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Peer Victimization and Efforts to Cope: Prevalence, Types, and Relationships of Coping Strategies

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PEER VICTIMIZATION AND EFFORTS TO COPE: PREVALENCE, TYPES, AND RELATIONSHIPS OF COPING STRATEGIES

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Objective: Peer victimization (PV) is a stressor that is very common in adolescence and has been linked to a variety of mental health outcomes. Little has been done to understand how adolescents cope with PV as a stressor. Similarly, scant research has focused on the link between PV and adolescent coping. Thus, the present study had two aims: Aim 1 examined the prevalence and types of coping strategies endorsed by adolescents in response to traditional types of PV (overt, relational, reputational) as well as cyber PV. This aim also examined individual characteristics that may account for differences in coping strategy usage, such as gender and aggressor status. Aim 2 examined the unique associations between each type of PV and coping strategies. Method: Participants were 855 adolescents aged 13 to 19 years (M = 15.81; SD = 1.21; 58% female; 74% Hispanic), who were recruited from two Miami-Dade County public high schools. Adolescents completed two measures of PV (the *Revised Peer Experiences Questionnaire or R-PEQ,* and the *Cyber – Peer Experiences Questionnaire or C-PEQ*), and two measures of coping, the *Dealing with Peer Experiences* questionnaire (completed separately for each PV measure). Aggressor status was calculated by identifying participants with aggression scores greater than a mean of 2 on any of the traditional peer aggression subscales of the *R-PEQ* or a score above the mean on peer aggression for the *C-PEQ*. Results: Descriptive statistics examined prevalence and types

of coping strategies adolescents endorsed, and Chi-Square difference tests examined gender and aggressor status differences in coping strategies. Multiple logistic regression analyses examined the relationships between PV types and coping strategies. For Study Aim 1, results revealed that denial was the most common coping response employed from the four-factor coping model, followed by active, aggressive, and finally ruminative coping. Secondary control coping was the most common coping response endorsed from the two-factor coping model, followed by primary control coping. Girls were more likely to endorse denial coping in response to traditional PV and active coping in response to traditional and cyber PV than boys. Similarly, girls were more likely to endorse secondary control coping than boys in response to traditional PV and cyber PV, and more likely to endorse primary control coping in response to cyber PV than boys. Boys were more likely to endorse aggressive coping than girls in response to traditional cyber PV. Aggressors were more likely to endorse both active and aggressive coping in response to traditional and cyber PV than non-aggressors. Aggressors were also more likely to endorse primary control coping in response to both traditional and cyber PV than non-aggressors. For Study Aim 2, results revealed that both traditional and cyber PV types differentially predict an increased odds of using coping strategies, but that aggressor status affects those predictions. Finally, exploratory analyses revealed that adolescents reported telling a friend most often in response to both traditional and cyber PV, followed by a parent, telling no one and telling someone else. Very few adolescents reported telling a teacher in response to traditional or cyber PV. Girls were more likely to report telling a friend, a parent, or someone else in response to both traditional and cyber PV than boys. Boys were more likely to report telling no one in response to cyber PV than

girls. Non-aggressors were more likely to a friend in response to both traditional and cyber PV than aggressors, and also more likely to tell a teacher in response to cyber PV than aggressors. Aggressors were more likely to report telling no one in response to cyber PV than non-aggressors. Relational PV was related to increased odds of telling a parent, a friend, or someone else. These relationships remained significant even with aggressor status added to the model. Lastly, aggressor status moderated the relationship between PV types and the probability of endorsing coping strategies, revealing that those considered aggressor-victims responded differently than aggressors, non-aggressors, and non-aggressor-victims. For example, as overt PV increased, the probability of endorsing aggressive coping decreased but only for aggressors. Conclusions: Results from this study provide crucial information regarding PV and adolescent coping behaviors that serve to inform efforts to prevent or intervene in PV. Results add to growing literature on adolescent PV, and represent an empirical foundation for understanding how adolescents cope with a stressor as salient as PV. Future studies should further examine adolescent coping, develop a coping measure specifically for adolescents, as well as examine the effectiveness of adolescent coping responses. In addition, future studies should focus on directly linking PV types to coping responses as well as incorporate a longitudinal model that will elaborate the relationship between PV, adolescent coping, and adjustment over time.

TABLE OF CONTENTS

Chapter 1: Introduction

Adolescence, a critical period for development, is often rife with interpersonal difficulties. Peer victimization (PV), generally considered to be the repeated, intentional aggressive behavior from a peer, can be frequent and damaging (Hampel, Manhal & Hayer, 2009; Prinstein, Boergers, & Vernberg, 2001). During adolescence, PV experiences have been consistently linked with negative outcomes, including social maladjustment, anxiety, depression, externalizing symptoms, and future PV (e.g., De Los Reyes, & Prinstein, 2004; Erdur-Baker, 2009; Hampel, Manhal & Hayer, 2009; La Greca & Harrison, 2005; Siegel, La Greca & Harrison, 2009). Even infrequent peer victimization can be damaging (Kochenderfer-Ladd & Skinner, 2002). Examining how adolescents cope with PV may offer unique insight into how these potentially damaging experiences are processed, and may help to inform interventions that mitigate the effects of PV.

A comprehensive understanding of how adolescents cope with PV is empirically and practically necessary. From an empirical standpoint, coping processes are grounded in emotion regulation, social information, and cognitive processing research (Bellmore, Chen, & Rischall, 2013; Zalewski, Lengua, Wilson, Trancik, & Bazinet, 2011). A better understanding of coping sheds light on self-regulation processes during the complex developmental stage of adolescence. In addition, since cognitive pathways are still developing in adolescence, the reliance on a characteristic set of coping behaviors may predispose individuals to more or less adaptive behaviors later in life, a concept that warrants further study. From a practical standpoint, adolescents' coping behaviors could inform prevention or intervention efforts by highlighting the process by which stress leads to negative outcomes. For example, certain coping strategies could potentially

moderate the impact of PV on distress by either functioning as a risk or protective factor, or by predisposing the individual to future victimization. PV is strongly linked to psychopathology and recently has been associated with problems in later adjustment (Rosen, Underwood, Gentsch, Rahdar, & Wharton, 2012). However, little research has examined the specific coping strategies that adolescents use to manage PV experiences, which was the focus of the current study.

Specifically, the current study had two aims. The first study aim examined the prevalence and types of coping strategies that adolescents report using when they have experienced traditional or cyber PV. The first aim also examined gender differences and potential differences between aggressors and non-aggressors in the strategies adolescents reported using to cope with traditional and cyber PV experiences.

The second study aim examined the unique associations between different levels of PV types (i.e., overt, relational, reputational, and cyber PV) and the probability of adolescents' use of specific coping strategies. The following text reviews relevant research on adolescent PV experiences and coping behaviors and also provides further explanation of each study aim.

The Problem of PV

Prevalence rates for PV vary across studies, but are surprisingly high in many countries around the world. For example, estimates indicate that between 29.9% and 40% (lower for Scandinavian countries: 6% to 15.2%) of school-aged children experience PV (Williams & Veeh, 2012). PV, defined as being the recipient of repeated, intentional aggressive behavior from peers, has been conceptualized into three key types (La Greca & Harrison, 2005). Overt PV refers to being the recipient of direct threats of or actual

physical violence from peers (Prinstein, Boergers, & Vernberg, 2001). Relational PV is an indirect form of victimization that includes social exclusion and withdrawal of support (De Los Reyes & Prinstein, 2004). Reputational PV, another indirect form, occurs when an adolescent's reputation is damaged by a peer through embarrassment or spreading rumors (De Los Reyes & Prinstein, 2004). Differentiating between PV types is imperative as research demonstrates that adolescent outcomes vary based on the type of PV adolescents' experience (La Greca & Harrison, 2005; La Greca, Lai, Chan, & Herge, 2013).

In addition, cyber victimization is a type of PV that occurs through the use of electronic media, such as text messaging or social networking platforms. A growing body of research demonstrates that cyber PV can be particularly harmful and in some cases, contributes to increased risk of suicide (e.g., Dempsey, Sulkowski, Nichols, & Storch, 2009; Lenhart, Purcell, Smith, & Zickuhr, 2010). Cyber PV is potentially more dangerous than "in person" PV because of the perceived anonymity of electronic media (i.e., it may be unclear who the perpetrator is), and because aggressors can reach a bigger audience, making these experiences public (Dempsey et al., 2009; Patchin & Hinduja, 2006; Sticca & Perren, 2013).

Based on the above, the present study evaluated traditional PV types (overt, relational, and reputational) separately from cyber victimization in order to examine the prevalence and types of coping strategies that adolescents use.

Adolescent Coping

Coping is conceptualized as the wide array of strategies that adolescents use to manage emotionally arousing stimuli (Legerstee, Garnefski, Verhulst, & Utens, 2011).

Strategies, such as problem-solving and social support-seeking, can be both adaptive and maladaptive (Horowitz, Hill & King, 2011). Individuals choose strategies based on their personal characteristics, their cognitive and emotional ability, and the availability of family and school support (Matos, Tome, Borges, Manso, Ferreira & Ferreira, 2008). Research shows that certain coping styles may lead to internalizing symptoms. For example, Horowitz et al. (2011) found that emotion-focused, problem-focused, and avoidant coping were all independent predictors of depression in adolescents faced with stress. Despite the salience of PV as a stressor during adolescence, few studies have focused on the relationship between PV and coping. A small body of research has identified certain coping strategies that are linked to peer situations, but findings are mixed.

For the purposes of the current study, coping was conceptualized using a four-factor coping model developed by Sandstrom (2004). Using a measure designed to capture coping strategies used in everyday peer rejection situations, Sandstrom (2004) factor analyzed data from a large sample of 9 – 12 year olds. The factor analysis resulted in the following four-factor model of coping responses: Active non-aggressive, denial, ruminative, and aggressive. Active non-aggressive coping responses are deliberate and prosocial strategies that include getting advice from another peer, thinking about happy things to take one's mind off the experience, and confronting the aggressor in a non-aggressive manner. Denial coping includes a number of different strategies employed to self-protect and minimize the painful impact of PV, such as trying to forget the incident, ignoring the aggressor, acting like nothing is happening, or telling oneself it does not matter. Ruminative coping responses are ones that repetitively relive the negative

experience. Finally, aggressive responses are retaliatory in nature and tend to externalize the responsibility of peer difficulties.

Although the current study examined adolescents who were older than the population studied by Sandstrom, the framework appeared relevant because it addresses a key limitation in adolescent coping research by providing a less restrictive and simplistic categorization scheme than the oft-used dichotomous approach of problem- and emotion-focused coping or of approach and avoidance coping (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001). Coping models have historically failed to capture the full diversity and range of adolescents' responses to stress (Compas, Worsham, Ey, & Howell, 1996; Connor-Smith, Compas, Wadsworth, Thomsen, & Saltzman, 2000). With a more finely tuned coping model, the current study aimed to identify behaviors that might not otherwise be detected if data were categorized into a dichotomous coping model.

However, since the use of Sandstrom's four-factor model (2004) is largely exploratory, the current study also evaluated another coping model, that of primary versus secondary control (e.g. Rothbaum, Weisz, & Snyder, 1982; Goodman & Southam-Gerow, 2010). Primary control coping is conceptualized as any effort to influence the environment or context in which the stressor is occurring (e.g., aggressive/retaliatory or active/non-aggressive coping from above), whereas secondary control coping is characterized by an attempt to influence the impact of the stressor by adapting to the environment or context (e.g., denial or ruminative coping from above). This two-process model is widely accepted and used in both child and adult literature (e.g., Band & Weisz, 1990; Wadsworth, DeCarlo Santiago, & Einhorn, 2009; Goodman & Southam-Gerow,

2010), but less utilized in relation to adolescent populations. Of the studies that examined adolescent use of primary control and secondary control coping, the majority focused on adolescents with chronic stressors, such as illness, poverty or family conflict (Compas, Jaser, Dunn, & Rodriguez, 2012; DeCarlo Santiago, Etter, Wadsworth, & Raviv, 2012; DeCarlo Santiago & Wadsworth, 2009).

Thus, in summary, the primary conceptualization of coping that was used in the current study was the four-factor model proposed by Sandstrom, as discussed above. In addition, a two-factor model of primary and secondary coping was also evaluated.

Aim 1: Prevalence and Types of Coping Strategies After PV Experiences

Only a few studies published between 1988 and 1998 examined adolescent coping in the face of interpersonal or peer stress (e.g., Compas, Malcarne, & Fondacaro, 1988; Eisenberg, Fabes, Minore, Mathy, & Hanish, 1994; Fabes & Eisenberg, 1992). Even fewer studies examined this relationship from 1998 to the present. One recent study by Griffith, Dubow and Ippolito (2000) examined stressors in the school, family, and peer domains as they related to coping strategies among seventh, ninth and twelfth grade students. These researchers found adolescents endorsed more avoidant versus approach coping in the face of family stressors. (Avoidant coping is similar to denial in the Sandstrom (2004) coping model, whereas approach coping might include both the active non-aggressive and aggressive coping strategies in the Sandstrom model.) Conversely, adolescents endorsed more approach than avoidant coping in the face of school stressors. However, adolescents reported using comparable levels of approach and avoidance coping in the face of peer stress.

Although no known studies have examined adolescents' primary versus secondary control coping in response to PV, researchers have examined the developmental course of primary versus secondary control coping use as it relates to subjective quality of life (Marriage & Cummins, 2004). (Secondary coping is similar to denial in the Sandstrom (2004) coping model, whereas primary control coping might include both the active non-aggressive and aggressive coping strategies in the Sandstrom model.)Researchers examined children aged 5 to 12 years, and their responses to videos depicting stressful situations that included peer rejection (i.e., another child saying "I don't want to be your best friend"), peer challenges (i.e., "another child saying something mean") and getting a shot at the doctor, among other situations. Children were asked how those in the video scenarios would feel and what they could do to feel better. Responses were coded into categories of primary, secondary, and relinquishing control. Results revealed that younger children provided more primary control responses, while older children were more likely to provide secondary control responses (Marriage & Cummins, 2004).

Another study examined children's (aged 6 – 12 years) coping in response to everyday stressors, which included peer stressors, such as kids saying mean things or a friend moving away or switching schools (Band & Weisz, 1988). Results indicated that, in response to peer difficulties, children of all ages used more primary control coping, such as direct problem-solving and problem-focused aggression, than secondary control coping. However, researchers noted the increased use of secondary control coping, such as social or spiritual support, or emotion-focused cognition, as children advanced along the course of development. This led to theorizing that development is associated with

more secondary control coping as children learn that certain primary control strategies are ineffective (i.e., crying or screaming to prevent a doctor from administering a shot) (Band & Weisz, 1988).

In summary, very little research exists on adolescents' coping strategies in the face of PV. Available evidence suggests that adolescents may use more denial (i.e., avoidance) or secondary coping strategies in the face of interpersonal stressors, and thus it was expected that adolescents in the current study would report more denial or secondary control coping in response to traditional PV experiences. Based on the nature of cyber PV, particularly its ability to allow the perpetrator to remain anonymous and to reach a wide audience, it was hypothesized that adolescents would report more retaliation in response to cyber PV.

Gender Differences in Coping Strategy Use

The first study aim also examined gender differences as they related to PV and coping strategies. Some evidence suggests that girls rely on different coping strategies than boys. Specifically, Matos et al. (2008) found that girls in grades 5 through 12 reported using more emotion-focused coping than boys. Emotion-focused coping included passive methods, such as relaxation, as well as relationship investment, emotion expression, and social support. In contrast, boys relied on problem-focused methods, such as confrontation, more often than girls. In considering the four-factor coping model, it was hypothesized that girls would report more ruminative coping, an emotion-focused strategy, and more denial (a passive strategy) than boys, whereas boys would report more retaliation (similar to the problem-focused strategies, such as confrontation) than girls. It

was further hypothesized that, in keeping with the finding that boys reported more problem-focused coping, boys would report more primary control coping than girls.

In another study, Rijavec and Brdar (2002) found a similar gender distribution across coping types. However, other findings are mixed. In a study of commonly reported problems in youth aged 14 to17 years and the coping strategies they relied on, researchers found girls relied more heavily on social support than boys (Stark, Spirito, Williams, & Guevremont, 1989). In a similar study with younger children, aged 9 to 14 years, Spirito and colleagues found that boys and girls did not significantly differ in the coping strategies they used in the face of common problems (Spirito, Stark, Grace, & Stamoulis, 1991). These findings suggest that coping may vary by gender, and possibly by developmental status as well, although additional research is needed. Therefore, this study examined potential gender differences in adolescents' responses to traditional and cyber PV.

Differences in Coping Based on Aggressor Status

Finally, the first study aim also examined whether adolescents who are peer aggressors use different coping strategies than non-aggressors. Preliminary research has shown that peer aggression is associated with greater externalizing symptoms (Prinstein et al., 2001). Further, there is support for the notion that youth who are both victims and aggressors, also known as bully-victims, are at an increased risk for negative outcomes. For example, bully-victims report higher levels of anxiety and depression than either victims or bullies (Kaltiala-Heino, Rimpela, Marttunen, Rimpela, & Rantanen, 1999) and may use different coping strategies than non-aggressive youth. In one of the only studies of its kind, Völlink and colleagues (2013) examined differences in coping strategies

employed by 11 and 12 year olds classified as bullies, victims, and bully-victims in the context of cyber victimization. They found that bully-victims reacted to stressful situations more often with anger (i.e., aggressive coping), and less often with cognitive distancing (i.e., denial coping) than did children who were only bullies or only victims. In line with previous research, Völlink and colleagues also found that victims of cyber PV relied heavily on emotion-focused strategies that included mental distraction and pretending to ignore it. One interesting commonality emerged for all three groups of youth; almost none of the bullies, victims, and bully-victims discussed their feelings or the negative cyber experiences with others. This finding is consistent with other literature showing that few youth seek social support or disclose their PV experiences (Eslea & Smith, 1998; Mishna, 2004).

Although the above research is promising, we still know little about how the role of aggressor status relates to adolescent coping with PV. Thus, the current study examined this issue. Specifically, based on the above literature, it was expected that aggressive adolescents would report more retaliation and less denial than non-aggressive adolescents for both traditional and cyber PV. It was also hypothesized that aggressive adolescents would report more primary control coping than non-aggressive adolescents.

Aim 2: Unique Associations Between PV Types and Coping Strategies

Beyond examining the prevalence of each type of coping strategy, the second study aim examined unique associations of each PV type with coping strategies. Specifically, aim two examined how adolescents' levels of traditional and cyber PV are related to their probability of endorsing certain coping behaviors (i.e., denial, active/non-aggressive, aggressive and ruminative coping). This was an exploratory study aim

because the literature supporting this notion is very sparse, and predominantly focused on younger populations. Additional research is needed to extend these findings to an adolescent population.

In one of the only studies examining relationships between coping and PV types, researchers used latent class analysis to categorize students' responses to frequent bullying (Waasdorp & Bradshaw, 2011). Using a sample of children and adolescents (in grades 6 through 12), researchers identified the following classes of response: participants who reported the most indirect types of PV (relational and reputational) were stratified into a class of students who had a high probability of endorsing almost all of the 13 possible coping responses. The rest of the participants were categorized into three remaining classes of response, including aggressive, passive/low, and active/support-seeking. These categories fit closely with the proposed four-factor model described above, where passive/low responses, like denial, included ignoring the bully, and active/support-seeking included non-aggressive approach tactics. Further, Waasdorp and colleagues identified youth belonging to the aggressive class as more overtly victimized than others. In addition, they found that girls who experienced higher indirect PV were found mostly in the active/support-seeking class.

In particular, this study extended findings in the literature that have previously only focused on children. For example, Kochenderfer-Ladd and Skinner (2002) examined coping as a moderator of the relationship between PV and adjustment outcomes. Their study of children aged 9 and 10 years found correlations between PV and: a) cognitive distancing (similar to denial), b) internalizing coping like feeling sorry for oneself or worrying about it (akin to ruminative coping), and c) externalizing coping like swearing

out loud, throwing things or hitting (similar to aggressive coping). However, types of PV experienced, as well as the cognitive resources used to recruit coping strategies may change with increasing age (Nylund, Bellmore, Nishina, & Graham, 2007; Smith, Madsen, & Moody, 1999; Williams & McGillicuddy-De Lisi, 1999), so that it is not clear that these findings would extend to older adolescents.

For example, with 317 children who began the study in fourth grade, Visconti and colleagues (2013) examined the role of causal attributions and social comparison in coping with PV across time. The coping strategies they examined included parent, teacher, and friend support, as well as problem solving, retaliation, and nonchalance. They found that children's causal attributions predicted changes in coping with PV in sixth grade, lending support for the theory that a victim's interpretation of the cause of victimization results in perceptions about which resources are available and useful, and which coping strategies should be used. It is not clear whether such findings would extend to an adolescent population, one of the primary goals of the present study. Thus, the second study aim focused on examining PV types' unique contributions to each coping strategy.

Study Overview and Hypotheses

The current study addressed gaps in the literature by examining the prevalence and types of coping strategies endorsed as a result of PV experiences in a sample of older adolescents (grades 9-12), and how these adolescents differ in coping strategy usage based on gender and aggressor status. This study also examined how adolescents' levels of traditional and cyber PV experiences are related to their probability of endorsing

certain coping strategies The specific aims and hypotheses of the current study are summarized below.

Aim 1: To Examine the Prevalence and Types of Coping Strategies In Response to PV

Hypothesis 1. Descriptive characteristics were examined for each coping strategy. It was hypothesized that the most commonly endorsed strategy would be denial, and that fewer adolescents would report retaliation than denial, rumination, or active coping in response to traditional PV (1a). Coping in response to cyber PV was examined separately, and it was hypothesized that more adolescents would report using retaliation than denial in response to cyber PV (1b). It was also hypothesized that secondary control coping would be the most commonly endorsed strategy in response to traditional and cyber PV compared to primary control (1c).

Hypothesis 2. Gender differences were examined for each coping strategy, for both traditional (2a) and cyber PV (2b) responses. It was hypothesized that boys would report more retaliation and less denial than girls, and girls would report more ruminative coping than boys. It was further hypothesized that boys would report more primary control coping than girls (2c).

Hypothesis 3. Differences between aggressive and non-aggressive adolescents were examined for traditional (3a) and cyber PV (3b) coping strategies. It was hypothesized that aggressive adolescents would report more retaliation and less denial than non-aggressive adolescents for both traditional and cyber PV. It was also hypothesized that aggressive adolescents would report more primary control coping than non-aggressive adolescents (3c).

Aim 2: To Examine the Unique Associations Between PV Types and Coping Strategies

The unique relationships between adolescents' level of experiencing traditional PV (overt, relational, reputational) or cyber PV and their reported coping strategies were examined. No specific hypotheses were made for this exploratory study aim.

Chapter 2: Method

Participants

Participants were 1064 adolescents (57.2% female), 13 to 19 years of age (M = 15.80 years; SD = 1.21), recruited from two high schools in the Miami-Dade County Public School system (M-DCPS). This sample was predominantly Hispanic (71.3% Hispanic, 11.8% Black, 10.3% Non-Hispanic White, 3.9% Asian), consistent with the composition of the larger community. Participants were distributed among grades 9 through 12 as follows: 34.6% in grade 9, 29.3% in grade 10, 22.2% in grade 11 and 13.5% in grade 12. Of the 1162 adolescents who participated, 966 reported experiencing some form of PV at least once or twice in the past two months. Those adolescents were the focus of the current study.

Of the 966 adolescents included in the current study, 855 (88.5%) adolescents completed data on all study variables. Missing data was handled with listwise deletion for regression analyses. T-tests revealed that adolescents with missing data reported higher levels of overt PV (M = 1.59, SD = .57) (t(130.75) = 2.74, p <.01) and overt aggression (M = 1.44, SD = .66) (t(126.57) = 2.45, p <.05) than adolescents with complete data (M = 1.34, SD = .51 and M = 1.28, SD = .53, respectively). In addition, boys (15.4%) were more likely to have incomplete data compared to girls (8.6%) ($\chi^2(1) = 10.83$, $p < .01$). See Table 1 for a comparison of means and standard deviations of these variables. Adolescents with and without missing data did not differ on any other key study variables.

The final participating sample was composed of 855 adolescents (60.9% girls), 13 to 19 years of age (M = 15.78 years; SD = 1.22) (.2% were 13, 14.6 % were 14, 31.6%

were 15, 24.0% were 16, 20.4% were 17, 8.7% were 18, and .6% were 19). Participants were evenly distributed among grades (34.7% were in Grade 9, 29.7% were in Grade 10, 21.5% were in Grade 11, and 14.1% were in Grade 12). The majority of adolescents were recruited from School A (n = 655; 76.6%), with 200 adolescents recruited from School B (23.4%). The sample was predominantly Hispanic but ethnically diverse: 72.9% Hispanic White, 12.3% Black, 4.3% Asian, and 10.4% Non-Hispanic White, which reflects the composition of the community at large.

Procedure

This project was part of a larger multi-wave study of adolescents' peer relations (La Greca, 2010). Students were recruited from science and psychology classes and assessed at three time points; data from Time 1, collected in February 2011, was used in the present study.

Prior to study initiation, Institutional Review Board and M-DCPS approval was obtained. Subsequently, school principals were contacted to recruit school participation. Once principal and teacher permission was obtained to recruit students directly, letters and parental consent forms were distributed. Teachers encouraged students to return consent forms, and all participating principals and teachers were compensated with $20 gift cards. At each high school, participating students were entered in a raffle to receive a $50 gift card or one of two $20 gift cards. Parental consent forms were provided in both English and Spanish. However, student assent/consent forms and study questionnaires were given in English only, as most M-DCPS high school students demonstrate reasonable English proficiency (e.g., La Greca & Harrison, 2005; Siegel et al., 2009).

During data collection, participating students signed assent forms (or consent forms if they were 18 years of age or older). Study questionnaires were completed during class time, supervised by trained research assistants and doctoral graduate students. Questionnaires took about 30 to 45 minutes to complete.

Measures

Demographic variables (see Appendix A). A background questionnaire included items about the participants' gender, age, ethnicity, and perception of socio-economic status. Ethnicity was dummy-coded (1 = *Hispanic*, 0 = *non-Hispanic*).

Peer victimization and aggression (see Appendix B). The *Revised Peer Experiences Questionnaire (R-PEQ*; Prinstein, Boergers, & Vernberg, 2001; De Los Reyes & Prinstein, 2004) is an 18-item scale measuring adolescent peer victimization and aggression. This measure assesses three types of PV (overt, relational, and reputational) over the prior two months. Each subscale has three items. Sample items include: "A teen hit, kicked, or pushed me in a mean way" (overt), "A teen did not invite me to a party or social event even though they knew that I wanted to go" (relational), and "A teen said mean things about me so that people would think I was a loser" (reputational). Respondents rated how often each item occurred to them (victimization) as well as how often the respondent perpetrated the acts (aggression) in the past two months. Ratings were provided on a 5-point Likert scale (1 = *Never*, 2 = *Once or twice*, 3 = *A few times*, 4 = *About once a week*, 5 = *A few times a week*), with higher scores reflecting greater victimization or aggression, respectively. Scores for each subscale were obtained by averaging items within subscales. For the study regression analyses, these subscale scores were centered.

In addition, an aggression variable was created. Adolescents were classified as an aggressor (1 = *aggressor*, 0 = *non-aggressor*) if they reported perpetrating PV more than at least once or twice (e.g., mean aggression score greater than 2) in the past two months on any of the three PV type subscales (overt, relational, reputational). This aggression coding scheme has been used in previous research (Herge, Landoll, & La Greca, 2010).

The *R-PEQ* has been shown to have acceptable reliability and validity with adolescents (e.g. De Los Reyes & Prinstein, 2004; La Greca & Harrison, 2005; Siegel et al., 2009); internal consistency for each subscale has been found to be satisfactory: overt PV .59 - .78, relational PV .75 - .84, reputational PV .80 - .87 (De Los Reyes & Prinstein, 2004; Siegel et al., 2009). For the aggression subscales, internal consistencies have also been found to be satisfactory: .83 for overt aggression, .68 for relational aggression, and .76 for reputational aggression (De los Reyes & Prinstein, 2004). In the present sample, internal consistencies were .67 for overt PV, .74 for relational PV, and .79 for reputational PV. Internal consistencies for aggression subscales in the present sample were .74 for overt aggression, .72 for relational aggression, and .65 for reputational aggression. The initial version of the *Peer Experiences Questionnaire* had test-retest reliability ranging from .48 to .52 over a 6-month interval (Prinstein et al. 2001).

Cyber Peer Victimization (see Appendix C). The *Cyber – Peer Experiences Questionnaire* (*C-PEQ*; Landoll, La Greca, & Lai, 2013; Landoll, La Greca, Lai, Herge, & Chan, 2014) assesses both positive and negative peer experiences that have occurred via electronic media in the past two months. Based originally on the *Social Networking-Peer Experiences Questionnaire* (SN-PEQ; Landoll et al., 2013), the measure contains 9 items that assess negative peer experiences across a wide array of electronic media,

including social networking sites like Facebook or Instagram, web sites like YouTube, texting, and instant messaging. Items are rated using a 5-point scale (1 = *Never*, 2 = *Once or twice*, 3 = *A few times*, 4 = *About once a week*, 5 = *A few times a week*), and include statements like "A peer posted pictures of me that made me look bad via electronic media," and "A peer posted mean things about me publicly via electronic media." In addition, adolescents indicate whether they have behaved this way toward another peer (*yes*/*no*). A variable was created to reflect cyber PV by averaging all 9 items that measure negative peer experiences.

Similar to the aggression variable on the *R-PEQ*, a cyber aggression variable was created. Specifically, adolescents were classified as cyber aggressors (1 = *aggressor*, 0 = *non-aggressor* if they reported mean cyber aggression levels above the sample mean. The *C-PEQ*, and its prior version (*SN-PEQ*) have demonstrated acceptable levels of reliability among adolescents and young adults (α = .81-.91 for negative cyber victimization items) (Landoll, et al., 2013). Previous research has established cyber victimization as a unique and separate construct from traditional PV subtypes (Landoll, et al., 2013). For the current sample, the *C-PEQ* demonstrated acceptable internal consistency across the nine items (α = .78). The cyber aggression subscale also demonstrated acceptable internal consistency across the nine items (α = .69).

Coping Strategies (see Appendix D). Adolescent coping response was measured by *Dealing with Peer Experiences (DPE)*, a brief questionnaire developed for this study to assess strategies used to cope with negative peer experiences. Two versions were administered, one directly after the completion of the *R-PEQ*, and another after the completion of the *C-PEQ*. Both versions of the *DPE* asked adolescents how they

responded to PV experiences. To indicate how they responded to PV experiences, adolescents were instructed to check all of the following that applied: "I just tried to forget it," "I ignored the aggressor" (both coded as denial from the four-factor model and secondary control from the two-factor model); "I tried to resolve the conflict with the aggressor" (coded as active/non-aggressive from the four-factor model and primary control from the two-factor model); and "I retaliated against the aggressor" (coded as aggressive/retaliatory and primary control from the two-factor model). Further, an open-ended category entitled "Other," allowed adolescents to explain any strategy they used to cope with PV that was not listed in the choices mentioned above.

Responses to a) the initial question asking adolescents how they responded to PV experiences, and b) open-ended responses adolescents provided regarding their PV coping strategies were reviewed. They were coded into the following four coping categories described by Sandstrom and colleagues (2004): Denial, Active/Non-aggressive, Retaliatory, and Ruminative coping. First, variables were created to represent each type of coping in the four-factor model. Using the newly created variables of these four coping strategies, forced choice answers to the item "What did you do in response?" were categorized as follows: "I just tried to forget it," and "I ignored the aggressor," were recoded into the Denial variable, "I tried to resolve the conflict with the aggressor," was recoded into the Active/Non-aggressive variable, and "I retaliated against the aggressor," was recoded into the Aggressive variable. Each variable captured the presence or absence of coping strategy use (1 = present, 0 = absent).

Second, forced choice responses were also coded into Primary control and Secondary control coping categories. Similar to procedures described above,

dichotomous answers to the forced-choice question "What did you do in response?" were categorized as follows: "I tried to resolve the conflict with the aggressor," and "I retaliated against the aggressor," were recoded into the Primary control variable while "I just tried to forget it," and "I ignored the aggressor," were recoded into the Secondary control variable.

Third, open- ended responses adolescents reported were also coded into either the four Sandstrom et al. (2004) categories or the primary/secondary coping categories. The coding was done separately for coping with traditional PV and with cyber PV. A total of 803 "other" responses were provided by adolescents for coping with traditional PV and 756 responses were provided for cyber PV. Coding procedures were consistent with Strauss and Corbin's theoretical coding principles (1990, 1998, 2008), in which coders began with a theoretical framework to apply to existing data. Given the nature of the DPE measure, the current study sought to verify the middle-range theories of coping discussed above. Initial coding of the open-ended coping responses was completed by the author. Three doctoral graduate students with expertise in peer victimization each independently conducted separate coding assessments for traditional and cyber PV using both the four-factor and two-factor models of coping. Any discrepancies and inconsistent findings across the raters were discussed until consensus was reached. Cohen's κ examined the agreement between coders prior to consensus discussions of rating discrepancies. There was substantial to perfect agreement between coders, with κ ranging from .70 (for the category of ruminative) to 1.00 (for the categories of denial and aggressive). The median level of agreement was .95 (for the category of active).

Coders were given all open-ended responses and instructed to assign at least one code pertaining to the four-factor model and one code pertaining to the two-factor model. Codes corresponded to coping responses as follows: 0 = no code, 1 = primary control, 2 = secondary control, 3 = active, 4 = denial, 5 = aggressive, 6 = ruminative, 7 = silly, 8 = never happened. Coders were instructed to assign as many codes as needed for each response. For example, "At first I tried to ignore it but she would not leave me alone so we ended up fighting," could receive codes corresponding to denial and aggressive coping from the four-factor model as well as secondary control and primary control coping from the two-factor model.

Following completion of the coding and consensus processes, variables were created for each coping category. All responses that received a '1' were recoded as '1' into primary control coping, while all others were recoded as '0' in the primary control coping variable. All responses that received a '2' were recoded as '1' into secondary control coping, while all others were recoded as '0' in the secondary control coping variable. This process was repeated for all coping responses, resulting in the following binary variables: DenialT, ActiveT, AggressiveT, RuminativeT, PrimaryT, SeconadryT, DenailC, ActiveC, AggressiveC, RuminativeC, PrimaryC, SeconadryC (T's indicate that the coping was in response to traditional PV while C's indicate that the coping was in response to cyber PV).

Data Analytic Plan

Preliminary Analysis

Because the study aims focused on examining ways that adolescents report coping with peer victimization experiences, as noted earlier, we restricted the sample to

adolescents who reported experiencing any PV at least once or twice in the prior two months. This was done by selecting adolescents who reported a score of 2 or higher on any of the traditional PV subscale items, or a score of 2 or higher on any of the cyber PV items. Data were examined for normality, outliers, and linear relationships between variables. Preliminary analyses obtained means and standard deviations for all study variables. In addition, bivariate correlations were conducted for all variables of interest. Age and ethnic differences were evaluated among outcome variables in order to evaluate whether these variables need to be controlled in main study analyses. Consistent with accepted methods of evaluating categorical outcome measures, binary logistic regressions were conducted to address the second aim (Huang & Moon, 2013).

Specific Aims

Aim 1 Descriptive statistics were used to examine the percentage of adolescents who endorsed each coping strategy in response to traditional and cyber PV (Hypothesis 1). Hypothesis 2, regarding gender differences, was evaluated using chi-square difference tests, comparing the percentage of boys and girls who report using each coping strategy. Hypothesis 3 was evaluated similarly, comparing aggressor and non-aggressor response patterns on all dichotomous coping variables.

Aim 2 Binary logistic regression analyses were used to examine the unique relationship between levels of each type of PV and each of the PV coping strategies. Separate analyses were conducted for each coping strategy as the outcome variable (0 = absent, 1 = present). First, the four factor coping model was examined (i.e., active, aggressive/retaliatory, denial, and ruminative coping). Because there were insufficient responses for ruminative coping (as described below), only three of the four factors were

examined. Next, similar analyses were conducted for the two-factor coping model (i.e., primary and secondary coping). In all analyses, gender was entered as a predictor/control variable on step 1. Overt, relational, and reputational PV were entered simultaneously as predictors on step 2. These analyses were repeated using cyber PV as a predictor variable and the coping strategies adolescents reported in response to cyber PV as the outcome variables.

Chapter 3: Results

Preliminary Analyses

Key outcome variables were examined for outliers. No outliers were identified. Tolerance values did not indicate any problems with multicollinearirty.

Descriptive statistics. Means and standard deviations of all variables of interest are presented in Table 1. Consistent with previous research (La Greca & Harrison, 2005; Prinstein et al., 2001; Siegel et al., 2009), relational PV had the highest mean, whereas overt PV had the lowest mean. Similarly, the highest levels of aggression were reported as relational aggression, with lower levels of overt and reputational aggression. Cyber PV was reported at a comparable level to overt PV. Based on the above-mentioned criteria, 26.2% of the sample was classified as an aggressor.

Demographic differences. There were significant differences in coping strategy use in response to both traditional and cyber PV based on gender, which are reported below for Hypothesis 2. For the other demographic variables (age, ethnicity), no differences in the outcome variables were apparent. Thus, due to differences in outcome variables based on gender, this demographic was controlled for in all the regression analyses.

Aim 1, Hypothesis 1: Coping in Response to Traditional and Cyber PV

Four-Factor Coping Model. As hypothesized (Hypothesis 1), the most commonly endorsed coping strategy was denial: over three quarters of victimized adolescents reported using denial (76.7%), followed by active coping strategies (41.2%). Aggressive/retaliatory coping was endorsed by only 19.9% of the subsample. Only two adolescents (<1%) reported using a ruminative coping strategy. Because of this low

percentage, ruminative coping was not analyzed further. See Table 2 for percentages of adolescents who endorsed each coping strategy.

A strikingly similar pattern emerged in response to cyber PV. As expected, nearly three quarters of the adolescents reported using denial (67.6%), the most commonly reported coping strategy, followed by active coping (37.9%). The least common coping strategy type was aggressive/retaliatory, endorsed by 20.1% of the adolescents. Only two participants (<1%) indicated using a ruminative coping strategy. Therefore ruminative coping could not be included in the study analyses.

The majority of adolescents indicated that they used denial in response to traditional PV by selecting one of the two forced choice items on the DPE (e.g. "I tried to forget it," and "I ignored the aggressor"). Since only 17 open-ended responses to traditional PV were categorized as denial, further differentiation was difficult. However, those open-ended responses indicated that denial is a nuanced category that should be explored in detail in future studies. For example, 12 (70.6%) adolescent responses downplayed the seriousness of the peer difficulty. Three (17.7%) of the responses indicated that the adolescents tried to forget the incident and four (23.5%) stated that they tried to ignore the incident altogether.

Only 24 open-ended responses to cyber PV were coded as denial, again making further differentiation within this category difficult. However, the responses are potentially of interest for future investigations on adolescent coping. Specifically, 9 (37.5%) downplayed the severity or impact of the experience. For example, adolescents indicated that it "wasn't such a big deal," "it wasn't that serious," "I did not care my friend and I were just joking around," or "humored the situation with light-heartedness".

Another six responses (25%) indicated that the adolescent ignored the experience all together: “I just ignored what they said,” I ignored someone that I’m not close with on [Facebook],” or “I just ignore it.” Five out of 24 (20.8%) appeared to be attempts at positive reappraisal: “You go with the flow, don’t stress others and keep moving forward. I’m a strong person and I don’t need those type of people in my life,” “I took it as a compliment and I let it go,” or “I don’t care what anyone has to say about me, I’m living the life and I love who I’m close to.” Three (12.5%) adolescents indicated that they tried to forget the incident or pretended it did not impact them: “I tried to forget it,” or “I pretended it wasn’t a problem to me.” Lastly, one (4.2%) of the 24 responses indicated that the adolescent took no action: “I didn’t try hard.”

Two-Factor Coping Model. Findings from the primary control versus secondary control coping model were consistent with expected results as well as those found using the four-factor coping model. More than three quarters of adolescents (76.8%) endorsed secondary strategies in response to traditional PV. Responses indicating secondary control coping, similar to those of denial in the four-factor coping model, were comprised of both forced choice items from the DPE (e.g. “I tried to forget,” and “I ignored the aggressor”), as well as varied open-ended responses. In comparison, 49.4% of adolescents endorsed primary control coping strategies.

Responses to cyber PV followed the same pattern. As expected, secondary control coping was the most commonly used type of coping (67.6%). This is consistent with findings using the four-factor coping model, in which denial was endorsed at comparable levels 47.1% of adolescents reported using primary coping strategies; most of the primary control coping strategies included forced choice items such as “I tried to resolve the

conflict with the aggressor," or "I retaliated against the aggressor," as well as a variety of open-ended responses.

In summary, denial was the most common coping strategy reported by adolescents within the four-factor model. Similarly, secondary control coping, which primarily reflected denial, was also endorsed at a high level compared to primary control coping. Results are largely consistent with hypotheses that denial would be the most commonly relied on coping strategy of the four-factor model, and that secondary control coping would be the most commonly relied on coping strategy of the two-factor model. However, in contrast to the current study's hypothesis that retaliation would be the least commonly reported coping strategy, results demonstrated that ruminative coping was the least commonly reported strategy; only three adolescents across both traditional and cyber PV reported using a ruminative coping strategy.

Aim 1, Hypothesis 2: Gender Differences in Coping Strategy Use

Four-Factor Coping Model. See Table 3 for percentages of boys' and girls' coping strategy use. The current study hypothesized that, in response to traditional PV, boys would report more retaliation than girls, whereas girls would report more denial and ruminative coping than boys. In response to traditional PV, consistent with hypotheses, boys (23.4%) were more likely to use retaliatory coping strategies than girls (17.7%) ($\chi^2(1) = 4.14$, $p < .05$). Also consistent with hypotheses, girls (80.0%) were more likely to use denial coping than boys (71.6%) ($\chi^2(1) = 8.20$, $p < .01$). No significant differences emerged in denial or active coping use. Due to the low response rate in ruminative coping, gender differences in this coping strategy were not evaluated.

In response to cyber PV, it was hypothesized that boys would report more aggressive/retaliatory coping than girls, and girls would report more denial than boys. As expected, boys (23.7%) were more likely to use retaliatory coping than girls (17.9%) ($\chi^2(1) = 4.26$, $p < .05$). Also in line with hypotheses, girls (70.6%) were more likely to report denial coping than boys (62.9%) ($\chi^2(1) = 5.96$, $p < .05$). However, girls (41.8%) were also more likely to use active coping than boys (31.7%) ($\chi^2(1) = 8.83$, $p < .01$). No other differences among the four-factor coping model were accounted for by gender.

Two-Factor Coping Model. Hypothesis 2 predicted that girls would report more secondary control coping than boys, whereas boys would report more primary control coping than girls. As expected, girls (80.2%) were more likely to report secondary control coping than boys (71.6%) in response to traditional PV ($\chi^2(1) = 8.60$, $p < .01$). Girls (70.6%) were also more likely to report using secondary control coping than boys (62.9%) in response to cyber PV ($\chi^2(1) = 5.96$, $p < .01$). Contrary to the stated hypotheses, but consistent with findings from the four-factor model, girls (50.5%) were more likely to report using primary control coping in response to cyber PV than boys (41.9%) ($\chi^2(1) = 5.99$, $p < .05$).

In summary, boys and girls differ on coping strategy use consistently across both traditional and cyber PV. The majority of hypotheses in regards to traditional PV were supported, mainly that boys are more likely to endorse aggressive/retaliatory coping than girls and that girls are more likely to endorse denial coping than boys. Since primary control coping is largely made up of both active and aggressive coping, it is interesting that boys were not more likely to report primary control coping in response to traditional PV after demonstrating that they were more likely to report aggressive coping than girls.

Most hypotheses for both the four- and two-factor models were supported; however, results demonstrated that girls were more likely to endorse active coping and primary control coping than boys.

Aim 1, Hypothesis 3: Differences in Coping Strategy Use Among Aggressors and Non-Aggressors

Four-Factor Coping Model. Results from Chi-square analyses examining aggressor status differences are presented in Table 4. In response to traditional PV, it was hypothesized that aggressors would report more aggressive/retaliatory coping than non-aggressors. As expected, aggressors (37.3%) were more likely to endorse retaliatory coping than non-aggressors (12.7%) ($\chi^2(1) = 67.28$, $p < .001$). Interestingly, aggressors (49.0%) were also more likely to endorse active coping than non-aggressors (38.0%) ($\chi^2(1) = 8.89$, $p < .01$). No significant differences in use of denial emerged based on aggressor status.

In response to cyber PV, as expected, aggressors (42.6%) were more likely to use retaliatory strategies than non-aggressors (10.9%) ($\chi^2(1) = 110.21$, $p < .001$). Similar to results for traditional PV, aggressors (47.4%) were also more likely to endorse active coping than non-aggressors (34.0%) ($\chi^2(1) = 13.46$, $p < .001$). No significant differences in use of denial emerged based on aggressor status.

Two-Factor Coping Model. Hypothesis 3 predicted that aggressors would report more primary control coping than non-aggressors. As expected, aggressors (28.5%) were more likely to endorse primary coping strategies than non-aggressors (11.4%) ($\chi^2(1) = 37.81$, $p < .001$). Secondary coping responses did not differ based on aggressor status.

Similarly, in response to cyber PV, as expected, aggressors (30.1%) were more likely to endorse primary coping strategies than non-aggressors (10.9%) ($\chi^2(1) = 47.39$, $p < .001$). Adolescents did not differ in their use of secondary coping based on aggressor status.

In summary, the results largely supported Aim 1, Hypothesis 3. Aggressors were more likely to endorse aggressive/retaliatory coping than non-aggressors on the four-factor model, and to endorse primary control coping than non-aggressors on the two-factor model. In response to both traditional and cyber PV, aggressors were also more likely to endorse active coping than non-aggressors, an interesting and unexpected finding. Aggressors and non-aggressors reported comparable levels of denial and secondary control coping.

Aim 2: Unique Associations Between PV Types and Coping Strategies

Preliminary Analyses: *Correlations.* Before conducting regression analyses for Study Aim 2, bivariate correlations were examined for the study variables of interest. (See Table 5.) The majority of key study variables were significantly and positively correlated with one another. Given the large sample size, only those correlations that are significant at the $p < .01$ level are marked.

As can be seen from the table the following relationships were found among traditional and cyber PV types. Overt PV was related to aggressive coping in response to both traditional and cyber PV, as well as to aggressor status and primary coping in response to both traditional and cyber PV. Relational PV was related to aggressor status, active coping in response to both traditional and cyber PV, denial in response to traditional PV, primary coping in response to traditional and cyber PV, and secondary

control coping in response to traditional PV. Reputational PV was related to all study variables. Cyber PV was related to the majority of study variables with the exception of gender.

In terms of the interrelatedness of the coping strategies, active coping in response to cyber PV was related to all other coping strategies. Denial in response to traditional PV was related to denial in response to cyber PV as well as secondary coping in response to both traditional and cyber PV. Aggressive coping in response to both traditional and cyber PV was related to active and primary coping in response to traditional and cyber PV, but not denial or secondary coping. Thus, in general, peer victimization was related to peer aggression and differentially related to the coping strategies of interest. Finally, traditional PV types were only moderately related to cyber PV (overt PV $r = .38$; relational PV $r = .39$; reputational PV $r = .55$), lending support for examining these PV types as separate constructs in relation to coping strategy use.

The majority of correlations presented in Table 5 are at the moderate level or below, indicating that relationships are not subject to multicollinearity. However, of interest is the high correlations (1.00) found between secondary coping and denial ($r = 1.00$ in response to cyber victimization; $r = 1.00$ in response to traditional PV). This indicates that secondary coping, or the effort to adapt oneself to the context as opposed to attempt to change the environment, is exclusively being measured by denial coping in the current sample. Similarly, strong positive correlations were found between primary coping and aggressive/retaliatory coping ($r = .53$ in response to cyber PV; $r = .51$ in response to traditional PV). Aggressive coping is, in effect, a direct attempt to alter the

environment (or specifically, the aggressor) in which the PV is occurring. These relationships help to explain results in later analyses.

Unique Associations Between PV Types and Coping Strategies. The second aim of the current study was to examine the unique associations between PV types and specific coping strategies. Binary logistic regressions analyzed the contribution of both traditional and cyber PV to the likelihood of endorsing certain coping strategies. Separate analyses were conducted for each dichotomous coping strategy (e.g. used denial [yes/no]). These regressions examined both the four-factor coping model and the two-factor coping model. In these analyses, sex, followed by overt, reputational, and relational PV, were regressed onto coping strategies endorsed in response to traditional PV. Likewise, sex, followed by cyber PV, were entered as predictors of coping strategies separately in response to cyber PV. Logistic regression results are presented in Tables 6 – 9.

Four-Factor Coping Model. Tables 6-7 present odds ratios and confidence intervals from logistic regressions for traditional PV types. Controlling for sex, several significant findings emerged. (See Table 6.) However, because coping outcomes differed significantly based on aggressor status (as discussed above), hierarchical logistic regressions also examined traditional PV types' contributions to coping strategy use while controlling for aggressor status (see Table 7). These two sets of analyses are discussed below.

First, the odds of endorsing denial increased by a factor of 1.56 for every unit increase in relational PV ($\beta = .44$, $p < .01$). Neither overt PV nor reputational PV were related to the use of denial coping when all other PV types were considered. After adding

aggressor status to the model, the previous relationship remained consistent. The odds of endorsing denial increased by a factor of 1.61 for every unit increase in relational PV after controlling for aggressor status and other PV types (β = .48, p <.01).

Second, no significant relationships between PV types and the odds of endorsing active coping emerged before or after controlling for aggressor status (see Tables 6 – 7). However, being classified as an aggressor increased the odds of endorsing active coping by a factor of 1.42 (β = .35, p <.05).

Third, the odds of endorsing aggressive/retaliatory coping increased by a factor of 1.56 for every unit increase in reputational PV (β = .44, p < .01) and by a factor of 2.23 for every unit increase in overt PV (β = .80, p < .001). Relational PV was not related to the use of aggressive coping. After adding aggressor status to the model, the odds of endorsing aggressive/retaliatory coping increased by a factor of only 1.42 with every unit increase in reputational PV (β = .35, p <.05), and by a factor of 1.75 for every unit increase in overt PV (β = .56, p <.01). Again, and unsurprisingly, being classified as an aggressor also increased the odds of using aggressive/retaliatory coping by a factor of 3.07 (β = 1.12, p <.001).

Fourth, similar analyses were conducted for cyber PV. (See Tables 8-9). Specifically, cyber PV contributed significantly to all three coping strategies in the four-factor model. Increased cyber PV was associated with increased odds of endorsing denial (by a factor of 2.90) (β = 1.07, p < .001), active coping (by a factor of 3.66) (β = 1.30, p < .001), and aggressive/retaliatory coping (by a factor of 6.01) (β = 1.79, p <.001). After adding aggressor status to the model, these relationships remained significant and of

similar strength. In addition, being classified as an aggressor increased the odds of endorsing aggressive/retaliatory coping by a factor of 4.10 ($\beta = 1.41$, $p < .001$).

Two-Factor Coping Model. Similar analyses were conducted for the two-factor model of coping (see Tables 6 – 9). For traditional PV (Tables 6 – 7), the odds of endorsing primary coping strategies increased by a factor of 1.45 for every unit increase in overt PV ($\beta = .37$, $p < .05$), and by a factor of 1.32 with every unit increase in reputational PV ($\beta = .27$, $p < .05$). Relational PV did not contribute to the use of primary control coping. After adding aggressor status to the model, the previous relationships were no longer significant. However, being classified as an aggressor increased the odds of endorsing primary control coping by a factor of 2.01 ($\beta = .70$, $p < .001$).

The odds of endorsing secondary coping strategies in response to traditional PV increased by a factor of 1.53 with every unit increase in relational PV ($\beta = .43$, $p < .01$), a relationship that remained consistent even after including aggressor status in the model (see Table 7).

Results for cyber PV revealed similar patterns with and without controlling for aggressor status (Tables 8 – 9). Specifically, the odds of endorsing primary coping strategies increased by a factor of 6.49 with every unit increase in cyber PV ($\beta = 1.87$, $p < .001$), and secondary coping strategies increased by a factor of 2.90 with every unit increase in cyber PV ($\beta = 1.07$, $p < .001$). In addition, being classified as an aggressor increased the odds of using primary control coping by a factor of 1.95 ($\beta = .67$, $p < .001$).

In summary, both traditional and cyber PV were related to coping strategy use, and the patterns of association were very similar, regardless of whether aggressor status was controlled or not. In general, the odds of using denial increased with greater

relational PV and with cyber PV. Only cyber PV contributed to increased odds of using active coping. Greater levels of overt PV, reputational PV and cyber PV all increased the odds of using this aggressive/retaliatory coping. Aggressor status also increased the odds of using active and aggressive coping in response to traditional PV. For cyber PV, aggressor status increased the odds of using aggressive/retaliatory coping. Parallel results were found in regards to the two-factor coping model, where the odds of using secondary coping increased with greater relational PV and cyber PV, whereas the odds of using primary coping increased with greater overt and reputational PV.

Exploratory Study Aims

Although not among the specific aims, the current study also examined several issues in an exploratory manner. These issues included disclosure of PV and the use of multiple coping strategies. Because of the limited knowledge about how adolescents cope with PV, these variables may also be of interest when trying to understand adolescents' response to both traditional and cyber PV.

Percentage of Disclosure The current study examined disclosure using an item on the DPE that asked who adolescents told about the PV. This item offered the following choices: a teacher, a parent, a friend, someone else, or no one. First, all adolescents responses were examined, and then differences based on gender and on aggressor status were examined, as detailed below.

Disclosure in General. The study examined percentages of adolescents who endorsed telling an individual in response to PV. (See Table 10.) The most common person an adolescent told was a friend: more than half of victimized adolescents reported telling a friend (65.3%). Approximately one quarter of adolescents reported telling a

parent and telling no one (29.9% told a parent, 24.3% told no one). Only 15.1% of victimized adolescents reported telling someone else, such as another relative or a counselor. Only 47 adolescents reported telling a teacher in response to traditional PV (5.5%). A similar picture emerged when examining who adolescents told in response to cyber PV. (See Table 10.)

Gender Differences in Disclosure. Table 11 presents disclosure by gender. For traditional PV, girls were more likely to report telling a parent ($\chi^2(1) = 19.71$, $p < .001$), friend ($\chi^2(1) = 26.52$, $p < .001$) and someone else than did boys ($\chi^2(1) = 5.89$, $p < .05$). No significant gender differences emerged in regards to telling a teacher or telling no one. Nearly identical results were obtained for social support in response to cyber PV (see Table 11).

Differences in Disclosure Based on Aggressor Status. As can be seen in Table 12, few differences in disclosure emerged based on aggressor status. Aggressors were more likely to report telling a friend (71.1%) in response to traditional PV than non-aggressors (62.9%) ($\chi^2(1) = 5.25$, $p < .05$). For cyber PV, aggressors (8.0%) were more likely to tell a teacher in response to cyber PV than non-aggressors (4.5%) ($\chi^2(1) = 4.35$, $p < .05$), and aggressors (78.3%) were more likely to tell a friend in response to cyber PV than non-aggressors (56.9%) ($\chi^2(1) = 34.68$, $p < .001$). Lastly, non-aggressors (25.2%) were more likely to report telling no one in response to cyber PV than aggressors (18.9%) ($\chi^2(1) = 4.00$, $p < .05$). In summary, aggressors were, overall, more likely to report telling an individual than were non-aggressors.

Unique Associations Between PV Types and Disclosure

Disclosure in Response to Traditional PV. Tables 13 and 14 present odds ratios and confidence intervals from logistic regressions for traditional PV types and disclosure. Similar to analyses used to evaluate Aim 2, aggressor status was added to logistic regression models due to significant differences in disclosure based on aggressor status. The odds of endorsing telling a parent increased by a factor of 1.29 with every unit increase in relational PV ($\beta = .26$, $p < .05$), a relationship that remained virtually unchanged by the addition of aggressor status to the model. For disclosure to a friend, the odds of endorsing telling a friend increased by a factor of 1.77 with every unit increase in relational PV ($\beta = .57$, $p < .001$). This relationship remained significant after adding aggressor status to the mode, with the odds increasing by a factor of 1.72 with every unit increase in relational PV ($\beta = .54$, $p < .001$).

Before considering aggressor status, the odds of endorsing telling someone else increased by a factor of 1.49 with every unit increase in relational PV ($\beta = .39$, $p < .01$). Again, this relationship between relational PV and telling someone else did remain significant ($\beta = .38$, $p < .05$). Traditional PV types did not significantly contribute to the odds of telling a teacher or endorsing telling no one, regardless of the inclusion of aggressor status.

Disclosure in Response to Cyber PV. As with analyses examining traditional PV types, logistic regressions predicting the odds of endorsing disclosure were completed in a hierarchical fashion, with gender on step one, followed by cyber PV on step two and aggressor status on step three. Before adding aggressor status to the model, the odds of telling a teacher increased by a factor of 2.22 with every unit increase in cyber PV ($\beta =$

.80, p <.01). However, the inclusion of aggressor status revealed that neither cyber PV nor aggressor status significantly predicted the odds of endorsing telling a teacher. Similarly, the odds of telling a parent increased by a factor of 1.63 with every unit increase in cyber PV before aggressor status was included in the model (β = .49, p <.05). However, after adding aggressor status, this relationship became non-significant.

Endorsing telling a friend was much more revealing. In the second step, the odds of telling a friend increased by a factor of 11.26 for every unit increase in cyber PV, by far the highest odds ratio found in the current study (β = 2.42, p <.001). With the addition of aggressor status, the odds of telling a friend increased by a factor of 8.41 with every unit increase in cyber PV (β = 2.13, p <.001). Further, being classified as an aggressor increased the odds of endorsing telling a friend by a factor of 1.67 (β = .52, p <.05). The odds of telling someone else increased by a factor of 2.55 with every unit increase in cyber PV before controlling for aggressor status (β = .94, p <.001). This relationship remained fairly constant after aggressor status was added to the model; the odds of endorsing telling someone else increased by a factor of 2.78 with every unit increase in cyber PV (β = 1.02, p <.001). Aggressor status did not significantly contribute to the model. Lastly, the odds of telling no one were not significantly predicted by cyber PV, before or after the inclusion of aggressor status in the model.

In summary, PV types differentially relate to disclosure from various individuals. Relational PV relates to the odds of telling a parent, telling a friend and telling someone else. Cyber PV significantly contributes to the odds of telling a teacher, a parent, and someone else. Neither traditional nor cyber PV contributed significantly to the odds of

telling no one, regardless of the inclusion of aggressor status. PV is an important contributor to the odds of endorsing social support, as is aggressor status in some cases.

Adolescents Endorsing Multiple Strategies

The current study also examined characteristics of adolescents who endorsed multiple coping strategies. First, t-tests and chi-square analyses were used to evaluate significant differences in demographic variables as well as other important study variables based on whether or not an adolescent endorsed multiple coping strategies. A student was classified as using multiple strategies if he or she endorsed 3 or more coping strategies, including any strategy in the four-factor coping model (denial, aggressive/retaliatory or active coping) as well as disclosure to others (telling a teacher, parent, friend or someone else). Regarding PV, adolescents classified as using multiple strategies in response to traditional PV reported higher overt PV (M = 1.37, SD = .53), $t(853) = 2.07$, $p < .05$, higher relational PV (M = 1.80, SD = .63), $t(853) = 5.12$, $p < .001$, and higher reputational PV (M = 1.66, SD = .76) , $t(851.10) = 5.38$, $p < .001$, than those who used fewer coping strategies (M = 1.30, SD = .48 for overt PV; M = 1.58, SD = .59 for relational PV; M = 1.41, SD = .60 for reputational PV). Adolescents using multiple strategies also reported higher levels of cyber PV (M = 1.44, SD = .43) than adolescents using less than three (M = 1.33, SD = .34), $t(825.92) = 5.26$, $p < .001$. Lastly, adolescents who used multiple strategies in response to traditional PV also reported higher levels of relational aggression (M = 1.64, SD = .57), $t(853) = 2.71$, $p < .01$, reputational aggression (M = 1.23, SD = .43), $t(852.92) = 2.46$, $p < .05$, and cyber aggression (M = .26, SD = .20), $t(851.61) = 4.89$, $p < .001$, than those who reported using less than three (M = 1.53, SD = .58 for relational aggression; M = 1.16, SD = .37 for reputational aggression; M = .20, SD

= .18 for cyber aggression). Adolescents who reported using multiple strategies in response to traditional PV did not differ from adolescents who reported using one or two strategies on other variables, such as age, grade, ethnicity, or overt aggression.

Adolescents who reported using multiple coping strategies in response to cyber PV presented a similar picture. These adolescents reported higher levels of overt PV (M = 1.39, SD = .54), $t(834.70) = 3.40$, $p < .01$, relational PV (M = 1.78, SD = .62), $t(853) = 4.04$, $p < .001$, and reputational PV (M = 1.70, SD = .74), $t(833.37) = 6.45$, $p < .001$, than those who used fewer strategies (M = 1.28, SD = .46 for overt PV; M = 1.61, SD = .61 for relational PV; M = 1.39, SD = .62 for reputational PV). Adolescents who reported using multiple strategies in response to cyber PV also reported higher levels of cyber PV (M = 1.48, SD = .43) than those who reported using one or two strategies (M = 1.27, SD = .31), $t(778.66) = 8.26$, $p < .001$. Lastly, adolescents who reported using multiple strategies reported higher levels of overt aggression (M = 1.33, SD = .58), $t(828.24) = 2.72$, $p < .01$, relational aggression (M = 1.67, SD = .59), $t(853) = 4.31$, $p < .001$, reputational aggression (M = 1.24, SD = .44), $t(842.67) = 2.54$, $p < .05$, and cyber aggression (M = .28, SD = .20), $t(843.20) = 7.99$, $p < .001$, than those who reported using fewer coping strategies (M = 1.23, SD = .48 for overt aggression; M = 1.50, SD = .55 for relational aggression; M = 1.17, SD = .39 for reputational aggression; M = .18, SD = .17 for cyber aggression). Adolescents who reported using multiple strategies in response to cyber PV did not differ from adolescents who reported using one or two strategies on other variables, such as age, grade, or ethnicity.

Significant gender differences also emerged among adolescents who used multiple strategies. Girls (60.5%) were more likely to report using multiple strategies in

response to traditional PV than boys (45.2%) ($\chi^2(1) = 19.09$, $p < .001$), and were also more likely to report using multiple strategies in response to cyber PV (57.0%) than boys (40.1%) ($\chi^2(1) = 23.22$, $p < .001$). Further, these adolescents differed based on aggressor status, as implied by the higher levels of aggression revealed in the t-tests. Adolescents who reported using multiple strategies in response to traditional PV were more likely to be classified as aggressors (61.8%) than those who reported using only one or two strategies (51.5%) ($\chi^2(1) = 7.64$, $p < .01$). Similar results emerged in regards to cyber PV, in which adolescents who reported using multiple strategies were more likely to be classified as aggressors (63.5%) than those who reported using only one or two strategies (45.0%) ($\chi^2(1) = 23.91$, $p < .001$).

In summary, adolescents who reported using multiple strategies in response to either traditional or cyber PV reported higher levels of several types of PV and aggression than those who reported using only one or two strategies. These adolescents were also more likely to be girls, and also more likely to be aggressors.

Chapter 4: Discussion

PV is a well-established stressor in adolescence, affecting approximately 30-50% of school-aged youth in the United States (Dinkes, Cataldi, & Lin-Kelly, 2007; Williams & Veeh, 2012). Coping behaviors in adolescence are not well understood, and represent an important gap in understanding risk and resilience factors for this critical developmental period. The current study sought to understand how adolescents cope with PV, a commonly experienced and harmful stressor. In the sections below, key study findings are discussed in detail.

Aim 1, Hypothesis 1: Prevalence of Types of Coping Strategies

The first aim of this study was to examine percentages of adolescents who endorsed each coping strategy in response to both traditional and cyber PV. Hypothesis 1 predicted that denial would be the most common strategy endorsed, and that retaliation would be the least common strategy endorsed. Using the four-factor model of coping, denial was the most common coping strategy endorsed among adolescents for both traditional and cyber PV. This finding is consistent with a previous study that found that the majority of adolescents responded to PV with passive strategies, such as walking away, ignoring the aggressor, or reframing the experience into something less serious or detrimental (Waasdorp & Bradshaw, 2011). Another study found that peer stress was associated with higher levels of disengagement coping, which included denial, avoidance, and wishful thinking (Sontag & Graber, 2010). It is possible that denial coping is so common because it is an easy strategy to employ. It does not require any behavioral action, but rather an adolescent simply has to employ cognitive skills in response to coping.

After careful consideration of the adolescent responses in the current study, it should be noted that the label "denial" may not adequately describe the corresponding coping strategies. Denial has had a negative connotation, as reflected in studies of relationship quality, environmental inaction, drug use, homophobia and sexual abuse (e.g., Adams, 2014; Lannin, Bittner, & Lorenz, 2013; Nunes, & Jung, 2013; Wooley, Rogers, Fiduccia, & Kelsey, 2013). However, adolescents' free-responses that were coded as denial appeared to more accurately reflected strategies better thought of as positive reappraisal, cognitive restructuring, distraction, or efforts to downplay or minimize the severity of the incident. These strategies might be conceptualized as "cognitive coping" and should be examined further in future studies of adolescent coping with PV.

The second most commonly reported coping strategy was active coping. This category consisted of responses that indicated a deliberate, prosocial action, such as confronting the aggressor in a nice way, trying to be kind to the aggressor, or contacting an adult or supervisor. These results are somewhat consistent with a study by Griffith and colleagues (2000), in which adolescents reported comparable levels of approach (active) and avoidance (denial) coping in response to peer stressors.

The least common coping strategy endorsed was ruminative coping, with less than .1% of adolescents reporting it after either traditional or cyber PV. Therefore, it was excluded from subsequent analyses, but remains an interesting area of future research. Without a forced-choice question on the DPE, it is possible that adolescents did not feel comfortable using the free-response section to describe their rumination, or, possibly, adolescents did not conceptualize their rumination as a coping strategy and therefore did

not report it as such. Certainly, it is also possible that few adolescents respond to PV experiences with rumination. However, without more study, a definitive explanation cannot be offered.

Of the three coping strategies used in subsequent analyses, aggressive/retaliatory coping was the least common, both for traditional and cyber PV. The aggressive/retaliatory category included respondents who indicated on the DPE that they retaliated against the aggressor, as well as those who indicated in the open-ended response that they argued with the aggressor, scared the aggressor, or fought physically. Overall, the prevalence of adolescents' coping strategies were very similar to the groups identified by Waasdorp and Bradshaw (2011), who found that victimized students responded using either passive coping, active/support-seeking, or aggressive coping.

The two-factor model of coping presented by Band and Weisz (1988), differentiating between primary and secondary control coping, was also applied to the current study. Among victimized adolescents, secondary control coping strategies were the most commonly endorsed, and included attempts to influence the impact a stressful experience has by adapting oneself to fit the conditions rather than attempting to change the conditions themselves (Weisz, Francis & Bearman, 2010). This category of coping was almost identical to that of denial in the four-factor coping model. Primary strategies (e.g., attempts to change the environment in which the stressor is occurring, such as confronting the aggressor or retaliating) made up approximately 49% of adolescents' responses. These strategies were largely made up of the same coping responses categorized as active or aggressive coping in the four-factor model. The prevalence of primary and secondary coping responses was consistent across traditional and cyber PV.

In summary, regardless of the coping model used, the findings supported the first study hypothesis that denial would be the most common coping strategy endorsed in response to traditional PV. However, the current study hypothesized that retaliation would be endorsed more often than other strategies in response to cyber PV, and this was not supported. In fact, denial was also the most common coping strategy in response to cyber PV. Similarly, secondary control coping (which largely reflected denial) was most commonly endorsed for the two-factor coping model in response to both traditional and cyber PV.

In general, it seems that the four-factor model captures more nuanced variation in adolescent coping than the two-factor model. For example, approximately 48% of adolescents endorsed primary coping and approximately 70% of adolescents endorsed secondary coping strategies. These percentages are comparable to denial (approximately 70% both in response to cyber and in response to traditional PV). However, the four-factor model also captured adolescents who endorsed coping strategies that are not entirely captured in the dichotomous coping model. Specifically, those 48% of adolescents who endorsed primary control coping can be further broken down into approximately 40% who endorsed active coping and approximately 20% who endorsed aggressive/retaliatory coping. For example, “I confronted the aggressor in a nice way” and “I punched him in the face” are both primary responses, but the former would be classified as active while the latter would fall into an aggressive coping category in the four-factor model. The current study generally favors the four-factor model – even though it is unclear whether the “ruminative” coping category is appropriate for capturing adolescents’ response to traditional and cyber PV.

Aim 1, Hypothesis 2: Differences in Coping Strategy Use Based on Gender

The second study hypothesis focused on gender differences in coping. Some predictions were supported, while others were not. Specifically, consistent with expectations, boys were more likely to respond using aggressive coping than were girls. In keeping with findings from Matos et al. (2008), where boys reported more problem-focused coping, adolescent boys responded to traditional PV with by retaliatory means. In addition, boys are more likely to be classified as bully-victims, or those students who both perpetrate high levels of peer aggression and are also victims of peer aggression themselves. These students have reported higher levels of all types of PV, higher maladjustment, more externalizing problems, and are at a higher risk for future involvement in violence than students who are just victims or just aggressors (e.g., Pellegrini, Bartini, & Brooks, 1999; Yang & Salmivalli, 2013). The reported aggressive coping in the current study could be conceptualized solely as peer aggression for those students who might otherwise be classified as "bully-victims".

In addition, as expected, boys were less likely to respond using denial coping than girls. Some existing research points to girls being more likely to employ emotion-focused strategies than boys (e.g., Matos et al., 2008; Rijavec & Brdar, 1997), but findings are generally mixed. As mentioned above, it is possible that boys were more likely to respond with reactive aggression, possibly after employing denial-like strategies ineffectively. Another possible explanation for boys reporting less denial comes from a social standpoint. Researchers have found that the traditional male role encourages an outward demonstration of aggression, rather than passivity (Campbell, 2006).

One unexpected finding arose when examining gender differences in response to cyber PV, in that girls were more likely to use active coping than boys. Likewise, girls were more likely to use primary control coping than boys, which is expected given the high correlation between active coping and primary coping. Although these findings, in general, were unexpected, other studies indirectly suggest that girls might be more likely to use active coping strategies than boys. First, girls reported higher levels of cyber PV than boys. Thus, it is possible that girls have more opportunities to use any type of coping in response to cyber PV. Second, support seeking, an example of active coping, is more often employed by adolescent girls (e.g., Rijavec & Brdar, 2002; Stark, Spirito, Williams, & Guevremont, 1989). Thus, girls may be more likely than boys to actively seek support in response to cyber PV. In fact, responses to the open-ended coping questions suggested that adolescent girls told a parent, cut off contact with a cyber aggressor, or contacted the website to report the PV. In response to traditional PV, girls also reported more active coping than did boys, although this difference was not significant. Lastly, Matos et al. (2008) found that girls relied on emotion-focused coping that included relaxation, social support, and relationship investment, all of which can be categorized as active coping methods.

Aim 1, Hypothesis 3: Differences in Coping Strategy Use Based on Aggressor Status

The third study hypothesis predicted that aggressors would report more retaliation and less denial than non-aggressors, and that aggressors would also report more primary control coping than non-aggressors. As expected, aggressors were more likely to endorse aggressive/retaliatory coping methods than non-aggressors. One possible explanation can be found in literature regarding reactive aggression. Children with reactive aggression

have been characterized by poor emotion regulation, low frustration tolerance, and have been described as unpopular, oversensitive and impulsive (Crick & Dodge, 1996; Law & Fung, 2013; Walters, 2007). These students may be at a higher risk of experiencing PV, and then may be reactively responding with aggressive coping. Another explanation for the finding that aggressors were more likely to respond with aggressive coping might be found in the emotion regulation literature. For example, Herts, McLaughlin & Hatzenbuehler (2012) found that emotion dysregulation mediated the relationship between PV and engagement in aggressive behaviors. It is possible that these students are experiencing PV, but lack the emotion regulation resources to respond in a constructive way. The cross-sectional nature of the current study may account for the presence of the relationship between aggressors and aggressive coping, since no temporal claim can be made.

In addition, the current study found that aggressors were also more likely to report using active coping than non-aggressors in response to both traditional and cyber PV. Given the pro-social nature of active coping, as defined by Sandstrom (2004), these findings are surprising. It is possible that aggressors (who are also victims of peer aggression) try and fail to resolve conflict in a non-aggressive manner before resorting to aggressive actions. Further, it is possible that these adolescents respond with reactive aggression after their active strategy did not result in the desired outcome. The two-factor coping model yielded similar results. Aggressors were more likely to utilize primary coping than non-aggressors, seemingly attempting to change the environment in which their negative peer experience occurred by retaliating.

In summary, denial was the most common coping strategy employed by victimized adolescents. Active coping was employed by a little less than half of the adolescents in response to PV, followed by aggressive/retaliatory coping. These findings are confirmed by the two-factor model, which found that secondary control coping (like denial) was the most commonly endorsed coping strategy, followed by primary control coping (consisting of active and aggressive responses). Patterns of coping were nearly identical in response to traditional and cyber PV, demonstrating that coping may not need to be studied separately in response to traditional and cyber PV, and that future studies should examine coping in response to PV as a whole. In addition, aim 1 demonstrated that, in general, girls were more likely to respond using both denial and active coping than boys, whereas boys were more likely to respond with retaliation than girls. Lastly, aggressor status accounted for some differences in coping, with aggressors being more likely to respond with active or aggressive coping than non-aggressors.

Aim 2: Unique Associations Between PV Types and Coping Strategies

Aim 2 examined the association between PV types and coping strategies. In regards to traditional types of PV, findings revealed that relational PV was associated with increased odds of using denial, the most commonly endorsed coping strategy. These findings may be related to the nature of relational PV's widespread effects on social functioning. Specifically, relational PV has been linked with greater social anxiety concurrently and over time (La Greca & Harrison, 2005; Siegel et al., 2009). Social anxiety has been linked with social withdrawal or disengagement, poor communication skills and maladaptive coping strategies such as co-rumination (Erath, Flanagan, & Bierman, 2007). Thus, it is possible that adolescents experiencing relational PV also

experience symptoms of social anxiety. They may not only physically withdraw or distance themselves from social interactions, but also cognitively withdraw using denial coping strategies. In addition, it is possible that these socially anxious and relationally victimized adolescents do not possess the social resources to employ active or aggressive coping strategies (e.g. La Greca & Lopez, 1998).

Overt PV was associated with an increased likelihood of aggressive/retaliatory coping responses, both before and after controlling for aggressor status. These findings are consistent with a large body of research describing a relationship between overt PV and externalizing problems (e.g. Prinstein et al., 2001; Vernberg, 1990). Further, it is possible that adolescents would feel the need to resort to self-defense in the face of increased overt PV, which may manifest as aggressive coping. In addition, researchers have established strong correlations between overt victimization and overt aggression in children, which may account for the current study's findings (e.g., Crick & Bigbee, 1998).

Reputational PV was only associated with an increased likelihood of using aggressive coping. This relationship remained significant even after aggressor status was controlled. It is possible that adolescents respond with reactive aggression, especially when another coping strategy is not employed effectively. For example, some adolescents began their responses with a statement about trying to ignore the negative experience, but then transitioned to an aggressive response (e.g. "Try to ignore them; if they keep bothering me resolve it and if that doesn't succeed then retaliate"; "At first I tried to ignore it but she would not leave me alone so we ended up fighting"). This may point to

an initial, ineffective attempt to ignore rumors or gossip, followed by a reaction of aggression.

Cyber PV was associated with increased odds of using all coping strategies examined. Cyber PV can be particularly damaging, with several studies finding negative impacts that went above and beyond those traditional forms of PV, and including internalizing symptoms, poor school functioning, and somatic symptoms (e.g., Campbell, 2005; Slonje & Smith, 2008; Wigderson & Lynch, 2013). Due to its widespread negative effects, it is possible that adolescents are more likely to employ any coping strategy they can in response to cyber PV.

One of the strongest relationships was observed with aggressive/retaliatory responses. Adolescents' likelihood of using aggressive coping increased nearly five-fold as cyber PV increased one unit. As previous studies have shown, acting aggressively on electronic media may be a fairly easy response; with the anonymity that social networking or texting offers, as well as the wide audience an adolescent can reach, the nature of electronic media may facilitate aggressive responses (Wright & Li, 2013a). In addition, one study found that cyber PV was related to increased cyber aggression to a greater extent when adolescents were also experiencing high levels of traditional PV (Wright & Li, 2013b). Future studies should examine the relationship between cyber PV and aggressive coping as it relates to traditional PV levels.

Although strong associations were observed between cyber PV and increased odds of using all coping responses, these results should be interpreted with caution. Models testing cyber PV's prediction of coping strategy use did not control for the other

types of PV. Therefore, results may reflect an overestimate of cyber PV's contribution to the likelihood of coping strategy use.

In summary, unique associations emerged between PV types and coping strategies, controlling for other PV types as well as for aggressor status. Relational PV was associated with increased odds of denial, while overt and reputational PV were both associated with increased odds of aggressive coping. Active coping was only significantly related to aggressor status, such that being classified an aggressor increased the odds of using active coping. Cyber PV was associated with increased odds of using all types of coping. These findings offer some foundational support for future research, which should measure coping with PV in more direct ways.

Exploratory Analyses

Although exploratory, the current study also examined two additional issues. These were disclosure of PV as a potential coping strategy, and characteristics of adolescents who reported using multiple coping strategies.

Disclosure of PV. Of note from the examination of disclosure, no more than 6% of adolescents reported telling a teacher about traditional or cyber PV. This is consistent with a large body of research demonstrating that many children and adolescents do not disclose their PV experiences (e.g., Mishna & Alaggia, 2005; Pepler, Craig, Ziegler, & Charach, 1994; Sharp, 1996). Adolescents most commonly reported telling a friend, with fewer telling a parent or someone else. Similar findings were obtained in the present study both for traditional and cyber PV.

Considering that the majority of face-to-face PV experiences occur within the school setting, finding that very few adolescents disclose these experiences to their

teachers is unsettling. One adolescent offered some insight into his own reluctance to disclose PV, explaining that he would "tell a parent but not a teacher, because they're not trustworthy." Further research is needed to understand why adolescents do not disclose to their teachers, but this represents an interesting area of future study and possible intervention development. For example, a preventive intervention establishing certain teachers as safe adults to whom adolescents can disclose could address this discrepancy.

The current study also examined differences in disclosure based on gender and aggressor status. In general, girls were more likely to report telling anyone in response to both traditional and cyber PV. This notion is consistent with several studies finding that girls seek social support far more often than boys (e.g., Copeland & Hess, 1995; Frydenberg & Lewis, 1991; Williams & McGillicuddy-De Lisi, 1999). In regards to aggressor status, aggressors were more likely to report telling someone in response to both traditional and cyber PV than were non-aggressors. Non-aggressors, on the other hand, were more likely to report that they told no one. The current findings seem to diverge from previous research. For example, Völlink and colleagues (2013) found that very few bullies or bully-victims (both of whom may be aggressive) disclosed their experiences with cyber PV to someone else. Taken together with findings that aggressors were more likely to use active and aggressive coping, it is possible that these adolescents are attempting many different responses to deal with PV experiences, perhaps without finding successful results. Future research should further examine characteristics of adolescents classified as aggressors. If these aggressors are distressed enough by their PV experiences to disclose them, interventions could target aggressors to increase empathy and decrease aggression perpetrated on peers. Further, more information is warranted

about what the content or intent of disclosure is for these adolescents. It is possible that they are seeking help or support for their victimization experiences. Also possible is that the disclosure is meant to damage another's reputation, or an attempt to get another adolescent in trouble. For some, the act of disclosure may be an aggressive one.

Unique associations between PV types and disclosure were also examined to further understand relationships between high levels of various PV types and adolescents' likelihood of telling others. As discussed above, although relational PV did not predict an increase in the odds of any of the coping strategies included in the four-factor model, relational PV was associated with an increase in the odds of telling a parent, a friend, and someone else. Given that relational PV involved "relational" issues, such as social exclusion, it is not surprising that victims might reach out to another person for support or help with their relationships.

In summary, further research is needed to understand the function and content of disclosure in response to PV. Few adolescents disclosed to teachers, but many disclosed to friends, parents, or someone else. Girls were more likely to disclose PV in general, as were adolescents classified as aggressors. However, the current study was not able to evaluate whether these adolescents were disclosing in order to seek help or support, or to damage another's reputation. Therefore, future studies should seek to understand what it means to disclose PV.

Use of Multiple Coping Strategies. A second exploratory issue pertained to adolescents who reported using several coping strategies as opposed to only one or two. As Waasdorp and Bradshaw (2011) found, many adolescents who are characterized by high levels of indirect PV (relational and reputational, specifically) have a tendency to

report using multiple coping strategies. Thus, the current study evaluated the characteristics of adolescents who reported using multiple strategies.

First, consistent with Waasdorp and Bradshaw (2011), adolescents who reported using multiple strategies also reported higher levels of all PV types and higher levels of relational, reputational, and cyber aggression than those who reported using one or two strategies. Further, these adolescents were more likely to be girls than boys, and were more likely to be classified as aggressors than non-aggressors. As a whole, this group of adolescents warrants further study, possibly because employing so many coping strategies might suggest an inability to successfully use any. It is also possible that these adolescents have more PV to deal with and thus are trying out various approaches to dealing with aversive peer experiences. The cross-sectional nature of the current study limited its ability to know the sequence of events. Therefore, longitudinal studies should examine the possible sequence of events that might explain these results. For example, it is possible that an adolescent's coping in response to PV is ineffective and led to further victimization, which in turn led to an attempt to use different coping strategies. Further, future studies should evaluate how these adolescents fare, since their higher levels of PV and aggression put them at risk for worse adjustment outcomes.

In summary, adolescents who reported using multiple coping strategies also reported higher levels of PV and aggression. These adolescents, who were more likely to be girls and to be classified as aggressors, represent an interesting area of future study. The current study cannot answer questions about a possible chain of events leading to the use of multiple strategies, but it does highlight those adolescents that are at an increased

risk for poor outcomes and could serve to inform future research as well as intervention efforts.

Study Limitations and Future Directions

Despite its contribution to the understanding of coping with PV in adolescence, the present study was limited by a number of factors that may temper the conclusions that can be drawn from the findings. First, the measurement of coping in the current study is a study limitation. The DPE was developed for this study and thus it was not normed or standardized on an adolescent sample. Thus, its reliability and validity is unknown. However, results from the current study suggest that, at the very least, the DPE reliably captures coping strategies across PV types. Regarding validity, the DPE successfully captured coping across two comparable coping models, thus tapping into what previous literature has already conceptualized as coping. However, future research would benefit from further refinement of the scale, including adding additional items that reflect ruminative coping as well as disclosure and social support.

Second, conclusions regarding the associations between PV types and coping strategies should be interpreted cautiously. Because the current measure of coping did not directly link individual PV experiences with specific coping strategies, relationships discussed above are merely statistical associations. The DPE was an important, if somewhat crude, first step in understanding how adolescents cope with PV. However, future studies would benefit from a unified measurement process in which adolescents respond to questions that link PV types to coping responses.

Third, although coding procedures were planful and thorough, the coping measure employed was not structured to directly evaluate any one theoretical model of coping.

While the information gleaned from the open responses was rich, future studies should examine the four-factor coping model's goodness of fit for adolescent coping. Of note was the wide variety of open-ended responses that fell under the category of denial coping. It is possible that further differentiation among these strategies would offer a better understanding of adolescent coping, as well as help discriminate between adaptive and maladaptive strategies. Future studies should also attempt to gather enough data on the denial category to allow narrower distinctions, something that the current study was unable to do. Lastly, future studies should seek to understand what it means when adolescents disclose their PV experiences, as well as incorporate items that capture social support. As was seen in the current study, although adolescent coping responses can fit into previously established coping models, their responses also span a wider array of categories not accounted for in current coping models.

Fourth, the data analyzed were cross-sectional, thus prohibiting any causal inferences or statements about directionality. Without a more refined measure of coping as described above, along with longitudinal data, it will not be possible to determine whether specific PV types uniquely predict certain coping strategies. Further, longitudinal data is imperative for future studies that wish to expand on the current study by examining the effectiveness of certain coping strategies. By developing a well-normed coping measure that links PV types to coping strategies, as well as to measures of adjustment or psychopathology, researchers can pose questions about the adaptiveness of the coping strategies in the four-factor (or other) model.

Fifth, the current study did not assess other variables related to coping behavior that may be important for understanding underlying processes. For example, emotion

regulation, social information processing, and internalizing symptoms are often important predictors of coping strategy use, and warrant further study in relation to adolescent PV (Bellmore, Chen, & Rischall, 2013; Zalewski, Lengua, Wilson, Trancik, & Bazinet, 2011). Future studies should include these variables to obtain a more complete picture of factors that contribute to adolescent coping with PV and which may mediate associations between PV and coping.

Lastly, the current study is limited by the sample of adolescents analyzed. Adolescents with missing data were not included in logistic regression analyses. However, these adolescents reported higher overt PV, as well as higher overt and reputational aggression, so it is possible that some of the most victimized and/or aggressive adolescents were not represented in the sample. Further, although the subsample was ethnically diverse, the adolescents were predominantly Hispanic. Although Hispanic individuals are members of one of the fastest growing populations in the United States, and as such warrant much study, the current study may not generalize to other ethnic groups. It will be important for future research to replicate the current findings in other ethnic groups to examine possible differences in PV experiences and coping behaviors.

Summary and Implications

The current study has several important practical implications. First, efforts to reduce the negative impact of adolescent PV might benefit from helping adolescents increase their coping self-efficacy or teaching them more effective coping skills (Devonport & Lane, 2014; Reeves, Nicholls, & McKenna, 2011) for dealing with PV. With rare exception (e.g., La Greca, Mufson, Ehrenreich-May, Girio-Herrera, Chan, &

Ehrlich, 2014), current efforts to enhance adolescents' coping with stress (e.g., Conrod, Castellanos-Ryan, & Strang, 2010; Reed-Knight, McCormick, Lewis, & Blount, 2012; Whittemore et al., 2012) are not geared specifically toward PV, despite the need to help adolescents deal with PV and its potentially damaging effects. Future intervention efforts should focus on increasing effective coping in adolescents, while being mindful of the high prevalence of denial coping in response to PV.

Second, future interventions to enhance adolescents' management of interpersonal stress can also benefit from some of the exploratory findings in the current study. Namely, it appears that few adolescents disclose their PV experiences to others, especially adults. Future interventions might aid adolescents in identifying a trusted adult to whom they can disclose, and who might thus be able to help them cope with aversive peer experience. In addition, interventions should pay especially close attention to adolescents who employ multiple coping strategies, as they may represent a highly distressed group. Lastly, intervention efforts for adolescent PV should address aggressors and victims separately, as aggressors and victims differ on coping strategy use and disclosure.

In sum, the present study offers a preliminary understanding of how adolescents cope with PV, suggests areas of future study that will further illuminate this understudied area, and proposes important factors to integrate into intervention programs targeting PV.

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Table 1. Means and Standard Deviations of Study Variables

Variable	**Mean (SD) for Total Sample *n* = 1064**	**Mean (SD) for PV Subsample *n* = 855**	**Ranges**
Age	15.81 (1.22)	15.78 (1.22)	13-19
Peer Victimization			
Overt PV	1.32 (.50)	1.34 (.51)	1-4.33
Relational PV	1.63 (.63)	1.70 (.62)	1-5
Reputational PV	1.51 (.70)	1.55 (.70)	1-5
Cyber PV	1.34 (.39)	1.38 (.39)	1-5
Aggression			
Overt aggression	1.28 (.53)	1.28 (.53)	1-5
Relational aggression	1.55 (.57)	1.59 (.57)	1-4.33
Reputational aggression	1.20 (.42)	1.20 (.41)	1-4.67
Cyber aggression	.22 (.19)	.23 (.19)	0-1

Table 2. Percentage of Adolescents who Endorsed Coping Strategies in Response to PV (n = 855)

Coping Strategy	% Endorsed in Response to Traditional PV	% Endorsed in Response to Cyber PV
Four-Factor Coping Model		
Denial	76.7	67.6
Active	41.2	37.9
Aggressive/Retaliatory	19.9	20.1
Ruminative	.1	.2
Two-Factor Coping Model		
Primary	49.4	47.1
Secondary	76.8	67.6

Table 3. Significant Differences in Coping Strategy Use Among Genders

Coping Strategy	**In Response to Traditional PV**		**In Response to Cyber PV**	
	Males (*n* = 334)	**Females (*n* = 521)**	**Males (*n* = 334)**	**Females (*n* = 521)**
Four-Factor Coping Model				
Denial	71.6%**	80.0%**	62.9%*	70.6%*
Active	37.7%	43.4%	31.7%**	41.8%**
Aggressive/ Retaliatory	23.4%*	17.7%*	23.7%*	17.9%*
Two-Factor Coping Model				
Primary	46.4%	51.2%	41.9%*	50.5%*
Secondary	71.6%**	80.2%**	62.9%*	70.6%*

*$p < .05$ **$p < .01$ ***$p < .001$

Table 4. Significant Differences in Coping Strategy Use Among Aggressors and Non-Aggressors

Coping Strategy	**In Response to Traditional PV**		**In Response to Cyber PV**	
	Aggressors (*n* = 249)	**Non-Aggressors (*n* = 606)**	**Aggressors (*n* = 249)**	**Non-Aggressors (*n* = 606)**
Four-Factor Coping Model				
Denial	75.9%	77.1%	69.9%	66.7%
Active	49.0%**	38.0%**	47.4%***	34.0%***
Aggressive/ Retaliatory	37.3%***	12.7%***	42.6%***	10.9%***
Two-Factor Coping Model				
Primary	64.7%***	43.1%***	66.3%***	39.3%***
Secondary	76.3%	77.1%	69.9%	66.7%

*$p < .05$ **$p < .01$ ***$p < .001$

Table 5. Bivariate Correlations Among Key Study Variables (n = 855)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Overt PV	**1**														
2. Relational PV	**.22*** **	**1**													
3. Reputational PV	**.43*** **	**.34*** **	**1**												
4. Cyber PV	**.38*** **	**.39*** **	**.55*** **	**1**											
5. Aggressor Status	**.38*** **	**.26*** **	**.32*** **	**.46*** **	**1**										
6. Gender	**-.19*** **	**.07**	**.17*** **	**.08**	**-.08**	**1**									
7. Denial (C)	**.02**	**.07**	**.10***	**.16*** **	**.08**	**.06**	**1**								
8. Active (C)	**.10***	**.12*** **	**.13*** **	**.23*** **	**.13*** **	**.10***	**.10***	**1**							
9. Aggressive (C)	**.24*** **	**.06**	**.23*** **	**.29*** **	**.36*** **	**-.07**	**-.06**	**.17*** **	**1**						
10. Denial (T)	**-.01**	**.12*** **	**.10***	**.11*** **	**-.01**	**.10***	**.38*** **	**.09***	**.02**	**1**					
11. Active (T)	**.06**	**.09***	**.09***	**.13*** **	**.10***	**.06**	**.08**	**.44*** **	**.09***	**.09***	**1**				
12. Aggressive (T)	**.25*** **	**.05**	**.19*** **	**.20*** **	**.28*** **	**-.07**	**-.01**	**.11*** **	**.50*** **	**-.05**	**.17*** **	**1**			
13. Primary (C)	**.15*** **	**.12***	**.20*** **	**.30*** **	**.25*** **	**.08**	**.04**	**.83*** **	**.53*** **	**.05**	**.35*** **	**.29*** **	**1**		
14. Secondary (C)	**.02**	**.07**	**.10***	**.16*** **	**.03**	**.08**	**1.00*** **	**.10***	**-.06**	**.38*** **	**.08**	**-.01**	**.04**	**1**	
15. Primary (T)	**.13*** **	**.10***	**.15*** **	**.17*** **	**.20*** **	**.05**	**.06**	**.37*** **	**.25*** **	**-.04**	**.84*** **	**.51*** **	**.42*** **	**.06**	**1**
16. Secondary (T)	**-.01**	**.12***	**.10***	**.13***	**-.01**	**.10***	**.38*** **	**.10***	**-.06**	**1.00*** **	**.01**	**-.05**	**.06**	**.38*** **	**-.05**

**p < .01 ***p < .001

Note. PV = Peer Victimization; C = Cyber victimization; T = Traditional PV.

Tables 6 and 7. Logistic Regression Results Examining Traditional PV Types' Contribution to Odds of Coping Strategy Use, with and without Aggressor Status (n = 855)

	Four-Factor Coping Model						Two-Factor Coping Model			
	Denial		Active		Aggressive/Retaliatory		Primary		Secondary	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Step 1										
Sex (Girls = 1)	1.40	.99 – 1.98	1.23	.91 – 1.67	.74	.50 – 1.08	1.21	.90 – 1.63	1.42*	1.00 – 2.00
Step 2										
Overt PV	.83	.57 – 1.20	1.13	.83 – 1.55	2.23***	1.57 – 3.16	1.45*	1.05 – 2.01	.83	.57 – 1.19
Relational PV	1.56**	1.14 – 2.12	1.24	.98 – 1.56	.85	.63 – 1.15	1.20	.95 – 1.52	1.53**	1.13 – 2.09
Reputational PV	1.30	.96 – 1.76	1.15	.91 – 1.45	1.56**	1.19 – 2.04	1.32*	1.04 – 1.67	1.30	.96 – 1.76

*p < .05 **p < .01 ***p < .001

	Four-Factor Coping Model						Two-Factor Coping Model			
	Denial		Active		Aggressive/Retaliatory		Primary		Secondary	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Step 1										
Sex (Girls = 1)	1.37	.97 – 1.94	1.26	.93 – 1.71	.78	.53 – 1.15	1.27	.94 – 1.72	1.39	.99 – 1.97
Step 2										
Overt PV	.88	.60 – 1.29	1.04	.75 – 1.44	1.75**	1.21 – 2.52	1.24	.89 – 1.73	.87	.60 – 1.28
Relational PV	1.61**	1.18 – 2.20	1.19	.94 – 1.51	.73	.53 – 1.00	1.11	.87 – 1.42	1.58**	1.16 – 2.16
Reputational PV	1.34	.99 – 1.83	1.11	.88 – 1.40	1.42*	1.07 – 1.87	1.22	.96 – 1.56	1.34	.98 – 1.82
Step 3										
Aggressor (yes =1)	.76	.51 – 1.13	1.42*	1.02 – 1.97	3.07***	2.07 – 4.55	2.01***	1.43 – 2.82	.79	.53 – 1.18

*p < .05 **p < .01 ***p < .001

Tables 8 and 9. Logistic Regression Results Examining Cyber PV's Contribution to Odds of Coping Strategy Use, with and without Aggressor Status (n = 855)

	Four-Factor Coping Model						Two-Factor Coping Model			
	Denial		Active		Aggressive/Retaliatory		Primary		Secondary	
	OR	**95% CI**	**OR**	**95% CI**	**OR**	**95% CI**	**OR**	**95% CI**	**OR**	**95% CI**
Step 1										
Sex (Girls = 1)	1.34	1.00 – 1.80	1.45*	1.08 – 1.96	.59**	.42 – .85	1.30	.97 – 1.73	1.34	1.00 – 1.80
Step 2										
Cyber PV	2.90***	1.83 – 4.59	3.66***	2.45 – 5.45	6.01***	3.85 – 9.40	6.49***	4.16 – 10.14	2.90***	1.83 – 4.59

*$p < .05$ **$p < .01$ ***$p < .001$

	Four-Factor Coping Model						Two-Factor Coping Model			
	Denial		Active		Aggressive/Retaliatory		Primary		Secondary	
	OR	**95% CI**	**OR**	**95% CI**	**OR**	**95% CI**	**OR**	**95% CI**	**OR**	**95% CI**
Step 1										
Sex (Girls = 1)	1.30	.97 – 1.76	1.48*	1.10 – 1.99	.68*	.47 – .99	1.41*	1.05 – 1.90	1.30	.97 – 1.76
Step 2										
Cyber PV	3.41***	2.03 – 5.73	3.35***	2.14 – 5.27	2.77***	1.68 – 4.54	4.40***	2.71 – 7.15	3.41***	2.03 – 5.73
Step 3										
Aggressor (yes = 1)	.77	.53 – 1.12	1.15	.81 – 1.64	4.10***	2.75 – 6.12	1.95***	1.37 – 2.77	.77	.53 – 1.12

*$p < .05$ **$p < .01$ ***$p < .001$

Table 10. Percentage of Adolescents Who Endorsed Disclosing in Response to PV (*n* = 855)

Who Did You Tell?	**% Endorsed in Response to Traditional PV**	**% Endorsed in Response to Cyber PV**
Told a Teacher	5.5	5.5
Told a Parent	29.9	27.1
Told a Friend	65.3	63.2
Told Someone Else	15.1	16.0
Told No One	24.3	23.4

Table 11. Significant Differences in Disclosure Among Genders

Disclosure	**In Response to Traditional PV**		**In Response to Cyber PV**	
	Males (*n* = 334)	**Females (*n* = 521)**	**Males (*n* = 334)**	**Females (*n* = 521)**
Told a Teacher	5.4%	5.6%	4.2%	6.3%
Told a Parent	21.3%***	35.5%***	15.0%***	34.9%***
Told a Friend	54.8%***	72.0%***	51.8%***	70.4%***
Told Someone Else	11.4%*	17.5%*	11.4%**	19.0%**
Told No One	27.2%	22.5%	27.2%*	20.9%*

*$p < .05$ **$p < .01$ ***$p < .001$

Table 12. Significant Differences in Disclosure Among Aggressors and Non-Aggressors

Disclosure	**In Response to Traditional PV**		**In Response to Cyber PV**	
	Aggressors (*n* = 249)	**Non-Aggressors (*n* = 606)**	**Aggressors (*n* = 249)**	**Non-Aggressors (*n* = 606)**
Told a Teacher	7.6%	4.6%	8.0%*	4.5%*
Told a Parent	28.1%	30.7%	30.1%	25.9%
Told a Friend	71.1%*	62.9%*	78.3%***	56.9%***
Told Someone Else	18.5%	13.7%	18.5%	15.0%
Told No One	24.5%	24.3%	18.9%*	25.2%*

*$p < .05$ **$p < .01$ ***$p < .001$

Tables 13 and 14. Logistic Regression Results Examining Traditional PV's Contribution to Odds of Disclosure With and Without Aggressor Status (n = 855)

	Told a Teacher		Told a Parent		Told a Friend		Told Someone Else		Told No One	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Step 1										
Sex (Girls = 1)	1.17	.61 – 2.20	1.89***	1.35 – 2.64	2.01***	1.47 – 2.74	1.40	.90 – 2.16	.79	.56 – 1.11
Step 2										
Overt PV	1.71	.97 – 3.02	.80	.56 – 1.15	.98	.70 – 1.37	.94	.61 – 1.44	1.14	.81 – 1.62
Relational PV	1.17	.73 – 1.88	1.29*	1.01 – 1.66	1.77***	1.34 – 2.33	1.49**	1.10 – 2.00	.88	.67 – 1.15
Reputational PV	.99	.62 – 1.58	1.08	.84 – 1.38	1.10	.85 – 1.43	1.36	1.02– 1.83	1.10	.85 – 1.43

*p < .05 ** p < .01 *** p < .001

	Told a Teacher		Told a Parent		Told a Friend		Told Someone Else		Told No One	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Step 1										
Sex (Girls = 1)	1.19	.62 – 2.29	1.87***	1.34 – 2.62	2.05***	1.47 – 2.74	1.41	.91 – 2.18	.79	.56 – 1.11
Step 2										
Overt PV	1.59	.88 – 2.87	.83	.57 – 1.20	.92	.64 – 1.28	.90	.90 – .57	1.16	.81 – 1.67
Relational PV	1.13	.70 – 1.84	1.31*	1.02 – 1.69	1.72***	1.31 – 2.78	1.46*	1.08 – 1.98	.88	.67 – 1.16
Reputational PV	.97	.60 – 1.55	1.09	.85 – 1.40	1.08	.83 – 1.41	1.34	.99 – 1.80	1.11	.85 – 1.44
Step 3										
Aggressor (1= yes)	1.34	.68 – 2.67	.87	.60 – 1.26	1.37	.96 – 1.98	1.20	.76 – 1.89	.93	.63 – 1.38

*p < .05 ** p < .01 *** p < .001

Tables 15 and 16. Logistic Regression Results Examining Cyber PV's Contribution to Odds of Disclosure With and Without Aggressor Status (n = 855)

	Told a Teacher		Told a Parent		Told a Friend		Told Someone Else		Told No One	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Step 1										
Sex (Girls = 1)	1.49	.78 – 2.85	2.99***	2.10 – 4.24	2.11***	1.56 – 2.85	1.75**	1.16 – 2.63	.72*	.53 – 1.00
Step 2										
Cyber PV	2.22**	1.24 – 3.97	1.63*	1.11 – 2.39	11.26***	6.43 – 19.72	2.55***	1.66 – 3.92	.66	.42 – 1.04

*$p < .05$ ** $p < .01$ *** $p < .001$

	Told a Teacher		Told a Parent		Told a Friend		Told Someone Else		Told No One	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Step 1										
Sex (Girls = 1)	1.54	.81 – 2.95	3.03***	2.12 – 4.32	2.26***	1.66 – 3.08	1.73**	1.14 – 2.60	.70*	.51 – .97
Step 2										
Cyber PV	1.85	.94 – 3.63	1.51	.98 – 2.34	8.41***	4.63 – 15.31	2.78***	1.68 – 4.58	.78	.47 – 1.30
Step 3										
Aggressor (yes = 1)	1.48	.74 – 2.94	1.15	.78 – 1.69	1.67*	1.13 – 2.49	.86	.54 – 1.36	.73	.48 – 1.10

*$p < .05$ ** $p < .01$ *** $p < .001$

*Table 17.*Significant Differences Among Adolescents Who Used Multiple Strategies (≥ 3) with Adolescents Who Used Fewer (≤ 2)

	In Response to Traditional PV		**In Response to Cyber PV**	
	Used Multiple Strategies Mean (SD) (*n* = 466)	**Used Fewer Strategies (≤ 2) Mean (SD) (*n* = 389)**	**Used Multiple Strategies Mean (SD) (*n* = 431)**	**Used Fewer Strategies (≤ 2) Mean (SD) (*n* = 424)**
Age	15.79 (1.22)	15.77 (1.21)	15.74 (1.22)	15.81 (1.22)
Peer Victimization				
Overt PV	1.37 (.53)*	1.30 (.48)*	1.39 (.54)**	1.28 (.46)**
Relational PV	1.80 (.63)***	1.58 (.59)***	1.78 (.62)***	1.61 (.61)***
Reputational PV	1.66 (.76)***	1.41 (.60)***	1.70 (.74)***	1.39 (.62)***
Cyber PV	1.44 (.43)***	1.33 (.34)***	1.48 (.43)***	1.27 (.31)***
Aggression				
Overt aggression	1.30 (.56)	1.25 (.50)	1.33 (.58)**	1.23 (.48)**
Relational aggression	1.64 (.57)**	1.53 (.58)**	1.67 (.59)***	1.50 (.55)***
Reputational aggression	1.23 (.43)**	1.16 (.37)**	1.24 (.44)*	1.17 (.39)*
Cyber aggression	.26 (.20)***	.20 (.18)***	.28 (.20)***	.18 (.17)***

*$p < .05$ **$p < .01$ ***$p < .001$

Appendix A: Background Information

1. Sex ____Boy (Male) ____Girl (Female)

2. Grade ____9 ____10 ____11 ____12

3. Date of Birth (Month/Day/Year) _____/_____/_____ Age: _____

4a. Are you of Hispanic/Latino descent? ____Yes ____ No

4b. Are you of Caribbean descent? ____Yes ____ No

4c. What is your racial background? Check the one that BEST fits your background.

____ White ____ Black ____ Asian

5. From the above descriptions (questions 4a-4c), which race/ethnicity do you identify with the most?

_____

6. What language did you FIRST speak as a child? (circle)

English Spanish Other (explain)
_____

7. Who do you currently live with?

_____ Mom only

_____ Dad only

_____ Both parents

_____ Mom and her significant other (e.g. step-parent)

_____ Dad and his significant other (e.g. step-parent)

_____ Other relatives

_____ Other (explain) _____

8. How many brothers and sisters do you live with at home? _____

Appendix B: R-PEQ

These questions ask about some things that often happen between teens. Please rate how often you have done these things to others and how often these things have happened to you in the <u>past two months</u>.

How often has this happened to you?

1. Some teens left me out of an activity or conversation that I really wanted to be included in.
   a. Never
   b. Once or twice
   c. A few times
   d. About once a week
   e. A few times a week

2. A teen chased me like he or she was really trying to hurt me.
   a. Never
   b. Once or twice
   c. A few times
   d. About once a week
   e. A few times a week

3. A teen helped me when I was having a problem
   a. Never
   b. Once or twice
   c. A few times
   d. About once a week
   e. A few times a week

4. A teen I wanted to be with would not sit near me at lunch or in class.
   a. Never
   b. Once or twice
   c. A few times
   d. About once a week
   e. A few times a week

5. A teen tried to damage my social reputation by spreading rumors about me.
   a. Never
   b. Once or twice
   c. A few times
   d. About once a week
   e. A few times a week

6. A teen was nice and friendly to me when I needed help.
   a. Never
   b. Once or twice
   c. A few times
   d. About once a week
   e. A few times a week

How often have you done this to another teen?

I left another teen out of an activity or conversation that they really wanted to be included in.
   a. Never
   b. Once or twice
   c. A few times
   d. About once a week
   e. A few times a week

I chased a teen like I was really trying to hurt him or her.
   a. Never
   b. Once or twice
   c. A few times
   d. About once a week
   e. A few times a week

I helped a teen when they were having a problem.
   a. Never
   b. Once or twice
   c. A few times
   d. About once a week
   e. A few times a week

I would not sit near another teen who wanted to be with me at lunch or in class.
   a. Never
   b. Once or twice
   c. A few times
   d. About once a week
   e. A few times a week

I tried to damage another teen's social reputation by spreading rumors about them.
   a. Never
   b. Once or twice
   c. A few times
   d. About once a week
   e. A few times a week

I was nice and friendly to a teen when they needed help.
   a. Never
   b. Once or twice
   c. A few times
   d. About once a week
   e. A few times a week

7. A teen did not invite me to a party or social event even though they knew that I wanted to go.
   a. Never
   b. Once or twice
   c. A few times
   d. About once a week
   e. A few times a week

I did not invite a teen to a party or other social event even though I knew the teen wanted to go.
   a. Never
   b. Once or twice
   c. A few times
   d. About once a week
   e. A few times a week

8. A teen left me out of what they were doing.
   a. Never
   b. Once or twice
   c. A few times
   d. About once a week
   e. A few times a week

I left another teen out of what I was doing.
   a. Never
   b. Once or twice
   c. A few times
   d. About once a week
   e. A few times a week

9. To get back at me, a teen told me that s/he would not be friends with me anymore.
   a. Never
   b. Once or twice
   c. A few times
   d. About once a week
   e. A few times a week

I told a teen that I would not be friends with them anymore to get back at them.
   a. Never
   b. Once or twice
   c. A few times
   d. About once a week
   e. A few times a week

10. A teen stuck up for me when I was being picked on or excluded.
   a. Never
   b. Once or twice
   c. A few times
   d. About once a week
   e. A few times a week

I stuck up for a teen who was being picked on or excluded.
   a. Never
   b. Once or twice
   c. A few times
   d. About once a week
   e. A few times a week

11. A teen gossiped about me so others would not like me.
   a. Never
   b. Once or twice
   c. A few times
   d. About once a week
   e. A few times a week

I gossiped about a teen so others would not like him/her.
   a. Never
   b. Once or twice
   c. A few times
   d. About once a week
   e. A few times a week

12. A teen threatened to hurt or beat me up.
   a. Never
   b. Once or twice
   c. A few times
   d. About once a week
   e. A few times a week

I threatened to hurt or beat up a teen.
   a. Never
   b. Once or twice
   c. A few times
   d. About once a week
   e. A few times a week

13. A teen gave me the silent treatment (did not talk to me on purpose).
   a. Never
   b. Once or twice
   c. A few times
   d. About once a week
   e. A few times a week

I gave a teen the silent treatment (did not talk to the teen on purpose).
   a. Never
   b. Once or twice
   c. A few times
   d. About once a week
   e. A few times a week

14. A teen said mean things about me so that people would think I was a loser.
    a. Never
    b. Once or twice
    c. A few times
    d. About once a week
    e. A few times a week

I said mean things about a teen so that people would think s/he was a loser.
    a. Never
    b. Once or twice
    c. A few times
    d. About once a week
    e. A few times a week

15. A teen helped me join into a group or conversation.
    a. Never
    b. Once or twice
    c. A few times
    d. About once a week
    e. A few times a week

I helped a teen join into a group or conversation.
    a. Never
    b. Once or twice
    c. A few times
    d. About once a week
    e. A few times a week

16. A teen hit, kicked, or pushed me in a mean way.
    a. Never
    b. Once or twice
    c. A few times
    d. About once a week
    e. A few times a week

I hit, kicked, or pushed a teen in a mean way.
    a. Never
    b. Once or twice
    c. A few times
    d. About once a week
    e. A few times a week

17. A teen teased me in a mean way, by saying rude things or calling me bad names.
    a. Never
    b. Once or twice
    c. A few times
    d. About once a week
    e. A few times a week

I teased a teen in a mean way, by saying rude things or calling him or her bad names.
    a. Never
    b. Once or twice
    c. A few times
    d. About once a week
    e. A few times a week

18. A teen spent time with me when I had no one else to hang out with.
    a. Never
    b. Once or twice
    c. A few times
    d. About once a week
    e. A few times a week

I spent time with a teen when they had no one else to hang out with.
    a. Never
    b. Once or twice
    c. A few times
    d. About once a week
    e. A few times a week

Appendix C: C-PEQ

Using this scale, **rate how often these peer experiences have happened to you. Then also circle whether or not you have done these things to another peer.**

For each item, "electronic media" refers to any internet site, Social Networking Site (SNS), text messaging, email, instant messaging and picture messaging accessed via a computer, cell phone or other mobile device.

In the past month…	**Never**	**Once or twice**	**A few times**	**About once a week**	**A few times a week**		**Did you do this to another peer?**	
1. A peer I wanted to be friends with via electronic media ignored my friend request.	**1**	**2**	**3**	**4**	**5**		**Yes**	**No**
2. A peer removed me from his/her list of friends via electronic media.	**1**	**2**	**3**	**4**	**5**		**Yes**	**No**
3. A peer made me feel bad by not listing me in his/her "Top 8" or "Top Friends" list.	**1**	**2**	**3**	**4**	**5**		**Yes**	**No**
4. A peer that I liked became my "friend" via electronic media.	**1**	**2**	**3**	**4**	**5**		**Yes**	**No**
5. A peer posted mean things about me publicly via electronic media.	**1**	**2**	**3**	**4**	**5**		**Yes**	**No**
6. A peer posted mean things about me anonymously via electronic media.	**1**	**2**	**3**	**4**	**5**		**Yes**	**No**
7. A peer posted pictures of me that made me look bad via electronic media.	**1**	**2**	**3**	**4**	**5**		**Yes**	**No**
8. A peer sent embarrassing pictures or videos of me to others via electronic media.	**1**	**2**	**3**	**4**	**5**		**Yes**	**No**
9. A peer tried to get me in trouble with parents, teachers or others by posting pictures or comments about me via electronic media.	**1**	**2**	**3**	**4**	**5**		**Yes**	**No**
10. A peer sent me a nice message via electronic media.	**1**	**2**	**3**	**4**	**5**		**Yes**	**No**
11. A peer publicly spread rumors about me or revealed secrets I had told them via electronic media.	**1**	**2**	**3**	**4**	**5**		**Yes**	**No**
12. A peer sent me a mean message via electronic media.	**1**	**2**	**3**	**4**	**5**		**Yes**	**No**
13. A peer pretended to be me via electronic media and did things to make me look bad/damage my friendships.	**1**	**2**	**3**	**4**	**5**		**Yes**	**No**
14. A peer prevented me from joining a group via electronic media that I	**1**	**2**	**3**	**4**	**5**		**Yes**	**No**

really wanted to join.								
15. A peer posted pictures of me having fun and spending time with them via electronic media.	**1**	**2**	**3**	**4**	**5**		**Yes**	**No**
16. A peer created a group via electronic media to be mean and hurt my feelings.	**1**	**2**	**3**	**4**	**5**		**Yes**	**No**
17. I found out that I was excluded from a party or social event via electronic media.	**1**	**2**	**3**	**4**	**5**		**Yes**	**No**
18. A peer I was dating broke up with me using electronic media.	**1**	**2**	**3**	**4**	**5**		**Yes**	**No**
19. A peer made me feel jealous by "messing" with my girlfriend/boyfriend via electronic media.	**1**	**2**	**3**	**4**	**5**		**Yes**	**No**
20. A peer complimented me publicly via electronic media.	**1**	**2**	**3**	**4**	**5**		**Yes**	**No**

*Note: items 3, 4, 8, 9, 10, 13, 14, 15, 16, 18 and 20 were not included in the analyses.

Appendix D: D-PEQ

Dealing with Peer Experiences – Cyber Version

Please read each question and circle the answer that best describes your response.

1. For negative peer experiences that happened via electronic media (that you rated on the previous page): **Who did you tell?** *Circle all that apply.*

a. A teacher	Yes	No
b. A parent	Yes	No
c. A friend	Yes	No
d. Someone else	Yes	No (specify who:_____)
e. I told no one	Yes	No

2. For these negative peer experiences that happened via electronic media: **What did you do in response?** *Circle all that apply.*

a. I just tried to forget it	Yes	No
b. I ignored the aggressor	Yes	No
c. I tried to resolve the conflict with aggressor	Yes	No
d. I retaliated against the aggressor	Yes	No
e. Other (please explain):	Yes	No

_____
_____
_____
_____
_____

3. What advice would you give to a friend who experienced negative peer interactions via electronic media? *Check all that apply.*

___ Retaliate ___ Try to ignore it ___ Ask them what's wrong
___ Exclude/Ignore the person ___ Talk to a friend ___ Talk to an adult
___ Other (please describe below)

_____
_____
_____
_____

Dealing with Peer Experiences – Traditional

Please read each question and circle the answer that best describes your response.

1. For negative peer experiences that you had (such as being left out of activities, being ignored, being chased): **Who did you tell?** *Circle all that apply.*

a. A teacher	Yes	No
b. A parent	Yes	No
c. A friend	Yes	No
d. Someone else	Yes	No
(specify: _____)		
e. I told no one	Yes	No

2. For these negative peer experiences you had: **What did you do in response?** *Circle all that apply.*

a. I just tried to forget it	Yes	No
b. I ignored the aggressor	Yes	No
c. I tried to resolve the conflict with aggressor	Yes	No
d. I retaliated against the aggressor	Yes	No
e. Other (please explain):	Yes	No

_____
_____
_____
_____
_____

3. What advice would you give to a friend who experienced negative peer interactions? *Check all that apply.*

___ Retaliate ___ Try to ignore it ___ Ask them what's wrong
___ Exclude/Ignore the person ___ Talk to a friend ___ Talk to an adult
___ Other (please describe below)

_____
_____
_____
_____
_____
_____