchell, 2004). There are, without doubt, several fronts from which the necessity for longitudinal data exists.

7.4. Simplistic relationships

Scholarship on cyberbullying is still in the early stages of research, so it is not difficult to understand why more complex relationships have not yet been studied. Clearly, there is enough information about the basic demography of the actors involved in cyberbullying to move beyond simple descriptive research. Even if there is an insufficient amount of demographic information, there is enough reason to test complex relationships in concert with the collection of basic demographic information. The problem of frequency or simple correlation studies is that they view cyberbullying experiences in a vacuum. In place of considering specific relationships between cyberbullying and other variables as moderated by third and fourth variables, research has viewed the effects across members of subgroups (e.g., victims vs. non-victims, bullies vs. non-bullies) statically.

Future research on cyberbullying should pay greater attention to the qualities of the technology through which the cyberbullying takes place, as potential moderators of cyberbullying relationships. For instance, the potential for anonymity is a key component in cyberbullying not readily available in traditional bullying. Yet, not all victims are cyberbullied by anonymous others. This affordance of technology can be used to examine whether the relationship between the frequency of cyberbullying and antecedents, negative outcomes, and coping strategies are moderated by anonymity. Other technological factors that may moderate such relationships are the perceived geographical distance between cyberbully and victim (i.e., cyberbullying does not require individuals to be in the same proximity unlike traditional bullying), the type of technology used to cyberbully, familiarity with the technology, and perceptions of help available through electronic devices.

This, again, is not intended to be an exhaustive list of moderators; instead, it offers a way in which the primary differences between cyberbullying and traditional bullying can be explored and emphasized. Without a more comprehensive empirical foundation on how traditional bullying and cyberbullying differ, a rationale for the need of cyberbullying research is not made apparent.

8. Conclusion

The opportunity to conduct research on cyberbullying is timely due to its wide prevalence and the social concern that surrounds it. Further research on cyberbullying victimization is warranted considering the potential risk to the over 97% of youth in the United States connected to the Internet in some way (UCLA Center for Communication Policy, 2003). The production of a cohesive body of research, in which confident conclusions are able to be drawn, begins with consistent conceptualization and operationalization. Without this convergence, researchers will be blind to the advances made by others within the field, and only tenuous comparisons between ostensibly similar areas of research will continue to be made. At the current moment in cyberbullying research, meta-syntheses are difficult to conduct and read more as a series of extended abstracts than a cohesive review of literature. This is due, in large part, to the disparate conceptual and operational definitions that are used.

The link between conceptualization and theory is the second step with which researchers should concern themselves. Attempts to provide a theoretical framework or tradition for explaining, understanding, and predicting cyberbullying behaviors and victimization are pivotal. These two main points alone have the ability to effectually unite the disparities in the literature on cyberbullying and provide necessary awareness to and comprehension of the Internet phenomenon.

References

- ABC News (2007). *Parents: Cyber bullying led to teen's suicide*. <<http://abcnews.go.com/GMA/story?id=3882520&page=1>> Retrieved 20.01.10.
- Agatston, P. W., Kowalski, R., & Limber, S. (2007). Students' perspectives on cyber bullying. *Journal of Adolescent Health, 41*, S59–S60.
- Ajzen, I. (1985). From intention to action: A theory of planned behavior. In J. Kuhl & J. Beckman (Eds.), *Action control: From cognitions to behaviors* (pp. 11–39). New York: Springer.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*, 179–211.
- Akdeniz, Y. (2000). *Sex on the Net: The dilemma of policing cyberspace*. United Kingdom: South Street Press.
- Aricak, T., Siyahhan, S., Uzunhasanoglu, A., Saribeyoglu, S., Ciplak, S., Yilmaz, N., et al. (2008). Cyberbullying among Turkish adolescents. *CyberPsychology & Behavior, 11*, 253–261.
- Arseneault, L., Walsh, E., Trzesniewski, K., Newcombe, R., Caspi, A., & Moffitt, T. E. (2006). Bullying victimization uniquely contributes to adjustment problems in young children: A nationally representative cohort study. *Pediatrics, 118*, 130–138.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (1989). Human agency in social cognitive theory. *American Psychologist, 44*, 1175–1184.
- Basu, S., & Jones, R. (2007). Regulating cyberstalking. *Journal of Information, Law, and Technology*. <http://www2.warwick.ac.uk/fac/soc/law/elj/jilt/2007_2/basu_jones> Retrieved 21.11.09 [Article 1].
- Benfer, A. (2001). *Cyber slammed*. <http://dir.salon.com/mwt/feature/2001/07/03/cyber_bullies/index.html> Retrieved 20.01.10.
- Beran, T., & Li, Q. (2007). The relationship between cyberbullying and school bullying. *Journal of Student Wellbeing, 1*, 15–33.
- Besley (2009). *Cyberbullying*. <<http://www.cyberbullying.org/>> Retrieved 16.09.09.
- Blumler, J., & Katz, E. (Eds.). (1974). *The uses of mass communications*. Beverly Hills, CA: Sage.
- Bhat, C. S. (2008). Cyber bullying: Overview and strategies for school counsellors, guidance officers, and all school personnel. *Australian Journal of Guidance and Counseling, 18*, 53–66.
- Bosworth, K., Espelage, D., & Simon, T. (1999). Factors associated with bullying behavior among early adolescents. *Journal of Early Adolescence, 19*, 341–362.
- Boulton, M. J., & Underwood, K. (1992). Bully/victim problems among middle school children. *British Journal of Educational Psychology, 62*, 73–87.
- Byun, S., Ruffini, C., Mills, J. E., Douglas, A. C., Niang, M., Stepchenkova, S., et al. (2009). Internet addiction: Meta-synthesis of 1996–2006 quantitative research. *CyberPsychology & Behavior, 12*, 203–207.
- ChildrenOnline (2008). *Internet safety newsletter: Children online research 2007–2008*. <<http://www.childrenonline.org>> Retrieved 07.11.08.
- Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin, 98*, 310–357.
- Culnan, M. J., & Markus, M. L. (1987). Information technologies. In F. M. Jablin, L. L. Putnam, K. H. Roberts, & L. W. Porter (Eds.), *Handbook of organizational communication: An interdisciplinary perspective* (pp. 420–443). Newbury Park, CA: Sage.
- David-Ferdon, C., & Hertz, M. F. (2007). Electronic media, violence, and adolescents: An emerging public health problem. *Journal of Adolescent Health, 41*, S1–S5.
- Dehue, F., Bolman, C., & Vollink, T. (2008). Cyberbullying: Youngsters' experiences and parental perception. *CyberPsychology & Behavior, 11*, 217–223.
- Diden, R., Scholte, R. H. J., Korzilius, H., De Moor, J. M. H., Vermeulen, A., O'Reilly, M., et al. (2009). Cyberbullying among students with intellectual and developmental disability in special education settings. *Developmental Neurorehabilitation, 12*, 146–151.
- Dombrowski, S. C., Lemasney, J. W., Ahia, E. C., & Dickson, S. A. (2004). Protecting children from online sexual predators: Technological, psychoeducational, and legal considerations. *Professional Psychology, Research and Practice, 35*, 65–73.
- Doneman, P. (2008). *School computer feud linked to hit-run injury*. <<http://www.news.com.au>> Retrieved 05.04.08.
- Dublin, R. (1978). *Theory building* (Rev. ed.). New York: Free Press.
- Englander, E. K. (May, 2006). Spare the bully and spoil the school. *Paper presented at meeting of the National Trends in violence prevention, Topsfield, MA*.
- Englander, E., & Muldowney, A. M. (2007). Just turn the darn thing off: Understanding cyberbullying. In *Proceedings of the national conference on safe schools and communities, USA* (pp. 83–92).
- Erdur-Baker, O., & Kavut, F. (2007). A new face of peer bullying: Cyberbullying. *Journal of Euroasian Educational Research, 27*, 31–42.
- Espelage, D. L., Holt, M. K., & Henkel, R. R. (2003). Examination of peer-group contextual effects on aggression during early adolescence. *Child Development, 74*, 205–220.
- Finkelhor, D., Mitchell, K. J., & Wolak, J. (2000). *Online victimization: A report on the nation's youth (6-00-020)*. Alexandria, VA: National Center for Missing and Exploited Children.
- Glew, G. M., Fan, Y., Katon, W., Rivara, F. P., & Kernic, M. A. (2005). Bullying, psychosocial adjustment, and academic performance in elementary school. *Archives of Pediatrics and Adolescent Medicine, 159*, 1026–1031.
- Harris Interactive. (2006). *Online methodology*. <<http://www.harrisinteractive.com/partner/methodology.asp>>. Retrieved 20.01.10.
- Hinduja, S., & Patchin, J. W. (2008). Cyberbullying: An exploratory analysis of factors related to offending and victimization. *Deviant Behavior, 29*, 129–156.
- Holt, M. K., Finkelhor, D., & Kantor, G. K. (2007). Multiple victimization experiences of urban elementary school students: Associations with psychosocial functioning and academic performance. *Child Abuse & Neglect, 31*, 503–515.
- Holt, M., & Keyes, M. (2004). Teachers' attitudes toward bullying. In D. Espelage & S. Swearer (Eds.), *Bullying in American schools: A social-ecological perspective on prevention and intervention* (pp. 121–139). Mahwah, NJ: Erlbaum.
- Juvonen, J., & Gross, E. F. (2008). Bullying experiences in cyberspace. *The Journal of School Health, 78*, 496–505.
- Katzer, C., Fetchenhauer, D., & Belschak, F. (2009). Cyberbullying: Who are the victims? A comparison of victimization in Internet chatrooms and victimization in school. *Journal of Media Psychology, 21*, 25–36.
- Kowalski, R. M., & Limber, P. (2007). Electronic bullying among middle school students. *Journal of Adolescent Health, 41*, S22–S30.
- Kowalski, R. M., Limber, P., & Agatston, P. W. (2008). *Cyber bullying: Bullying in the digital age*. Oxford, UK: Blackwell.
- Lagerspetz, K. M. J., Bjorkqvist, K., Berts, M., & King, E. (1982). Group aggression among school children in three schools. *Scandinavian Journal of Psychology, 23*, 45–52.
- Lea, M., O'Shea, T., Fung, P., & Spears, R. (1992). "Flaming" in computer-mediated communication: Observations, explanations and implications. In M. Lea (Ed.), *Contexts of computer-mediated communication* (pp. 89–112). London: Harvester-Wheatsheaf.
- Li, Q. (2005). *Cyberbullying in schools: Nature and extent of Canadian adolescents' experience*. Paper presented at the meeting of the American Educational Research Association, Montreal, Canada.
- Li, Q. (2006). Cyberbullying in schools: A research of gender differences. *Social Psychology International, 27*, 157–170.
- Li, Q. (2007a). Bullying in the new playground: Research into cyberbullying and cyber victimization. *Australasian Journal of Educational Technology, 23*, 435–454.
- Li, Q. (2007b). New bottle but old wine: A research of cyberbullying in schools. *Computers in Human Behavior, 23*, 1777–1791.
- Li, Q. (2008). A cross-cultural comparison of adolescents' experience related to cyberbullying. *Educational Research, 50*, 223–234.
- Mayer, D. (2008). Cyberbullying: An ethnographic case study of one Australian upper primary school class. *Youth Studies Australia, 27*, 50–57.
- Mitchell, K. J., Wolak, J., & Finkelhor, D. (2007). Trends in youth reports of sexual solicitations, harassment, and unwanted exposure to pornography on the Internet. *Journal of Adolescent Health, 40*, 116–126.
- Olweus, D. (1996). *The revised Olweus bully/victim questionnaire*. Mimeo. Bergen, Norway: University of Bergen, Research Center for Health Promotion.
- Olweus, D. (2003). A profile of bullying at school. *Educational Leadership, 60*, 12–19.
- O'Moore, A. M., & Hillery, B. (1989). Bullying in Dublin schools. *Irish Journal of Psychology, 10*, 426–441.

- Patchin, J. W., & Hinduja, S. (2006). Bullies move beyond the schoolyard: A preliminary look at cyberbullying. *Youth Violence and Juvenile Justice*, 4, 148–169.
- Segrin, C. (2003). Age moderates the relationship between social support and psychosocial problems. *Human Communication Research*, 29, 317–342.
- Seto, K. W. (2002). How should legislation deal with children as victims and perpetrators of cyberstalking? *Cardozo Women's Law Journal*, 9, 67–72.
- Sharples, M., Graber, R., Harrison, C., & Logan, K. (2009). E-safety and Web2.0 for children aged 11–16. *Journal of Computer-Assisted Learning*, 25, 70–84.
- Slee, P. T. (1995). Peer victimization and its relationship to depression among Australian primary school students. *Personality and Individual Differences*, 18, 57–62.
- Slonje, R., & Smith, P. K. (2007). Cyberbullying: Another main type of bullying? *Scandinavian Journal of Psychology*, 49, 147–154.
- Smith, P. K., Mahdavi, J., Carvalho, M., Fisher, S., Russell, S., & Tippett, N. (2008). Cyberbullying: Its nature and impact in secondary school pupils. *Journal of Child Psychology and Psychiatry*, 49, 376–385.
- Smith, P., Mahdavi, J., Carvalho, M., & Tippet, N. (2006). *An investigation into cyber bullying, its forms, awareness and impact, and the relationship between age and gender in cyber bullying*. A report to the Anti-Bullying Alliance. London, UK. <<http://www.anti-bullyingalliance.org>> Retrieved 20.01.10.
- Stephenson, P., & Smith, D. (1989). Bullying in the junior school. In D. P. Tattum & D. A. Lane (Eds.), *Bullying in schools*. (pp. 45–48). Stoke-on-Trent England: Trentham Books.
- Tokunaga, R. S. (2007). Cyber-intrusions: Strategies for coping with online relational intrusions. Unpublished master's thesis, University of Hawaii, Honolulu.
- Tomazin, F., & Smith, B. (2007). *The bully you can't see*. <<http://www.theage.com.au/>> Retrieved 20.01.10.
- Topcu, C., Erdur-Baker, O., & Capa-Aydin, Y. (2008). Examination of cyberbullying experiences among Turkish students from different school types. *CyberPsychology & Behavior*, 11, 643–648.
- UCLA Center for Communication Policy (2003). *The UCLA Internet report: Surveying the digital future: Year three*. <<http://www.digitalcenter.org/pdf/InternetReportYearThree.pdf>> Retrieved 20.01.10.
- Varjas, K., Henrich, C. C., & Meyers, J. (2009). Urban middle school student's perceptions of bullying, cyberbullying, and school safety. *Journal of School Violence*, 8, 159–176.
- Varjas, K., Meyers, J., Hunt, M. H. (2006). *Student survey of bullying behavior: Revised 2 (SSBB-R2)*. Atlanta, Georgia: Georgia State University, Center for Research on School Safety, School Climate, and Classroom Management.
- Veenstra, R., Lindenberg, S., Zijlstra, B. J. H., De Winter, A. F., Verhulst, F. C., & Ormel, J. (2007). The dyadic nature of bullying and victimization: Testing a dual-perspective theory. *Child Development*, 78, 1843–1854.
- Vygotsky, L. (1978). *Mind in society*. Cambridge, MA: Harvard University Press.
- Willard, N. (2007). The authority and responsibility of school officials in responding to cyberbullying. *Journal of Adolescent Health*, 41, 64–65.
- Williams, K., & Guerra, N. (2007). Prevalence and predictors of Internet bullying. *Journal of Adolescent Health*, 41, S14–S21.
- Witmer, D. F. (1997). Risky business: Why people feel safe in sexually explicit on-line communication. *Journal of Computer-Mediated Communication*, 2(4). <<http://jcmc.indiana.edu/vol2/issue4/witmer2.html>> Retrieved 16.09.09 [Article 8].
- Wolak, J., Mitchell, K., & Finkelhor, D. (2007). Does online harassment constitute bullying? An exploration of online harassment by known peers and online-only contacts. *Journal of Adolescent Health*, 41, S51–S58.
- Ybarra, M. L. (2004). Linkages between depressive symptomatology and Internet harassment among young regular Internet users. *CyberPsychology & Behavior*, 7, 247–257.
- Ybarra, M. L., Diener-West, M., & Leaf, P. J. (2007). Examining the overlap in Internet harassment and school bullying: Implications for school intervention. *Journal of Adolescent Health*, 41, S42–S50.
- Ybarra, M. L., & Mitchell, J. K. (2004). Online aggressor/targets, aggressors and targets: A comparison of associated youth characteristics. *Journal of Child Psychology and Psychiatry*, 45, 1308–1316.
- Ybarra, M. L., & Mitchell, J. K. (2008). How risky are social networking sites? A comparison of places online where youth sexual solicitation and harassment occurs. *Pediatrics*, 121, e350–e357.
- Ybarra, M. L., Mitchell, K. J., Wolak, J., & Finkelhor, D. (2006). Examining characteristics and associated distress related to Internet harassment: Findings from the Second Youth Internet Safety Survey. *Pediatrics*, 118, e1169–e1177.
- Zimmer, L. (2006). Qualitative meta-synthesis: A question dialoguing with texts. *Journal of Advanced Nursing*, 53, 311–318.