RESEARCH ARTICLE

Public vs. Private Cyberbullying Among Adolescents

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Abstract

Cyberbullying is a phenomenon that is present in all aspects of adolescent students' lives. The current investigation examines the incidence of reported cyberbullying among stadolescents, with a randomly collected sample of responses. The study looks specifically at the reported occurrences, the type of social media where cyberbullying is reported, and the demographics of those experiencing the bullying. Like other research on cyberbullying, the current study found a greater prevalence amongst male students. Unique to this study, cyberbullying was found to be more prevalentin social media types that were open to many people (i.e. Facebook) when compared to more private forms of social communication (i.e., email or text messages). The results and implications are presented and discussed.

Keywords

Cyberbullying, adolescents, social media, online communication

Introduction

Cyberbullying is a 21st century public health threat that appears to become more prevalent with increasing connectivity to electronic and mobile technologies (Abouajoude, Savage, Starcevic, & Salame, 2015). Cyberbullying has been associated primarily with adolescent populations who target and victimize each other through electronic technologies, such as social media, email, and text messaging (Abouajoude et al. 2015; Richards, Caldwell, & Go, 2015). As these technologies grow and expand through greater internet accessibility and a growing number of social media platforms available to adolescents, the opportunities for cyberbullying behavior increase as well. One issue scholars have wrestled with is the potential similarities and differences between traditional bullying and cyberbullying (Kubiszewski, Fontaine, Potard, and Auzoult, 2015; Thomas, Connor, & Scott, 2015), and how cyberbullying should be defined in particular (Abouajoude et al., 2015; Kowalski, Giumetti, Schroeder, & Lattanner, 2014; Mehari, Farrell, & Le, 2014; Selkie, Fales, & Moreno, 2016; Thomas, Connor, & Scott, 2015; Ybarra, Boyd, Korchmaros, & Oppenheim, 2012). As research into the phenomenon of cyberbullying has grown, a number of variables related to and potentially mediating or moderating the frequency and effects of cyberbullying have been examined. These include factors of moral values and moral disengagement, intellectual and developmental disabilities, learning disabilities, high-risk environments, parental support and supervision of adolescents, digital bystanders who may witness cyberbullying, exposure to anti-social material, emotional factors and issues, prior experience with cyberbullying, classroom norms and indirect social influence factors, social likeability, compulsive internet use, teacher classroom behavior, and age and gender. As research has blossomed examining these various aspects of cyberbullying behavior in recent years, it perhaps comes as no surprise that there are number inconsistencies and conflicting research results reported. The present study aims to address some of these inconsistencies by examining a national random sample of adolescents who have experienced cyberbullying behavior as victims.

One important issue with great relevance to the phenomenon of cyberbullying as a form of bullying in particular is the extent to which the behavior may be private and the perpetrator's

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identity kept anonymous, vs. the extent to which the behavior occurs in more public digital arenas where perpetrators may or may not have the means or desire to remain anonymous. The principal aim of the present investigation is to explore this issue by examining the relative frequency of cyberbullying experience on the part of adolescents in public vs. Private digital contexts.

Literature Review

The study of cyberbullying has been fraught with ambiguities and inconsistencies, making it possible for conclusions to appear misleading or be misinterpreted. The foundation of these difficulties often seems to rest on fundamental matters of definition. Several scholars cite the lack of a conventional, widely accepted definition of cyberbullying to accurately measure its prevalence, forms, and outcomes (Abouajoude et al., 2015; Kowalski, Giumetti, Schroeder, & Lattanner, 2014; Mehari, Farrell, & Le, 2014; Selkie, Fales, & Moreno, 2016; Thomas, Connor, & Scott, 2015; Ybarra, Boyd, Korchmaros, & Oppenheim, 2012).

A widely accepted definition of traditional bullying has been proposed by Dan Olweus (1993, 1997, 2013), which conceptualizes bullying as consisting of intention, repetition, and power imbalance. Thomas et al. (2015) assert that while this definition translates to cyberbullying behavior as well, when extending the conceptual definition from traditional bullying to cyberbullying, additional factors such as anonymity and publicity may also be involved. To address these additional criteria for cyberbullying suggested by Thomas et al., scholars have studied the phenomena of anonymity and publicity and their effects on adolescents' experience with cyberbullying (Barletta, 2015a; Barletta, 2015b; Casas, Del Rey, & Ortega-Ruiz, 2013; Stick & Peron, 2013).

Anonymity & Publicity

Barlett (2015a; 2015b) found that the component of anonymity leads individuals to favor cyberbullying, which predicts later episodes of cyberbullying. Higher rates of cyberbullying were discovered when interacting in more anonymous settings (e.g., instant messaging; online chat rooms), as well as when perpetrators have positive views toward engaging in cyberbullying. However, Bartlett (2015a) cautions that "perceived anonymity may be more important than actual anonymity" (p. 77). In a similar inquiry, Sticca and Perren (2013) found that anonymous bullies were perceived as worse than identifiable bullies; a finding that they argue is related to the diminished perceived control over the bullying episode.

Sticca and Perren (2013) also explored the factor of publicity. Adolescents rated publicity (i.e., public contexts of bullying and cyberbullying) as the most severe form, regardless of the medium of presentation (i.e., bullying or cyberbullying). This suggests that adolescents likely fear public humiliation and the potential for witness accounts to be spread rapidly and unknowingly. Controllability of a situation was also examined. Episodes that are less controllable (i.e., public contexts and social media) were viewed as increasingly severe; here, a victim may feel helpless by the lack of control over the situation (Sticca & Perren, 2013).

Maintaining poor personal privacy practices—failing to control one's own private information—has been found to be highly predictive of cyberbullying victimization (Casas et al., 2013; Sticca & Perren, 2013). Qualitative evidence to support the factor of publicity was provided by Vargas, Meyers, Kieran, and Howard (2013). Online communication allows perpetrators to, "[get] a negative message to a large number of people" (p. 36). Ninety-four percent of participants in the study reported that perpetrators engaged in cyberbullying intentionally to create drama, and because they are able to hide from the consequences of the bullying experience (Vargas et al., 2013).

Additional Factors

Moral Disengagement & Moral Values. Various studies have explored the relationship between moral disengagement (e.g., Robson & Witenberg, 2013; Varjas et al., 2013), moral values (Menesini, Nocentini, & Camodeca, 2011) and the incidence of cyberbullying. For example, a study conducted by Varjas et al. (2013) involving lesbian, gay, and bisexual adolescents discovered that some bullies and bystanders have justified their acts as being warranted out of a desire for revenge stemming from prior-occurring behaviors or interactions that were viewed as negative by the perpetrators. These perceptions exemplify the cognitive

strategy of "blaming the victim," described by Lerner (1980), and are consistent with moral disengagement theory, which posits that youth perpetrators of cyberbullying emotionally distance themselves from their victims, as well as justify their actions as not actually being morally reprehensible (Bandura, 1999; Obermann, 2011).

Intellectual & Developmental Disability. Didden et al. (2009) discovered positive relationships between intelligence level and cyberbullying in that the higher an adolescent's level of intelligence, the more likely they were found to have perpetrated cyberbullying. Similarly, attention-deficit/hyperactivity disorder (ADHD) in adolescents also was associated with cyberbullying via cell phone, but autism spectrum disorder in adolescents was not (Didden et al., 2009).

Learning Disabilities. Heiman and Dorit-Shemesh (2015) found that adolescents with learning disabilities (LD) were found to perpetrate and be victims of cyberbullying to a greater extent than adolescents without learning disabilities. Further, those adolescents who enrolled in dedicated special education classes (i.e., resource rooms) were more involved with cyberbullying than those enrolled in the general education setting. Notably, adolescents with comorbid LD and ADHD were at the greatest risk of involvement as perpetrators of cyberbullying (Heiman & Dorit-Shemesh, 2015).

High-Risk Environments. Other researchers have examined the role of high-risk environmental contexts as placing adolescents at risk for engaging in cyberbullying (Pelfrey & Weber, 2013; Sbarbaro & Enyeart-Smith, 2011). In a study of middle school students living in poverty, Sbarbaro and Enyeart-Smith (2011) found that 66% of participants had never been victimized by cyberbullying, though 57% of participants reported perpetrating cyberbullying-like behaviors. Interestingly, 69% of participants reported observing another adolescent cyberbully someone else (Sbarbaro & Enyeart-Smith, 2011).

Parental Support & Supervision. Other researchers have examined the influence of parental support and supervision on cyberbullying. Ang (2015) argued that as adolescence is commonly marked as a developmental period where individuals partake in risky behaviors; and the occurrence of cyberbullying, then, should not be surprising. Poor parental involvement—marked by "a poor emotional bond, a lack of awareness about the adolescent's online activities, and a lack of adequate parental monitoring" (p. 41)—has been demonstrated to predict cyberbullying in adolescents (Ang, 2015). Shapka and Law (2013) explored the impact of diverse parent backgrounds on adolescent cyberbullying and found that parenting practices that exercised poor control over their adolescent's browsing and online behaviors were associated with higher rates of cyberbullying.

Digital Bystanders. Several authors have contributed to the cyberbullying literature regarding the specific role that social media plays in mediating the perpetration of aggressive online behaviors. Wong-Lo and Bullock (2014) noted the distinct role of digital bystanders due to issues of anonymity and publicity. Specifically, digital bystanders were noted to be "in a unique predicament" regarding the decision to support or ignore an incident of cyberbullying (Wong-Lo & Bullock, 2014, p. 420). While a traditional bystander may have his or her identity revealed by being in the company of other witnesses and thus perceive some peer pressure with respect to how they should respond, digital bystanders can autonomously chose whether or not to maintain their anonymity and privacy when engaging in electronic mediums of communication.

Bastiaensens et al. (2014) found that digital bystanders were likely to support the victim in a severe incident of cyberbullying. However, the actions of other bystanders did not impact their behavioral intentions to either come to the victim's aid or support the cyberbullying behavior. Further, girls were more likely than boys to assist and defend the victims and to report the incident to appropriate adults. Similarly, DeSmet et al. (2014) cautioned that bystanders' behaviors are likely related to contextual and environmental factors, rather than inherent personality factors. Bystanders preferred to assist the victim in person, rather than online, and that doing so was more viable than confronting the bully, especially when the bully was believed to be a member of a popular social group (DeSmet et al., 2014).

Another inquiry into the role of digital bystanders found that age and gender were predictors of bystander behavior during cyberbullying events (Van Cleemput, Vandebosch, & Pabian, 2014). Younger adolescents more frequently reported assisting or defending the victim, while boys and older adolescents more frequently reported joining the perpetrator or ignoring the

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bullying incident. Further, previous experience with being bullied resulted in greater bystander behavior of assisting and defending victims (Van Cleemput et al., 2014).

Exposure to Antisocial Content. Researchers also have found a positive relationship between exposure to antisocial content (i.e., that which portrays defiant or risky behaviors, such as verbal or physical aggression, the use of obscene language and actions, the use of illicit drugs, etc.) and perpetration of cyberbullying. For example, den Hamer, Konjin, & Keijer (2014) found that the more one was exposed to or viewed antisocial content, the more likely they were to have bullied others. This effect was even stronger for adolescents who also experienced anger and frustration from being the victims of face-to-face bullying themselves. In addition, those who experienced victimization themselves were more likely to view antisocial content as a maladaptive coping strategy in order to cope with their anger.

In a longitudinal study, den Hamer and Konjin (2015) discovered that adolescents who were exposed to online content containing antisocial and perilous behaviors were more likely to commit an act of cyberbullying. Further, the more those adolescents viewed such content, the greater the increase in their cyberbullying behavior over time. These effects were similar across both genders, though these trends were heightened for boys relative to girls (den Hamer & Konjin, 2015).

Richards et al. (2015) posited that adolescents who use social media platforms are exposed to more risks, especially for those who are more technologically proficient and for those who have a wider scope of use (i.e., public profile, plethora of contacts, etc.). However, the authors assert that intrapersonal characteristics (i.e., attitudes, personality dispositions, etc.) are more representative of the factors that are predictive of engaging in cyberbullying behaviors (Richards et al., 2015).

Emotional Influences. Research by Brewer and Kerslake (2015) discovered that adolescents with low ratings of empathy and self-esteem were most likely to engage in cyberbullying. Stockdale, Coyne, Nelson, and Erickson (2015) studied the impact of borderline personality disorder on adolescent engagement of cyberbullying and found that those who displayed heightened features of the disorder more frequently perpetrated cyberbullying. Further, one's present level of jealousy influenced this relationship such that the greater one's feelings of jealousy toward another, the more likely the aggressor is to engage in these behaviors (Stockdale et al., 2015).

Prior Experience. A number of studies report that prior experience as a perpetrator of cyberbullying behavior is strongly and positively related to later instances of perpetration (Barlett, 2015b; den Hamer & Konjin, 2015; Festl, 2016; Festl Scharkow, & Quandt, 2015; Marcum et al., 2014). Similarly, perpetration of traditional in-person acts of bullying has been found to be moderately to strongly predictive of cyberbullying (Abouajoude et al., 2015; Barlett, 2015b; Burton, Florell, & Wygant, 2013; DeSmet et al., 2014; Festl et al., 2015; Kowalski, Morgan, & Limber, 2012; Waasdorp & Bradshaw, 2015; Wong-Lo & Bullock, 2014). Kowalski et al. (2012) noted that this relationship was particularly strong for girls, and that the severity of the perpetration of cyberbullying was also related to the severity of traditional acts of bullying. Finally, adolescents who had favorable views of cyberbullying engaged in cyberbullying at a higher incidence (Barlett, 2015b; Festl, 2016; Festl et al., 2015).

Relation to Traditional Bullying. It has been suggested that the course of cyberbullying frequently starts with traditional bullying in person, continues online or through digital communication, and then continues with an increasingly aggressive face-to-face meeting or one in which the victim seeks to resolve the issue with the bully (DeSmet et al., 2014; Wong-Lo & Bullock, 2014). Burton et al. (2013) studied the role of peer attachment and beliefs regarding interpersonal aggression, such as cyberbullying, among middle school students. They found that cyberbullies and cyberbully/victims (those who are bullied and then bully others) reported more frequent episodes of traditional bullying perpetration, while victims and adolescents uninvolved with cyberbullying reported less frequent involvement with traditional bullying. Research by Kubiszewski, Fontaine, Potard, and Auzoult (2015) found that for the adolescents who identified as cyberbully/victims, more of them engaged in cyberbullying than traditional bullying. In other words, if an individual was cyberbullied and then became a bully themselves, their activity as a perpetrator was more likely to occur in cyberspace rather than face-to-face. However, contrary to a number of other studies, Kubiszewski, et al. found that the experience of interpersonal aggression and the perpetrator and victim psychological

characteristics were not similar across bullying modalities (i.e., cyberbullying vs. traditional bullying). For these reasons, Kubiszewski et al. concluded that "cyberbullying is a form of aggressive behavior that is quite distinct from school (traditional) bullying" (p. 56).

Classroom Norms (Indirect Social Influence). In an inquiry into cyberbullying in school-based settings, Festl et al. (2015) discovered that indirect social influence in the form of classroom norms strongly influenced one's risk of engaging in cyberbullying behavior, and being victims of it as well. Specifically, adolescents who believed their classmates had favorable views of engaging in cyberbullying were likely to engage in cyberbullying themselves. However, when it comes to direct social influence, the authors failed to find an effect. The number of traditional bully perpetrators and the number of cyberbully perpetrators in the class both had no effect on the risk of perpetration of cyberbullying (Barlett, 2015b; Festl et al., 2015).

Social Likeability. Poor social likeability has been identified as a risk factor for cyberbullying perpetration that has been hypothesized to function "as a compensatory strategy in order to deal with social rejection" (Festl, 2016, p. 246). Conversely, adolescents of high social status were likely to engage in the perpetration of cyberbullying as a way to assert their social dominance (Festl, 2016). Burton et al. (2013) noted that adolescents who reported higher levels of peer attachment were found to be less involved with cyberbullying. In addition, these authors hypothesized that cyberbully/victims would be most likely to experience social isolation compared to all other peer groups (cyberbullies, victims, & those completely uninvolved with cyberbullying). However, Burton et al. report that only adolescents who were found to be completely uninvolved with cyberbullying were found to have significantly stronger peer attachment compared to cyberbully/victims; cyberbullies and their victims did not indicate greater peer attachment than cyberbully/victims.

Compulsive Internet Use. Casas et al. (2013) noted that addictive-like behaviors on the Internet—those that are "excessive, impulsive, or addictive" (p. 584)—were found to be predictive of cyberbullying perpetration. Marcum, Higgins, Freiburger, and Ricketts (2014) later found support for the notion that adolescents with hindered self-control were more likely to engage in cyberbullying than those without facing the difficulties related to impulsivity, while Waasdorp and Bradshaw (2015) reported, "An addictive effect" (p. 487) regarding one's involvement with cyberbullying.

Teacher Classroom Behavior. Research conducted by Elledge et al. (2013) studied the impact that teachers' classroom behaviors had on adolescents' attitudes and perceptions of cyberbullying. As hypothesized, adolescents' provictim attitudes—those that hold that bullying is intolerable and that assisting victims is highly regarded—were negatively related to the incidence of cyberbullying. Further, in the school setting, cyberbullying occurred less frequently when larger classroom populations held provictim attitudes (Elledge et al., 2013). A notable finding was that when teachers were rated to be more competent and active at intervening with traditional school bullying, the incidence of cyberbullying increased, suggesting that students identified as bullies in the classroom resorted to other means of aggression such as cyberbullying.

Age & Gender. A number of studies have examined the effects of age and gender on cyberbullying. This research has yielded conflicting results. Many studies have reported no effects of age/grade level on cyberbullying (Elledge et al., 2013; Lapidot-Lefler & Dolev-Cohen, 2015), while others have reported that that older students were more likely to engage in cyberbullying behaviors than younger students (Hinduja & Patchin, 2013; Robson & Witenberg, 2013; Sbarbaro & Enyeart-Smith, 2011).

Lapidot-Lefter and Dolev-Cohen (2015) note that while boys reported perpetration of cyberbullying more than girls, there were no significant gender differences among victims of cyberbullying. Hinduja and Patchin (2013) found that boys were more likely to engage in cyberbullying behaviors, which was especially true if the boys had reported that members within their social groups had been involved with cyberbullying.

Elledge et al. (2013) note that boys were found to hold fewer provictim attitudes than girls; and when the variable of holding provictim attitudes was controlled for in the statistical analyses, the authors found that girls reported more incidents of cyberbullying than boys (Elledge et al., 2013). Similar findings by Beckman et al. (2013) and Rice et al. (2015) revealed that girls are more involved with cyberbullying—as perpetrators and as victims—than boys.

Others have found that girls are more likely to be victims of cyberbullying, while boys are more likely to be perpetrators of cyberbullying (Coelho et al., 2016; Heiman & Olenik-Shemesh, 2015; Waasdorp & Bradshaw, 2015).

Marcum et al., 2014, and Mishna et al., 2010, report findings suggesting that while there are no significant overall gender differences, boys more frequently engage in direct forms cyberbullying (i.e., making threats to others), while girls more frequently engage in indirect forms of cyberbullying (i.e., creating and spreading rumors). This finding is consistent with a number of studies examining gender differences in aggressive behavior more broadly (Campbell, 1999; Fujihara, Kohyama, Andreu, & Ramierez, 1999; Theron, Matthee, Steel, & Ramierez, 2000; Vaillancourt, 2005). Marcum et al. (2014) noted that time spent online was a significant predictor of how likely boys are to engage in cyberbullying, while number of contacts was a significant predictor of how likely girls are to engage in cyberbullying.

While the significance of the variables of age and gender in relation to cyberbullying has been found to be inconclusive from one study to the next, a meta-analysis conducted by Kowalski et al. (2014) suggests that cyberbullying is most likely to occur among students in seventh through tenth grades, and that there is no significant difference in prevalence between adolescent boys and girls who reported engaging in or experiencing cyberbullying. Gender was identified as a moderator in the meta-analysis, and largely related to victimization and outcomes, rather than to prevalence or perpetration (Kowalski et al., 2014).

Risk Factors

Several scholars have proposed sets of risk factors for cyberbullying. Kowalski and colleagues (2014) identified five major risk factors for experiencing cyberbullying, which included, "Traditional bullying or victimization, anger, moral disengagement, risky online behavior, and the frequency of Internet use" (p. 1123). Barlett (2015b) discovered that having four risk factors significantly predicted subsequent perpetration of cyberbullying. These factors are: being male, having early exposure or experience with cyberbullying, viewing cyberbullying favorably, and having a high degree of anonymity. To buffer these risk factors, scholars have identified protective factors that may prevent adolescents from experiencing cyberbullying. These factors include school safety and climate; one's perceived social support and peer attachment, and one's academic achievement (Kowalski et al., 2014).

Inconsistent Research Findings

A recent review of the literature conducted by Selkie et al. (2016) posited that a paucity of research on the quality and quantity of cyberbullying incidents facing adolescent school-aged students in the United States has resulted in dissimilar findings across studies. Their findings suggest that inconsistent definitions of cyberbullying and varying instrumentation methodologies have resulted in dissimilar and contradictory research results. Ybarra et al. (2012) cautioned that while traditional face-to-face bullying appears to be more prevalent than cyberbullying, more precise definitions for measuring cyberbullying must be applied to related lines of inquiry. Further, when researching bullying-related statistics, the authors warned that including the defining characteristics of bullying in measures of cyberbullying will allow researchers to best conceptualize this phenomenon (Ybarra et al., 2012). Given these inconsistencies in the available research on cyberbullying, additional research designed to address some of these outstanding issues is warranted.

The Present Study

In order to address some of the inconsistencies in the cyberbullying research identified by Selkie et al. (2016) and others, and to explore an important dimension relatively unique to cyberbullying, the present study examines data from a national survey of junior high/middle school and high school aged adolescents conducted by MTV and The Associated Press-NORC Center for Public Affairs Research (2014). Specifically, the investigation examines the prevalence of different types of cyberbullying (social media-based versus text message/email-based) across genders (male/boy versus female/girl) and school level (middle/junior high school versus high school). The data in the present study focuses on the prevalence of cyberbully victimization, as opposed to perpetration.

The examination of the types of cyberbullying listed above represents a unique contribution to the research literature on cyberbullying behavior. According to a representative of the

NORC Center for Public Affairs Research—the organization that owns the data set used in the present study—an analysis of public vs. private forms of cyberbullying has not been attempted before using this particular data set (Sarah-Kathryn McDonald, Personal Communication, Nov. 11, 2015). As discussed earlier, one aspect of cyberbullying that often differentiates it from traditional forms of face-to-face bullying is the potential for it to occur in more private or socially secluded contexts. For example, cyberbullying that occurs via the medium of text messaging and email is an example of this private and socially secluded form of cyberbullying, as the cyberbully's actions are directed toward the victim and observed directly only by the bully and victim. However, with the advent of Facebook, Twitter, Snapchat, and other social media platforms, a cyberbully can target a victim in the presence of a potentially very large digital audience of witnesses and bystanders. Indeed, as discussed earlier, the cyberbully's motives may influence the choice of digital context in which to bully others. Cyberbullies who wish an audience to view their actions—perhaps for the added harmful effects of shame, embarrassment, damage to the social reputation of the victim, and the possibility that some bystanders may join in and add to the bullying—may be more likely to choose a social media context in which to bully. On the other hand, cyberbullies who wish to remain anonymous or at least keep their behaviors private and shielded from public view, awareness, and scrutiny may be more likely to choose one-to-one channels for their cyberbullying actions such as text messages or email. The potential differences in the frequency with which cyberbullies select one type of digital context (i.e. public) vs. another (i.e. private) need to be explored. Such research has the potential to expand our understanding of cyberbullying behavior more broadly, and the possible motives of cyberbullies and the relative frequency of those motives in particular.

With respect to the predicted outcomes for the present study, the inconsistencies that exist in the cyberbullying research make it difficult to identify a single, clear predicted result based on theoretical and empirical grounds. For example, research discussed earlier by Bartlett (2015a; 2015b) indicates that the characteristic of anonymity is one of the reasons those inclined to bully prefer cyberbullying. In fact, Bartlett reports evidence of higher rates of cyberbullying taking place via instant messaging and online chat rooms, which he identifies as anonymous means of digital communication. Both of these lines of evidence would suggest participants in the present study would prefer the more anonymous and private means of cyberbullying, namely text message and email forms of digital communication. In addition, the research of Varjas et al. (2013) discussed earlier found that perpetrators tended to engage in cyberbullying because they are able to hide from the consequences of the bullying experience. If bullies are drawn to cyberbullying due to this anonymity if affords, that would suggest they would prefer private means of doing so, like text messaging and email, over public social media platforms.

However, some cyberbullies may prefer public forums for cyberbullying like social media platforms to the extent these means of digital communication support their motives and objectives for cyberbullying. For example, the work of Sticca & Perren (2013) reviewed earlier reveals that the act of bullying itself is perceived as most severe if it is public, and cyberbullying via social media in particular was rated as more severe than other forms of bullying. To the extent a cyberbully is motivated to achieve the most severe effect and to inflict the greatest social and emotional harm—and to the extent seeing the victim harmed is reinforcing for the cyberbully—that cyberbully may prefer the more public social media context for his or her cyberbullying behavior. Indeed, there is research examining traditional bullying among adolescents that suggests the bully often prefers a public context for the perpetration of the bullying behavior (Juvonen, Graham, & Schuster, 2003). Given that there are likely to be multiple motives for cyberbullying, and that these motives may vary from one bully to the next or from one instance of bullying to the next, both public and private forms of cyberbullying may be common. If one form is more common than the other in general, research should be able to reveal that pattern. The present study is intended to contribute to this research process and answer the question as to which might be the more common form of cyberbullying in this particular sample of adolescents.

Methods

The data included in the current investigation were retrieved from results of the online survey entitled, "Digital Abuse and Online Discrimination: The Experience of Teens and Young

Adults." This federally funded survey was conducted by the GfK Knowledge Networks and sponsored by MTV and the Associated Press/NORC Center for Public Affairs Research (The Associated Press-NORC Center for Public Affairs Research, 2014). As indicated above, the survey respondents were randomly selected based on a probability-based random selection process designed to be representative of the U.S. population. Randomly selected participants were invited to participate via mail and phone call invitations.

Participants

Data selected for inclusion in the current investigation included only those participants in middle school and high school. The total sample size in the original survey was n = 1,297 with an age range of 14-24 years of age. For the purpose of the current investigation, participant responses included participants identified as junior high school (n = 583; 67.1%) or high school age (n = 286; 32.9%). This resulted in 59.8% of participants identified as female (n = 520), while 40.2% of participants identified as male (n = 349).

In terms of race/ethnicity, 60.6% of participants identified as non-Hispanic white (n = 527), while only 8.5% of participants identified as non-Hispanic black (n = 74) and 20.8% of participants identified as Hispanic (n = 181). Ten percent of participants identified as "other" (n = 87). In terms of location, 83.9% of participants reported living in a metropolitan statistical area (n = 729), while only 16.1% of participants reported living elsewhere (n = 140). Interestingly, and perhaps unsurprisingly, 94.5% of participants reported having household Internet access (n = 821), while only 5.5% report they do not (n = 48).

Procedure

The data was downloaded from the NORC website into an SPSS file, after receiving approval for an exempt protocol from the YSU IRB. All post-secondary students were eliminated from the data set, and two variables were created based on participant responses to survey questions: self-reported experience of bullying in private communications (i.e., emails and/or text-messages), and self-reported instances of bullying in public forums (Facebook. Chat rooms, etc.). Participants were asked to indicate whether they had experience as victims of cyberbullying across a number of different survey items. The participants indicated with an affirmative or a non-affirmative response. The instances of the two different types of bullying were summated for every middle school and high school student, in which an affirmative response was given the value of one, and a non-affirming response was given a value of zero. No student data was eliminated from the analyses.

Results

Preliminary results from the analysis contained both continuous (frequency of bullying) and categorical (types of cyberbullying, gender, grade level) data. In an effort to assess if there are differences in the frequency of bullying across the different modalities (private digital communication vs. social media), a paired samples t-test was used to examine reported instances of bullying in the two modalities for participants reporting on both variables. The results, based on n = 860 responses, indicates that there are significantly more reported instances of cyberbullying in the social media (M =10.845, SD = 1.664) arena, relative to the private digital communication (M = 9.327, SD = 1.337) arena, $t_d(859)$ = 39.668, p <.001. The results of the paired-samples t-test indicate that the correlation between the reported public and private bullying experiences is r = .741, p <.001. Since the two outcome measures are highly correlated, multivariate analysis of variance (MANOVA) can be used to assess these outcomes against gender and grade level of respondents. Results of the multivariate test reveals that the reported frequency of bullying differs for gender, F (2,855) = 5.356, p = .005. The results of the Tests of Between Subjects Effects indicate that a significant difference exists on reported bullying in the social media arena for gender, but not for private forms of communication. No differences were found for levels of education or for the interaction of gender and level of education. These results are presented in Table 1.

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Table 1. Tests of Between Subjects Effects

Source	DependentVariable	F	Sig.	η²
Gender	Text/Email	0.559	0.455	0.116
	Social_Media	7.255	0.007	0.767
Education	Text/Email	0.445	0.505	0.102
	Social_Media	1.422	0.233	0.222
Gender*Education	Text/Email	0.232	0.63	0.077
	Social_Media	0.051	0.821	0.056

As indicated in Table 2, Males are reporting more frequent instances of cyberbullying, relative to females in both the Text/Email, private communications and the Social Media communications.

Table 2. Average Cyberbullying Experienced by Gender and Education Level

	Gender	Education	Mean	SD
Text/Email	Male	Middle	9.419	1.316
		High School	9.305	1.604
	Female	Middle	9.297	1.279
		High School	9.279	1.281
Social_Media	Male	Middle	11.106	1.438
		High School	10.932	1.911
	Female	Middle	10.749	1.650
		High School	10.630	1.757

Discussion

The results of the current investigation revealed no differences in the experience of cyberbullying victimization across grade levels; from junior high/middle school to high school in particular. Thus, the present study fails to confirm some earlier findings suggesting that the prevalence of cyberbullying increases with age/grade level (Hinduja & Patchin, 2013; Robson & Witenberg, 2013; Sbarbaro & Enyeart-Smith, 2011). However, the current findings are similar to other findings in the literature which suggest that age/grade level has no direct impact on the prevalence of engaging in or experiencing cyberbullying (Elledge et al., 2013; Kowalski et al., 2014; Lapidot-Lefler & Dolev-Cohen, 2015). Perhaps if the present analysis had been able to examine grade by grade changes in the experience of cyberbullying —instead of the aggregate junior high vs high school comparison—that more nuanced and specific grade-level changes, if they exist, could have been detected. However, grade by grade level data was not provided in the data set.

With respect to variation in the incidence of cyberbullying victimization between genders, previous studies have yielded mixed results (Beckman et al., 2013; Coelho et al., 2016; Elledge et al., 2013; Heiman & Olenik-Shemesh, 2015; Hinduja & Patchin, 2013; Kowalski et al., 2014; Lapidot-Lefter & Dolev-Cohen, 2015; Marcum et al., 2014; Mishna et al., 2010; Waasdorp & Bradshaw, 2015). The results of the present study suggest that males report experiencing more cyberbullying as victims than females, on social media platforms but not in private digital communication. This finding is notable, as much of the aforementioned literature suggests otherwise; the research has more commonly suggested that females are victims of cyberbullying behavior (Beckman et al., 2013; Coelho et al., 2016; Elledge et al., 2013; Heiman & Olenik-Shemesh, 2015; Rice et al., 2015; Waasdorp & Bradshaw, 2015), or that no gender differences exist (Hinduja & Patchin, 2013; Kowalski et al., 2014; Lapidot-Lefter & Dolev-Cohen, 2015).

Perhaps the most compelling result of the current investigation is the finding that participants are experiencing higher levels of cyberbullying victimization via social media contexts compared to what occurs via email/text messaging contexts. These findings indicate

that the cyberbully prefers to bully in the more public context (via social media) rather than a private context (via email/text message), and suggests cyberbullies harbor a motive to have an audience for the aggressive acts and perhaps the greater social-emotional harmful impact that such a context affords.

As Sticca and Perren (2013) noted, controllability of a situation appears to influence an individual's decision to engage in cyberbullying behavior. Specifically, the cyberbully prefers situations where there is a lack of controllability of the situation by the victim (Casas et al., 2013; Sticca & Perren, 2013), and when the aggression may transmitted publicly so that many individuals are likely to be exposed to the message. Thus, there may be an element of public humiliation that the aggressor finds particularly motivating, as well as the ability of the message to be transmitted rapidly (Sticca & Perren, 2013).

However, the size of these differences between cyberbullying occurring in public vs. private digital arenas reported in the present study is small. If there is a distinct tendency for cyberbullies to prefer the social media context for their aggressive actions, it does not appear to be a large one. This suggests that perhaps the takeaway message from the current study is that cyberbullying occurs in diverse settings and is stimulated by diverse motives. In addition, a full picture of these diverse motives and objectives behind the cyberbully's actions will require research designed to examine these variables more directly, rather than relying on inferences about cyberbully motivation from the context in which it occurs.

Limitations of the present study. While the finding that cyberbullying is experienced in public social media contexts by participants in this national sample of adolescents to a greater extent than it is in private digital arenas is a compelling finding, and allows for a number of intriguing inferences about cyberbully motivation, there are also a number of limitations of the present research. First, as is quite the norm in cyberbullying research, the present study relies on self-report data of a behavior pattern low in social desirability. This of course raises questions about the reliability and validity of participant responses. Second, while the sample is randomly drawn from phone number data and may thus draw from a very large proportion of the national population of adolescents, it does clearly mean that the proportion of the national adolescent population with no phone number information associated with their identity was not available for inclusion in the sample. While this clearly compromises the full generalizability of the findings, it is not at all unusual for cyberbully research. In fact, that participants were randomly drawn from a large proportion of the national adolescent population makes the sample for this study superior to the quality of the samples drawn in many cyberbully research studies.

Another limitation of the present study is that it relies entirely on adolescents who report being a victim of cyberbully behavior; it does not include data from or about cyberbully perpetrators. To the extent it is desirable to understand the adolescent cyberbully himself/herself, and his or her motivations for this type of conduct, it would be most helpful to have data that directly reflects cyberbully actions and motives. This kind of data, however, is less common in the field of cyberbully research.

A limitation of the present study mentioned earlier is the absence of data for cyberbully victimization specific to each individual grade level. As reported above, the present study found no difference in reports of cyberbullying experience between junior high/middle school aged adolescents and high school aged adolescents. It is possible that if data were available and examined for this sample of adolescents at each individual grade level from 7-12, differences between teen cyberbully victimization at particular grades may have been observed.

Finally, there is a concern with the assumption made in the present study that email and text message forms of digital communication reflect private and potentially anonymous forms of communication and that social media communication is public and therefore lacking in anonymity. The technologically savvy adolescent is likely capable of creating fake or phony social media accounts from which to launch cyberbully attacks. Such accounts may obscure the true identity of the attacker, while still allowing for the cyberbullying behavior to be witnessed by a number of digital bystanders, and of course the victim. Thus, in the data reported in the present study where adolescents report their own victimization in either text message/email arenas or social media arenas, the actions of the cyberbully may or may not have been fully anonymous. The present study does not have data that is able to address to

what extent the cyberbully actions were or were not committed by an anonymous perpetrator. It may be a reasonably safe assumption that most social media behavior is public and not anonymous, but the present study does not include data or a design to ensure that it is. Given this fact, and the fact the public vs private rates of cyberbully victimization were not dramatically different, the inference that adolescent cyberbullies prefer public arenas for their aggressive actions should be interpreted with caution.

Conclusion

The results of this investigation indicate that with this national sample of adolescents, acts of cyberbullying were experienced significantly more frequently in public social media digital domains than private (email & text message) ones. This may suggest that the cyberbullies behind the acts of cyberbullying reported by this sample of adolescents were motivated by a desire to have their aggressive actions occur in a public context where they can be witnessed by victims and perpetrators alike. Given that this form of cyberbullying is rated by victims to be the most severe (Sticca & Perren, 2013), this suggests that it is perhaps more common for cyberbullies to operate with the intention of doing more harm to their victims, rather than less. However, as discussed above, the extent to which the cyberbully is anonymous or not is not something that can be determined from the research data presented here.

In addition, consistent with some studies but not others, the present study failed to find any significant age-related differences in cyberbullying for either private or public forms of cyberbullying. The present analysis did reveal gender differences to a limited extent. Specifically, males experienced more cyberbully victimization in the public social media context than did females. This finding is noteworthy in that it contradicts a number of prior studies suggesting this difference is reversed. If the context of cyberbullying shares patterns of male-female differences observed in the study of more traditional forms of interpersonal aggression, future research might reveal males prefer more direct and non-anonymous means of cyberbullying in social media contexts while females prefer more indirect and anonymous means of cyberbullying via social media.

The societal objective of reducing the occurrence of cyberbullying behavior among adolescents will require a comprehensive understanding of the forms of action and contexts of experience that characterize cyberbullying. In addition, the motives behind the actions of the cyberbully and how those motives drive the choice of action and the avenue of assault selected by the cyberbully must also be understood to achieve these ends. The present study offers some important insights into these issues and concerns, and points researchers' attention to several lines of inquiry that need to be pursued in future investigations of adolescent cyberbullying.

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