Cyberbullying: Predictors and Prevalence in American and German Middle School Students

by

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ABSTRACT

The purpose of this study was to investigate several factors associated with cyberbullying and its victims; gender, age, and the time spent using various forms of computer-mediated communication (CMC). Because cross-national studies are so important to understanding the similarities and differences found in this global problem, the current study explored the connection between traditional bullying and cyberbullying in middle school students in both the United States (N = 111) and Germany (N = 279). Participants ranged in age from 12 to 15 years and were administered self-report questionnaires during the regular school day. It was predicted that German students would have higher mean rates of CMC use; Americans would have higher mean rates of participation in and being victims of cyberbullying; there would be no mean differences in American and German student outcomes as either victims or perpetrators of traditional bullying. Results indicated that German students did use CMC more often than American students did, but Americans used certain forms of CMC more often, such as texting, IM and email. Contrary to expectations, Germans were more likely to participate in cyber and traditional bullying behavior. Americans did have a greater number of victims compared to perpetrators for both traditional and cyberbullying behavior. Additional results found that the American sample had a pattern of decreasing then increasing behavior as student age increased, across participation in all forms of bullying behavior, and participation rates often depended on the age of the students involved. Future research suggestions might focus on the importance of distinguishing the varying thought processes that define cyberbullying within a culture, specifically within our own culture. Additional research might also address how online communities and their inherent social norms and interactions, may inadvertently contribute to increasing cyberbullying and victimization of others outside of those groups and communities. Finally, due to the constant updating and improvement of social media, a follow- up study utilizing updated online applications would add considerably to the current knowledge base.

DEDICATION

To my granddaughter, Athena

ACKNOWLEDGMENTS

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CHAPTER 1

INTRODUCTION

Bullying, and in particular, cyberbullying, has increasingly been seen as an "exploding phenomenon" (Cassidy, Faucher, & Jackson, 2013, p. 2) facing researchers and practitioners alike (Bulut & Gunduz, 2012; Demaray, Malecki, Jenkins, & Westermann, 2012; Kowalski, Limber, & Agatston, 2012; von Marees & Peterman, 2012). Results of two national studies: the Indicators of School Crime and Safety (Dinkes, Kemp, & Baum, 2009); and the Youth Risk Behavior Surveillance System (YRBSS; Eaton et al., 2009), suggest that the last twenty years have seen a decrease in the incidences of the highly publicized forms of school-related violence, such as "severe forms of youth victimization (e.g., assault with a deadly weapon)" (Jimerson, Hart, & Renshaw, 2012, p. 4), the occurrence of milder expressions of victimization, such as bullying, are becoming increasingly problematic in the school setting. In fact, other researchers have found evidence of an increase in bullying in the last five years (Cassidy, Brown, & Jackson, 2011; Kowalski et al., 2012).

Traditional bullying can be defined as "aggressive behavior intended to harm another individual." (Kowalski, Morgan, & Limber, 2012, p. 505). According to various researchers, traditional bullying is a repetitive action, and often involves a real or perceived imbalance of power between the victim and the perpetrator of the bullying behavior (Hampel, Manhal, & Hayer, 2009; Olweus, 1993; Olweus & Limber, 2010). The imbalance can stem from many sources including physical strength, perceived social status, or experience. The prevalence of traditional bullying varies across studies, but according to the NCES, during the 2015 school year, students ages 12 – 18 were studied via self-report questionnaire. Of these students, approximately 21% of all students had reportedly been involved in bullying or were being bullied in the school setting (NCES, 2015). According to the report, during the 2015 school year, approximately 67% of those students reporting being bullied in the school setting indicated that they had been bullied between one and two times during the school year. An additional 33% reported bullying occurring between one and two times per week, and about 10% reported being bullied weekly. According to the

report, only 4% of the students who reported being bullied, indicated that that they were bullied on an almost daily basis. Students in the sixth through the 8th grade were more l9ikely to report being bullied in school than were students in the ninth through the 12th grades. The NCES (2015) report also considered cyberbully. According to the report, in the year 2013, approximately 7% of students ages 12 – 18 reported being victims of cyberbullying during the school year. The cyberbullying could have occurred anywhere, and did not necessarily need to occur at or in relation to school. For the 2015 school year, specific data was available for 36 states and the District of Columbia (rather than just from the students studied with the original questionnaire). According to the NCES (2015) report, the "percentages of students who reported being electronically bullied ranged from 8 percent in the District of Columbia to 21 percent in Idaho." (NCES, 2015 p. 6). In 2015, the report concluded, approximately 16 percent of students across the United States reported being bullied in some way.

From this survey, conducted on over 4,000 students between the ages of 12 and 18, it was also determined that one-third to one-half had been bullied at school, with almost half (48%) of these students having been bullied in a hallway or stairwell in school, and a third (34%) reported that they had been bullied in the classroom. An additional survey conducted by the National Youth Risk Behavior Survey (2009) reported that approximately 20% of students experienced some form of physical bullying.

Studies show that an absence of a feeling of emotional safety in the school setting can result in impaired learning, as well as a drop in school attendance (Osher & Kendziora, 2010). Garbarino and deLara (2002) suggested that there is a correlation between school absenteeism and a fear of emotional ridicule or a fear for physical safety. These fears can involve harassment or bullying related to an individual's gender, disability, appearance, or sexual orientation. Additional research has found that both victims and perpetrators of bullying behaviors are at a higher risk for overall behavioral, emotional, and academic problems (Schwartz & Gorman, 2003). Recent research presents evidence of a strong relationship between bullying, being bullied, and suicide. Kim, Koh, and Leventhal (2005) found that girls who experienced bullying, regardless of

victim or perpetrator role, were at a significantly greater risk of suicidal ideation. A study by Roland (2002), found an increased incidence of suicidal thoughts by girls who participated in bullying behaviors (see also, Luukkonen, Rasanen, Hakko, & Riala, 2009; Van der Wal, deWit, &Hirasing, 2003). Alternatively, several studies found the relationship between suicidal ideation and bullying to be more pronounced in boys than in girls (Kaltiala-Heinen et al., 1999; McMahon et al., 2010; Rigby & Slee, 1999).

Results of several longitudinal studies suggest that bullying behaviors experienced in the elementary school setting are highly associated with both suicidality and depression in later years (Bond et al., 2001 Olweus, 1992). However, suicidal attempts and completions varied by gender, and age (Klomek et al., 2009); For example, victimization at age 8, after controlling for childhood conduct and symptoms of depression, resulted in no difference between the genders for suicidal tendencies. However, frequent victimization among girls at this age was a predictor of later suicidal behaviors, including attempts, as well as completions.

Bullying behaviors in the high school setting, in conjunction with depression or suicidality have a worse outcome than either depression or suicidality alone. However, in the absence of other risk factors, bullying behaviors in high school do not predict later suicidal ideation, suicidal attempts, or depression (Klomek et al., 2009; Rigby, 1999). There is also research, which supports the relationship between severe violent behaviors exhibited in adulthood and a history of antisocial and aggressive behaviors occurring in childhood and adolescence (van Domburgh, Loeber, Bezemer, Stallings, & Stouthamer-Loeber, 2009).

The report on Violence and Health (WHO, 2002) was a worldwide survey of studies pertaining to youth violence. These studies focused on bullying, weapon use, and physical aggression. Several studies, which explored possible risk factors for violence among school-age children, indicated that boys were more likely to be participants in physical aggression, and those who did engage in problem behaviors were more likely to suffer from psychosomatic disorders, and engage in illegal drug use. These individuals were also more likely to have poor parental

relationships, with a higher incidence of corporal punishment as a form of discipline (Grufman & Berg-Kelly, 1997; Youssef, Attia, &Karnel, 1999).

While examining research on traditional bullying and school violence, it is difficult to contemplate that school-related aggression could become more problematic, yet there is a relatively new type of bullying, which has become much more prominent over the past several years: cyberbullying (Bonanno & Hymel, 2013). With the explosive advancements in technology and the subsequent increase in the use of computer mediated communication or CMC (Ho & Mcleod, 2008), cyberbullying has become a worldwide problem. Despite the positive effects CMC has had on the global community, including personal and commercial communication, the advent of CMC has also provided a new arena for this more insidious form of bullying. Cyberbullying has been described simply as any threat of offensive behavior sent online to a victim or posted online about a victim for others to see (Ybarra & Mitchell, 2007). Additional definitions state that cyberbullying is "an aggressive, intentional act carried out by a group or an individual, using electronic forms of contact, repeatedly and over time against a victim who cannot easily defend him or herself" (Smith, Mahdavi, Carvalho, Fisher, Russell, & Tippett, 2008, p. 376). The definition of cyberbullying has since been expanded to include the use of text messages (Agatston, Kowalski, & Limber, 2007), as well as the dissemination of damaging images, instant messenger contact, and social networking sites "with the intention of causing harm to another person through repeated hostile conduct" (Ortega et al., 2012, p. 342).

One of the unique features of cyberbullying is anonymity, which is not usually possible in traditional bullying. This anonymity may allow perpetrators of bullying behaviors to be more destructive and hurtful than they would be if they had the fear of exposure found in traditional bullying. Additionally, the anonymity inherent to cyberbullying may insulate the perpetrator from the impact bullying behaviors may have on the victim (Bonanno & Hymel, 2013). Most likely because of its anonymous and impersonal nature, cyberbullying has become pervasive across settings. The effects of cyberbullying are found in the home and on the school campus, and can be more far-reaching and longer lasting than that of traditional bullying. The effects of

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cyberbullying are arguably more negative than that of traditional bullying, due to the maximum exposure available for victims, anonymity available to perpetrators, and long-lasting effects of a "launched" cyber-attack (Bonanno & Hymel, 2013).

The implications of cyberbullying are such that it has become an international concern. Research has been conducted across cultures and nationalities, including Australia, Canada, England, Germany, Italy, Japan, New Zealand, Scandinavia, Spain, and the United States (Beran, Rinaldi, Bickham & Rich, 2012; Genta, Brighi, & Guarini, 2009; Lerner, 2011; Nocentini, Calmaestra, Schultze-Krumbholz, Scherthauer, Ortega, & Menesini, 2010; Riebel, Jager, & Fischer, 2009). Cross-cultural studies are relevant to determine whether definitions and understandings, as well as the frequency and pervasiveness of cyberbullying are consistent across cultures and nationalities in order to conduct research, implement interventions and introduce policies to help put an end to this destructive form of aggression. Consequently, the purpose of this study is to investigate several factors commonly associated with cyberbullying and its victims; gender, age, and the time spent using various forms of CMC. Because cross-national studies are so important to understanding the similarities and differences found in this global problem, the current study will also explore the connection between traditional bullying and cyberbullying in middle school students in both the United States and Germany.

CHAPTER 2

LITERATURE REVIEW

Historical Perspective of Bullying

      Aggression and Bullying. "Aggression is any behavior directed toward another individual that is carried out with the proximate (immediate) intent to cause harm" (Anderson & Bushman, 2002, p. 28). Bullying is a subset of aggression, and it is often characterized by repetitive acts that cause intentional harm through the process of exploiting an imbalance of power in a peer situation (Olweus, 1993; Smith, 2004). Although intention is a component of aggressive and bullying behaviors, the repetitive acts, as well as the imbalance of power are specific to bullying behavior.

      Olweus (1995) described three factors that may influence and maintain bullying behavior. First, there is a need for power and dominance in the individual who engages in this behavior. Second, the child may have been raised by parents who were either overly permissive, or who were abusive. Finally, Olweus states that bullying behavior is maintained through positive reinforcement – either because the bully was able to gain control of tangible items (food, money, etc.), intangible items such as perceived respect or popularity, or was able to gain the respect of other students. In the school setting, specific distinctions are made among the different bullying behaviors, that is overt (direct), and relational (indirect) aggression (Card, Stucky, Sawalani, & Little, 2008). Overt bullying behaviors include: Physical – hitting, kicking, and pushing; and verbal – name-calling, and taunting (Glover, Gough, Johnson, & Cartwright, 2000; Olweus, 2003). Covert bullying behaviors include: Relational – ignoring a peer, exclusion from conversations or games, or spreading humiliating/hurtful rumors (Berger, 2007; Crick & Grotpeter, 1995). This type of bullying has been attributed to behaviors engaged in predominantly by girls (Crick et al., 1999). Students involved in bullying situations as either a victim or a perpetrator, demonstrate poorer academic motivation, achievement, and well-being (Bergsmann, Finsterwald, Strohmeier, & Spiel, 2011; Buhs, Ladd, & Herald, 2006; Craig, 1998; Urdan & Schoenfelder, 2006).

It has been hypothesized that aggressive children, particularly those who have emotional disabilities, are lacking in the social problem-solving skills that allow for appropriate social interactions (Dodge, 1993), and are more likely to have negative, conflicted, or withdrawn social interactions (McGrath, 2005). Research shows that children who are unable to make and maintain peer relationships are at greater risk for adverse social and academic consequences (McGrath, 2005). Without problem solving and decision making capabilities, many of these students will be unable to form meaningful relationships later in life.

In addition to the academic and social implications, children with aggressive tendencies, such as those who are perpetrators of bullying behaviors, have fewer positive social skills, encounter conflict that is more destructive, have limited knowledge of social norms related to conflict management, and have access to fewer social problem-solving strategies (McGrath, 2005). These serious outcomes argue for a comprehensive intervention to teach cognitively appropriate strategies to these children.

Traditional Victims. Research indicates that antisocial and aggressive behaviors begun in childhood and adolescence often continue into adulthood, contributing to severe violent behaviors exhibited in later years (van Domburgh, Lowber, Bezemer, Stallings, & Stouthamer-Loeber, 2009). This violence can have significant harmful effects on victims, as well as perpetrators (Jimerson, Hart, & Renshaw, 2012). Particularly, violence in the form of bullying can affect the overall functioning of the victims, in the form of lowered academic achievement and daily work, reduced psychosocial functioning, and impaired health (Limber, 2012). Additionally, research has found that victims of bullying tend to have lower self-esteem (Hawker & Boulton, 2000), have increased levels of anxiety (Fekkes, Pijpers, & Verloove-Vanhorick, 2004), and are at increased risk for self-reported loneliness and overall declines in adjustment among those chronically victimized (Kochenderfer & Ladd, 1996). A study by Rothon, Head, Klineberg, and Stansfeld, (2011) found that high levels of support from friends and moderate (but not high) support from family could be a protective factor helping to mitigate the effects of bullying on academic achievement. However, even the support of friends and family may not be sufficient to

protect adolescents against the mental health difficulties that they might face as a result of being bullied. This same study also found that bullied adolescents, between the ages of 11 and 14, were less likely to meet the appropriate academic achievement benchmarks for their age group than their non-bullied peers were. According to the study, 45.6% of students reached the academic benchmark. Those students who had been bullied within the last school term were half as likely to reach the required standard. Interestingly, those in the older age group (age 13 – 14 years) were more likely to achieve the benchmark than those in the younger age group (age 11 – 12 years), and female victims were more likely than male victims to reach this benchmark were. Additionally, bullied boys, but not girls, were more likely to exhibit depressive symptoms when compared to non-victims or students who were not bullied.

According to a study completed in the Netherlands, school children between the ages of 9 and 12 who were bullied, were three times as likely to experience headaches, and enuresis. They were found to endorse more somatic complaints, such as difficulties sleeping, feelings of tiredness, and reports of stomach pain and poor appetite, as compared to their non-bullied peers (Fekkes et al., 2004). Interestingly, research suggests that victimization may be most detrimental to students from low economic backgrounds (Due, Damsgaard, Lund, & Holstein, 2009). Beran and Lupart (2009), conducted a study that measured the relationship between school achievement and peer harassment. The sample consisted of 4,111 adolescents ages 12 to 15 years taken from the Canadian National Longitudinal Survey of Children and Youth, which is "a stratified random sample of 22,831 households in Canada" (p. 75). Results of this study suggested that adolescents who exhibit disruptive behavior problems and poor peer interactions are more likely to experience poor school achievement if harassed by their peers. It was unclear, however, whether conduct problems preceded or followed the harassing incidents, thus suggesting that harassment does not exist as an isolated problem, but rather is closely tied to issues with a child's overall academic and social functioning.

Traditional Bullies. Research on those who engage in bullying behavior also suggests that there is cause for concern regarding longitudinal outcomes. Those children who bully others

are "more likely to be engaged in antisocial, violent, and/or troubling behavior" in later life (Limber, 2012; p. 371). Bullies are also more likely to self-report poor academic achievement (Nansel et al., 2001) and drop out of school than their non-bullying peers (Byrne, 1994). Involvement in bullying is also correlated with an increased risk of becoming a victim of street violence or drug abuse (Andershed, Kerr, & Stattin, 2001; Peppler, Craig, Connolly, & Henderson, 2002). Failure to develop positive social and relational skills may also be an unwelcome outcome for those who use the coercive methods of obtaining gratification found in bullying (Pepler, Jiang, Craig, & Connolly, 2008).

An eight-year longitudinal study conducted by Olweus, (2011); found that bullying in early adolescence strongly predicted later criminality. This study followed participants from the ages of 16 to 24 (participants of the study were born in the 1950's or early 1960's). Results of the study found that 55% of students who were nominated as "bullies" by at least one teacher and their peers were later convicted of one or more crimes; 36% of these same students were convicted of at least three crimes. At the time when the study was conducted, there were some limitations found. In particular, the definition of a bully was stated as, "A bully is a boy who fairly often oppresses and harasses somebody else; the target may be boys or girls, the harassment physical or mental' (p. 152). As previously stated, we now know that bullies may be either boys or girls and that their targets may be of either gender. Additionally, this study had no indication of whether the students nominated as bullies had any mental health diagnoses, or what their socio-economic status or academic achievement was.

Rothon, Head, Klineberg, and Stanfeld, (2011), studied the role that social support can have in buffering the adverse consequences of bullying on school achievement and mental health. The authors conducted a study with 2,790 adolescents from year seven (ages 11-12) and year nine (ages 13-14) who were attending 28 comprehensive schools in East London. Results indicated that bullied adolescents were less likely to reach the appropriate levels of academic achievement. In addition, boys who were victims of bullying were more likely to exhibit depressive symptoms compared to those who were not bullied.

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Bystanders. Research also suggests that bystanders may also be affected by bullying despite being only passive participants in the process (Craig & Pepler, 1995). There is some speculation (Salmivalli & Voeten, 2004) that successful bullying with no outside intervention may encourage imitation. Anxiety and school avoidance or dislike may also increase on days when bullying is witnessed (Nishina & Juvonen, 2005). In a study conducted by Elledge, Williford, Boulton, DePaolis, Little, and Salnivalli, (2013) the authors observed pro-victim attitudes (bullying unacceptable, victims are acceptable, defending victims is valued) in relation to student perception of teacher effectiveness. Results of the study suggest that a student's perception of a teacher's ability to intervene in traditional bullying is a unique positive predictor of cybebullying and other covert forms of bullying, such that, a student's perception of a teacher's probability of intervening is correlated with a student's probability of engaging in these types of behaviors.

Resilience in Traditional Bullying. More positive results were found in the buffering effects of different types of social support. A high level of social support from the victim's family was important in promoting good mental health. There was also evidence to suggest that a high level of support from friends and a moderate, but not high, level of support from family members was able to protect bullied adolescents from the outcome of poor academic achievement. However, it was also noted that support from friends and family was not sufficient to protect adolescents against the mental health distress and difficulties they may experience because of being bullied. Although many studies have been conducted on traditional bullying, it is important to examine the differing effects bullying can have on various areas of functioning, as well as ways to mitigate its effects.

Traditional Bullying versus Cyberbullying. Cyberbullying research is minimal when compared to that of traditional bullying, and has only been recognized as a distinct form of bullying for the last decade (Bonanno & Hymel, 2013). Some, such as Lerner (2011), argue that cyberbullying is not a distinct form of bullying, but is instead an extension of traditional bullying, "cyberbullying has been defined by the same three criteria used in identifying traditional bullying – an imbalance of power, an intention to hurt, and repetition over time" (p. 16).

Definition of Cyberbullying. The discrepancy as to whether cyberbullying is a distinct entity may be related to the variations in its very definition. There are researchers who agree that in general, cyberbullying has been defined as bullying using an electronic medium, adopting the definition of Olweus (1993) or other researchers (Dooley, Pyzalski, & Cross 2009). Smith (2008), for example, proposed this definition of cyberbullying, "An aggressive, intentional act carried out by a group or individual, using electronic forms of contact, repeatedly and over time against a victim who cannot easily defend him or herself" (p. 376). An example of the differences in definitions of cyberbullying used in research is that of Belsey (2004); "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." Other researchers, such as Wolak, Mitchell, and Finkelhor (2006; 2007),suggest that it is more accurate to consider repeated acts of online aggression as "online harassment". According to these authors, since negative online interactions can be easily terminated, the victim is able to simply remove himself or herself from the online interaction at any time they choose, thus these types of interactions do not fall into the category of "bullying", but "harassment". This is in contrast to actual physical bullying since, in the schoolyard, a victim cannot escape from the perpetrator of the bullying due to physical proximity and the necessity of attending school. Vandebosch and Van Cleemput (2008) suggest that cyberbullying behavior must be intentional, repetitive, and characterized by a power imbalance. Additional definitions of cyberbullying include that of Kowalski et al., (2008) who suggested, like Lerner (2011), that cyberbullying is the electronic form of face-to-face bullying, rather than a distinct phenomenon.

Descriptors for cyberbullying behaviors also vary across nationalities. Scandinavians use the word 'mobbning', which translates to 'group victimization' in English (Randall, 2011, p. 10). In an international study between universities in Florence, Cordoba, and Berlin, researchers determined that the best word to label cyberbullying in Germany is 'cyber mobbing', in Italy it is 'virtual' or 'cyber-bullying', and in Spain the most appropriate terms could include 'harassment' or 'harassment via Internet or mobile phone' (Nocentini, Calmaestra, Schultze-Krumbholz,

Scheithauer, Ortega, & Menesini, 2010). Similar to the findings of Nocentini and colleagues (2010), 'cyberbullying' is considered to be an 'adult term' and not one used by children and students (Spears, 2011). Additionally, cultural factors, age, gender, and methods of gathering data may be affecting the information gained on both traditional and cyberbullying.

Overall, a lack of a universal definition of bullying is an impediment to research in both traditional and cyberbullying. As suggested in Randall (2011), this lack of a universal definition may affect the reporting of prevalence rates. As demonstrated here, this lack of a universal definition also applies to cyberbullying, implying that similar issues with research are present.

Anonymity. There are ways in which cyberbullying differs from traditional bullying; most noteworthy is the element of anonymity. Not only may the victim not know who the perpetrator is, but also perpetrators may also not be present to see the effect of their behaviors on their victim. This anonymity is said to contribute to increased aggressive behaviors, disinhibition and deindividuation, because the perpetrator is cut off from the consequences of his or her actions (Davis & Nixon, 2012; Patchin & Hinduja, 2011). This inability to experience the emotional response of the victim may have several consequences. It may reduce the effect of empathy that a perpetrator may feel toward their victim, thus increasing the bullying behaviors. Additionally, the inability to experience the victim's emotional response may make cyberbullying less appealing for those perpetrators who require viewing the reaction of the victim to gain satisfaction from the bullying act (Smith & Slonje, 2010).

Power Differential. Power differential is an important aspect of traditional bullying. Regardless of the form of bullying behavior engaged in, the bully is always, in some ways, more powerful than the victim is. In traditional bullying, this is often in the form of physical or social superiority. However, this may not be the case with cyberbullying, and the power differential can take many different forms (Menesini, 2012). Although some researchers have suggested that the cyberbully may have more technological and media expertise (Grigg, 2010), Vandebosch and Van Cleemput (2009), have alternative findings that suggest superior technological skills are not necessarily evidenced in cyberbullies. In any form of cyberbullying, although the victim can

potentially end the contact with the perpetrator of the bullying behavior at any time, there is still very often a sense of helplessness, as the victim is powerless to escape the bullying, since they are not able to stop the perpetrator from contacting others.thisnlike traditional bullying, cyberbullying does not end at the schoolyard, but continues into the home and anywhere else there is electronic media. A single instance of bullying can last forever, as once a message or image is on the internet, it is there forever, and can be passed to unimaginable numbers of people (Dooley, Pyzalski, & Cross, 2009; Menesini, 2012).

Prevalence. There is conflicting research on the overall prevalence of cyberbullying rates compared to those of traditional bullying. Olweus (2012a, 2012b) contends that the prevalence of cyberbullying is not as high as that of traditional bullying. However, there are studies conducted by others, which indicate that one-third of students reported being victims of cyberbullying (e.g., Cassidy, et al, 2011; 2012). In over half of the 35 studies on cyberbullying reviewed by Patchin and Hinduja (2012), prevalence rates of cybervictimization were reported at higher than 20%. Additional studies conducted by Patchin and Hinduja throughout the years between 2004 and 2010 indicated that the young people who have experienced cyberbullying at some point in their life averaged 27.3% (Patchin & Hinduja, 2012, as cited in Cassidy et al, 2013, p. 7).

There are researchers who claim that cyberbullying has not increased since it was first noticed (Hinduja & Patchin, 2012; Olweus, 2012a, 2012b). Others researchers, such as Cassidy, Brown, and Jackson (2011), and Rivers and Noret (2010) have found a definite increase in the last five years. This may be related to growing awareness and media attention, as much as growing abuse of online media (Cassidy, Faucher, & Jackson, 2013). Regardless of the reason for the increase, there is no doubt that cyberbullying has impacts on those involved. The consequences of cyberbullying are varied for the victims, perpetrators and victim-perpetrators of those involved.

Seminal Research on Cyberbullying. Although research on traditional bullying originated in Europe, much of the early research on cyberbullying has come from the United States (Kowalski, Limber, & Agatson, 2008; Smith, 2009). According to Jimerson, Nickerson, Mayer and Furlong (2012), bullying research has been focused primarily in the school setting and has "gone through

four waves, of which cyberbullying is the fourth." (p. 94). The four waves of bullying are separated into periods. The "Origins" of bullying research was considered to be the time period between 1970 – 1988. The second wave was between 1980 - mid-1990's, and is said to be the time frame when studying bullying was the time of "Establishing a Research Program". The third wave was from 1990 – 2004, and was considered "An Established International Research Program". Finally, the fourth wave is considered to be occurring from 2004 – present, and is specifically "Cyberbullying". This fourth wave of research followed an increased public awareness of the presence and implications of bullying perpetrated in this form (Jimerson, et al. 2012).

Studies have found overlapping similarities between traditional and cyberbullies, and traditional and cybervictims (Hinduja & Patchin, 2012, Smith & Slonje, 2010). It has been suggested that this overlap may indicate that the types of behaviors involved in the bullying may be more relevant than the arena in which they are acted out (Cassidy, et al., 2013). Cyberbullying has been referred to as a covert form of psychological bullying (Shariff & Gouin, 2005), thus sharing similarities with the traditional form of bullying known as relational aggression.

Current Research on Cyberbullying

Cybervictims. Cyberbullying has been considered by some (e.g., Campbell, 2005; Dooley et al, 2009; Tokunaga, 2010) as being worse than traditional bullying in its consequences for the victim. Some of this may be attributable to the use of electronic forms of contact including the potential to reach a large audience, the increased potential for anonymity of the bully, the decreased level of direct contact between the bully and the victim, and the perpetuity of the material that is posted. Additional increases in the consequences found for cyberbullying may also be related to the exposure given to victim outcomes by the media. For example, those who are purportedly victims of bullying who commit suicide often become the focus of media attention. Though cause for alarm to the general public, suicide is "neither the most likely, nor the most prevalent type of impact on the victims" (Cassidy et al., 2013, p. 7). There are researchers who argue that suicide cannot be solely or directly attributed to bullying, even when following experiences with cyberbullying, "as there were other significant issues impacting these young

victims' mental health and well-being prior to their death" (Kowalski, Limber, & Agatston, 2012; Patchin & Hinduja, 2012, as cited in Cassidy et al, 2012, p. 7). However, victims of cyberbullying do have poor outcomes in the areas of depression, poor self-esteem, anxiety, suicidal ideation, and psychosomatic problems (Menesini & Nocentini, 2012; Olweus, 2012a).

There is research that supports a correlation between cybervictimization and internalizing difficulties, but no direct relationship with traditional bullying. For example, Olenik-Shemesh, Heiman, and Eden (2012) found that loneliness and depressive mood were significantly related to cybervictimization in Israeli youth, but depressive mood was not significantly correlated with forms of traditional bullying. Campbell, Spears, Butler, Slee, Butler and Kift (2012) found that cybervictims were more likely to report anxiety, depression, and social difficulties than were victims of forms of traditional bullying. Victims of bullying also tend to worry, dislike themselves and avoid school (Berthold & Hoover, 2000; Boynton-Jarrett, Ryan, Berkman, & Wright, 2008). There is research that suggests that a victim's perceived impact of the bullying act can affect the outcome for the individual's mental health. The perceived impact can be affected by frequency, length, or severity of the cyberbullying, as well as the anonymous and public nature of the event (Tocunaga, 2010). Additionally, this perceived impact might help explain why there are victims of cyberbullying who show no long-term ill effects.

Cyberbullies. Less is known about the perpetrators of cyberbullying than about the victims, and what is known is as varied as the people who take part in the act of cyberbullying. Some cyberbullies have reported feeling aggressive, vindictive, happy and pleased with their behavior as it relates to the act of cyberbullying, whereas, others have reported feeling guilt and regret for their participation (Kowalski et al, 2012).

Cyberbullying has been associated with hyperactive behavior; conduct problems, and less prosocial peer group behavior (von Marees & Petermann, 2012). There have been variations in behavior found between students who engaged in cyberbullying and those who did not. Zhou et al (2013) conducted a study in China with a group of 1438 high school students. Results of this study found that cyberbullies were most likely to report illicit substance use, and participation in

delinquent behavior. A study by Patchin and Hinduja (2012) found that when comparing students who participated in cyberbullying, and those who did not, cyberbullies are more likely to be bullied offline, to display problematic behaviors, to have less commitment to school, higher alcohol and tobacco use, and more aggressive and rule-breaking behaviors. In a study conducted with the intent of determining cyberbullies' perceptions of the impact of their behavior on their own mental health, 3,112 students were surveyed. Researchers found that the cyberbullies had higher self-reported rates of social difficulties, stress, depression, and anxiety than youth not involved in bullying. Additionally, those who self-reported as cyberbullies did not perceive their behavior as harsh or that it had impacted the victim in a negative way (Campbell, Slee, Spears, Butler, & Kift, 2013).

Data from an analysis by Cassidy and colleagues (2013) indicated that cyberbullies crossed ethnic, social, and class divisions, and are just as likely to be "good" students as "poor" students. Additionally, the study found that cyberbullies often came from the victims' "friendship" groups, particularly from their female "friendship" groups.

Cyber Bully-Victims. The effects of cyberbullying appear with greatest intensity and frequency among the bully-victim group. The bully-victim group includes those students who are bullied either physically or in the cyber arena, and respond by bullying others either physically or via cyber avenues. This group of students tends to feel less safe at school, uncared for by teachers, has lower self-esteem, and has more incidents of suicidal thoughts (Patchin & Hinduja, 2011). The bully-victim group is also more likely to have an increased risk of alcohol, tobacco, and illegal drug use (Berthold & Hoover, 2000; Boynton-Jarrett, et al., 2008). They are also more likely to associate with peers who have had the same type of experiences and to cope by participating in risky behaviors (Rusby, Forrester, Biglan, & Metzler, 2005). There has been recent research demonstrating significant links between involvement in cyberbullying and internalizing difficulties. This research may even be suggesting that these students are at the greatest risk for internalizing difficulties (Kim, Koh, & Leventhal, 2005; Menesini, Modena, and Tani, 2009), and to be at a higher risk for becoming adults with mental health needs who may be

in unstable relationships (Strom & Strom, 2005). Ybarra and Mitchell (2004) studied a group of 10 to 17 year old internet users. Their results indicated that 19% of the 1501 young people surveyed reported being involved in online aggression. Compared to the victims ('targets of online aggression'), bully victims ('aggressor-targets') were nearly six times more likely to report emotional distress.

According to some researchers, this group is also more likely to attempt suicide – although there is no conclusive evidence that cyberbullying causes suicide (Cassidy et al, 2013, p. 9). Patchin and Hinduja, (2010; 2012) examined the relationship of those involved in both traditional bullying and cyberbullying and their probability of suicidality. They found that there were higher levels of suicidal ideation observed in those who reported being involved in forms of physical or cyberbullying either as a victim or as a bully. Similarly, Bonanno and Hymel (2013) studied 399 Canadian adolescents in grades 8 through 10 and found that involvement in cyberbullying, as either a victim or a bully, could uniquely predict both depressive symptomatology and suicidal ideation. This was after controlling for the effects of involvement in traditional forms of bullying including physical, verbal, and relational.

Effects of Cyberbullying. Cyberbullying has an inherently aggressive component to it, similar to traditional bullying. Because of this, there is concern about the long-term effects of cyberbullying on the victims and the bullies themselves, since so many of the bullies can also be categorized as victims. Extensive research has already been done on the long-term outcomes of traditional bullying, with negative impacts being found on academics, stress, anxiety, depression, sleep, somatic complaints, and adjustment problems (Bollimer, Milich, Harrid, & Maras, 2005; Collins, McAleavy, & Adamson, 2004; Gladstone, Parker, & Malhi, 2005), but less research has been conducted on the long-term effects of cyberbullying.

Academic Effects. Although cyberbullying occurs mostly outside of school, it is usually related to incidents that begin at school (Cassidy, Jackson, & Brown, 2009; Olweus, 2012a), and can have a big impact on a student's school day (Agatston, Kowalski, & Limber, 2012). The stress and emotional upheaval possible from cyberbullying, can interfere with a student's

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academic performance in profound ways. Bullying can affect a student's academic achievement, as well as a student's overall feeling of school well-being, which can lead to reduced concentration, school avoidance, increased school absence, isolation, alienation, lower academic achievement, negative perceptions of school climate, and not feeling safe at school. There is also a higher risk for "school problems" in general (Cassidy et al, 2013, p. 8), and a greater propensity for carrying weapons at school (Hinduja & Patchin, 2007, 2008; Marczak & Coyne, 2010; Ybarra, Diener – West, & Leaf, 2007).

Social/Emotional Effects. Victims of cyberbullying can be severely impacted in their social and emotional functioning. Negative impacts in this area have been reported as feelings of sadness, hurt, anger, frustration, confusion, stress, distress, and loneliness. They can also include more pronounced impacts such as depression, low self-esteem, helplessness, social anxiety, suicidal ideation, emotional problems, fear, feeling vulnerable and alone, diminished self-worth, serious relationship disruption, and also emotional and peer problems (Agatston et al., 2012; Kowalski et al, 2012; Marczak & Coyne, 2010; Menesini & Nocentini, 2012; Patchin & Hinduja, 2012; Smith, 2012; Sourander et al, 2010; Tokunaga, 2010; von Marees & Peterman, 2012). Some studies have also found psychosomatic complaints in participants. These complaints can include headaches, abdominal pains, sleeping difficulties, and other physical symptomatology. Studies have indicated that these effects were strongest for bully-victims, especially males (Agatston et al., 2012; Marczak & Coyne, 2010; Menesini & Nocentini, 2012; Smith, 2012; Sourender et al., 2010; von Marees & Peterman, 2012).

In order to clarify research suggesting a link between involvement in cyberbullying and various internalizing difficulties, Bonanno and Hymel (2013) looked to see whether the links were independent of involvement in more traditional forms of bullying. Their study involved 399 adolescents from British Columbia, Canada in grades eight to ten (mean age = 14.2 years). Results of this study indicated that involvement in cyberbullying predicted over and above that of involvement in all forms of traditional bullying for suicidal ideation and depressive symptomatology. However, as indicated by Cassidy, et al (2013), there is no research, to date,

that directly links bullying as the sole cause of suicide. Additionally, study findings suggest that both cybervictimization and cyberbullying uniquely contribute to depressive symptomatology and suicidal ideation above and beyond that accounted for by gender and traditional forms of victimization and bullying. The authors do note "involvement in cyberbullying (as a victim or a bully) only accounted for an additional 1% and 2 % (respectively) of the explained variance in depressive symptomatology, whereas it accounted for an additional 5.8% and 4% (respectively) of the explained variance in suicidal ideation" (p.694). It was also reported that students who are cybervictimized are less likely to report the victimization and to seek help than those who are victimized in more traditional ways.

   Maladaptive Behaviors. Victimization by cyberbullies has also been linked in the research to many maladaptive behaviors including aggressive behavior, externalizing behaviors, deviant behaviors, including more alcohol and drug use/abuse and smoking. There is also reportedly an increase in delinquent behaviors, which includes shoplifting, property damage, physical assaults, and use of weapons (Agatston et al., 2012; Marczak & Coyne, 2010; Menesini & Nocentini, 2012; Patchin & Hinduja, 2012; Sourender et al., 2010). However – it has not been determined whether these maladaptive behaviors stem from the victimization or if victims are more likely to be engaging in these behaviors in the first place – some of the items discussed under effects may, in fact, be precursers to cyberbullying (Cassidy et al, 2013, p. 9). Outcomes. Recognition of a continuum from childhood to adolescence to adulthood in terms of cyberbullying suggests, "such behavior patterns begin well before, and persist far beyond their peak in middle school, into high school, university, and the workplace (Agervold, 2007; Bauman, 2012; Beran et al, 2012; DeSouza, 2011; Leenaars & Rinaldi, 2010; Myers & Cowie, 2012; Walker, Sockman, & Koehn, 2011). However, not all young people who engage in cyberbullying behavior continue to do so in later life. Research indicates that, overall, rates of cyberbullying decrease considerably over time and into adulthood (Cassidy Faucher, & Jackson, 2013). At this time, there is no research available, which is able to identify those at risk for continuing this pattern of behavior over the long-term (Cassidy et al, 2013, p. 9).

Gender Analysis. Research on gender involvement in cyber harassment has varying outcomes, with varying degrees of agreement on the level of gender participation in this type of behavior. This may be due to the many different mechanisms and mediums available to aggress against others in the cyber context. Behaviors may also be increased or decreased because of the type of technology used from one study to another. For example, girls are more likely to use blogs and Instant Message, and boys are more likely to play online games and post videos (Lenhart, Purcell, Smithh, & Sickuhr, 2010). Some of the research has found that boys are more likely to hack others' accounts and call others nasty names online, whereas girls are more likely to gossip and spread online rumors (Dehue, Bolman, & Vollink, 2008).

As stated previously, there is a burgeoning realization that girls may be more involved as both cybervictims and cyberbullies than was previously believed in traditional bullying studies. In a review of studies conducted done by Kowalski et al (2012, as cited in Cassidy et al, 2013), divergent findings emerged, with no definite results confirmed. Some of the studies indicated that females engaged in cyber rather than face-to-face bullying activities, as opposed to males who tended to parallel females in their likelihood of engaging in both cyber and traditional forms of bullying (Gorzig, & Olafsson, 2013). This belief may be related to the idea that cyberbullying is similar to relational (indirect or covert) aggression, which is more likely to be perpetrated by females. A review of several studies by Kowalski, et al., (2012) indicated that some of the studies demonstrated no gender differences, while other studies indicated that girls were more involved as both victims and perpetrators than was previously thought (Slonje & Smith, 2008; Williams & Guerra, 2007; Ybarra & Mitchell, 2004;). A study by Jackson, Cassidy and Brown (2009) indicated that girls were more involved than boys and that girls are differentially affected by cyberbullying, with girls more likely to experience only certain forms of cyberbullying such as gender-based harassment, exclusion, and having personal information posted online. Girls in this study also indicated that they are more negatively impacted by the messages of cyberbullying, and they reported, with greater frequency than boys, feeling that their reputation was affected by the cyberbullying. Girls also reported that cyberbullying affected their concentration, that it

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influenced their ability to make friends, that it made them want to bully back, and that it induced suicidal thoughts with greater frequency than boys reported these happening.

A study by Randall (2010) found that student perception of a teacher's response to bullying behavior had implications for their involvement in bullying. Results indicated that older boys were more likely to bully if they perceived their teachers were not likely to intervene, and younger girls were less affected in their involvement in bullying by their teacher's perceptions of this behavior.   In a study conducted by Rothon, Head, Klineberg and Stanfeld (2011), male victims of cyberbullying (but not female victims) were found to be more likely to exhibit depressive symptoms compared to those who were not bullied. Additionally, this study found that girl victims were less likely to be academically affected than were boys, and were more likely to reach their academic benchmarks.

A study conducted by Visconti, Sechler, and Kochenderfer-Ladd (2013) explored students' ability to cope with all kinds of victimization, and gender was a significant factor in their findings. Specifically, girls showed increases in seeking parental and friend support over time, whereas boys were more likely to engage in retaliation regardless of time measured. Additionally, according to the study, boys were more likely to be victimized by their peers than were girls. A study on gender behaviors and affiliations conducted by Kreiger and Kochenderfer-Ladd (2013) looked at how these variables would predict peer acceptance and victimization in a sample of 192 fourth grade students. Results of this study indicated that for both genders, engaging in feminine activities predicted less peer-reported acceptance and greater victimization. Additionally, engaging in masculine activities predicted greater peer acceptance, and affiliating with male peers was associated with greater peer acceptance for both genders, and also greater self-reported peer acceptance for boys. Other research conducted by Maccoby (1998) and Thorne (1993) supports the idea that staying within gender-expected norms results in less bullying, and may also be even more necessary for boys. Carter and McClosky (1984) found that children reacted more negatively to boys violating gender norms than they did to girls, however, the same children also indicated that they would rather not associate with any child who engaged in cross-

gender behavior. According to the study; 35% of sixth graders reported that they would rebuke someone who violated gender roles using either verbal or physical means. Zucker, Wilson-Smith, Kurita, and Stern (1995) also found that, when students were presented with a series of scenarios, with each addition of a gender atypical behavior, friendship ratings by same-gender peers became more unfavorable. Research by Hodges and Perry (1999) found that children who are rejected by their peers are more likely to be the targets of victimization and their aggressors are less likely to worry about retribution. However, Hodges (1997) found that friendship and peer acceptance mitigated the effects of being the target of victimization, even with other behavioral risk factors present.

A study by Mishna, Cook Gadalla, Daciuk, and Solomon (2010) found a relationship between gender, grade and cyberbullying experiences. For students in the sixth and seventh grades, there were no reported gender differences for cyberbully victims, and boys and girls were both equally as likely to have cyberbullied others. The type of cyberbullying participants experienced and perpetrated was also influenced by gender. Findings indicated that girls in all grades were more likely to be called names than were boys. Older boys were more likely than older girls to have been threatened online; girls in both grade levels (sixth/seventh, and tenth/eleventh) were more likely than boys to have had rumors spread about them online; older girls were more likely than older boys to have had unwelcome sexual pictures or texts, to be asked to do something sexual online, and to have their private photos distributed online without their consent. Results also found that younger boys were more likely than younger girls to have been asked to do something sexual online, but younger boys were more likely than younger girls to have sent unwelcome sexual words or photos to others, and younger boys were more likely to indicate they were cyberbullying someone else because of the other person's sexuality. Older boys were more likely than were older girls to have called someone names orto have threatened someone online, but in general, girls were more likely than boys were to have spread rumors. Boys at both grade levels were more likely to indicate they were being cyberbullied based on race, but older boys, more than older girls, were more likely to believe they were being

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cyberbullied solely because of their race. Older girls were more likely to believe they were being cyberbullied due to sexuality, gender, or appearance, and older boys were more likely to indicate they were cyberbullying because of their victim's race (or perceived ethnicity) or their victim's gender.

Popovic-Citic, Djuric, & Cvetkovic, (2011) studied gender differences in cyberbullying and victimization. The study was conducted in five state schools in Belgrade, Serbia with 86 middle school students participating. A survey was administered to investigate the prevalence of cyberbullying and victimization among Serbian adolescents' ages 11 to 15 years. The study did find significant gender differences in cyberbullies, with males reporting higher levels of cyberbullying for both bullies and victims than did females.

Moderating Variables. There is some interest in the idea of whether the negative effects of cyberbullying, such as depression and anxiety, are a contributing factor to the negative outcomes associated with cyberbullying, or whether the cyberbullying was the initiating factor leading to the negative outcomes. For example, if a person already has a diagnosis of depression, is he or she more likely to be involved in cyberbullying in some way because of the depression, thus their negative outcome (depression) is more likely to be exacerbated? Visconti, Sechler, Kochenderfer-Ladd (2013) studied the social-cognitive frameworks used to determine the roles of students' causal attributions for peer victimization in predicting how students will cope with the victimization. According to the authors, these attributions would be differentially associated with coping as a function of the direction of the social comparison (upward, horizontal, or downward) reflected in the student's perceived cause for their peer victimization. Upward social comparisons suggest that the victimization is the result of "not being cool"; horizontal comparisons suggest that the victimization is the result of a mutual dislike with the 'offending' peer, or a result of such things as race or ethnicity (p. 3); downward or 'superior' comparisons suggest that the victimization is the result of jealousy. Results of the study suggested that a student's attributions might reflect the resources available to help them cope with the victimization. These resources could be due to the victim's social status and the extent to which

the student blames him or herself for the victimization, that is, the degree to which they expect

sympathy or help from others for the bullying. The severity of the victimization did not appear to

moderate the effect of attributions on the student's ability to cope, however gender did. Blaming

the cause of the victimization on not being "cool" was associated with a greater severity of peer

victimization and lower peer acceptance. It was also related to increased support seeking from

teachers and friends for boys, but not for girls. Racial attributions were positively correlated with

increased aggressive responses, particularly in boys. Additional research on children's causal

reasoning has provided support for the predictive ability of these attributions in relation to later

adjustment problems (Kochenderfer-Ladd & Visconti, 2011; Prinstein, Cheah, & Guyer, 2005).

A study conducted by Modecki, Barber, and Vernon (2013) sampled 12 to 14 year old

females and researched the developmental etiology of cyber aggression as experienced by either

perpetrators or victims. The study examined three-year latent within-person trajectories of known

correlates of cyber-aggression: problem behavior, (low) self-esteem, and depressed mood.

Findings from this study suggested that increases in problem behavior across grades eight to ten

predicted both cyber-perpetration and cybervictimization in grade eleven. Additionally,

developmental decreases in self-esteem also predicted both grade eleven perpetration and

victimization. Early depressed mood predicted both perpetration and victimization regardless of

developmental change in mood in the interim. This suggests that there is a link between risky

developmental trajectories across early high school years and later cyber-aggression. The

authors imply that mitigating trajectories of early risk may lead to decreases in cyber-aggression

later.

Ethnicity. In a study on ethnic differences in parenting behaviors and motivations for

adolescent engagement in cyberbullying, Shapka and Law (2013) studied a sample of 518

Canadian adolescents of East Asian and European descent. Results found that there were

associations between parenting behaviors, such as parental control, parental solicitation, and

child disclosure and child engagement in cyber aggression. In addition, perceived parenting

behaviors are related to engagement in cyberbullying. Canadian adolescents of East Asian

descent were less likely to engage in cyberbullying when compared to Canadian adolescents of European descent. Higher levels of parental control and lower levels of parental solicitation were linked more closely with lower reported levels of cyber aggression for East Asian descent adolescents only as related to their European descent counterparts. However, East Asian descent adolescents were more likely to be motivated to engage in cyber aggression for proactive, rather than reactive reasons. The opposite was true for adolescents of European descent. There was a suggestion that this pattern of proactive cyber aggression was more pronounced for males of East Asian descent in relation to females of East Asian descent. This may have been due to a cultural aspect that was beyond the scope of the study. Additionally, limitations of the study indicated that their "East Asian" population was a condensed sampling of adolescents from areas that included several different East Asian countries.

There is still much debate on what the overall construct of cyberbullying encompasses (Smith et al. 2013). Because of varying research methods, it is difficult to understand patterns of victimization, perpetration, and co-occurrences of these behaviors (Gradinger, Strohmeier, & Spiel, 2009). When compared to the work conducted with school bullying, research into cyberbullying is minimal. Research conducted has indicated that, similar to traditional bullying, academic and socio-emotional outcomes for those subjected to cyberbullying are poor. Although there is research to support that females tend to outperform their male counterparts academically in the presence of cyberbullying behaviors, outcomes overall, remain less than optimal for both genders.

International Research

       Multi-National Research. "Cyberbullying, as a new facet of the bullying problem, is gaining attention internationally" (Cassidy, Faucher, & Jackson, 2013; p. 3). According to Cassidy and colleagues (2013) the "international research literature has provided us a basis for understanding the problem of cyberbullying" (p. 26). There is a need for the international community to work together to review and produce research to learn more about this cross-cultural problem. Cassidy and colleagues stress the need to address all aspects of this problem,

and to learn what leads to these harmful behaviors in order to mitigate the negative outcomes for all involved in and affected by cyberbullying.

Bullying and victimization are common in both elementary and secondary schools regardless of the country of origin (Veenstra, et al., 2005). Menesini, et al., (1997) took part in The European Project on Bullying and Cyberbullying awarded by the Daphne II Programme (2004 - 2008). The purpose of this program was to support those working to develop programs to prevent violence against youth, and women, and to protect victims and at-risk groups (Genta, Brighi, & Guarini, 2009). From February of 2007 to February of 2009, Daphne II supported a program to investigate "forms of peer-peer bullying at school in preadolescent and adolescent groups: new instruments and preventing strategies" (p. 233). Their research has already established that forms of cyberbullying extend across all of Europe with high percentages of cyberbullying occurring in those countries where a global and systematic policy is still lacking, such as Italy and Bosnia-Herzegovina. This program involved a collaboration of several European countries including Italy, England, Spain, Finland, and Bosnia-Herzegovina in order to investigate the social dynamics of 12 – 16 year olds, emphasizing cyberbullying, and the impact of prosocial peer-to-peer strategies, and predictors of bystanders defending behavior toward victimized peers. This project focused on three main activities: 1) creation of new tools for assessing bullying, cyberbullying, and aggressive dynamics in peer groups and examining the impact of prosocial behavior and participant roles; 2) comparing the data collected in different countries with the same theoretical and methodological background; and 3) preparation of specific educational materials in order to increase awareness of cyberbullying for teachers, parents, and policymakers (Genta, Berdondini, Brighi, & Guarini, 2009). Initially, each country had a pilot phase, which emphasized cyberbullying's impact on prosocial peer-to-peer strategies for coping, as well as the nature and predictors of bystanding and defending behavior toward victimized peers. The second stage comprised a total sample of 6,500 students from three age ranges (12 – 13; 14 – 15; 16 – 17) and examined the impact of forms of prosocial behavior and participant roles using the tools created specifically for this study. The third activity was the preparation of specific educational

materials in order to increase awareness of cyberbullying for teachers, parents, and policy makers. The outcome of this study indicated that there are forms of cyberbullying found across Europe, with high percentages of this behavior in those countries where global and systematic policy is still lacking, such as Italy and Bosnia-Herzegovina. Results suggested that there is a need for shared international guidelines to inform policy makers and educators on cyberbullying. Nocentini, et al., (2010) were concerned with the discrepancies in perceptions of the label relegated to cyberbullying. Seventy students in Germany, Italy, and Spain took part in nine focus groups in order to allow for a "thematic" analysis on three main themes related to cyberbullying: first, the term used to label cyberbullying; second, the different behaviors used to represent cyberbullying; and third, the three traditional criteria of intentionality, imbalance of power and repetition and the two new criteria of anonymity and publicity (p. 129). Results of the study indicated that there were different terms used to describe what researchers commonly call "cyberbullying". As stated previously, this varies across the three countries sampled. In Germany, the term would be "cyber mobbing", in Italy, 'virtual' or 'cyberbullying', and in Spain, 'harassment' or harassment via Internet or mobile phone'.

Ortega and colleagues (2012), utilizing the Daphne questionnaire, focused on the emotional responses related to different types of bullying and the country of origin. Results of the study found the presence of both traditional and cyberbullying to a significant degree in the three countries studied (Spain, Italy, and United Kingdom). However, there were national differences. The Spanish sample had the lowest rates of victimization, particularly in face-to-face bullying, and the Italian sample had a significantly higher percentage of victims of direct, indirect and mobile phone bullying compared to that of Spain. Two possible explanations for the differences were offered by Nocentini, et al., (2010), who suggested that depending on the country, students associate different levels of severity and social acceptance to episodes of bullying. Differences in the nature of the bullying itself could be related to the factors underlying the relationships established in the schools themselves. This may be due to specific educational initiatives or to other social factors unique to each country. The emotional responses were linked to the type of

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bullying experienced across all types of bullying and all three countries. The most commonly reported emotion was anger, with the exception of Spanish cybervictims, whose most commonly reported emotion was "not feeling bothered".

International Prevalence Rates. According to results of a study presented in the World Report on Violence and Health (Currie, 1998), out of the countries surveyed, the "highest percentages of 13-year-olds having 'sometimes' engaged in bullying within a specific school term were found in Austria (64%), Germany (61%), Denmark (58%), Lithuania (57%), and Greenland (57%)." (as cited in Jimerson, Brown, Stifel, & Ruderman, 2012, p.219). Additionally, the lowest percentages of bullying were found to be in Sweden (12%), England (13%), and Greece (19%). The United States was ranked in the middle with 35% of 13-year-olds reporting that they "sometimes" engaged in bullying during the school term.

Additional follow-up studies completed in 2002 and 2006 found a reduced percentage of traditional bullying in the United States since the 1998 report previously mentioned. (Currie, Samdal, Boyce, & Smith, 2001; Eunice Kennedy Shriver National Institute of Child Health and Human Development, 2008). Findings of the 2006 study indicated that ten percent of students in the United States had engaged in physical aggression three or more times within the past year, compared to 14% of students from other countries.

More recent and country specific research has somewhat different findings. In Canada, researchers found that that 49.5% of students indicated that they had been bullied online, compared to 33.7% who indicated they had bullied others online. Of these, most of the bullying had taken place within the students' friendship group, and most participants reported that they did not tell anyone when they had been victimized. Of those victimized online, 16% reported feeling angry, 7% reported being sad, 8% were embarrassed, and 5% were scared. Participants indicated that they bullied others online because it made them feel, "funny", "popular" and "powerful", although many of these same participants also reported feeling guilty afterward (Mishna, Cook, Gadalla, Daciuk & Solomon, 2010).

In the United Kingdom, researchers found that 9.1% of students reported as being bullied sometimes. Older age groups were less likely to have been bullied, with some evidence that Indian students were less likely to have been bullied than other nationalities (Rothon, Head, Klineberg, & Stanfeld, 2011). In Australia, Sakellariou, Carroll, and Houghton (2012) found that the most common form of cybervictimization was via the internet, with 11.5% reporting at least one incident during the previous school year. The most common form of cyberbullying others was via the Internet with 8.5% reporting using it. The transmission of electronic images was the least reported form of cybervictimization experienced (4.8%), and the least perpetrated form of cyberbullying (3.7%).

Popovic-Citic, Djuric, & Cvetkovic, (2011) found Serbian rates of cyberbullying to be similar to those reported in other countries. Results of the study indicated that of the adolescents studied (ages 11 to 15 years), 10% reported being cyberbullies online, and 20% reported being victims of cyberbullying. The most common type of victimization reported in this study was denigration and harassment. The most common form of cyberbullying was reported to take the form of harassment. A study conducted in the Czech Republic by Sevcikova & Smahel, (2009) investigated aggressive acts across a wider age range. The study was comprised of 2,215 individuals aged 12 to 88 years. Of these individuals, 66% (N = 1,470) were internet users. Results indicated that adolescents, from 12 - 19 years of age, and young adults, from 20 - 26 years of age, were more often the targets of aggressive behavior when compared to older respondents. There was a decrease in this type of aggressive behavior in the ages between 27 and 49. However, results from this study found that targets of aggressive behavior increased again in the age category of 50 plus years. Additional findings indicated that the highest proportion of aggressors was among the younger (12 to 15 years) and then the older (16 to 19 years) adolescents. Of the respondents 0.9% overall reported being online aggressors only. Of the adolescents (12-19 years) 41.4% reported knowing their aggressors, whereas only 19.4% of young adults (20-26 years) and 27.1% of older adults (27+ years) knew their aggressors.

Cyberbullying in Germany

       Research on Cyberbullying in Germany. In 2009, Katzer compiled a review of the research on cyberbullying completed to that point in Germany. According to the author, Katzer and Fetchenhaur completed the first study on cyberbullying in Germany in 2005. The results of this study indicated that there was a correlation between bullying behavior in school and in internet chatrooms, as well as between victimization in school and in chatrooms. According to the authors, if students engage in bullying behaviors in one environment (e.g., school), they also tend to do so in another environment (e.g., community or internet). The results of the study indicated that 21% of all cyberbullies were cyberbullies only, and did not participate in bullying behavior in the school, 37% of all cybervictims were cybervictims only, as opposed to also being victims at school. Of all the cyber bully victims, 47% reported that they knew their bullies from school, 34% knew their bullies from the internet, and 19% knew their bullies from both school and the internet. Some overlap between bully and victim behavior was found to exist. Victims of cyberbullying in chatrooms showed a tendency to be a bully exclusively in the environment of victimization (such as in a chatroom), but school victims also bullied others in chatrooms. According to the authors, these results suggest that cyberbullying behavior may be the consequence of victimization experienced in school and could be interpreted as "fighting back" or "letting off steam".

       Comparisons of the results of these studies were difficult as different methods and measurements were used. All of the studies indicated that cyberbullying is an important issue in Germany (Schultze-Krumbholz & Schiethauer, 2008). Additionally, the frequencies for victimization in chatrooms ranged between 5.4% (blackmailed/ put under pressure) and 43.1% (abused/ insulted) in the Katzer and Fetchenhauer (2005) study. Jager and colleagues (2007) also found that instant messagmessengere was the most frequently used media (20%) for cyberbullying. In a study by Stuade-Muller, Bliesener, and Scheithauer (2008), 22% of cyberbullying was in the form of denigration, 20% was in the form of insults, and 17% was in the form of threats. Risk factors of bullying behavior in chat rooms included bad parental relationships, high rates of class absenteeism, high rates of delinquency, positive attitude toward

aggression, and a high amount of antisocial online behaviors. The risk factors for victimization in online chat rooms included low levels of popularity in chat rooms, low self-concept, anxious parental concern, faking a chat room identity, and visits to adult or violent chat rooms (Katzer, Fetchenhauer, & Belschak, 2009a; 2009b).

In the study by Riebel, Jager, and Fischer (2009) mentioned above, the authors examined a group of 1,987 students aged 6 to 19 years in order to determine the prevalence of cyberbullying in Germany. Results supported the existence of cyberbullying; although the number of incidents was considered to be small at the time the study was conducted (5.4% of students reported being victimized once or more per week, and 14.1% reported experiencing incidents also related to cyberbullying such as harassment, denigration, "outing and trickery", and exclusion). The study also looked at the prevalence of traditional bullies who cross over into cyberbullying, as well as traditional victims who become cybervictims. Results of the study suggest that the same group of students engage in both types of bullying, and fall within the same category of either bully or victim, regardless of whether they are in the traditional or cyber arena. This study was limited by it being an online questionnaire, and therefore a sample that does not necessarily generalize. However, because of this study, the authors considered cyberbullying to be a subcategory of traditional bullying, rather than a separate phenomenon.

Some of the research on cyberbullying raises questions regarding the nomenclature used in defining cyberbullying (Menesini, et al., 2012). In order to address this, Hoher, Scheithauer, and Schultze-Krumbholz, (2014) researched how adolescents defined cyberbullying in Germany. In this study, the authors separated the participants into three focus groups of 20 adolescents each. Participants ranged in age from 11 to 16 years and were from a "major city in Germany". Results of the study indicated that German adolescents described cyberbullying best with the term "cybermobbing". The German adolescents surveyed, considered viewed impersonation more as a criminal act worthy of police involvement rather than as a form of cyberbullying. Those adolescents considered that in order for a behavior to be considered cyberbullying, there must be

a perceived intent to harm, an impact on the victim, and a repetition of the incident to harm. The participants of this study considered these components a necessary aspect of cyberbullying. Motivations behind cyberbullying and factors mitigating participation are also important in understanding the impact of bullying and its outcomes. Konig, Gollwitzer, and Steffgen (2010) examined the role of revenge and retaliation as a motivator for participating in online bullying. The authors conducted online surveys with 473 students between the ages of 11 and 25. Of the 473 surveyed, 149 were found to be both traditional victims and cyberbullies. The purpose of the study was to determine whether traditional victims become cyberbullies, and to what extent they choose their former traditional perpetrators as victims. Results of the study suggest that those who become cyberbullies after having been victims of traditional bullying do tend to choose their traditional bully perpetrators as their own victims, and that revenge may be a motivator for involvement in cyberbullying. No age or gender differences were found for this "avenger" behavior; however, more frequent victimization did lead to more vengeful behavior on the part of the victim turned cyberbully.

In a study by Schultze-Krumbholz and Scheithauer (2009) the social and behavioral correlates of cyberbullying in German students were examined in a pilot study using 71 students from the seventh, eighth, and tenth grades in a Gymnasium in Berlin, Germany. The study was designed to assess the quality of measurement instruments for application in a later study and to identify characteristics of cyberbullies and cybervictims to be targeted as potential risk factors or protective factors in a future study. Results of the study (N = 71) found that 15.5% of the participants had been victims of cyberbullying (N = 11); 14.1% had been victimized regularly (at least 2-3 times per month) on the internet, 5.6% by mobile phone, and 4.2% by email; 16.9% identified themselves as cyberbullies (N = 12); and 15.5% of those cyber bullied used the internet, 8.5% used a mobile phone, and 5.6% used email. This sample reported a 9.9% rate of being victims of traditional bullying, and 7.0% as being traditional bullies. The study participants reported being cyberbullies more often than being traditional bullies. There was a considerable overlap found between being a cyberbully and being a cybervictim. Results indicated that 58.3%

of participants who reported as cyberbullies also reporting being cybervictims. Additional findings indicated that both cybervictims and cyberbullies showed significantly less empathy than students who were not involved in cyberbullying, and both cyberbullies and victims showed significantly higher levels of relational aggression.

A longitudinal study on relationships between empathy, social-emotional problems and cyberbullying conducted by Schultze-Krumbholz, and Scheithauer (2013) supported the importance of empathy in cyberbullying perpetration. Results of this study found that low scores of affective empathy predicted cyberbullying, but not cybervictimization at time two, but not time one, of this longitudinal study. Affective empathy is the need to respond with an appropriate emotion to what someone is thinking or feeling. The study did not find any indication that cyberbullying or cybervictimization predicted social withdrawal or psychopathological symptoms at time two when compared to time one.

Schultze-Krumbholz, Jakel, Schultze and Scheithauer (2012) implemented a longitudinal study on internalizing and externalizing problems related to cyberbullying in order to study emotional and behavioral problems in the context of cyberbullying among German students. Cross- sectional data from 412 middle school students examined differences between cyberbullies, cybervictims, and cyber bully victims compared to non-involved students concerning internalizing and externalizing problems. In addition, longitudinal data from 223 students were collected regarding the links between cyberbullies, cybervictims, internalizing problems, and externalizing problems across two measurement occasions. Internalizing problems included depression and loneliness, externalizing problems included instrumental and reactive aggression. Results indicated that there were no significant differences between the groups on internalizing problems, but all three of the cyberbullying groups differed significantly from the non-involved groups in externalizing problems. Of the victims, the females showed an increase in externalizing problems from pre-victimization to post-victimization data, but the male victims did not show changes across time in either internalizing or externalizing problems. Of the bullies, the males reported decreases in internalizing problems across time. For males, high scores in both

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cyberbullying and cybervictimization were correlated with increased reports of loneliness. Females with high scores in both cyberbullying and cybervictimization showed decreases in reactive aggression.

Two studies by Pieschl, Porsch, Kahl, and Klockenbusch (2013) measured the relevant dimensions of cyberbullying. In the first study, the authors explored the power imbalance of perceived popularity as relevant to the experience of cyberbullying in terms of the affective, cognitive, and behavioral experience. Results of study one indicated that it is more distressing to be cyberbullied by someone who is popular than by someone who is not. Additionally, cyberbullying by someone who is popular elicited more negative mood and more helpless cognitions. Also, by being repeatedly confronted with negative cyber vignettes, cybervictims became desensitized, which led to the increase of helpless cognitions. Another relevant finding of the first study was that the personal characteristics of the cybervictim could moderate the effects of the cyber scenario, such as mitigating the effects of the victimization. Study II explored how the factors of type of media and method of cyberbullying were important to the study of cyberbullying. For example, different types of cyberbullying are related to different patterns of coping strategies. Active coping strategies involve an awareness of the stressor, and attempts to reduce the negative outcome resulting from the stressor; social coping strategies involve utilizing the support of friends or adults; aggressive coping strategies are those, which rely on less socially accepted behaviors, such as bullying or fighting. Results of the second study indicated that girls reported more active and social coping and less aggressive coping than boys did. According to the authors, cyberbullying "seems both a unique phenomenon and closely related to conventional bullying" (p. 241).

Wachs (2012) investigated the similarities and differences between participant roles in traditional bullying and cyberbullying in terms of moral disengagement and social and emotional characteristics. The author considered protective factors, consequences, and risk factors for cybervictimization. The study conducted in Germany with 517 students in grades five through ten. Participants were assessed for bullying involvement using the Computer Assisted Personal

Interview (CAPI) Method. Findings suggested that cyberbullying was slightly less frequent than traditional bullying and there was considerable overlap, with many of the students involved in cyberbullying also found to be participating in traditional bullying. More of the students who indicated that they were involved in cyberbullying also indicated they had a "bad conscience" as compared to those who endorsed being involved in traditional bullying. However, those students who were involved in cyberbullying showed a greater moral disengagement. A protective factor that was found across nearly all the mantles of cyberbullying behavior, was high school satisfaction. Risk factors for cybervictimization included feeling lonely, unpopular, or being friendless. Increasing empathy and a positive school culture were suggested as key aspects for anti-bullying and anti-cyberbullying prevention and interventions.

Purpose

Research on cyberbullying is an emerging field. The current literature has examined the significance of age, gender, frequency of use, cross-nationality, outcomes and effects, and its prevalence across the world, but continuing research must explore these relationships further (Pelfrey & Weber, 2013), in order to provide a universal understanding of cyberbullying (COST, 2009). The present study will expand upon the existing literature by addressing this international concern in the context of both American and German middle school populations in terms of quantifying both the extent to which cyberbullying occurs, and the factors related to rates of cyberbullying.

Much of the literature on cyberbullying continues to be inconclusive and contradictory. Researchers continue to question whether gender is a significant factor related to cyberbullying (Kowalski, Limber, & Agatston, 2012). While age appears to be positively correlated with cyberbullying (Smith, et al., 2008), there are indications that this does not hold true throughout adolescence (Beran, et al, 2012; DeSouza, 2011; Myers & Cowie, 2012). Additionally, there is evidence to suggest that an increased use of social technology is related to an increased risk of cybervictimization (Campbell, 2005; Smith, et al., 2008), however other research suggests that social influences and many other factors may also be involved (Dooley, et al., 2009). Through

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further exploration of all of these factors, researchers can increase their understanding of the underlying issues related to cyberbullying, thus allowing for the creation and implementation of effective interventions. One purpose of this study, therefore, is to examine the effects of gender and age on the time spent using various computer mediated communication (CMC) modalities. The various computer mediated communication (CMC) modalities, were described as: specifically, the effects of gender and age on involvement in both traditional bullying and cyberbullying in a comparison between the two nationalities, as an extension of the international research.

Research in both the United States and Germany has provided substantial evidence suggesting that there is a correlation between cyberbullying and negative outcomes in life, including externalizing and internalizing problems (such as aggression, depression, and anxiety) and higher incidences of delinquency and school absenteeism. In research completed by Lerner (2009) comparisons were made between American and Japanese students and the effects of cyberbullying as a whole. In order to examine this in another light, the current research will study the same effects that of the effects of nationality, gender, and age across the entire sample of American and German students in regards to CMC modalities, cyberbullying, and traditional bullying. Although not comparing and contrasting to the Japanese and American sample, this should add to the literature in a significant way, by providing comparisons between Americans and another nationality with completely different societal norms than those of the Japanese, as explained by Lerner (2009).

Research Questions and Hypotheses

The following research questions will be examined by this study in the context of students in American and German middle schools:

Research Question 1: What is the effect of gender and age on the time spent using various computer mediated communication (CMC) modalities?

Hypothesis 1a: *Older students will spend more time across all (CMC) behaviors for both American and German samples.*

Hypothesis 1b: *Time spent using CMC will increase as age increases across genders for both the American and the German samples.*

Research Question 2: What are the effects of gender on involvement in both traditional bullying and cyberbullying for the American and the German students separately?

Hypothesis 2a: Rates of involvement in traditional bullying, as a victim, will be greater for boys for both the American and the German students.

Hypothesis 2b: Rates of involvement in traditional bullying, as a perpetrator, will be greater for boys for both the American and the German students.

Hypothesis 2c: Involvement in cyberbullying, as the victim, will show no differences in relation to gender for the German students, but the American students will demonstrate greater involvement in cyberbullying as victims for both males and females.

Hypothesis 2d: *Involvement in cyberbullying, as the perpetrator, will show no differences in relation to gender for the German students, but the American students will demonstrate less involvement in cyberbullying as perpetrators than as victims for both males and females.*

Research Question 3: What are the effects of age on involvement in both traditional bullying and cyberbullying for the American and the German students separately?

Hypothesis 3a: *Involvement in all forms of bullying will increase as age increases for both the American and the German sample.*

Research Question 4: What are the effects of nationality, gender, and age across the entire sample, in regards to CMC modalities, traditional and cyberbullying?

Hypothesis 4a: *German students will have higher mean rates of CMC use than American students will.*

Hypothesis 4b: *American students will have higher mean rates of cyberbullying than German students will.*

Hypothesis 4c: American and German students will have equivalent mean rates of

traditional bullying.

Hypothesis 4d: *American students will have higher mean rates of being victims of cyberbullies than German students.*

Hypothesis 4e: American and German students will have equivalent mean rates of being victims of traditional bullies.

CHAPTER 3

METHOD

Participants

For the American sample, data were collected from 111 students (62 females and 49 males) from three middle schools (seventh and eighth grade only) in a public school district in a large urban area of the Southwestern United States. Participants ranged in age from 12 to 15 years with 55 of the participants attending 7th grade (49.5%), and 56 of the participants attending 8th grade (50.4%).

Specific ethnicity information was not obtained as a part of this study, however, the demographic makeup of the school district from which the sample was drawn was; Caucasian (39%), African American (12%), Hispanic (45%), Asian/Pacific Islander (3%), and American Indian/Alaskan Native (1%). Of the students attending these schools, approximately 54 percent received free and reduced price lunches.

The German sample contained data collected from 279 students (152 female and 127 male). Specific ethnic information was not obtained for the German sample. All were enrolled in one of the three types of secondary schools found in Germany: Gymnasium, Realeschule, or Hauptschule. All of the schools were urban schools located in Saxony, one of the sixteen federal states of Germany.

Secondary school students in Germany range in age from 12 to 16 years, which is consistent with the age range of the students who participated in the study. All participants who are in the 16-year-old age range will be excluded from the German data set, in order to match the age range of the American data set. Demographic information including SES was not available for the German sample.

Procedure

For the American study IRB and school district, approval was obtained. It was determined that to be included in the American portion of the study, participants were required to be attending a middle school, be between the ages of 12 and 15 years, and have provided an

informed consent form signed by a parent or guardian as indicated by IRB and school district guidelines. The students indicated willingness to participate in the study by signing the participant assent form. Participants were excluded from the study if they left the study questionnaire blank, if they did not provide a signed parent/guardian permission form, or if they chose to opt out of the study by not signing the participant assent form. Although students were allowed to end their participation in the study at any time, even after signing the participant assent form, none of them chose to do so.

The survey was carried out with the assistance of personnel associated with the middle schools selected. A school employee functioned as a mediator to oversee the administration of the survey. All study materials were delivered to the mediator by the co-investigator. The mediator distributed the surveys to all of the involved schools and participating classroom teachers. The co-investigator had no direct interaction with the students. All materials for the study were provided to the mediator by the co-investigator. The mediator then distributed the consent forms to guardians and the surveys to the classroom teachers who administered the survey.

The questionnaire was completed during the regular school day. Students were read directions for completing the questionnaire and were allowed approximately 20 minutes to complete the questionnaire. The surveys were completely anonymous, with students being specifically instructed to include no personal information. All questionnaires completed were in a pencil and paper format and completed under the direction of school personnel. Questionnaires were collected by the classroom teachers and returned to the mediator. The mediator collected all questionnaires from the schools involved and returned them to the study co-investigator at the completion of all sampling.

German data is from archival records collected by researchers under the direction of a professor at the Technische Universitaet Dresden, Germany. IRB approval was granted allowing the use of this data within the parameters of this study. Participants in the German portion of the study were excluded if they did not return a signed permission form from a parent or guardian;

students were also excluded following data collection if they left any items on the study questionnaire blank. As student assent forms are not a common practice in Germany, this was not a requirement for the German portion of the study; however, students were told that they were allowed to withdraw at any time prior to the collection of the surveys. Surveys were completed in paper and pencil format under the supervision of school personnel during the regular school day. Students were read directions for completing the questionnaire and were allowed approximately 20 minutes to complete the questionnaire. As in the American sample, the surveys were completely anonymous, with students being specifically instructed to include no personal information.

Instruments

Bullying behaviors were assessed using an adaptation of the Growing Up with Media survey (Ybarra, 2006; 2007; 2008), a phrase-based self-report questionnaire. The survey was a 90-item questionnaire targeting behaviors found in the literature to be related to either traditional bullying or cyberbullying. All items included in the version of the survey used, (adapted by Lerner, 2010), were related to both cyberbullying and traditional bullying with the exception of those items related to the distribution of digital images via CMC, which were deleted at the request of the American school district being surveyed. Internal reliability for the dimension on cyber-harassment was α = 0.81, which indicated a high covariance between items related to cyber-harassment (Lerner, 2010).

Items on the scale were related to: rates at which students use CMC; specific types of bullying behaviors; the constructs need for affiliation, and fear of social rejection. With the exception of questions relating to age and gender of the participant, the items were all Likert Scale questions. Specifically, Items 1 – 13 are related to the general rates at which students use CMC, and the factors being investigated in terms of their effect on student involvement in bullying and cyberbullying. The factors are nationality, gender, and age. The questions inquire as to the amount of time students spent talking on a cell phone, texting on a cell phone, browsing the

Internet, e-mailing, chatting on-line, instant messaging, and using personal websites such as Facebook.

Items 14 – 59 are concerned with the specific types of bullying behaviors of concern in the study: saying rude or mean things; spreading rumors; group exclusionary behaviors; and physical bullying. A version of each item pertains to either perpetrating or being a victim of a given behavior. Each related series of items begins with a prompt describing the behavior to be rated. The five questions following each prompt inquire as to whether the behavior was performed face-to-face or via the various types of electronic media such as a text message, email, chat-room, instant messenger, or on a personal website.

In order to answer questions on the survey, respondents were asked to indicate how often in the previous 12-month period, they had engaged in a particular behavior. With the exception of items inquiring about gender and age, the items are all Likert type questions. Responses available for items 3 – 75 range from either A to E, or from 1 to 5, and responses to items 76 – 90 range from either A to D, or from 1 to 4. In the survey, the response of A, indicates the highest frequency or greatest agreement with a statement, the response of E, indicating the least frequency or agreement. Surveys include an anchor statement before questions 3, 14, and 76. The anchor question before item 3 pertains to the amount of time that was spent communicating by various technologically based modalities of communication. The anchor question before item 14 is used to indicate the degree to which the student has been involved in bullying or cyberbullying behaviors (A lot of the time = almost every week; Often – once or twice a month, etc.). The anchor question before item 76 is used to indicate the level of agreement a student has to the questions pertaining to the constructs need for affiliation and fear of social rejection. Responses available are: strongly agree; agree; disagree; and strongly disagree (The survey is included in Appendix A).

In order to conduct the German portion of the study, a native German speaker translated the scale into German, and then independently back translated into English by a translator with

dual citizenship in both Germany and the United States, who is fluent in both languages.

Translation and back-translation were done utilizing accepted translation guidelines.

CHAPTER 4

RESULTS

Data treatment

        All items were reverse coded prior to analysis so that the highest value on the scale (5)

represents the highest frequency of a given behavior. Binary items were excluded from the

analysis (item numbers 8, 10, and 12), as they did not fit the distributional assumptions of

MANOVA. Analyses were carried out on five separate constructs: computer mediated

communication (CMC), traditional bully (TB), cyberbully (CB), traditional victim (TV), and cyber

victim (CV).

Tests of Multivariate Normality

        Before the running multivariate analysis of variance (MANOVA), a parametric statistic, it

is advisable to test the assumption of multivariate normality, as the interpretation of MANOVA

results relies heavily on this assumption. According to Mecklen and Mundfrom (2003) there are

many tests available, which address multivariate normality, but there is not one individual test that

is considered to be the most powerful. Therefore, it is recommended that several tests be

performed in order to assess this assumption (Mecklin & Mundfrom, 2003). The MVN package in

R was used to test the assumption of multivariate normality based on two different procedures,

the Henze-Zirkler Test and the Royston Test. The Henze-Zirkler test has been found to have a

good overall power against alternatives to normality. The Henze-Zirkler test is based on a "non-

negative functional distance that measures the distance between two distribution functions"

(Korkmaz, Goksuk, & Zarasiz, 2014; p. 2). Korkmaz, et.al., go on to say that if data are distributed

as multivariate normal, then it is "approximately log-normally distributed" (p.5). The Royston's

Multivariate Normality Test (Korkmaz, et al., 2014) uses the Shapiro-Wilk/Shapiro-Francia

statistic to test multivariate normality (p. 5). According to Korkmaz et at., when using this, if

kurtosis of the data is greater than 3, than the Shapiro-Francia test for leptokurtic distributions is

utilized Otherwise, platykurtic distributions utilize the Shapiro-Wilk test.

Not surprisingly, given the essentially ordinal nature of the data, all five constructs for both the American and the German data deviated significantly from the assumption of multivariate normality (p <.001) based on statistical tests. Since none of the datasets met the assumption of multivariate normality required of parametric MANOVA, a nonparametric approach was utilized instead. The adonis function in the R package vegan uses dissimilarities derived from multivariate distance matrices to partition sums of squares and then applies a permutation procedure (N=999) for significance testing. This function was applied to all five constructs in both datasets, then in the combined dataset with the additional factor nationality.

Permutational (Nonparametric) MANOVA

In order to assess the aspects of questions 1, 2, and 3 two separate two-way permutational multivariate analysis of variance's (MANOVA's) (2 x 4) were conducted. Each MANOVA assessed the American students and the German students separately. Questions 1 and 2 considered the effects of gender and age on students' overall time spent using computer-mediated communication (CMC) and assessed the effects of gender and age on the frequency of students utilizing bullying behavior, and those who are victims of bullies. The independent variables were gender and age. The levels for gender were male and female, and the levels for age were 12, 13, 14, and 15 years. Age group 15 was excluded from the American analysis due to small sample size, which would have resulted in low power.

The first permutational multivariate analysis of variance (MANOVA), examined the effects of gender and age on the dependent variable time spent using various computer mediated communication (CMC) modalities, ranging from face-to-face communication to corresponding over personal websites (such as Facebook), for both German and American samples separately. A subsequent MANOVA examined the effects of both gender and age on involvement in both traditional bullying and cyberbullying and their rates of involvement as both victims and perpetrators for both the American and German students separately.

In order to answer research question 4a, b, c, d, and e, which assessed the effects of nationality, gender, and age on the total sample, a three-way MANOVA (2 x 2 x 4) was conducted

on the groups of behaviors related to time spent communicating via various CMC modalities, traditional bullying, and cyberbullying.

Research Question 1: What is the effect of gender and age on the time spent using various computer mediated communication (CMC) modalities?

The effects of gender and age on time spent using various computer-mediated communication (CMC) modalities were assessed using the adonis permutational multivariate analysis of variance (MANOVA).

Hypothesis 1a: Older students will spend more time across all (CMC) behaviors for both American and German samples.

In contrast to the expected outcome, age did not play a significant part in time spent on various forms of CMC behavior in the American sample. The results of the nonparametric MANOVA indicated that there was no main effect for age on the amount of time spent on the various forms of CMC, F (2, 105) = 1.77, p = .102. The strength of this effect was also minimal with only approximately three percent of the variance of time spent on various forms of CMC accounted for by age alone (r^2 = .033). (See Table 1).

Findings for the German sample of students were consistent with the expectation of the hypothesis, and found that age did play a significant role in time spent on various forms of CMC for the German sample. Results of the nonparametric MANOVA indicated that the main effect for age on the amount of time spent on various forms of CMC was significant, F (3, 278) = 2.60, p = .005. The strength of the effect was at approximately three percent of the time spent on various forms of CMC accounted for by the variable of age (r^2 = .027). See Table 1. A Kruskal-Wallis Test revealed a statistically significant difference in age for the time spent on cell phones for the German sample of students across all of the CMC behaviors, X^2 (3, n = 278) = 8.477, p = 0.037, for time spent on email X^2 (3, n = 278) = 8.571, p = 0.036, and in chat rooms X^2 3, (n = 278) = 11.168, p = 0.011.

Table 1

Multivariate Analysis of Variance for Age and Gender on CMC Behaviors

Variable	df	SS	Mean Square	*F*	η²	*p*
American						
Gender (G)	1	0.024	0.024	0.760	.0.07	0.542
Age (A)	2	0.111	0.055	1.772	0.033	0.102
G x A	2	0.045	1.444	0.027	0.193	0.193
Residuals	100	3.125	0.031		0.933	
Total	105			1.00		
German						
Gender (G)	1	0.109	.0109	3.746	0.013	0.011*
Age (A)	3	0.227	0.076	2.596	0.027	0.005*
G x A	3	0.128	0.043	1.458	0.015	0.138
Residuals	271	7.906	0.029		0.945	
Total	278	8.370			1.00	

*Significant at <0.05

A further review of the means suggest that German students showed an increase in the use of chat rooms only as age increased. All other areas of CMC interactions showed patterns of decreasing, then increasing use, with cell phones and email use showing an additional decrease in use between the ages of 14 and 15. (See Table 2)

Table 2

Means for Time Spent on various forms of CMC for the American and German Samples of Students

Nationality	Age	Face-to-Face	Cell	Text	Browse Net	Email	Chat room	I.M.	Facebook
American									
	12	3.82	2.12	3.12	3.88	2.06	1.65	1.71	2.71
	13	4.00	2.02	3.37	3.50	1.78	1.57	1.91	2.56
	14	4.20	1.94	3.97	3.57	1.89	1.94	2.54	2.71
German									
	12	4.10	2.05	2.14	4.05	2.00	1.81	1.90	2.95
	13	4.06	2.15	2.39	3.87	1.71	2.15	1.72	2.91
	14	4.37	2.46	2.66	4.16	1.91	2.62	1.52	3.56
	15	4.38	1.92	2.54	4.31	1.69	3.31	1.54	4.08

American *n* = 111; German *n* = 279; Time is measured in hours

Hypothesis 1b: Time spent using CMC will increase as age increases across genders for both the American and the German samples.

Time spent using CMC will increase as age increases across gender for both the American and the German samples. The results of the MANOVA were inconsistent with the hypothesis that age will increase across genders for the American sample. According to the finding, the interaction of age and gender, on the outcome of time spent on various forms of CMC, on the American sample, had no significant interaction effect, $F(2, 105) = 1.44$, $p = .193$. The strength of this effect was approximately three percent of the variance of the combined interaction of age and gender affecting the time spent on CMC by both males and females regardless of age, ($r^2 = .027$). (See Table 1).

Despite the main effects for age $F(3, 278) = 2.596$, p = .005, and gender $F(1, 278) = 3.746$, $p = .011$, on the German sample, no significant interaction effect was found between age

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and gender on the time spent on various CMC behaviors, F (3, 278) = 1.49, p = .138. (See Table 1). Approximately one percent of the variance was accounted for by the variable amount of time spent on various forms of CMC behaviors overall, (r^2 = .015), suggesting a very weak effect for the interaction of age and gender (Table 1).

Although the interaction of gender and mean age did not support the hypothesis, there was an effect for both gender and age. A Kruskal-Wallis Test revealed a statistically significant difference in gender for time spent in CMC for the use of Facebook, X^2 (1, n = 278) = 5.595, p = 0.018. An examination of the means indicated that males (M = 2.68) spent more time on various forms of CMC than did females (M = 1.79) in the German sample, with a 4% mean difference found. Specifically, males were found to spend more time texting (M = 2.55, male; M = 2.43, female) 5% mean difference, and sending email (M = 1.87, male; M = 1.75) 7% mean difference. Significant for females, they reportedly spent more time on social media (M = 3.46, female; M = 2.93, male) 18% mean difference. (See Table 3).

Table 3

Means and Percent Mean Difference for Time Spent on various forms of CMC related to Gender for the American and German Samples of Students

Nationality	Gender	Face-to-Face	Cell	Text	Browse Net	Email	Chat room	I.M.	Facebook
American									
	Female	4.00	2.10	3.67	3.75	1.80	1.61	2.15	2.64
	Male	4.00	1.89	3.33	3.36	1.93	1.84	2.00	2.62
	Mean Diff	.02	.11	.10	.12	.07	.13	.07	.01
German									
	Female	4.30	2.30	2.43	4.08	1.75	2.38	1.72	3.46
	Male	4.07	2.20	2.55	3.94	1.87	2.35	1.56	2.93
	Mean Diff	4.06	.04	.05	.04	.07	.01	.10	.18

American *n* = 111; German *n* = 279

Research Question 2: What are the effects of gender on involvement in both traditional bullying and cyberbullying for the American and the German students separately?

The effects of gender on involvement in both traditional bullying and cyberbullying for both the American and the German students, separately, were assessed using the adonis permutational multivariate analysis of variance (MANOVA).

Hypothesis 2a: Rates of involvement in traditional bullying, as a victim, will be greater for boys for both the American and the German students.

In examining the results of the MANOVA for traditional victims, there was a main effect for gender among the American sample of students, $F (1, 105) = 6.282$, $p = .005$, with almost six percent of the variance accounted for by the effect of gender ($r^2 = .057$). (See Table 4). A

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Kruskal-Wallis Test did reveal a statistically significant difference in gender for traditional victimization for the American sample of students in several areas of face-to-face (traditional victimization) behaviors. American students experienced significant differences in face-to-face interactions when someone else said something rude or mean to them X^2 (1, n = 105) = 4.606, p = 0.032, when others spread rumors about them X^2 (1, n = 105) = 9.415, p = 0.002, and when being excluded from a group X^2 (1, n = 105) = 4.964, p = 0.026.   .

Although the results of the MANOVA supported the hypothesis, by finding a main effect for gender, the examination of the means finds that there is a 21% mean difference between males and females, with females (M = 2.39) having a greater number of traditional victims than did males (M = 1.97) in the American sample of students. This was not supported, with results contrary to the predicted hypotheses; females were more likely than males to be victims of traditional bullying. (See Table 5).

Table 4

Multivariate Analysis of Variance for Rates of Involvement in Traditional Bullying as a Victim

Variable	df	SS	Mean Square	F	η^2	p
American						
Gender (G)	1	0.255	0.255	6.282	0.057	0.005*
Age (A)	2	0.088	0.044	1.084	0.020	0.370
G x A	2	0.103	0.052	1.275	0.023	0.278
Residuals	100	4.055	0.041		0.901	
Total	105	4.501			1.000	
German						
Gender (G)	1	0.184	0.184	8.100	0.029	0.002*
Age (A)	3	0.069	0.023	1.020	0.011	0.390
G x A	3	0.017	0.006	0.245	0.003	0.950
Residuals	271	6.145	0.023		0.958	
Total	278	6.415			1.000	

*Significant at < 0.05

In support of the hypothesis, the results of the nonparametric MANOVA found that there was a significant main effect for gender on being a traditional victim among the German sample of students, F (1, 278) = 8.100, p = .002. (See Table 4) The Kruskal-Wallis Test also revealed a statistically significant difference for the German sample of students in several areas of face-to-face (traditional victimization) behaviors. American students experienced significant differences in face-to-face interactions when someone else said something rude or mean to them X^2 (1, n = 278) = 7.757, p = 0.005, and when others spread rumors about them X^2 (1, n = 278) = 8.866, p = 0.002.

A further review of the means found that, similar to the American sample of students, an examination of the means found that there existed a 10% mean difference between males and females, with males experiencing more incidences of being traditional victims of bullying (M =

1.83), than did females (M = 1.64) in the German sample. The hypothesis is valid for being a

victim of traditional bullying for the German sample. (See Table 5).

Table 5

Means and Percent Mean Difference Traditional Victims related to Gender for the American and German Samples of Students

Nationality	Gender	CMC	Rude Statement	Spread Rumors	Exclusion	Dislike Comment
American						
	Female	4.07	2.75	2.38	2.52	1.90
	Male	4.00	2.27	1.78	2.02	1.80
	Mean Diff	.02	.22	.34	.25	.06
German						
	Female	4.30	2.39	1.91	1.11	1.14
	Male	4.07	2.79	2.20	1.18	1.14
	Mean Diff	.06	.14	.13	.06	.00

American *n* = 111; German *n* = 279

There was no main effect found for age on being a traditional victim for the German

sample, $F(3, 278) = 1.020$, $p = .390$, with approximately one percent of the variance of being a

traditional victim accounted for by age ($r^2 = .011$). (See Table 4)

Hypothesis 2b: Rates of involvement in traditional bullying, as a perpetrator, will be

greater for boys for both the American and the German students.

The results of the MANOVA were contrary to the hypothesis, and did not produce

significant main effects for gender on traditional bullying, $F(1,105) = 0.442$, $p = .679$. The

variance accounted for by this effect is less than one percent ($r^2 = 0.004$) (See Table 4),

indicating that gender accounted for less than one percent of the variance on traditional bullying

in the form of a perpetrator. Similar to the American sample, results of the nonparametric MANOVA found no significant main effects for gender on the German sample of students, F (1, 278) = 1.788, p = .161, (r^2 = .006), as seen in Table 4.

Hypothesis 2c: Involvement in cyberbullying, as the victim, will show no differences in relation to gender for the German students, but the American students will demonstrate greater involvement in cyberbullying as victims for both males and females.

The results of the MANOVA were inconsistent with the hypothesis, and did produce significant main effects for gender on cyberbullying victimization, F (1, 278) = 2.935, p = 0.029, for the German sample of students. The variance accounted for by this effect is at just one percent (r^2 = 0.010), indicating that gender accounted for approximately one percent of the variance on cyberbullying in the form of victimization for the German sample of students (See Table 6).

Table 6

Multivariate Analysis of Variance for Rates of Involvement in Cyberbullying as a Victim

Variable	df	SS	Mean Square	F	η^2	p
American						
Gender (G)	1	0.036	0.036	1.353	0.013	0.249
Age (A)	2	0.068	0.034	1.287	0.024	0.250
G x A	2	0.109	0.054	2.057	0.038	0.066
Residuals	100	2.642	0.026		0.926	
Total	105	2.854		1.00		
German						
Gender (G)	1	0.042	0.042	2.935	0.010	0.029*
Age (A)	3	0.055	0.018	1.282	0.014	0.209
G x A	3	0.064	0.021	1.482	0.016	0.147
Residuals	271	3.870	0.014		0.960	
Total	278	4.030			1.00	

*Significant at < 0.05

A Kruskal-Wallis Test did reveal a statisticaly significant difference in gender for the German sample of students when having something rude or mean said to you via Instant Message X^2 (1, n = 278) = 4.602, p = 0.032, or having something rude or mean said to you via Facebook X^2 (1, n = 278) = 9.163, p = 0.002. It was also found to be statistically significant when others make rude comments to you via text message X^2 (1, n = 278) = 8.619, p = 0.003, and when the rude comments were made to them via a chat room X^2 (1, n = 278) = 6.441, p = 0.011.

A further examination of the means found that, overall, males were not more likely to be victims of cyberbullying. However, there were three areas where the German sample of male students did have significantly higher rates of self-reported cyberbullying victimization. These included having something rude or mean said to you via text (male = 1.40, female = 1.34, with approximately 5% mean difference) (See Table 7).

Table 7

Means and Percent Mean Difference related to Gender for the American and German Samples of Students - Cyberbully Victims
"Said something rude to you"

Nationality	Gender	Text	Email	Chat room	I.M.	Facebook
American						
	Female	1.97	1.25	1.33	1.41	1.64
	Male	1.44	1.18	1.36	1.33	1.47
	Mean Diff	.36	.06	.02	.06	.12
German						
	Female	1.34	1.07	1.28	1.22	1.73
	Male	1.40	1.07	1.29	1.07	1.43
	Mean Diff	.05	.00	.01	.14	.21

American n = 111; German n = 279

Having rumors spread about you via text messages (male = 1.32, female = 1.22, with an 8% mean difference) (See Table 8). Also of significance was in the area of having "won't like you" comments made while in a chat room (male = 2.06, female = 1.81, with a 12% mean difference) (See Table 9). An examination of the mean for "Saying something rude to you" via email, was consistent with the hypothesis, showing no mean difference between the male participants (M = 1.07) and the female participants (M = 1.07) (See Table 7).

Table 8

Means and Percent Mean Difference related to Gender for the American and German Samples of Students - Cyberbully Victims
"Spread rumors about you"

Nationality	Gender	Text	Email	Chat room	I.M.	Facebook
American						
	Female	1.95	1.23	1.44	1.56	1.61
	Male	1.56	1.22	1.38	1.33	1.60
	Mean Diff	.25	.01	.05	.17	.01
German						
	Female	1.22	1.03	1.25	1.21	1.62
	Male	1.32	1.13	1.27	1.14	1.49
	Mean Diff	.08	.08	.01	.06	.09

American *n* = 111; German *n* = 279

Results of the nonparametric MANOVA found no significant main effects for gender on the American sample of students, $F(1,105) = 1.353$, $p = .249$. The variance accounted for by this effect was just over one percent ($r^2 = 0.013$), indicating gender accounted for no more than one percent of the variance in cybervictimization of students (See Table 6).

Table 9

Means and Percent Mean Difference related to Gender for the American and German Samples of Students - Cyberbully Victims
"Made 'won't like' comments to you"

Nationality	Gender	Text	Email	Chat room	I.M.	Facebook
American						
	Female	1.48	1.07	1.18	1.18	1.21
	Male	1.38	1.20	1.30	1.24	1.31
	Mean Diff	.07	.11	.10	.05	.07
German						
	Female	1.18	1.45	1.81	1.14	1.05
	Male	1.05	1.32	2.06	1.16	1.00
	Mean Diff	.12	.09	.12	.02	.05

American n = 111; German n = 279

Hypothesis 2d: Involvement in cyberbullying, as the perpetrator, will show no differences in relation to gender for the German students, but the American students will demonstrate less involvement in cyberbullying as perpetrators than as victims for both males and females.

The results of the permutation MANOVA did find a significant main effect for gender on cyberbullying in the German sample of students, F (1, 278) = 2.770, p = .032. One percent of the variance was accounted for by the effect of gender on cyberbullying, (r^2= .010), (See Table 11). The Kruskal-Wallis Test indicated there was a statistically significant difference in gender on being a perpetrator of cyberbullying in the German population of students. In particular, when saying something rude or mean to someone else via Instant Message X^2 (1, n = 278) = 10.064, p = 0.002, and when saying something rude or mean to someone else via Facebook X^2 (1, n = 278) = 11.395, p = 0.001, or spreading rumors about another person via Facebook X^2 (1, n = 278) =

4.101, p = 0.043. An examination of the means revealed that, females (M = 1.31) participated in

cyberbullying more than did males (M = 1.26). There was an overall 4% mean difference, in the

participation cyberbullying of females over males. (See Table 10).

Table 10

*Means and Percent Mean Difference related to Gender for the American and
German Samples of Students Cyberbully Victims*
"You excluded from group"

Nationality	Gender	Text	Email	Chat room	I.M.	Facebook
American						
	Female	1.69	1.13	1.21	1.38	1.43
	Male	1.27	1.18	1.22	1.22	1.36
	Mean Diff	.33	.04	.01	.13	.05
German						
	Female	1.01	1.01	1.02	1.03	1.15
	Male	1.02	1.02	1.04	1.02	1.13
	Mean Diff	.01	.01	.02	.02	.02

American n = 111; German n = 279

The results of the MANOVA also found a significant main effect for gender in relation to

cybervictimization on the German sample of students, F (1, 278) = 2.935, p = .029. Approximately

three percent of the variance was accounted for by the effect of gender on cybervictimization

(See Table 6). As seen in Hypothesis 2c, the results of the post hoc test or the same, and a

Kruskal-Wallis Test again revealed the statisticaly significant difference in gender for the German

sample of students when having something rude or mean said to you via Instant Message X^2 (1,

n = 278) = 4.602, p = 0.032, or having something rude or mean said to you via Facebook X^2 (1, n

= 278) = 9.163, p = 0.002. It was also found to be statistically significant when others make rude comments to you via text message X^2 (1, n = 278) = 8.619, p = 0.003, and when the rude comments were made to them via a chat room X^2 (1, n = 278) = 6.441, p = 0.011.

Although the main effect for gender was not in support of the hypothesis, an examination of the means found no mean difference between males (M = 1.24) and females (M = 1.24) for the experience of cybervictimization. This does support the hypothesis that there would be no difference in relation to gender for the German sample of students.

The results of the permutation MANOVA also found a significant main effect for gender on cyberbullying in the American sample of students, F (1, 105) = 2.413, p = .037. Approximately 4 percent of the variance was accounted for by the effect of gender on cyberbullying, (r^2= .037), (See Table 11). Results of the Kruskal-Wallis Test found a statistically significant difference in gender for the American sample of students when saying something rude or mean to someone via text message X^2 (1, n = 105) = 4.532, p = 0.033. It was also found to be significant when spreading rumors via a chat room X^2 (1, n = 105) = 5.032, p = 0.024, or hiding your identity on a personal web page X^2 (1, n = 105) = 4.993, p = 0.025

Table 11

Multivariate Analysis of Variance for Rates of Involvement in Cyberbullying as a Perpetrator

Variable	df	SS	Mean Square	F	η^2	p
American						
Gender (G)	1	0.040	0.040	2.413	0.022	0.037*
Age (A)	2	0.086	0.043	2.612	0.048	0.012*
G x A	2	0.015	0.008	0.454	0.008	0.888
Residuals	100	1.654	0.017		0.921	
Total	105	1.765			1.000	
German						
Gender (G)	1	0.048	0.048	2.770	0.010	0.032*
Age (A)	3	0.074	0.025	1.426	0.015	0.154
G x A	3	0.048	0.016	0.916	0.010	0.518
Residuals	271	4.705	0.017		0.965	
Total	278	4.875			1.00	

*Significant at <0.05

An examination of the means revealed that, females (M = 1.31) participated in cyberbullying more than did males (M = 1.26). There was an overall 4% mean difference, in the participation cyberbullying of females over males. (See Table 12).

Table 12

Means and Percent Mean Difference related to Gender for the American and German Samples of Students - Cyberbully Perpetrators
"Said something rude to others"

Nationality	Gender	Text	Email	Chat room	I.M.	Facebook
American						
	Female	1.75	1.11	1.21	1.41	1.28
	Male	1.51	1.11	1.33	1.36	1.38
	Mean Diff	.16	.00	.09	.04	.07
German						
	Female	1.53	1.13	1.51	1.31	1.80
	Male	1.53	1.11	1.40	1.09	1.44
	Mean Diff	.00	.01	.08	.20	.25

American *n* = 111; German *n* = 279

The results of the MANOVA did not find a significant main effect for gender in relation to cybervictimization on the American sample of students, F (1, 105) = 1.363, p = .249. Approximately three percent of the variance was accounted for by the effect of gender on cybervictimization (See Table 7). There was a significant main effect for age in relation to cyberbullying behavior in the American sample of students, F (1, 105) = 2.612, p = 0.012. A Kruskal-Wallis Test indicated a statistically significant difference in age when saying something rude or mean to someone else via text X^2 (2, n = 105) = 6.739, p = 0.034. There was also a statistically significant difference in saying something rude or mean to someone else via Instant Message, X^2 (2, n = 105) = 9.718, p = 0.008, spreading rumors about others via text room X^2 (2, n = 105) = 6.675, p = 0.036, and also spreading rumors about others via Instant Message X^2 (2, n = 105) = 7.393, p = 0.024. Significant differences were also found for the American sample when hiding identity online while texting room X^2 (2, n = 105) = 7.285, p = 0.026.

An examination of the means showed that there was a mean difference of 10% between cybervictim and cyberbully for the American sample of males (M = 1.33, cybervictim; M = 1.21, cyberbully), indicating a greater number of males are victims of cyberbullies than those who perpetrate cyberbullying. Similarly, there was a 6% mean difference between the female sample of cybervictim and cyberbully (M = 1.37, cybervictim; M = 1.29, cyberbully) indicating that the American sample of female students were also reportedly more likely to be victims of cyberbullying than to perpetrate cyberbullying.

Research Question 3: What are the effects of age on involvement in both traditional bullying and cyberbullying for the American and the German students separately?

The effects of age on involvement in both traditional bullying and cyberbullying for both the American and the German students, separately, were assessed using the adonis permutational multivariate analysis of variance (MANOVA).

Hypothesis 3a: Involvement in all forms of bullying will increase as age increases for both the American and the German sample.

The results did not produce a significant main effect for age on traditional bullying for the American sample of students, F (2, 105) = 1.702, p = .157. The variance accounted for by the effect of age on traditional bullying was approximately three percent, (r^2 = .032), (See Table 4).

There were no significant main or interaction effects found for the German sample of students in relation to traditional bullying. Results of the MANOVA found no significant main effects for gender, F (1, 278) = 1.788, p = .161, (r^2 = .006), or for age, F (3, 278) = 1.798, p = .110, (r^2 = .019), as seen in Table 4.

No main effect was found for age in relation to traditional victimization for the American sample, F (2, 105) = 1.084, p = .370. Approximately two percent of the variance was accounted for by the effect of age, (r^2 = .020). (Table 4).

Additionally, the MANOVA results did find a significant main effect for age on cyberbullying, $F(2, 105) = 2.612$, $p = .012$. In this result, approximately five percent of the variance was accounted for by the effect of age on cyberbullying ($r^2 = .454$). (Table 11).

An examination of the means for the American sample of students revealed that there was, again, a decrease in participation in cyberbullying between the ages of 12 and 13 (M = 1.24; M = 1.20, ages 12 and 13 respectively) and a subsequent increase between the ages of 13 and 14 (M = 1.20; M = 1.35, ages 13 and 14 respectively). This indicated an 11% mean difference between the ages of 13 and 14 years of age, the largest difference in cyber bully participation. (Table 13).

Table 13

Means for Age for Traditional Bullies for the American and German Samples of Students

Nationality	Age	Said Rude Things	Spread Rumors	Dislike Comments
American				
	12	2.41	1.47	1.24
	13	2.17	1.35	1.31
	14	2.54	1.74	1.34
German				
	12	2.67	2.43	1.19
	13	2.61	2.14	1.16
	14	2.83	2.25	1.08
	15	3.08	2.69	1.08

American *n* = 111; German *n* = 279

The results of the MANOVA also found a significant main effect for gender on cyberbullying in the German sample of students, $F(1, 278) = 2.770$, $p = .032$. One percent of the variance was accounted for by the effect of gender on cyberbullying, ($r^2 = .010$). (See Table 11).

Other than a reduction in mean participation between the ages of 12 (M = 1.31) and 13 (M = 1.27), the German sample of students did consistently show an increase in participation in cyberbullying as age increased. With all, mean differences between 3% and 6%, suggesting a gradual increase in behavior. (See Table 16).

No significant main effects were found for either age or gender in relation to involvement in cybervictimization for the American sample of students. There was no significant effect found for the interaction between age and gender in relation to cybervictimization, however, this interaction did approach significance.

The results of the MANOVA found no significant main effects for either gender, F (1, 105) = 1.353, p = .249, or age, F (2, 105) = 1.287, p = .250. Approximately two percent of the variance was accounted for by age (r^2 = .024), and just over one percent of the variance was accounted for by gender (r^2 = .013). (See Table 6).

There was no main effect found for age on being a traditional victim for the German sample, F (3, 278) = 1.020, p = .390, with approximately one percent of the variance of being a traditional victim accounted for by age (r^2 = .011). (See Table 4).There was also no significant main effect for age on cybervictimization found on the German sample of students, F (3, 278) = 1.282, p = .209.

Research Question 4: What are the effects of nationality, gender, and age across the entire sample, in regards to CMC modalities, cyberbullying, and traditional bullying?

The effects of nationality, gender and age across the entire sample in regards to CMC modalities, cyberbullying, and traditional bullying, were assessed using the adonis permutational multivariate analysis of variance (MANOVA).

Hypothesis 4a: German students will have higher mean rates of CMC use than American students will.

There was a significant main effect for nationality across all groups of CMC behaviors, F (1, 389) = 21.218, p = .001, (r^2 = .05). Nationality accounted for five percent of the variance across time spent communicating via the various forms of media (See Table 14).

Table 14

Multivariate Analysis of Variance for the Effect of Nationality on CMC Behaviors

Variable	df	SS	Mean Square	F	η^2	p
CMC						
Gender (G)	1	0.110	0.110	3.667	0.009	0.014*
Age (A)	3	0.225	0.075	2.506	0.018	0.007*
Nationality (N)	1	0.636	0.636	21.218	0.050	0.001*
G x A	3	0.055	0.018	0.608	0.004	0.820
G x N	1	0.033	0.033	1.113	0.003	0.373
A x N	3	0.207	0.069	2.304	0.016	0.008*
G x A x N	3	0.172	0.057	1.911	0.014	0.032*
Residuals	374	11.204	0.030		0.886	
Totals	389	12.641			1.000	

*Significant at <0.05

An examination of the means revealed that, consistent with the hypothesis, German students had higher mean rates of CMC use (M = 2.75) than did American (M = 2.67), with an overall 7% mean difference on time spent on various CMC modalities. A further review of the means found that the Americans did spend more time in a few areas to a significant degree. These areas included texting (43% mean difference) and the use of Instant Message (26% mean difference). Although the results also indicated that the American students were also more likely to utilize email, it was not to a significant degree (1% mean difference). (See Table 15).

Table 15

Means and Percent Mean Difference for Time Spent on various forms of CMC comparing Nationality

Nationality	Face-to-Face	Cell	Text	Browse Net	Email	Chat room	I.M.	Facebook
American	4.02	1.99	3.55	3.50	1.83	1.68	2.07	2.61
German	4.20	2.25	2.48	4.01	1.81	2.36	1.65	3.22
Mean Diff	.04	.12	.43	.13	.01	.29	.26	.19

American *n* = 111; German *n* = 279

Hypothesis 4b: American students will have higher mean rates of cyberbullying than German students will.

For cyberbullying behavior, a significant main effect for nationality was found across samples, $F(1, 389) = 24.243$, $p = .001$, with an effect size of .06. Suggesting that nationality accounted for approximately six percent of the variance of cyberbullying behavior across the sample (Table 16).

Table 16

Multivariate Analysis of Variance for the Effect of Nationality on Cyberbullying Behaviors

Variable	df	SS	Mean Square	*F*	η^2	*p*
Cyberbullying						
Gender (G)	1	0.054	0.054	3.102	0.007	0.011*
Age (A)	3	0.072	0.024	1.388	0.010	0.166
Nationality (N)	1	0.418	0.418	24.243	0.058	0.001*
G x A	3	0.051	0.017	0.988	0.007	0.431
G x N	1	0.041	0.041	2.365	0.006	0.041*
A x N	3	0.108	0.036	2.091	0.015	0.025*
G x A x N	3	0.036	0.012	0.697	0.005	0.736
Residuals	374	6.453	0.017		0.892	
Totals	389	7.233			1.000	

*Significant at <0.005

An examination of the means found that, contrary to expectations, the German students did exhibit a higher mean rate of cyberbullying than did Americans, although not to a significant degree as indicated by the 2% mean difference (M = 1.28, Germans; M = 1.26, Americans). According to the results (Table 17) the German students were also significantly more likely to say rude or mean things to others via social media like Facebook (20% mean difference), and via text or a chat room (12% mean differences).

Table 17

Means and Percent Mean Difference related to Nationality.
Cyberbully Perpetrators
"Said something rude to others"

Nationality	Text	Email	Chat room	I.M.	Facebook
American	1.70	1.11	1.29	1.40	1.31
German	1.53	1.12	1.46	1.21	1.64
Mean Diff	.12	.01	.12	.15	.20

American *n* = 111; German *n* = 279

A further review of the means found that although the German students did participate more than the American students in spreading rumors via social media (26% mean difference), a chat room (8% mean difference), and email (4% mean difference), it was only significant in the area of spreading rumors via social media (See Table 18).

Table 18

Means and Percent Mean Difference related to Nationality.
Cyberbully Perpetrators
"Spread rumors about others"

Nationality	Text	Email	Chat room	I.M.	Facebook
American	1.44	1.05	1.15	1.27	1.18
German	1.38	1.09	1.26	1.20	1.59
Mean Diff	.04	.04	.08	.06	.26

American *n* = 111; German *n* = 279

Although the German students were also more likely to say rude or mean things via email, this was not found to be considered significant (1% mean difference). Most interestingly, in this area, German students were significantly more likely than were the Americans to make coercive comments to others via the use of chat rooms (48% mean difference). Although they were also more likely to do this via Instant Message (8% mean difference), it was not considered to be significant. (See Table 19).

Table 19

Means and Percent Mean Difference related to Nationality.
Cyberbully Perpetrators
"Made 'won't like' comments to others"

Nationality	Text	Email	Chat room	I.M.	Facebook
American	1.22	1.03	1.06	1.08	1.10
German	1.03	1.02	2.04	1.18	1.04
Mean Diff	.18	.01	.48	.08	.06

American *n* = 111; German *n* = 279

Hypothesis 4c: American and German students will have equivalent mean rates of traditional bullying.

For traditional bullying, there was a significant main effect for nationality, $F (1, 389) = 24.949$, $p = .001$. Nationality had an effect size of .06 (See Table 20).

Table 20

Multivariate Analysis of Variance for the Effect of Nationality on Traditional Bullying Behaviors

Variable	df	SS	Mean Square	F	η²	p
Traditional Bullying						
Gender (G)	1	0.064	0.064	2.238	0.005	0.095
Age (A)	3	0.269	0.090	3.156	0.023	0.009*
Nationality (N)	1	0.709	24.949	0.060	0.001*	0.001*
G x A	3	0.016	0.005	0.187	0.001	0.965
G x N	1	0.015	0.015	0.535	0.001	0.605
A x N	3	0.037	0.012	0.436	0.003	0.835
G x A x N	3	0.109	0.036	1.279	0.009	0.281
Residuals	374	10.627	0.028		0.897	
Totals	389	11.845			1.000	

*Significant at <0.05

Contrary to the hypothesis, an examination of the means found that German students (M = 2.03) were more likely to participate in traditional bullying than American students (M = 1.74), with a 14% mean difference found. The German sample of students tended to participate in traditional bullying behaviors across all areas of traditional bullying behaviors, with the exception of coercive comments, which the American students participated in more often (18% mean difference). (See Table 21).

Table 21

Means and Percent Mean Difference Traditional Bullies related to Nationality

Nationality	Said Rude Things	Spread Rumors	Dislike Comments
American	2.36	1.54	1.33
German	2.72	2.23	1.13
Mean Diff	.13	.31	.18

American *n* = 111; German *n* = 279

Hypothesis 4d: American students will have higher mean rates of being victims of cyberbullies than German students.

A significant main effect was also found for nationality on being a victim of cyberbullying, $F(1, 389) = 26.454$, $p = .001$. Nationality accounted for approximately six percent of the variance, across the sample, of being a victim of cyberbullying ($r^2 = .062$). (See Table 22).

Table 22

Multivariate Analysis of Variance for the Effect of Nationality on Cybervictim Behaviors

Variable	df	SS	Mean Square	F	η²	p
Cybervictim						
Gender (G)	1	0.053	0.053	3.020	0.007	0.022*
Age (A)	3	0.055	0.018	1.032	0.007	0.425
Nationality (N)	1	0.468	26.454	0.062	0.001*	0.001*
G x A	3	0.060	0.020	1.131	0.008	0.299
G x N	1	0.027	0.027	1.511	0.004	0.182
A x N	3	0.108	0.036	2.042	0.014	0.036*
G x A x N	3	0.121	0.040	2.271	0.016	0.024*
Residuals	374	6.619	0.018		0.881	
Totals	389	7.511			1.000	

*Significant at <0.05

A review of the means supported the hypothesis that American students will have a higher mean rate of being victims of cyberbullying than German students (M = 1.38, Americans; M = 1.23, Germans, 12% mean difference). More specifically, Americans were more likely to be victims of cyberbullying in all areas of rude or mean things being said (Table 23), with the exception of via social media (M = 1.59, German; M = 1.56, American).

Table 23

Means and Percent Mean Difference related to Nationality.
Cyberbully Victim
"Said something rude to you"

Nationality	Text	Email	Chat room	I.M.	Facebook
American	1.79	1.21	1.36	1.38	1.56
German	1.37	1.07	1.29	1.15	1.59
Mean Diff	.31	.13	.06	.19	.02

American *n* = 111; German *n* = 279

Americans were more likely to have rumors spread about them via all forms of media

(See Table 24).

Table 24

Means and Percent Mean Difference related to Nationality.
Cyberbully Victim
"Spread rumors about you"

Nationality	Text	Email	Chat room	I.M.	Facebook
American	1.78	1.22	1.43	1.47	1.58
German	1.27	1.08	1.26	1.18	1.56
Mean Diff	.41	.13	.14	.25	.01

American *n* = 111; German *n* = 279

However, when having coercive comments made to them, the German students were more likely to be victimized via email (20% mean difference), and chat rooms (36% mean difference), see Table 25.

Table 25

Means and Percent Mean Difference related to Nationality.
Cyberbully Victim
"Made 'won't like' comments to you"

Nationality	Text	Email	Chat room	I.M.	Facebook
American	1.43	1.12	1.23	1.20	1.24
German	1.12	1.39	1.92	1.15	1.03
Mean Diff	.28	.20	.36	.04	.21

American *n* = 111; German *n* = 279

Hypothesis 4e: American and German students will have equivalent mean rates of being victims of traditional bullies.

The results of the permutational MANOVA indicated that a significant main effect was found for nationality when considering the entire sample's traditional victim behavior, $F(1, 389) = 60.565$, $p = .001$. Additionally, 13 percent of the variance of being a traditional victim could be accounted for by nationality ($r^2 = .130$), See Table 26.

Table 26

Mean and Percent Mean Difference related to Nationality - Traditional Victim Behaviors

Variable	df	SS	Mean Square	F	η^2	p
Traditional Victim						
Gender (G)	1	0.023	0.023	0.831	0.002	0.488
Age (A)	3	0.148	0.049	1.778	0.011	0.100
Nationality (N)	1	1.681	1.681	60.565	0.130	0.001*
G x A	3	0.024	0.008	0.286	0.002	0.930
G x N	1	0.431	0.431	15.543	0.033	0.001*
A x N	3	0.121	0.040	1.447	0.009	0.206
G x A x N	3	0.107	0.036	1.291	0.008	0.256
Residuals	374	10.378	0.028		0.804	
Totals	389	12.913			1.000	

*Significant at <0.05

An examination of the means found that, overall, Americans are more likely to be victims of traditional bullies than are the German students (M = 2.24, American; M = 1.72, German), indicating a 30% mean difference. A further examination found that the hypothesis was valid for the American and German students on having rude or mean things said to them face-to-face, or as traditional victims (M = 2.57, both American and German). However, in all other areas the

American students were more likely to be victims of traditional bullies than the German students were. (See Table 27).

Table 27

Multivariate Analysis of Variance for the Effect of Nationality on Traditional Victim Behaviors

Nationality	CMC	Rude Statement	Spread Rumors	Exclusion	Dislike Comment
American	4.02	2.57	2.17	2.33	1.87
German	4.20	2.57	2.04	1.14	1.14
Mean Diff	.04	.00	.06	1.05	.64

American *n* = 111; German *n* = 279

CHAPTER 5

DISCUSSION

Effects of Gender and Age on Traditional Bullying and Cyberbullying among American and German Students

The present study addressed several questions that expand on previous findings pertaining to the effects of gender, age and nationality on involvement in all aspects of bullying, both the traditional and cyber forms. Specifically, current research examined effects of gender and age on time spent on various CMC modalities. In particular, the current study extends prior findings researching and comparing bullying behavior across nationalities, in relation to age, gender, and interactions with the different forms of bullying, including traditional bullying, and victimization, and cyberbullying and victimization. The study further assessed the differences both within and across nationalities.

The effects of gender and age on the time spent using various computer mediated communication (CMC) modalities

The current study found that age did not play a significant role in the amount of time spent on various forms of CMC in the American sample of students, but overall, it did for the German sample. Similarly, the interaction of age and gender did not have implications for time spent on various modalities for both the American and the German samples. As suggested by Lenhart, Purcell, Smith, & Sickuhr (2010), behaviors may be increased or decreased by the type of technology used or by the gender of the user. As found in the current study, the type of CMC modality used was differentiated by both age and gender in both the American and the German students. The American students reported that more time was spent in face-to-face interactions, texting, in chat rooms, and on Instant Message as their ages increased. The German sample of students showed more time spent in the use of chat rooms. Katzer and Fetchenauer (2005) conducted a study that suggested that, not only was cyberbullying of concern in Germany, but also found that cybervictimization was most common in chat rooms. The remaining results

showed patterns of decreasing then decreasing behavior, as found in a study done by Popovic-Citic, Djuric, & Cvetkovic (2011).

Gender has been correlated with the types of technology used to participate in cyberbullying, either as a victim or as a perpetrator. For the American sample, the present study found that for the American sample females were more likely to be involved, overall than were males. The German sample found the opposite result. Specifically, males of both groups were more likely than females to spend more time emailing than were females. However, males in the German sample were more likely than females to spend time texting, whereas males in the American sample were more likely to spend time than were their female counterparts in chat rooms. Both American and German females were more likely to spend time engaged in Instant Messaging, such as found in a study by Lenhart, Purcell, Smith, and Sickuhr (2010).

The Effects of Gender and Age on Involvement in both Traditional Bullying and Cyberbullying

Despite previous research that suggests that boys are more commonly involved in traditional bullying behavior, there is a body of research, which suggests that girls may be more involved in both cyberbullying as both perpetrators and victims than was previously believed, but no definite results have been found (Cassidy, et al, 2013; Kowalski, et al, 2012). Based on the original research of Olweus, this study attempted to find support for American and German boys being more involved in traditional bullying behaviors as both the victims and the perpetrator. Findings of the current study did not support this, with the exception of traditional bullying in the German sample of students. Although there was no main effect of gender on traditional bullying, the mean difference in male and female traditional bullying behavior did support the theory that males in Germany do remain more likely to be involved in traditional bullying as both perpetrators and victims, than do females. In this study, this was true in all forms of traditional bullying, saying something rude or mean, spreading rumors, and also making rude comments to another person. As traditional victims, males were only more likely to have something rude or mean said to them by another person, have rumors spread about them, and be excluded from a group. This was true

for participating in traditional bullying behaviors as well. The only type of behavior that the German boys and girls did not show any difference was that of the traditional victim behavior of others making offensive or coercive comments.

Studies done in Germany suggest that there is overlap between bully and victim behavior and there is a correlation between bullying behavior and victimization in school and in bullying and victimization in online chat rooms (Katzer, 2009). Contrary to the findings in the study by Riebel, Jager, and Fisher (2009), who suggested that the same group of students engage in both types of bullying and fall within the same category of being either victim or a bully, the findings in this study suggested that there are differences in relation to gender and involvement in bullying for the German students. Specifically, females were found to participate more often in cyberbullying but less in traditional bullying than were males. However, in support of this, the indicated that when engaging in cybervictimization, there was no mean difference between the German sample of males and females. As a cyberbully, girls were were more likely to say something mean or rude to another, or spread rumors about someone else, supporting the findings of Dehue, Bolman, and Volnick (2008) who also found that girls were more likely to gossip and spread rumors online. In contrast, although boys did also spread rumors, they were more likely to do this via texting or email.

The current study did find that there were a greater number of victims compared to perpetrators, in the American sample, for both traditional and cyberbullying behavior. Contrary to expectations, the American sample of students actually decreased participation in traditional bullying between the ages of 12 and 13, and then increased participation between the ages of 13 and 14. A similar pattern was found in the German students with behavior decreasing between the ages of 12 and 13, and then an increasing between the ages of 13 and 14 and again between 14 and 15. Although this is contrary to the research that suggests that bullying behavior increases as age increases across the life span, a study conducted in the Czech Republic in 2009 by Sevcikova and Smahel found similar results on a wider age range of participants. Supporting this further, the American sample of students also decreased in their tendency to be victims of

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traditional bullying, as well as being perpetrators of cyberbullying, as their age increased between the ages of 12 and 14. Contrary to the Czech study, but consistent with more widespread results, the German sample of students did show a steady increase in being a victim of traditional bullying and an increase in cyberbullying behavior as age increased.

Overall, the American sample showed this pattern of decreasing then increasing behavior across participation in all forms of bullying behavior. This decrease and then increase has shown a consistent pattern for this American sample of students for all forms of bullying behaviors examined in this study.

Effects on Traditional Bullying and Cyberbullying

The effects of nationality, gender, and age in regards to CMC modalities, cyberbullying and traditional bullying. In this study, the differences in actual cyberbullying behavior did not turn out quite as expected. Contrary to the findings of Lerner (2011), whose American sample of students were more involved in "nearly every kind of CMC related bullying" (Lerner, 2011, pg. 61) when compared to their Japanese counterparts, the American sample of students in this study were varied in their level of participation, and this participation often depended on the age of the students involved. It is interesting to note that, although the data was collected in the same school district, within the same schools and grades, the outcomes were so clearly different. Future research might address whether this is a result of the time difference in the data collection in the school district of the American sample, or whether there is clearly a difference in the participation in bullying behavior between Japanese

In the current study, several hypotheses were evaluated, the first hypothesis stated that German students would have higher mean rates of CMC use; the second hypothesis stated that American students would have higher mean rates of participation in cyberbullying, and another hypothesis stated that American students would have higher mean rates of being victims of cyberbullying than German students would. There were also two hypotheses that suggested that there would be no mean differences in American and German student outcomes as either victims or perpetrators of traditional bullying.

Findings in this study suggest that German students do use various forms of CMC more than Americans do. However, further findings indicate that the Americans tended to spend more time in a few areas such as texting, Instant Messaging, and emailing as compared to the Germans.

Contrary to expectations, German students were more likely to participate in cyberbullying than were Americans. Specifically, German students were more likely to spread rumors via social media, chat rooms, and email, supporting work done by Jager and colleagues (2007) who found that instant messaging was the most frequently used media for cyberbullying in their study of German participants. Denigration and insults were the most common form of cyberbullying via chosen media (Stuade-Muller, Blesener, & Scheithauer, 2008), indicating that the finding in the current study, where German students were also more likely to say rude or mean things to others via social media, chat room, or email, was not unusual. Katzer and Fetchenhauer's (2005), finding that up to 43.1% of victimizations occurred in chat rooms, was also consistent with the current sample of German students, who reported that they were most likely to make coercive comments to others via chat rooms (48% mean difference), and they were also more likely to do this via Instant Message (8% mean difference).

Contrary to expectations, German students were found to be more likely to participate in traditional bullying than American students, across all areas of traditional bullying behaviors, with the exception of coercive comments, which the American students participated in more often. Findings in the current study found support for the idea that American students will have a higher mean rate of being victims of cyberbullying than German students. More specifically, Americans were more likely to be victims of cyberbullying in all areas of rude or mean things being said to them by others, with the exception of via social media, which is the one area in which the German students were more likely to be victims of cyberbullying. Americans were more likely to have rumors spread about them via all forms of media; however, when having coercive comments made to them, the German students were more likely to be victimized via email, and chat rooms (see Stuade-Muller, Blesener, and Scheithauer, 2008).

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Overall, American students were found to be more likely to be victims of traditional bullies than were the German students. A further examination found that the expectation that there will be no mean differences in American and German student outcomes as either victims or perpetrators of traditional bullying was supported for the American and German students on having rude or mean things said to them face-to-face, as traditional victims or perpetrators only. However, in all other areas the American students were more likely to be victims of traditional bullies than were the German students.

Limitations

There are limitations of the current study, one being that the American sample of students was obtained from a city located in the American Southwest. Although the sample did represent the overall population of the school studied, it may not have been consistent with the overall population of the United States and as such, generalization may be difficult. Future studies could include samples from more than one area of the United States for a broader viewpoint. Additionally, since the questionnaire utilized in this study was created, many new online and social media apps have been created, and are increasingly used by the age group sampled. New social media includes such apps as Tumblr, Instagram, Twitter, Kik Messenger, Pinterest, Vine, WhatsApp, Snapchat and Pheed. New social media is constantly being introduced and targeting specific audience desires, most commonly the need to be social and positive peer reinforcement (Sherman, Payton, Hernandez, Greenfield & Dapretto, 2016). With so many new social media apps, it would seem impossible to keep up with research to counter the increasing possibility for abuse and negative interactions online. However, it is important to remember that, regardless of the structure of the app, the basic tenant of social media remains the same, a way in which people are able to interact with others in real or imagined ways.

Conclusion and Future Directions

According to the Information and Knowledge Services Unit, the threat of cyberbullying has increased as technologies and devices have become more available to children in all areas of their lives. Over the last ten years, governments and NGOs have increased their efforts

globally to "combat the threat of cyberbullying" (pg. 3), with the combined efforts of law

enforcement, parents, and non-profit educational organizations. This is being accomplished by

education, raising awareness, and assisting victims of cyberbullying through legislation, law

enforcement and educational or other supportive means. The form this takes varies across

nations, and is specific to the laws and government structure of each country involved in this

effort. For example, the Cyber Training project began in Europe in 2008 with the support of the

European Commission. The purpose of this was to help the countries of Europe "research and

assess web trainers' needs in terms of cyberbullying with the goals of creating a training manual

by 2011" (Jager, 2013, p. 17). The European Commission also sponsored the Safer Internet

Centers in 30 European countries. These are made up of awareness centers and hotlines, called

"INSAFE". These centers raise awareness about the threats children face online (European

Commission, Information Society, 2013). Additionally, "INHOPE" began as an organization of

helplines that receives reports from members of the community who come across illegal content

online. INHOPE works with the United States, Canada, Australia, Taiwan, Japan, South Africa,

Russia, and South Korea (European Commission, Information Society, 2013).

Although it is important to understand and define the differences in definitions of

cyberbullying across nationalities and cultures, it is also important to distinguish the varying

thought processes that define cyberbullying within a culture, specifically within our own culture.

Additionally, it would be beneficial to define and discover how these thought processes and

possibly even varying definitions influence the participation in and tolerance of cyberbullying

within the American culture. What does cyberbullying say about our society as a whole?

Discovering whom cyberbullying victimizes is a direction for possible future research. Is

victimization female toward other female, or male toward other male? Similarly, if a victim is being

bullied online, who is doing the bullying? There is research that does look at why victims are

being targeted (Mishna, Cook, Gadalla, Daciuk, & Solomon, 2010). Very few have specifically

looked at whether a student was being victimized by the same or opposite gender for behavioral

or other traits (Carter & McClosky, 1984; Maccoby 1998; Ladd, 2013), the studies done to date having to do with gender-accepted behavior and peer acceptance.

Additional research might also address how online communities and their inherent social norms and interactions, may have inadvertently contributed to increasing cyberbullying and victimization of others outside of those groups and communities. In today's world of increased cyber communication and connection, there is something for everyone. Regardless of your beliefs or sympathies, there will be a populace of other like-minded individuals. Relevant research might find the reasons of how and why this occurs. Are the groups' marginalized populations that would have otherwise been victims of traditional bullying? Alternatively, are these individuals who would have participated in traditional bullying behavior? Or are these perhaps instigated by those individuals who have a propensity for anti-societal views already? Do those individuals who are searching for a way to fit in and are easily led by another, stronger individual populate these groups? Is it possible that these online "communities" are an interaction of bullying and victimizing behavior themselves?

Relevant to the idea that there are constantly new and updated types of online social media applications being created and used, it would be interesting to conduct a follow- up study utilizing more current online applications and social media, investigating whether there is an increase or decrease in the perceived level of both traditional and cyberbullying. Additionally, although it remains important to research and find a consensus on international definitions of bullying and cyberbullying, it does seem to be an issue that could be more closely monitored in the United States as well. In order to correctly identify and prepare targeted interventions, it is first necessary to have a cohesive definition of what cyberbullying entails and the cost to both the perpetrators and the victims, not just to the individuals, but to society as a whole. As seen in the previous research review, there has been much done to support the existence of the detrimental effects of the various forms of bullying behaviors.

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APPENDIX A

SURVEY

APPENDIX A

Please answer honestly the following questions by circling the appropriate
answer. Please do not write your name on this form.

This survey is completely anonymous. Your answers will be used for nothing
other than research purposes.

SECTION I.
1) Are you:
> a) male
>
> b) female

2) How old are you?
> a) 12
>
> b) 13
>
> c) 14
>
> d) 15

Using this scale, circle the response that best shows how much time you spend in a typical week
doing the following activities:

A----------------------------------B------------------------C--------------------------D--------------------------E
more than 3 hours   **2 to 3 hours**   **1 to 2 hours**   **between 1 minute**   **none at all**
                                                                    and 1 hour

In a typical week, about how much time do you spend:
3. talking to friends face-to-face?
> A   B   C   D   E

4. talking on a cell-phone?
> A   B   C   D   E

5. sending text messages?
> A   B   C   D   E

6. browsing the Internet?
> A   B   C   D   E

7. using computer e-mail?
> A   B   C   D   E

8. Have you ever heard of a chat room? (a = yes, b = no)
> A   B   C   D   E

9. If yes, how much time do you spend? (If "no" answer E "none at all")
> A   B   C   D   E

10. Have you ever heard of instant messenger? (a = yes, b = no)
> A   B   C   D   E

11. If yes, how much time do you spend? (If "no" answer E "none at all")
> A   B   C   D   E

12. Have you ever heard of personal websites such as Facebook or MySpace?
(a = yes b = no)
> A   B   C   D   E

13. If yes, how much time do you spend using them? (If "no" answer E "none
at all")
> A   B   C   D   E

SECTION II.
Use the following scale to indicate how often you have done, or have
experienced, the described behaviors in the past year (12 months). Circle
the response on the answer sheet that best describes the frequency of the acts.

A--------------------------B--------------------------C--------------------------D--------------------------E

A lot of the time	**Often**	**Some of the time**	**Rarely**	**Never**
(Almost every	(on average, once	(on average, less	(once or twice during	(zero times
week)	or twice a month)	than once a month)	the past year)	the past year)

*If you've never heard of something, please mark the answer "never"

How often have you said something rude or mean which was intended to hurt
another person:
14. face to face?
    A   B   C   D   E
15. by cell phone text?
    A   B   C   D   E
16. by computer email?
    A   B   C   D   E
17. in a chat room?
    A   B   C   D   E
18. on instant messenger?
    A   B   C   D   E
19. on personal sites, such as Facebook or MySpace?
    A   B   C   D   E

How often has someone said something rude of mean to YOU which was
intended to hurt YOUR feelings:
20. face to face?
    A   B   C   D   E
21. by cell phone text?
    A   B   C   D   E
22. by computer email?
    A   B   C   D   E
23. in a chat room?
    A   B   C   D   E

24. on instant messenger?
    A   B   C   D   E
25. on personal sites, such as Facebook or MySpace?
    A   B   C   D   E

How often have you spread rumors whether they were true or not:
26. face to face?
    A   B   C   D   E
27. by cell phone text?
    A   B   C   D   E
28. by computer email?
    A   B   C   D   E
29. in a chat room?
    A   B   C   D   E

30. on instant messenger?
      A   B   C   D   E
31. on personal sites, such as Facebook or MySpace?
      A   B   C   D   E

How often has someone spread rumors whether they are true or not about YOU:
32. face-to-face?
      A   B   C   D   E
33. by cell phone text?
      A   B   C   D   E

34. by computer email?
      A   B   C   D   E
35. in a chat room?
      A   B   C   D   E
36. on instant messenger?
      A   B   C   D   E
37. on personal sites, such as Facebook or MySpace?
      A   B   C   D   E

How often has someone excluded YOU from a group:
38. face to face?
      A   B   C   D   E
39. by cell phone text?
      A   B   C   D   E
40. by computer email?
      A   B   C   D   E
41. in a chat room?
      A   B   C   D   E
42. on instant messenger?
      A   B   C   D   E
43. on personal sites, such as Facebook or MySpace?
      A   B   C   D   E

How often have you made comments to other students such as "if you don't do what I say, I won't like you anymore":
44. face to face?
      A   B   C   D   E
45. by cell phone text?
      A   B   C   D   E
46. by computer email?
      A   B   C   D   E
47. in a chat room?
      A   B   C   D   E
48. on instant messenger?
      A   B   C   D   E
49. on personal sites, such as Facebook or MySpace?
      A   B   C   D   E

How often have other students made comments to YOU such as "if you don't do what I say, I won't like you anymore:

49. face to face?

     A   B   C   D   E

50. by cell phone text?

     A   B   C   D   E

51. by computer email?

     A   B   C   D   E

52. in a chat room?

     A   B   C   D   E

53. on instant messenger?

     A   B   C   D   E

54. on personal sites, such as Facebook or MySpace?

     A   B   C   D   E

How often have you hidden your identity so others would not know who you were when you were:

55. texting on the phone?

     A   B   C   D   E

56. sending an email?

     A   B   C   D   E

57. chatting in a chat room?

     A   B   C   D   E

58. sending instant messages?

     A   B   C   D   E

59. using my personal webpages?

     A   B   C   D   E

SECTION III.

For the next set of items, use the following scale. Circle the responses that best describe you.

A-------------------------------------B-------------------------------------C---------------------------------D

Strongly Agree   **Agree**   **Disagree**   **Strongly Disagree**

60. Being online gives me a sense of freedom.

     A   B   C   D   E

61. When I am online, sometimes I hide my real identity.

     A   B   C   D   E

62. It is important for me to be liked and approved by others.

     A   B   C   D   E

63. It is worse to be socially rejected by peers than to be physically hurt.

     A   B   C   D   E

64. I find it difficult to be separated from people I love.

     A   B   C   D   E

65. I often find myself thinking about friends or family.

     A   B   C   D   E

66. I am uneasy when I cannot tell whether or not someone I've met likes me.

     A   B   C   D   E

67. I get uncomfortable when I am not sure how I am expected to behave.

     A   B   C   D   E

68. I get lonely when I am home by myself.
      A   B   C   D   E

69. I get uncomfortable around a person who does not clearly like me.
      A   B   C   D   E

70. Having close bonds with other people makes me feel secure.
      A   B   C   D   E

71. I am careful of what I say because I am concerned that other people may disapprove or disagree.
      A   B   C   D   E

72. When I am with other people, I look for signs whether or not they like being with me.
      A   B   C   D   E

73. I feel bad if I do not have social plans for the weekend.
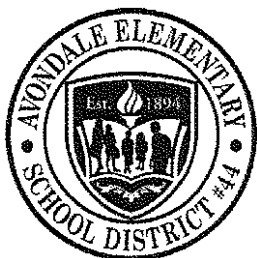   A   B   C   D   E

74. I have participated in an anti-bullying program.
      A   B   C   D   E

Thank you very much for your cooperation.

APPENDIX B

DISTRICT APPROVAL LETTER

DISTRICT APPROVAL LETTER

April 21, 2014

Dear IRB Committee,

Dr. Betsy Hargrove Superintendent

Mrs. Jill Barragan
Executive Director of Business Services

Avondale Elementary School District authorizes Vanessa Gaio to collect information from students for the proposed dissertation. No student's names will be used and the school district will not be identified in the study. Ms. Gaio will use this data with the purpose of completing her dissertation for the Ph.D. School Psychology Program at Arizona State University.

Sincerely,

Neil Stafford, Psy.D.
Exceptional Students Services Director

APPENDIX C

PARTICIPANT ASSENT

APPENDIX C

PARTICIPANT ASSENT

I have been informed that my parent(s) have given permission for me to participate in a study concerning the Internet, cell phones, and text messaging. In particular, this study is looking into cyberbullying. I will be asked to complete a survey using paper and pencil. The survey should take only 5 to 10 minutes.

My participation in this project is voluntary, and I have been told that I may stop my participation in this study at any time. If I choose not to participate, it will not affect my grade in any way.

If you have any questions, you may ask at any time.

Different people may have very different answers. There is no right or wrong answer to any of the questions and you may stop at any time if you don't want to answer any more questions. You will not write your name on the survey, and no one will ever know your answers to the questions, not even you teachers, your parents, or you friends. Your answers are totally private.

_____   _____
Signature   Printed Name

_____
Date

APPENDIX D

PARENT PERMISSION

APPENDIX D

PARENT PERMISSION

Dear Parent:

The Avondale Unified School District is participating in a study in partnership with researchers from ASU to gain better insight into children's behavior regarding the Internet, cell phone use, and other related electronic media. We hope to explore the prevalence of cyber bullying in particular.

I am inviting your child's participation, which will involve responding to several questions on a survey which will be administered at school. Answering the questions will take about 5 to 10 minutes. Your child's participation in this study is voluntary. If you choose not to have your child participate, there will be no penalty (it will not affect your child's grade). Likewise, if your child chooses not to participate or to withdraw from the study at any time, there will be no penalty. The surveys will be completed entirely anonymously - the result of the research study may be published, but your child's name will never be used.

Although there may be no direct benefit to your child, a possible benefit is that by answering the questions on the survey, your child may gain a better understanding of his/her own Internet behavior, as well as bring consciousness in the school to behavior related to electronic media. There are no foreseeable risks or discomforts to your child's participation.

All responses will be confidential. All surveys will be completed entirely anonymously.

The results of this study may be used in reports, presentations, or publications, but your child's name will not be known or used.

If you have any questions concerning the research study or you child's participation in the study, please contact Dr. Neil Stafford at (623) 772-5034. You can also contact the ASU investigator, Dr. Linda Caterino at (480) 965-7524 or the co-investigator, Vanesa Gaio, at (602) 525-0446.

Sincerely,

_____

IF YOU WILL ALLOW YOUR CHILD TO PARTICIPATE SIGN BELOW AND RETURN BY **MAY 16TH, 2014.**

_____   _____   _____
Signature   Printed Name   Date

By signing, you are giving consent for your child _____ to participate.

APPENDIX D

If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board, through the ASU Office of Research Integrity and Assurance, at (480) 965-6788.

APPENDIX E

IRB CLOSURE

APPENDIX E

IRB CLOSURE
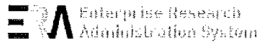
My ERA   COI   IRB   Grants   Agreements

Home   IRB Records

IRB Records > Cyberbullying: US & German Middle School Students

Closed

STUDY00001006 : Cyberbullying: US & German Middle School Students

Entered IRB:	4/22/2014 2:24 PM
Initial approval:	4/23/2014
Effective:	3/21/2016
Approval end:	4/20/2017
Modified:	10/26/2017 5:53 AM

Principal investigator: Linda Caterino Kulhavy
Submission type: Initial Study
Primary contact: Linda Caterino Kulhavy
IRB coordinator: Tiffany Dunning

IRB office: ASU IRB
Letter: Correspondence_for_STUDY00001006.pdf(0.01)

My Current Actions

- Edit Study
- Printer Version
- View Differences
- Report New Information
- Assign Primary Contact
- Manage Guest List
- Add Comment
- Bundle Attachments to PDF

Shortcuts

- Meetings
- Reports
- Help
- Study Submission Guide
- IRB Reviewer's Guide

{IRB - STUDY - Archived}

History | Project Contacts | **Documents** | Follow-on Submissions | Reviews | Snaps

Draft	Category	Final	Last Finalized	Document History
Cyberbullying: Predictors and Prevalence in American and German Middle School Students	IRB Protocol	Cyberbullying: Predictors and Prevalence in American and German Middle School Students	4/23/2014 3:14 PM	History
student assent letter	Consent Form	student assent letter	4/23/2014 3:14 PM	History
Parent Informed Consent	Consent Form	Parent Informed Consent	4/23/2014 3:14 PM	History
Avondale District Letter of Approval	IRB Protocol	Avondale District Letter of Approval	4/23/2014 3:14 PM	History
Quetionnaire - Cyberbullying: Predictors and Prevalence in American and German Middle School Students	IRB Protocol	Quetionnaire - Cyberbullying: Predictors and Prevalence in American and German Middle School Students	4/23/2014 3:14 PM	History
Child Assent Letter Cyberbullying: Predictors and Prevalence	IRB Protocol	Child Assent Letter Cyberbullying: Predictors and Prevalence	4/23/2014 3:14 PM	History
Informed Consent - Parent for Cyberbullying: Predictors and Prevalence in American and German Middle School Students	IRB Protocol	Informed Consent - Parent for Cyberbullying: Predictors and Prevalence in American and German Middle School Students	4/23/2014 3:14 PM	History

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