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ATTITUDES ABOUT THE ACCEPTABILITY OF AGGRESSION AS A PREDICTOR
OF CYBER AGGRESSION

by

Allyson Topps

A Thesis

Submitted in Partial Fulfillment of the

Requirements for the Degree of

Master of Science

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Abstract

The use of cyber aggression is prevalent and increasing among children, and it is important to consider factors that may influence children's decisions to engage in cyber aggression. Little research has examined the relation between children's attitudes about the acceptability of the use of aggression to children's engagement in cyber aggression. This is the focus of the present research, controlling for children's use of traditional face-to-face aggression. Hierarchical linear regression analyses were computed separately for boys and girls in grades three through five ($N = 201$), with grade level (Block 1), traditional relational and overt aggression classroom nominations (Block 2), and attitudes about the acceptability of aggression (Block 3) examined as predictors of cyber aggression. Findings revealed that attitudes about aggression predicted cyber aggression above and beyond any effect attributable to grade level and traditional aggression, only for girls. Implications for the current study and the value of examining factors that relate to cyber aggression are discussed as well as consideration of gender differences in these relations. In addition, discussion included how these results emphasize the importance of socialization as it relates to the acceptability of the use of cyber aggression for school-aged boys and girls.

Attitudes About the Acceptability of Aggression as a Predictor of Cyber Aggression

Technology and the use of the Internet have become prominent socialization tools for children of the digital age, with electronic devices to navigate social relations changing the ways children engage with one another (Wright & Li, 2013). Of relevance for the present research, children are using cyberspace to victimize peers. A growing body of research, reviewed below, documents negative social experiences that accompany children's cyber aggression, both for the aggressor and the victim. The present research was designed to examine links for predicting cyber aggression by evaluating attitudes about the acceptability of the use of aggression. For traditional more face-to-face forms of aggression, children's attitudes and subsequent engagement have been examined, with findings indicating that supportive attitudes that endorse the use of aggression have shown to be associated with greater use of aggressive behaviors (e.g., Crick & Ladd, 1990; Huesmann & Guerra, 1997). Little research has examined the relation between children's attitudes about the acceptability of the use of aggression and engagement in cyber aggression. With the rapidly growing use of technology by children to aggress against others, it is important to examine how children's attitudes about the acceptability of the use of aggression might relate to children's use of cyber aggression.

The primary goal of the present research is to assess the extent to which children believe aggression is an acceptable way to solve problems relates to the extent they engage in cyber aggression. Due to the prevalence of gender differences and the use of traditional forms of aggression, gender will be considered. In addition, the level of children's traditional classroom aggression will be used as a control variable, a control not often available to, or used, by other researchers of cyber aggression. In the following sections of the Introduction, we first provide important conceptual distinctions between bullying and aggression, both for traditional and cyber

contexts. The literature of the association of cyber aggression to peer social competence is presented followed by a review of research relating attitudes about aggression to the use of aggression. A final section provides an overview of the present research.

Distinguishing Bullying and Aggression, Traditional and Cyber

It is useful to distinguish terms such as bullying and aggression. Olweus (2011) defined bullying as involving intentional, negative behaviors that target a particular individual repeatedly over time. Also inherent in a bullying relationship is a power imbalance between the aggressor and the victim (Nansel et al., 2001). In a parallel vein, cyber bullying is a form of bullying in which intentional negative acts are carried out by an individual or group using electronic forms of communication that occur repeatedly over time against a victim who does not hold as much power as their aggressor (Englander & Muldowney, 2007; Tokunaga, 2010; Topcu, Erdur-Baker, & Capa-Aydin, 2008). Traditional bullying and cyber bullying differ in three main ways: anonymity, less direct supervision, and greater accessibility to a target (Tokunaga, 2010). Thus, cyber-bullies, relative to traditional bullies, can often remain unknown to their victims, are often less open to scrutiny, and by virtue of the medium, can target individuals across time and space and to a much larger audience.

Definitions of aggression also include the intent to harm. However, unlike bullying, aggression usually does not involve repeated attacks or the targeting of one individual. In addition, and parallel to the distinction above, cyber aggression is distinct from traditional aggression in that cyber aggression involves the use of the Internet and other electronic communication devices to insult or threaten someone as opposed to traditional aggression which occurs within more face-to-face interactive settings. A common sub-categorization for the examination of traditional aggression is overt versus relational aggression (Juvonen & Gross,

2008; Patchin & Hinduja, 2006). Overt aggression includes behaviors that harm another individual, such as hitting or pushing someone, or teasing; relational aggression involves harming others through manipulation or damage of social relationships, such as ignoring someone or excluding someone from a group (Grotzinger & Crick, 1996). Anonymity, as mentioned above, is also a key distinction between cyber aggression and traditional face-to-face forms of aggression. Specifically, cyber aggression gives aggressors the option of remaining relatively unknown to their victims and creating a distance between the two individuals (Pornari & Wood, 2010). In addition, traditional and cyber aggression occur at different rates. Between 65-70% of school-aged and adolescent children reported having participated in traditional aggression (Juvonen & Gross, 2008; Olweus & Limber, 2010). Emerging evidence suggests that cyber aggression is less prevalent than traditional aggression with approximately 20-25% of school-aged children and adolescents reporting having participated in cyber aggression (Li, 2006; Modecki, Minchin, Harbaugh, Guerra, & Runions, 2014; Patchin & Hinduja, 2006).

Research has revealed stark and consistent gender differences in the use of traditional overt and relational aggression. Boys exhibit higher levels of overt aggression, whereas girls are generally found to engage in relational aggression to a greater degree than overt aggression (Archer, 2004; Crick, Casas, & Mosher, 1997). In contrast, researchers have reported mixed results of gender differences with cyber aggression. For example, Englander and Muldowney (2007) reported that more than two-thirds of adolescents rated girls, rather than boys, as cyber aggressors. In a related study, Pornari and Wood (2010) found that gender significantly predicted cyber aggression among secondary school students, with girls being more involved in cyber aggression than boys. Other studies have found no gender differences in cyber aggression engagement; Topcu et al. (2008) found that adolescent boys and girls engaged in comparable

levels of cyber aggression. Li (2006) examined the nature and extent of middle school children's experiences with cyber aggression. Results revealed no significant gender difference for the frequencies of cyber aggression (Li, 2006). In sum, the literature on gender differences for cyber aggression is mixed.

Cyber Aggression and Social Competence

Researchers have assessed the social competence of children who engage in cyber aggression, either as an aggressor or as a victim. The more that children engage in cyber aggression the higher the levels of loneliness they reported and the lower they were in peer rated social acceptability, popularity, and in number of mutual friendships (Schoffstall & Cohen, 2011). Cyber victimization has also been associated with negative outcomes similar to those of traditional victimization. In a review of research on cyber bullying and cyber aggression, Tokunaga (2010) reported that victims of cyber aggression experienced a range of social problems, including depression, social anxiety, and lower levels of self-esteem. Further, the extent of these consequences depended on the frequency, length, and severity of the cyber aggression. Juvonen and Gross (2008) assessed early to middle-adolescent students' involvement with cyber aggression and the potential negative effects they might experience, such as social anxiety. Results from this study showed that the greater the frequency of cyber aggression, the greater the experiences of social anxiety.

Topcu et al. (2008) examined cyber aggression by adolescent Turkish students in public and private schools with a focus on the emotional reactions of students to being victims of cyber aggression. Public school participants most frequently reported feelings of anger, sadness, and embarrassment when they experienced cyber aggression, and in contrast, the private school students reported no negative feelings in response to cyber aggression. Public school participants

also reported more cyber aggression experiences than private school participants (Topcu et al., 2008). The results of this study suggest that socioeconomic status (via public or private school enrollment) might contribute to children's feelings in response to cyber aggression.

Attitudes About the Acceptability of the Use of Aggression

As the use of cyber aggression increases and more is learned about the negative consequences of cyber aggression, it has become increasingly important to identify factors that contribute to the use of cyber aggression. Topcu et al. (2008) proposed that economic status and resources play an important role in predicting cyber aggression as economic resources provide more access to technological devices, such as computers and cell phones. Another explanation for children's engagement in cyber aggression could be the lack of parental supervision and having the potential to remain anonymous while online (Patchin & Hinduja, 2006; Pornari & Wood, 2010). Englander and Muldowney (2007) suggested that children might participate in cyber aggression if they are traditional aggressors as well. Burton, Florell, and Wygant (2013) reported that traditional aggressors have significantly higher rates of cyber aggression, although Schoffstall and Cohen (2011) found no significant correlation between traditional and cyber aggression use. Wright (2014) also posited that children's attitudes about aggression predict engagement in cyber aggression. The thesis of the present research is that children's attitudes about the acceptability of the use of aggression might also influence decisions to engage in cyber aggression.

Through the socialization process, children come to hold attitudes about the world and how people interact with one another. Attitudes are formed about the acceptability or unacceptability of behaviors, and these attitudes influence their thoughts, feelings, and behaviors (Huesmann & Guerra, 1997). With regard to aggression, children hold attitudes about the

acceptability of aggressive behaviors from an early age, and these attitudes consequently affect their engagement in, and responses to, aggressive behaviors with other children (Giles & Heyman, 2003; Huesmann & Guerra, 1997).

Gender has been found to play an important moderating role for children's attitudes about the acceptability of aggressive behaviors. Boys have been reported to believe that aggressive behaviors were more acceptable and legitimate behaviors to use than girls (Dill, Vernberg, Fonagy, Twemlow, & Gamm, 2004; Huesmann & Guerra, 1997). Asarnow and Callan (1985) evaluated the types of solutions school-aged boys with peer adjustment problems proposed for social scenarios. Boys who held more accepting attitudes of aggression produced significantly more aggressive solutions and rated physically aggressive solutions more positively than boys who held less accepting attitudes of aggression (Asarnow & Callan, 1985).

Giles and Heyman (2005) examined children's attitudes about the relation between gender and aggressive behavior. They found that children believed girls engaged in more relationally aggressive behaviors, and boys displayed more physically aggressive behaviors. These findings were replicated in a second study. In their third study, Giles and Heyman (2005) found that children viewed the actions of boys and girls through "gendered lenses" in that children found it easier to recall information that was consistent with their generalized attitudes about aggression and gender roles. Thus, children found it difficult to recall information that is inconsistent with their attitudes about social roles (Giles & Heyman, 2005).

In their assessment of peer victimization and attitudes about violence by young adolescents, Vernberg, Jacobs, and Hershberger (1999) reported that boys believed that overt aggression was more acceptable than did girls. Importantly, for both boys and girls, those who

held more supportive beliefs about aggression also reported greater victimization of others (Vernberg et al., 1999).

Relatively little is known about the relation between attitudes about aggression and social outcomes. Crick and Ladd (1990) found that peer rejected elementary school children expected verbal aggression to be a more successful social strategy than physical aggression for positive outcomes, such as compromise among peers. Third and fourth grade children in the study also viewed aggressive behaviors as more likely to achieve compliance or submission among peers (Crick & Ladd, 1990). Children who demonstrated social withdrawal have been shown to hold beliefs that aggression is a legitimate and acceptable form of behavior and experienced more negative affect (Dill et al., 2004). In addition, research has revealed that beliefs that aggression is acceptable and is deserved in a conflict situation were associated with greater victimization of others but not victimization of self (Vernberg et al., 1999).

The research reported above examined the association of attitudes about aggression exclusively examining traditional aggression. To our knowledge, only two studies have examined the relation between cyber aggression and attitudes about aggression. Burton et al. (2013) assessed the role of attitudes about aggression and peer attachment for traditional bullying and cyber bullying. Attitudes about aggression were consistent; traditional and cyber aggressors held significantly higher attitudes about aggression being acceptable (Burton et al., 2013). Wright (2014) examined the longitudinal relations among attitudes toward the permanency of digital content, confidence with not getting caught, beliefs about anonymity, and attitudes about cyber aggression. Findings revealed that positive attitudes about cyber aggression related positively to engagement in cyber aggression (Wright, 2014). The present research expands on the work of Burton et al. (2013) and Wright (2014).

Present Study

The use of cyber aggression is prevalent and increasing among children, and it is important to evaluate factors that may promote or predict the use of cyber aggression. Gender has been shown to be a prominent moderator in the use of traditional aggression, but there are mixed results for gender and the use of cyber aggression. Attitudes about the acceptability of the use of aggression have been found to relate to the use of traditional aggression, and gender plays a major role on the prevalence of these attitudes. The present research focused on children's attitudes about the acceptability of the use of aggression in relation to the use of cyber aggression. Gender differences were considered. In addition, children's extensity of classroom traditional aggression, both overt and relational, was included as a control to better pinpoint the unique association of beliefs to the use of cyber aggression. Based on the review of previous, related research, it was hypothesized that the higher the supportive attitudes about aggression, the more children would engage in cyber aggression. Also, it was hypothesized that gender differences would be found with boys holding more supportive attitudes about aggression and engaging in more cyber aggressive behaviors than girls, after controlling for the effects of traditional aggression.

Method

Participants

Participants included 201 children (girls = 107; boys = 94; White = 104, Black = 44, Other ethnicities = 17) from grades 3 through 5 at a university-affiliated public elementary school. Children were predominately from middle class socioeconomic backgrounds, as evidenced by fewer than 20% of the children qualifying for free or reduced lunch subsidies.

Measures

Traditional classroom aggression. Peer evaluations of traditional aggression were assessed using the Revised Class Play procedure (Masten, Morison, & Pellegrini, 1985). Children were given classroom rosters and asked to pretend they were the casting director of a play. As the director, they “cast” their classmates as characters in the play based on how well the classmate fit a particular role. The children were allowed unlimited nominations, but they could not nominate themselves. Of the 24 total items, three items examined overt aggression (e.g., “Somebody who teases other children too much.”) and three items examined relational aggression (e.g., “A person who gets even by keeping someone from being in their group of friends.”). For the present sample, reliability of the aggression items was high (Cronbach’s alpha: overt aggression = .92; relational aggression = .89). Total received overt and relational aggression nominations were standardized separately by classroom.

Cyber aggression. Children completed a self-report measure to assess cyber aggression engagement that included a 4-point scale, anchored as *never*, *rarely*, *sometimes*, and *often*. Sample items included “Have you ever teased someone in a mean way using the Internet or a text message?” and “Have you ever had rumors spread about you on the Internet or in a text message?” Responses were summed (*never* = 0, *often* = 3) to get an overall score for cyber aggression for each child (range = 0 to 12). For the present sample, reliability of the cyber aggression items was low to moderate (Cronbach’s alpha = .73).

Attitudes about aggression. Lam’s (1989) Attitudes toward Conflict Scale was used to assess children’s attitudes in response to disagreement or conflict. This self-report measure included eight items that were answered on a 4-point scale, anchored as *disagree a lot*, *disagree some*, *agree some*, and *agree a lot*. Sample items included “It’s O.K. for me to hit someone to

get them to do what I want.” and “I try to talk out a problem instead of fighting.” After reverse scoring five items, responses were summed with higher scores indicating more favorable attitudes about using aggression to solve problems. Favorable attitudes were considered maladaptive, thus higher scores on this measure represented more maladaptive attitudes about the use of aggression. This measure has been shown to have sufficient internal consistency (Cronbach’s alpha = .66 - .72; Lam, 1989). For the present sample, Cronbach’s alpha = .62, which is low but consistent with other reports from previous studies.

Procedure

Data were collected during the 2015-2016 academic year. As part of a larger project investigating children’s peer relations, the children were administered questionnaires in two 50-min. sessions. The sessions were led by at least two graduate students. Additional graduate and undergraduate research assistants were also present. A session leader read the instructions aloud and the other researchers gave individual assistance as needed. Children were told to work quietly and individually throughout the sessions and not discuss their answers with classmates.

A university IRB approved the measures and procedure for this study. At the beginning of each data collection session, children were informed about the purpose of the research, confidentiality, and their right to refuse or discontinue participation at any time with no penalty. At school enrollment, parents provided consent to allow their children to participate in a wide range of studies, each of which they were given specific information about, as well as the opportunity to decline participation for their children.

Results

Preliminary Analyses

Descriptive statistics for study variables (means, standard deviations, and range) are provided in Table 1. Correlations between study variables, separated by gender, are reported in Table 2. Correlations revealed distinct patterns among variables for girls and boys. For girls, attitude about aggression was significantly and positively associated with cyber aggression ($r = .47, p < .01$), but not relational aggression ($r = -.07, p > .05$) or overt aggression ($r = -.05, p > .05$). Relational aggression was significantly and positively associated with overt aggression ($r = .86, p < .01$), but not attitude about aggression ($r = -.07, p > .05$) or cyber aggression ($r = -.01, p > .05$). For boys, attitude about aggression was significantly and positively associated with relational aggression ($r = .21, p < .01$), but not overt aggression ($r = .20, p > .05$) or cyber aggression ($r = .20, p > .05$). Relational aggression was also significantly and positively associated with overt aggression ($r = .87, p < .01$), but not cyber aggression ($r = -.001, p > .05$). In short, relational and overt aggression were significantly and positively associated for both boys and girls. Attitudes about aggression was associated with cyber aggression only for girls and associated with relational aggression only for boys.

A multivariate analysis of variance (MANOVA) was conducted to determine whether there were any differences attributable to grade and gender across relational aggression, overt aggression, cyber aggression, and attitude about aggression. The analysis revealed a statistically significant difference only for gender, Wilks' Lambda = .78, multiple $F(4, 179) = 12.34, p < .001$. Univariate followups revealed that gender had a statistically significant association with relational aggression, $F(1, 182) = 5.99, p < .01$, overt aggression, $F(1, 182) = 25.23, p < .001$, and attitude about aggression, $F(1, 182) = 16.55, p < .001$. Boys and girls reported statistically

comparable levels of engagement in cyber aggression ($M = 4.33, SD = 0.89$; $M = 4.28, SD = 1.32$). Boys received more nominations for relational aggression than girls (boys: ($M = 6.53, SD = 6.45$; girls: $M = 4.47, SD = 5.08$) and more nominations for overt aggression ($M = 6.95, SD = 7.89$) than girls ($M = 2.61, SD = 3.77$). Boys also expressed more positive attitudes about aggression than girls (boys: $M = 13.47, SD = 3.46$; girls: $M = 11.50, SD = 3.30$).

Primary Analyses

The primary goal of the present research was to evaluate children's attitudes about the acceptability of the use of aggression in relation to the use of cyber aggression, while controlling for grade and extent of traditional classroom aggression (overt and relational). Additionally, the role of gender was examined, as previous studies have documented mixed gender differences in cyber aggression. Two three-stage hierarchical linear regression analyses (boys, girls) were conducted (entering grade level in Block 1, relational and overt aggression nominations in Block 2, and attitude about aggression in Block 3), with cyber aggression as the dependent variable. Table 3 presents results of the hierarchical linear regression models. Multicollinearity was examined using the variance inflation factor (VIF), and all values fell within an acceptable range ($VIF < 4$).

In the model for girls, grade level as the sole predictor variable in the first block did not account for a significant portion of the variance and the model was not significant, $F(1, 98) = 0.55, p = .46$. Entering traditional classroom aggression (overt and relational aggression) in Block 2 did not account for a significant portion of the variance and the model was not significant, $F(3, 96) = 0.21, p = .89$. In Block 3, attitude about aggression was entered and accounted for 22.8% of the variance in cyber aggression, $F(4, 95) = 7.02, p < .001$. Notably,

attitude about aggression was the only significant predictor of cyber aggression, $\beta = 0.19, p < .001$.

In the hierarchical regression model for boys, Block 1 of the model, which assessed the relation between grade and cyber aggression, was not significant, $F(1, 86) = 0.15, p = .70$. Traditional classroom aggression (overt and relational) was entered in Block 2 of the model, which was not significant, $F(3, 84) = 0.40, p = .75$. The addition of attitude about aggression in Block 3 of the model was not significant, $F(4, 83) = 0.117, p = .33$. Notably, in Block 3, attitude about aggression was not significant in predicting boys' cyber aggression, $\beta = 0.53, p = .07$. In summary, attitude about aggression predicted cyber aggression above and beyond any effect attributable to grade level and traditional aggression, only for girls.

Discussion

Children's use of cyber aggression has become a fairly common manner in which to aggress against peers, even among elementary aged children. Because children's attitudes about the acceptability of the use aggression have been shown to be related to their use of traditional aggression (Huesmann & Guerra, 1997), it is important to examine whether attitudes about the acceptability of the use of aggression also predicts engagement in cyber aggression. The present research was designed to evaluate attitudes about aggression as a predictor of engagement in cyber aggression, controlling for the use of traditional forms of aggression. In addition, gender effects were examined due to evidence of mixed gender differences among engagement in cyber aggression (Englander & Muldowney, 2007; Topcu et al., 2008).

Results indicated that, for girls, attitudes about the acceptability of the use of aggression predicted the use of cyber aggression, above and beyond the use of traditional aggression. It is important to note that this occurred even though boys endorsed more positive attitudes for the

acceptability of aggression than girls overall. Perhaps girls more fully consider the acceptability of aggression before engaging in cyber aggression than boys. That is, perhaps they are more reflective and need to believe a behavior is acceptable before engaging in the particular behavior. Moreover, similar to findings in Wright (2014), girls might acknowledge the long-term negative effects of engaging in cyber aggression, which might influence their behaviors. Actions used to aggress against others through cyber space have the potential to be more permanent than traditional aggressive behaviors, and victims, as well as aggressors, might be reminded of their actions for extended periods of time. With traditional aggression, behaviors occur in real time and instantly become moments of the past. Cyber aggression has the possibility of recurring multiple times through the Internet (i.e., social media outlets) before eventually becoming an event of the past. Based on the current findings, boys, unlike girls, may not consider the multiple effects of using cyber aggression to harm others, which might explain the lack of relation between attitude about aggression and cyber aggression specifically. In addition, because boys were found to hold more acceptable attitudes toward aggression, they might exhibit more impulsive behaviors than girls and fail to consider the acceptability of such aggressive behaviors before engaging in cyber aggression.

Limitations and Future Directions

There are limitations of the present study. First, using a cross-sectional design prohibited the examination of change over time. Given that some research suggests engagement in traditional aggression decreases with age (at least for overt aggression behaviors), it would behoove researchers to examine changes in cyber aggression across time as well, especially in regards to attitudes about aggression. Second, the measure used to examine attitudes about the acceptability of the use of aggression only refers to traditional aggression. In the future,

researchers should consider developing a measure that focuses on the acceptability of the use of cyber aggression. Perhaps there are distinctions to be made for children who are consistent versus inconsistent in their beliefs about traditional versus cyber aggression. As a final suggestion, the present study included a relatively small sample of predominantly White, predominantly middle-class children who attended a university-affiliated school. This poses a limitation to the generalizability of the results, pointing to the need to examine these issues across different demographic groups of children.

Implications and Conclusions

The present research expanded the work of Burton et al. (2013) and Wright (2014). Similar to previous studies, the current research revealed that attitudes about aggression predicted engagement in cyber aggression. The current study adds to previous research by extending the research to the cyber aggression domain, and controlling for traditional forms of classroom aggression. Findings from this study offer an important implication for handling cyber aggression among school-aged children. Knowing that girls perhaps will consider the acceptability of the use of aggression more so than boys, a hypothesis offered above, could help educators and researchers tailor interventions specific to gender. When creating social skills curricula, teachers should modify lessons so that they are specific to each gender. The first step to teaching boys about cyber aggression awareness and prevention is to help them understand that using aggressive behaviors to solve problems is not the most appropriate option. Lessons about the acceptability of aggression are just as important for girls, but research revealed that boys believed the use of aggression was more acceptable. After boys, and girls, acknowledge the unacceptability of aggression to solve problems, teachers could then help students apply their attitudes to real-life situations. Teachers can use role-playing or social skills training, etc. to help

boys and girls reflect and solve conflicts with peers without turning to cyber aggression.

Understanding that attitudes about aggression can be a significant predictor of cyber aggression could have the potential to influence the ways in which children are socialized to understand the acceptability of aggressive behaviors as it relates to consequences of such actions.

References

- Archer, J. (2004). Sex differences in aggression in real-world setting: A meta-analytic review. *Review of General Psychology, 8*, 291-322.
- Asarnow, J. R., & Callan, J. W. (1985). Boys with peer adjustment problems: Social cognitive processes. *Journal of Consulting and Clinical Psychology, 53*, 80-87.
- Burton, K. A., Florell, D., & Wygant, D. B. (2013). The role of peer attachment and normative beliefs about aggression on traditional bullying and cyberbullying. *Psychology in the Schools, 50*, 103-115.
- Crick, N. R., & Ladd, G. W. (1990). Children's perceptions of the outcomes of social strategies: Do the ends justify being mean? *Developmental Psychology, 26*, 612-620.
- Crick, N. R., Casas, J. F., & Mosher, M. (1997). Relational and overt aggression in preschool. *Developmental Psychology, 33*, 579-588.
- Dill, E. J., Vernberg, E. M., Fonagy, P., Twemlow, S. W., & Gamm, B. K. (2004). Negative affect in victimized children: The roles of social withdrawal, peer rejection, and attitudes toward bullying. *Journal of Abnormal Child Psychology, 32*, 159-173.
- Englander, E. K., & Muldowney, A. M. (2007). Just turn the darn thing off: Understanding cyberbullying. In *Proceedings of the National Conference on Safe Schools and Communities, USA*, 83-92.
- Giles, J. W., & Heyman, G. D. (2003). Preschoolers' beliefs about the stability of antisocial behavior: Implications for navigating social challenges. *Social Development, 12*, 182-197.
- Giles, J. W., & Heyman, G. D. (2005). Young children's beliefs about the relationship between gender and aggressive behavior. *Child Development, 76*, 107-121.

- Grottpeter, J. K., & Crick, N. R. (1996). Relational aggression, overt aggression, and friendship. *Child Development, 67*, 2328-2338.
- Huesmann, L. R., & Guerra, N. G. (1997). Children's normative beliefs about aggression and aggressive behavior. *Journal of Personality and Social Psychology, 72*, 408-419.
- Juvonen, J., & Gross, E. F. (2008). Extending the school grounds?: Bullying experiences in cyberspace. *Journal of School Health, 78*, 496-505.
- Lam, J. A. (1989). *School mediation program evaluation kit*. Unpublished manuscript, University of Massachusetts, Amherst, Massachusetts.
- Li, Qing (2006). Cyberbullying in schools: A research of gender differences. *School Psychology International, 27*, 157-170.
- Masten, A. S., Morison, P., & Pellegrini, D. S. (1985). A revised class play method for peer attachment. *Developmental Psychology, 21*, 523-533.
- Modecki, K. L., Minchin, J., Harbaugh, A. G., Guerra, N. G., & Runions, K. C. (2014). Bullying prevalence across contexts: A meta-analysis measuring cyber and traditional bullying. *Journal of Adolescent Health, 55*, 602-611.
- Nansel, T. R., Overpeck, M., Pilla, R. S., Ruan, W. J., Simons-Morton, B., & Scheidt, P. (2001). Bullying behaviors among US youth: Prevalence and association with psychosocial adjustment. *Journal of the American Medical Association, 285*, 2094-2100.
- Olweus, D. (2011). Bullying at school and later criminality: Findings from three Swedish community samples of males. *Criminal Behaviour and Mental Health, 21*, 151-156.
- Olweus, D., & Limber, S. P. (2010). Bullying in school: Evaluation and dissemination of the Olweus Bullying Prevention Program. *American Journal of Orthopsychiatry, 80*, 124-134.

- Patchin, J. W., & Hinduja, S. (2006). Bullies move beyond the schoolyard: A preliminary look at cyberbullying. *Youth Violence and Juvenile Justice, 4*, 148-169.
- Pornari, C. D., & Wood, J. (2010). Peer and cyber aggression in secondary school students: The role of Moral Disengagement, hostile attribution bias, and outcome expectancies. *Aggressive Behavior, 36*, 81-94.
- Schoffstall, C. L., & Cohen, R. (2011). Cyber aggression: The relation between online offenders and offline social competence. *Social Development, 20*, 587-604.
- Tokunaga, R. S. (2010). Following you home from school: A critical review and synthesis of research on cyberbullying victimization. *Computers in Human Behavior, 9*, 277-287.
- Topcu, C., Erdur-Baker, O., & Capa-Aydin, Y. (2008). Examination of cyberbullying experiences among Turkish students from different school types. *Cyberpsychology & Behavior, 11*, 643-648.
- Vernberg, E. M., Jacobs, A. K., & Hershberger, S. L. (1999). Peer victimization and attitudes about violence during early adolescence. *Journal of Clinical Child Psychology, 28*, 386-395.
- Wright, M. F. (2014). Predictors of anonymous cyber aggression: The role of adolescents' beliefs about anonymity, aggression, and the permanency of digital content. *Cyberpsychology, Behavior, and Social Networking, 17*, 431-438.
- Wright, M. F., & Li, Y. (2013). The association between cyber victimization and subsequent cyber aggression: The moderating effect of peer rejection. *Journal of Youth and Adolescence, 42*, 662-674.

APPENDICES

APPENDIX A
Descriptive Statistics for Study Measures

Table 1

Descriptive Statistics for Study Measures

Girls					Boys				
Measure	Mean	SD	Minimum	Maximum	Measure	Mean	SD	Minimum	Maximum
Rel. Agg.	4.47	5.08	0	32	Rel. Agg.	6.53	6.45	0	33
Ov. Agg.	2.61	3.77	0	24	Ov. Agg.	6.95	7.89	0	46
ATC	11.5	3.29	2	29	ATC	13.48	3.46	8	27
Cyber	4.28	1.32	4	15	Cyber	4.33	0.89	4	8

Note. $N = 201$; Rel. Agg. = Relational Aggression (as measured by the Revised Class Play); Ov. Agg. = Overt Aggression (as measured by the Revised Class Play); ATC = Attitudes toward aggression Scale; Cyber = Cyber aggression scale

APPENDIX B
Correlations among Study Variables

Table 2

Correlations among Study Variables

Variable	1.	2.	3.	4.
1. ATC	--	0.21*	0.20	0.19
2. Rel. Agg.	-0.07	--	0.87**	-0.001
3. Ov. Agg.	-0.05	0.86*	--	0.05
4. Cyber	0.47*	-0.01	0.04	--

Note. * $p < .05$. ** $p < .01$

Correlations for girls are below the diagonal; correlations for boys are above the diagonal.

ATC = Attitudes toward aggression Scale; Rel. Agg. = Relational Aggression (as measured by the Revised Class Play); Ov. Agg. = Overt Aggression (as measured by the Revised Class Play); Cyber = Cyber aggression scale

APPENDIX C
Hierarchical Regression Models Predicting Attitudes toward Aggression, Separated by Gender

Table 3

Hierarchical Regression Models Predicting Attitudes toward Aggression, Separated by Gender

	Girls					Boys				
	β	t	R^2	ΔR^2	F	β	t	R^2	ΔR^2	F
Block 1			0.006	---	0.553			0.002	---	0.148
Grade	-0.129	-0.744				0.045	0.385			
Block 2			0.007	0.001	0.209			0.014	0.012	0.401
Grade	-0.135	-0.768				0.049	0.420			
Relational Aggression	-0.047	-0.190				-0.126	-0.745			
Overt Aggression	0.099	0.285				0.154	1.012			
Block 3			0.228	0.222	7.017*			0.053	0.039	1.171
Grade	-0.170	-1.084				0.088	0.747			
Relational Aggression	-0.035	-0.162				-0.140	-0.840			
Overt Aggression	0.119	0.387				0.132	0.878			
Attitude about Aggression	0.191	5.222*				0.053	1.856**			

* $p < .001$. ** $p = 0.07$