HHS Public Access

Author manuscript

Child Care Health Dev. Author manuscript; available in PMC 2023 September 19.

Published in final edited form as:

Child Care Health Dev. 2021 November ; 47(6): 805–815. doi:10.1111/cch.12888.

In-Person Victimization, Cyber Victimization, and Polyvictimization in Relation to Internalizing Symptoms and Self-Esteem in Adolescents with Attention-Deficit/Hyperactivity Disorder

Nicholas D. Fogleman[1,2], **Julia D. McQuade**[3], **Krista R. Mehari**[4], **Stephen P. Becker**[2,5]

[1]Carolina Institute for Developmental Disabilities, University of North Carolina at Chapel Hill, Carrboro, North Carolina

[2]Division of Behavioral Medicine and Clinical Psychology, Center for ADHD, Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio, USA

[3]Department of Psychology, Amherst College, Amherst, Massachusetts, USA

[4]Department of Psychology, University of South Alabama, Mobile, Alabama, USA

[5]Department of Pediatrics, University of Cincinnati College of Medicine, Cincinnati, Ohio, USA

Abstract

Background: There is mixed evidence for whether in-person victimization and cyber victimization are differentially linked to internalizing symptoms (i.e., anxiety and depression) and self-esteem among adolescents with attention-deficit/hyperactivity disorder (ADHD). The goals of the present study were to: (1) evaluate in-person victimization and cyber victimization in relation to internalizing symptoms (i.e., anxiety and depression) and self-esteem, and (2) examine differences in internalizing symptoms and self-esteem between in-person victimization, cyber victimization, and polyvictimization (i.e., both in-person victimization and cyber victimization).

Methods: Participants were 78 adolescents (ages 13-17) diagnosed with ADHD who completed ratings of in-person victimization, cyber victimization, anxiety, depression, and self-esteem. Parents completed ratings of their adolescent's anxiety and depression.

Results: Adolescents with ADHD reported experiencing higher rates of in-person victimization (64%) than cyber victimization (23%) in the last 30 days. In addition, 22% reported that they experienced polyvictimization. In-person victimization was associated with higher adolescent-reported anxiety symptoms whereas cyber victimization was associated with higher parent-reported depressive symptoms; both were associated with lower adolescent-reported self-

Corresponding author: Stephen P. Becker, Division of Behavioral Medicine and Clinical Psychology, Cincinnati Children's Hospital Medical Center, 3333 Burnet Ave. MLC 10006, Cincinnati, OH 45229-3039, Stephen.becker@cchmc.org, Phone: 513-803-2066.

Conflict of interest statement: On behalf of all authors, the corresponding author states that there is no conflict of interest.

Ethics approval statement: This study was reviewed and approved by the Cincinnati Children's Hospital Medical Center Institutional Review Board (IRB) and was conducted in accordance with the ethical standards of the 1964 Declaration of Helsinki and its later amendments.

Permission to reproduce materials from other sources: This manuscript does not reproduce materials from other sources.

esteem. Adolescents who reported polyvictimization reported the highest anxiety and depressive symptoms and the lowest self-esteem.

Conclusions: Approximately one-quarter of adolescents with ADHD report experiencing polyvictimization in the past month. Findings indicate that in-person victimization and cyber victimization are each uniquely associated with lower self-esteem, and differentially associated with co-occurring internalizing symptoms among adolescents with ADHD. Polyvictimization is especially linked to higher internalizing symptoms and lower self-esteem. Longitudinal studies are needed to better understand the directionality of these associations.

Youth with attention-deficit/hyperactivity disorder (ADHD), a neurodevelopmental disorder characterized by inattention, hyperactivity, and/or impulsivity (American Psychiatric Association, 2013), often exhibit impaired peer functioning (McQuade & Hoza, 2008). However, most of the literature examining peer functioning among youth with ADHD has focused on school-age children, with far fewer studies examining peer functioning in adolescents (McQuade, 2020). Although initial research broadly indicates that adolescents with ADHD experience poorer peer functioning than their peers (Bagwell, Molina, Pelham, & Hoza, 2001), additional studies are needed to better understand the precise peer difficulties experienced by adolescents with ADHD. In particular, peer victimization, characterized as being exposed, repeatedly and over time, to aggressive behavior from one's peers (Olweus, 1999), increases during adolescence (see Troop-Gordon, 2017 for review) and can take physical (e.g., hitting, kicking), verbal (e.g., verbal attacks), and relational forms (e.g., gossip and behaviors aimed at damaging friendships). Peer victimization can occur in-person or via electronic media (i.e., cyber victimization), with substantial rates of peer victimization occurring outside of school contexts (Turner, Finkelhor, Hamby, Shattuck, & Ormrod, 2011). Examination of peer victimization among adolescents with ADHD is an important area for investigation given emerging evidence that individuals with ADHD are more likely to experience in-person victimization (Efron et al., 2021; Fogleman, Slaughter, Rosen, Leaberry, & Walerius, 2019; Fogleman, Walerius, Rosen, & Leaberry, 2016; Sciberras et al., 2012) and cyber victimization (Heiman, Olenik-Shemesh, & Eden, 2015; Kowalski & Fedina, 2011; Yen et al., 2014) relative to unaffected peers. Further, recent studies have demonstrated that in-person victimization and cyber victimization frequently co-occur (Przybylski & Bowes, 2017; Salmivalli, Sainio, & Hodges, 2013; Wigderson & Lynch, 2013), suggesting that when compared to their peers, adolescents with ADHD are also more likely to experience polyvictimization (i.e., both in-person and cyber victimization).

Just as peer victimization increases in adolescence, so too do anxiety and depression (Twenge, Cooper, Joiner, Duffy, & Binau, 2019; Twenge & Nolen-Hoeksema, 2002), and both are associated with lower self-esteem (Sowislo & Orth, 2013). Previous studies in general adolescent populations demonstrate that in-person victimization and cyber victimization are each uniquely associated with higher anxiety and depressive symptoms, and lower self-esteem (Hawker & Boulton, 2000; Reijntjes, Kamphuis, Prinzie, & Telch, 2010; Tennant, Demaray, Coyle, & Malecki, 2015; Wigderson & Lynch, 2013). Adolescents with ADHD frequently experience co-occurring internalizing symptoms of anxiety and depression (Becker & Fogleman, 2020), with diagnostic rates ranging from 22.2 - 38%

(Gau et al., 2010; Smalley et al., 2007), making it especially important to examine associations between peer victimization and emotional functioning in this population. Indeed, several studies have found in-person victimization to be associated with higher anxiety and depressive symptoms, as well as lower self-esteem, in adolescents with ADHD (Becker et al., 2017; Fogleman, Leaberry, Rosen, Walerius, & Slaughter, 2018a; Humphrey, Storch, & Geffken, 2007; Taylor, Saylor, Twyman, & Macias, 2010). Previous studies examining cyber victimization among adolescents with ADHD have also found associations with higher depressive symptoms and lower self-esteem (Didden et al., 2009; Yen et al., 2014). However, Kowalski and Fedina (2011) did not observe cyber victimization to be significantly associated with anxiety, depression, or self-esteem in adolescents with ADHD. It is important to note, though, Kowalski and Fedina (2011) examined a small sample of adolescents with ADHD and/or Asperger's Syndrome, making it difficult to deduce how their findings translate to adolescents with ADHD specifically. In sum, it remains unclear if cyber victimization is uniquely associated with emotional functioning in adolescents with ADHD, and it remains unknown whether in-person and cyber victimization are differentially associated with emotional functioning domains in adolescents with ADHD. Accordingly, the present study is the first to comprehensively examine in-person victimization and cyber victimization – as well as their co-occurrence (i.e., polyvictimization) – in relation to internalizing symptoms (i.e., anxiety and depression) and self-esteem in a sample of adolescents with ADHD.

The present study

The purposes of the present study were to (1) evaluate in-person victimization and cyber victimization in relation to internalizing symptoms (i.e., anxiety and depression) and self-esteem, and (2) examine differences in internalizing symptoms and self-esteem between in-person victimization, cyber victimization, and polyvictimization (i.e., in-person victimization and cyber victimization). We hypothesized that in-person victimization and cyber victimization would each be positively associated with symptoms of anxiety and depression and negatively associated with self-esteem (Becker et al., 2017; Yen et al., 2014), and that adolescents with ADHD who experienced polyvictimization would have the highest anxiety and depressive symptoms as well as the lowest self-esteem relative to adolescents with ADHD who experienced in-person *or* cyber victimization.

Methods

Participants and Procedures

Participants were 78 adolescents (55 males, 23 females) with ADHD between the ages of 13 and 17 years (M=15.01, SD=1.09; grades 8-11). Detailed sample characteristics are summarized in Table 1. Parents of adolescents provided informed consent and adolescents provided assent prior to initiation of study procedures. At the inclusion visit for the broader study from which data for the present study were drawn, adolescents and their parents completed measures of anxiety and depression, and adolescents completed measures of in-person victimization, cyber victimization, and self-esteem on a computer at an in-person research visit conducted during the school year. As reported elsewhere (Becker & Lienesch,

2018), 93% of participants in this sample reported owning their own cell phone, and 58% reported having their own computer/tablet in their bedroom, indicating that most, if not all, participants in our sample had opportunity to experience cyber victimization. A total of 84 participants met inclusion criteria for the present study; six participants did not complete the peer victimization measure and were excluded from analyses. When comparing the six participants with missing data to the rest of the sample, there were no significant differences across all study variables.

This study was reviewed and approved by the Institutional Review Board (IRB) at Cincinnati Children's Hospital Medical Center. The data analyzed in this study were collected in the context of a larger study focused on sleep in adolescents with ADHD. To be eligible, adolescents were required to meet full diagnostic criteria for ADHD (DSM-5; American Psychiatric Association, 2013). Exclusion criteria were: (1) presence of autism, bipolar disorder, obsessive-compulsive disorder, or psychosis, (2) possible presence of sleep-disordered breathing, periodic limb movement disorder, or restless leg syndrome, (3) history of epilepsy or head trauma resulting in loss of consciousness, (4) IQ less than 70, (5) regular high caffeine use, (6) highly atypical sleep duration, and (7) obligations that required a bedtime later than 10:00PM or waking prior to 6:00AM. Given the study was conducted in the context of a larger study focused on sleep in adolescents with ADHD, in the first year of the study, additional exclusion criteria included the use of any non-stimulant psychiatric medication; in the second year, participants were not excluded for taking a non-stimulant medication. See Becker and Lienesch (2018) for additional details.

Measures

Kiddie Schedule for Affective Disorders and Schizophrenia for School-Age Children (K-SADS).—The K-SADS (Kaufman et al., 1997) was used to provide diagnostic assessment of ADHD, oppositional defiant disorder, anxiety disorders, and mood disorders. The K-SADS is a semi-structured diagnostic interview that has demonstrated good reliability and validity for assessing a broad range of psychological disorders in youth (Kaufman et al., 1997; Leffler, Riebel, & Hughes, 2015). The K-SADS was administered by individuals with Master's or doctoral degrees in clinical psychology. All interviewers were trained by experienced interviewers, which included a didactic training focused on DSM nosology and differential diagnosis, scoring a previously recorded interview, observing interviews, and being observed before interviewing independently. The K-SADS was administered separately to adolescents and their parents. Parent interviews were used to determine ADHD diagnosis.

Vanderbilt ADHD Diagnostic Parent Rating Scale (VADPRS).—The VADPRS (Wolraich et al., 2003) was used to assess ADHD symptom severity. The VADPRS is a 55-item DSM-based questionnaire that has demonstrated reliability and validity (Wolraich et al., 2003) and includes nine inattentive (ADHD-IN) and nine hyperactive/impulsive (ADHD-HI) symptoms. In the present study, internal consistencies were calculated (ADHD-IN α=.90; ADHD-HI α=.90) and mean scale scores were included as covariates in regression analyses to ensure findings were not attributable to ADHD symptom severity.

Problem Behavior Frequency Scale – Adolescent Report (PBFS-AR).—The PBFS-AR (Farrell, Thompson, Mehari, Sullivan, & Goncy, 2018) was used to assess the frequency of in-person victimization and cyber victimization experiences. The PBFS-AR is a 68-item questionnaire that has demonstrated reliability and validity for assessing problem behaviors in adolescents (Farrell et al., 2018) and includes a 15-item in-person victimization scale and an 11-item cyber victimization scale. Each item is rated on a six-point frequency scale (1=*never*, 2=*1-2 times*, 3=*3-5 times*, 4=*6-9 times*, 5=*10-19 times*, and 6=*20 or more times*) in reference to the past 30 days. Farrell et al. (2018) reported that very few participants endorse higher frequency categories on both the in-person victimization and the cyber victimization scales and recommended future studies combine the three highest categories into a single category. Therefore, as recommended, the present study modified the original six-point frequency scale to a four-point frequency scale (1=*never*, 2=*1-2 times*, 3=*3-5 times*, 4=*6 or more times*). Overall rates of in-person victimization and cyber victimization among adolescents with ADHD was calculated based on endorsing any of the items on the PBFS-AR at a frequency of at least once per month or more. Internal consistencies were calculated for in-person victimization (α=.76) and cyber victimization (α=.54). Mean scale scores were used in analyses.

Revised Child Anxiety and Depression Scales (RCADS) and RCADS-Parent Version (RCADS-P).—The RCADS (Chorpita, Moffitt, & Gray, 2005) and RCADS-P (Ebesutani et al., 2010) were used to assess symptoms of anxiety and depression. The RCADS and RCADS-P are 47-item questionnaires that have demonstrated sound psychometric properties for assessing anxiety and depression disorder symptoms in youth (Chorpita et al., 2005; Chorpita, Yim, Moffitt, Umemoto, & Francis, 2000; Gormez et al., 2017), including in youth with ADHD (Becker, Schindler, Holdaway, Tamm, Epstein, & Luebbe, 2019; Becker, Schindler, Luebbe, Tamm, & Epstein, 2019). The present study used the total anxiety and depression scales. Internal consistencies for adolescents were: anxiety α=.92 and depression α=.76. Internal consistencies for parents were: anxiety α=.88 and depression α=.65. Mean scale scores were used in analyses.

Self-Perception Profile for Adolescents (SPPA).—The SPPA (Harter, 1985) was used to assess self-esteem. The SPPA has demonstrated reliability and validity in multiple studies (Harter, 1999, 2012) and includes a five-item global self-worth subscale. The SPPA uses a structured alternative response format designed to mitigate socially desirable responses (Harter, 1982). Each item is scored on a four-point scale, with higher scores indicating greater self-esteem (Harter, 2012). It is important to note that Harter's (1985) model of self specifies that only individuals themselves can rate their global self-esteem and "do not translate into attributes which an objective observer can rate" (p. 12). Accordingly, as in other recent studies of adolescents with ADHD (e.g., Dvorsky, Langberg, Evans, & Becker, 2018), only adolescents provided ratings of their self-esteem (α=.87).

Statistical Analyses

All analyses were conducted in IBM SPSS Statistics Version 25.0 statistical software (IBM Corp., 2017). First, Pearson bivariate correlation analyses were conducted to examine the correlations among the study variables. A correlation of 0.10 is considered a small effect,

0.30 is considered a medium effect, and 0.50 is considered a large effect (Cohen, Cohen, West, & Aiken, 2003). Second, multiple regression analyses were conducted to examine the unique effects of in-person victimization and cyber victimization in relation to anxiety, depression, and self-esteem. Third, analyses of covariance (ANCOVAs) were conducted to examine differences in anxiety, depression, and self-esteem among adolescents who did or did not report in-person and/or cyber victimization. Sex, age, race [dummy-coded as White and non-White], family income [dummy-coded as ≤$60,000 and >$60,000, the median family income in the metropolitan area where the study was conducted], ADHD medication use, ADHD-IN symptom severity, and ADHD-HI symptom severity were included as covariates in analyses if they were significantly correlated with any of the dependent variables (i.e., anxiety, depression, and self-esteem).

Results

Descriptive analyses

As summarized in Table 1, adolescents reported experiencing higher rates of in-person victimization (64.1%) than cyber victimization (23%; t=5.75, p<.001). In addition, 22% of participants reporting that they experienced both in-person and cyber victimization in the last 30 days, and only one participant (1.3%) endorsed experiencing cyber victimization in the last 30 days but not in-person victimization. As summarized in Table 2, adolescents with ADHD most frequently endorsed the following in-person victimization experiences in the last 30 days: being physically pushed by someone (26.60%), being teased by someone (26.90%), being made fun of to make others laugh (23.10%), and being yelled at or being called mean names (25.60%). It is also noteworthy that 15.40% of adolescents reported being threatened that they would be hit or physically harmed. With regards to cyber victimization, the most frequently reported events included being called mean names online or on a cell phone (7.70%), having others spread rumors about them online or by texting (7.70%), being left out of an online group or being unfriended on social media (6.40%), and having someone send or post embarrassing pictures without their permission (6.40%).

Correlation analyses

Descriptive statistics and Pearson bivariate correlations of study variables are reported in Table 3. Male and White adolescents reported lower anxiety symptoms (ps =.048, r = −.23, 95% CI [−.43, −.003] and .04, r = −.23, 95% CI [−.43, −.01], respectively) and depressive symptoms (ps=.004, r = −.32, 95% CI [−.51, −.11] and .03, r = −.24, 95% CI [−.44, −.02], respectively). Additionally, ADHD inattentive symptom severity was positively associated with higher parent-reported anxiety (p=.01, r = .29, 95% CI [.07, .48]) and depression (p=.003, r = .33, 95% CI [.12, .52]). Age, family income, ADHD medication status, and ADHD hyperactive-impulsive symptom severity were not significantly associated with anxiety, depression, or self-esteem (ps>.05). Accordingly, these variables were not retained for inclusion as covariates in subsequent regression analyses.

In-person victimization and cyber victimization were significantly positively associated (p=.004, r = .32, 95% CI [.11, .51]), with a medium effect size correlation. Both in-person and cyber victimization were correlated with lower self-esteem (ps<.001, r = −.42, 95%

CI [−.59, −.21] and r = −.50, 95% CI [−.65, −.31], respectively; medium to large effects). In-person victimization was significantly correlated with higher adolescent-reported anxiety (p<.001, r = .42, 95% CI [.22, .59]; medium effect) and depression (p=.03, r = .24, 95% CI [.02, .44]; small effect) but was not associated with parent-reported anxiety (p=.87, r = −.02, 95% CI [−.24, .20]) or depression (p=.73, r = .04, 95% CI [−.18, .26]). Cyber victimization was significantly associated with higher adolescent-reported (p=.04, r = .23, 95% CI [.01, .43]) and parent-reported (p=.03, r = .25, 95% CI [.03, .45]) depressive symptoms (both small effects) but was not correlated with adolescent- or parent-reported anxiety symptoms (p=.10 and .62, r = .19, 95% CI [−.04, .39] and p = .62, r = −.06, 95% CI [−.28, .17], respectively).

Multivariate regression analyses

Linear regression analyses were conducted to examine the extent to which in-person victimization and cyber victimization uniquely predicted anxiety and depressive symptoms (see Table 4). After controlling for sex, race, ADHD inattentive symptom severity, and cyber victimization, in-person victimization was uniquely associated with higher adolescent-reported anxiety symptoms (p=.003, B = 0.56, 95% CI [.19, .93]). In-person victimization was not significantly associated with adolescent-reported depressive symptoms or parent-reported anxiety and depressive symptoms beyond covariates and cyber victimization (ps > .05). In contrast, when controlling for sex, race, ADHD inattentive symptom severity, and in-person victimization, cyber victimization was significantly associated with higher parent-reported depressive symptoms (p=.02, B = 0.94, 95% CI [.18, 1.70]). Cyber victimization was not significantly associated with parent-reported anxiety symptoms, or adolescent-reported anxiety and depressive symptoms beyond covariates and in-person victimization (ps > .05) . Both in-person victimization and cyber victimization were uniquely associated with lower self-esteem (ps=.03 and .001, Bs = −0.87 and −2.87, 95% CIs [−1.67, −.08] and [−4.52, −1.23], respectively).

Analyses of covariance

ANCOVAs were conducted to examine differences in anxiety, depression, and self-esteem among adolescents who did or did not report in-person and/or cyber victimization. Since only one participant endorsed cyber victimization only, cyber victimization only was removed from analyses, resulting in three groups: no victimization, in-person victimization only, and polyvictimization. As shown in Figure 1, after controlling for sex, race, and ADHD inattention symptom severity, significant differences were observed between the three groups for adolescent-reported anxiety symptoms, F(2,71)=3.48, p=.04, depressive symptoms, F(2,71)=3.54, p=.03, and self-esteem, F(2,67)=9.29, p<.001. No differences were observed for parent-reported anxiety, F(2,71)=.09, p=.92, or depressive symptoms, F(2,71)=2.07, p=.13 (see Figure 1). When investigating differences between groups among adolescent-reported variables, adolescents who experienced polyvictimization reported significantly higher anxiety (p=.04, 95% CI [.01, .51]) and depressive symptoms (p=.03, 95% CI [.02, .56]) relative to adolescents who did not experience peer victimization. Furthermore, adolescents who reported polyvictimization also reported significantly lower self-esteem relative to both adolescents who did not experience victimization (p<.001, 95%

CI [−1.34, −.33]) and adolescents who reported only experiencing in-person victimization (p=.001, 95% CI [−1.20, −.24]).

Discussion

This study contributes to the growing body of literature on peer functioning among adolescents with ADHD and represents a comprehensive examination of in-person victimization and cyber victimization – as well as their co-occurrence – in relation to internalizing symptoms and self-esteem. In-person victimization and cyber victimization were each uniquely associated with lower self-esteem; however, in-person victimization was associated with higher adolescent-reported anxiety whereas cyber victimization was associated with higher parent-reported depression. In addition, adolescents with ADHD who experienced polyvictimization reported the highest anxiety and depressive symptoms and lowest self-esteem. It is likely that the pervasiveness of victimization experiences (in-person and in the cyber world) places adolescents at increased risk for poor adjustment. This is the first study to identify unique associations of in-person victimization and cyber victimization on internalizing symptoms and self-esteem among adolescents with ADHD. It also provides insight into the detrimental consequences that in-person and cyber victimization (as well as their co-occurrence) may have on the emotional functioning of adolescents with ADHD.

In-person victimization was significantly positively correlated with adolescent self-reported anxiety and depressive symptoms, and cyber victimization was significantly positively correlated with adolescent self-reported and parent-reported depressive symptoms. These findings are consistent with previous studies among adolescents with ADHD suggesting that in-person victimization is associated with anxiety and depression (Becker et al., 2017) and cyber victimization is associated with depression (Didden et al., 2009). However, once entered together in regression analyses, differential associations between peer victimization and internalizing symptoms were observed. In-person victimization was uniquely linked to higher adolescent-reported anxiety whereas cyber victimization was uniquely linked to higher parent-reported depression. In-person victimization may be more clearly associated with adolescent self-reported anxiety given the nature of experiencing victimization when in the direct presence of other peers. That is, adolescents with ADHD who experience in-person victimization may be especially prone to worry and anxious thoughts about when the experiences will happen again, how to deal with the victimization, and how they are perceived by the broader peer group when victimization occurs. In contrast, given evidence that experiences of cyber victimization are linked to greater feelings of emotional loneliness and less social self-efficacy beliefs among adolescents with ADHD (Heiman et al., 2015), adolescents with ADHD who report cyber victimization may be more likely to be perceived by their parents as exhibiting depressive symptoms due to their increased isolation and poorer emotional and social functioning. Additionally, adolescents who report cyber victimization almost always experience peer victimization in multiple settings (i.e., both in-person and via electronic means; Przybylski & Bowes, 2017; Wolke, Lee, & Guy, 2017), and it may also be the case that it is only at this threshold that victimization is pervasive and chronic enough to be perceived by parents as related to lower mood. However, additional research is needed to test these possibilities and replicate our findings, particularly since our

findings were not consistent across adolescent self-report and parent-report of internalizing symptoms.

In line with previous studies (Becker et al., 2017; Didden et al., 2009; Wigderson & Lynch, 2013), in-person victimization and cyber victimization were each uniquely associated with lower self-esteem among adolescents with ADHD. Self-esteem appears particularly important during adolescence, especially given evidence that adolescents with lower self-esteem are more susceptible to peer pressure, more rebellious and sensation-seeking, and more likely to use illegal substances, and demonstrate poor school performance (McClure, Tanski, Kingsbury, Gerrard, & Sargent, 2010; Zimmerman, Copeland, Shope, & Dielman, 1997). Further, low self-esteem during adolescence may be the initial pathway for which symptoms of anxiety and depression first appear, as previous literature suggests self-esteem predicts future anxiety and depressive symptoms (Henriksen, Ranøyen, Indredavik, & Stenseng, 2017; Masselink, Van Roekel, & Oldehinkel, 2018; Sowislo & Orth, 2013). Youth with ADHD are often more affected by negative emotional experiences (Fogleman, Leaberry, Rosen, Walerius, & Slaughter, 2018b) and often report lower self-esteem relative to their unaffected peers (Harpin, Mazzone, Raynaud, Kahle, & Hodgkins, 2016), potentially placing them at even greater risk for long-term negative outcomes. Therefore, experiences of in-person victimization or cyber victimization may further decrease self-esteem among adolescents with ADHD and subsequently increase their risk for poorer emotional, behavioral, and social functioning (Babore, Trumello, Candelori, Paciello, & Cerniglia, 2016; Donnellan, Trzesniewski, Robins, Moffitt, & Caspi, 2005; van Geel, Goemans, Zwaanswijk, Gini, & Vedder, 2018).

Nearly a quarter of adolescents with ADHD reported polyvictimization (i.e., both in-person victimization and cyber victimization), and these adolescents also reported the poorest emotional functioning across the domains of anxiety, depression, and self-esteem relative to adolescents with ADHD who did not report victimization or reported experiencing in-person victimization in isolation. This is the first study to demonstrate the relation between polyvictimization and internalizing symptoms among adolescents with ADHD. This may be because adolescents who experience both in-person and cyber victimization are essentially exposed to victimization during most waking hours; without any respite, these victimization experiences may take a particularly negative toll on emotional functioning.

Limitations and future directions

All data in this study were obtained concurrently, making it impossible to determine directionality or causality. Additionally, the present study did not have a control group, therefore, it is unknown if the findings are unique to adolescents with ADHD. This study was also limited to adolescent self-report of victimization. It will be important for future studies to examine in-person victimization and cyber victimization in relation to internalizing symptoms and self-esteem using a multi-informant longitudinal study design, and to examine differential effects of polyvictimization, relative to in-person victimization or cyber victimization, on functional outcomes among adolescents with ADHD. Studies with larger sample sizes including adolescents without ADHD will also be able to make comparisons and evaluate other important considerations including sex differences,

comorbidity profiles, specific forms of in-person and cybervictimization, and mediators that account for associations identified in the present study. Finally, given approximately one-third of adolescents with ADHD in the present study did not report experiences of peer victimization, additional research is warranted to examine how some adolescents with ADHD may be able to avoid victimization experiences and potentially decrease their risk for exhibiting increased anxiety and depression and decreased self-esteem.

Conclusion

The present study demonstrates that the experience of peer victimization is linked to higher anxiety and depressive symptoms, and lower self-esteem. Polyvictimization appears to have the most detrimental consequences on the emotional well-being of adolescents with ADHD. Although additional studies are needed to determine bidirectional associations, peer victimization appears to be an important risk factor for internalizing symptoms and low self-esteem in adolescents with ADHD, highlighting the need to assess and develop interventions to address the peer victimization experiences in these vulnerable youth.

Acknowledgements

This research was supported by grant R03MH109787 (PI: Stephen P. Becker) from the National Institute of Mental Health (NIMH). Stephen P. Becker is supported by award number K23MH108603 from the NIMH. Nicholas D. Fogleman is supported by award number T32-HD040127 from the Eunice Kennedy Shriver National Institute of Child Health & Human Development (NICHD). The content is solely the responsibility of the authors and does not necessarily represent the official views of the University of Cincinnati or the U.S. National Institutes of Health (NIH).

Data availability statement:

The data that support the findings of this study are available from the corresponding author upon reasonable request.

References

American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (DSM-5®). American Psychiatric Association Publishing, Washington, D.C.

Babore A, Trumello C, Candelori C, Paciello M, & Cerniglia L (2016). Depressive symptoms, self-esteem and perceived parent–child relationship in early adolescence. Frontiers in Psychology, 7, 982. [PubMed: 27445941]

Bagwell CL, Molina BS, Pelham WE, & Hoza B (2001). Attention-deficit hyperactivity disorder and problems in peer relations: Predictions from childhood to adolescence. Journal of the American Academy of Child & Adolescent Psychiatry, 40, 1285–1292. [PubMed: 11699802]

Becker SP & Fogleman ND (2020). Psychiatric co-occurrence in adolescents with ADHD. In Becker SP (Ed.), ADHD in adolescence: development, assessment, and treatment, (pp. 170–203). New York, NY: Guilford Press.

Becker SP, & Lienesch JA (2018). Nighttime media use in adolescents with ADHD: links to sleep problems and internalizing symptoms. Sleep medicine, 51, 171–178. [PubMed: 30223187]

Becker SP, Mehari KR, Langberg JM, & Evans SW (2016). Rates of peer victimization in young adolescents with ADHD and associations with internalizing symptoms and self-esteem. European Child & Adolescent Psychiatry, 26, 201–214. [PubMed: 27315106]

Becker SP, Schindler DN, Holdaway AS, Tamm L, Epstein JN, & Luebbe AM (2019). The Revised Child Anxiety and Depression Scales (RCADS): Psychometric evaluation in children evaluated

for ADHD. Journal of Psychopathology and Behavioral Assessment, 41(1), 93–106. [PubMed: 30930533]

Becker SP, Schindler DN, Luebbe AM, Tamm L, & Epstein JN (2019). Psychometric Validation of the Revised Child Anxiety and Depression Scales–Parent Version (RCADS-P) in Children Evaluated for ADHD. Assessment, 26, 811–824. [PubMed: 29029564]

Chorpita BF, Moffitt CE, & Gray J (2005). Psychometric properties of the Revised Child Anxiety and Depression Scale in a clinical sample. Behaviour Research and Therapy, 43(3), 309–322. [PubMed: 15680928]

Chorpita BF, Yim L, Moffitt C, Umemoto LA, & Francis SE (2000). Assessment of symptoms of DSM-IV anxiety and depression in children: A revised child anxiety and depression scale. Behaviour Research and Therapy, 38(8), 835–855. [PubMed: 10937431]

Cohen J, & Cohen P, West SG, & Aiken LS (2003). Applied multiple regression/correlation analysis for the behavioral sciences. Hillsdale, NJ: Erlbaum.

Didden R, Scholte RH, Korzilius H, De Moor JM, Vermeulen A, O'Reilly M, Lang R, & Lancioni GE (2009). Cyberbullying among students with intellectual and developmental disability in special education settings. Developmental Neurorehabilitation, 12(3), 146–151. [PubMed: 19466622]

Donnellan MB, Trzesniewski KH, Robins RW, Moffitt TE, & Caspi A (2005). Low self-esteem is related to aggression, antisocial behavior, and delinquency. Psychological Science, 16(4), 328–335. [PubMed: 15828981]

Dvorsky MR, Langberg JM, Evans SW, & Becker SP (2018). The protective effects of social factors on the academic functioning of adolescents with ADHD. Journal of Clinical Child and Adolescent Psychology, 47, 713–726. [PubMed: 26954373]

Ebesutani C, Bernstein A, Nakamura BJ, Chorpita BF, Higa-McMillan CK, Weisz JR, & Research Network on Youth Mental Health. (2010). Concurrent validity of the Child Behavior Checklist DSM-oriented scales: Correspondence with DSM diagnoses and comparison to syndrome scales. Journal of Psychopathology and Behavioral Assessment, 32, 373–384. [PubMed: 20700377]

Efron D, Wijaya M, Hazell P, & Sciberras E (2021). Peer victimization in children with ADHD: A community-based longitudinal study. Journal of Attention Disorders, 25, 291–299. [PubMed: 30191751]

Farrell AD, Thompson EL, Mehari KR, Sullivan TN, & Goncy EA (2018). Assessment of in-person and cyber aggression and victimization, substance use, and delinquent behavior during early adolescence. Assessment, 1073191118792089.

Fogleman ND, Leaberry KD, Rosen PJ, Walerius DM, & Slaughter KE (2018a). Relation between internalizing behaviors, externalizing behaviors, and peer victimization among children with and without ADHD. ADHD Attention Deficit and Hyperactivity Disorders, 10, 209–222. [PubMed: 29330700]

Fogleman ND, Leaberry KD, Rosen PJ, Walerius DM, & Slaughter K (2018b). How do children with and without ADHD talk about frustration?: Use of a novel emotion narrative recall task. ADHD Attention Deficit and Hyperactivity Disorders, 10, 297–307. [PubMed: 29594723]

Fogleman ND, Slaughter KE, Rosen PJ, Leaberry KD, & Walerius DM (2019). Emotion regulation accounts for the relation between ADHD and peer victimization. Journal of Child and Family Studies, 28(9), 2429–2442.

Fogleman ND, Walerius DM, Rosen PJ, & Leaberry KD (2016). Peer victimization linked to negative affect in children with and without ADHD. Journal of Applied Developmental Psychology, 46, 1–10.

Gau SSF, Ni HC, Shang CY, Soong WT, Wu YY, Lin LY, & Chiu YN (2010). Psychiatric comorbidity among children and adolescents with and without persistent attention-deficit hyperactivity disorder. Australian and New Zealand Journal of Psychiatry, 44(2):135–143. [PubMed: 20113302]

Gormez V, Kılınçaslan A, Orengul AC, Ebesutani C, Kaya I, Ceri V, Nasiroglu S, Filiz M, & Chorpita B (2017). Psychometric properties of the Turkish version of the Revised Child Anxiety and Depression Scale–Child Version in a clinical sample. Psychiatry and Clinical Psychopharmacology, 27(1), 84–92.

Harpin V, Mazzone L, Raynaud JP, Kahle J, & Hodgkins P (2016). Long-term outcomes of ADHD: a systematic review of self-esteem and social function. Journal of Attention Disorders, 20(4), 295–305. [PubMed: 23698916]

Harter S (1982). The perceived competence scale for children. Child Development, 87–97.

Harter S (1985) Manual for the self-perception profile for children. Denver, CO: University of Denver, Denver.

Harter S (1999). The construction of the self: A developmental perspective. New York, NY: Guilford Press.

Harter S (2012). Self-perception profile for adolescents: Manual and questionnaires. Denver, CO: University of Denver.

Hawker DS, & Boulton MJ (2000). Twenty years' research on peer victimization and psychosocial maladjustment: A meta-analytic review of cross-sectional studies. The Journal of Child Psychology and Psychiatry and Allied Disciplines, 41(4), 441–455. [PubMed: 10836674]

Heiman T, Olenik-Shemesh D, & Eden S (2015). Cyberbullying involvement among students with ADHD: Relation to loneliness, self-efficacy and social support. European Journal of Special Needs Education, 30(1), 15–29.

Henriksen IO, Ranøyen I, Indredavik MS, & Stenseng F (2017). The role of self-esteem in the development of psychiatric problems: a three-year prospective study in a clinical sample of adolescents. Child and Adolescent Psychiatry and Mental Health, 11(1), 68. [PubMed: 29299058]

Humphrey JL, Storch EA, & Geffken GR (2007). Peer victimization in children with attention-deficit hyperactivity disorder. Journal of Child Health Care, 11(3), 248–260. [PubMed: 17709359]

Corp IBM. (2017). IBM SPSS Statistics for Windows (Version 25.0) [Computer software]. Armonk, NY: Author.

Kaufman AS (2004). Kaufman Brief Intelligence Test–Second Edition (KBIT-2). Circle Pines, MN: American Guidance Service.

Kaufman J, Birmaher B, Brent D, Rao UMA, Flynn C, Moreci P, Williamson D, & Ryan N (1997). Schedule for affective disorders and schizophrenia for school-age children-present and lifetime version (K-SADS-PL): initial reliability and validity data. Journal of the American Academy of Child & Adolescent Psychiatry, 36(7), 980–988. [PubMed: 9204677]

Kowalski RM, & Fedina C (2011). Cyber bullying in ADHD and Asperger Syndrome populations. Research in Autism Spectrum Disorders, 5(3), 1201–1208.

Leffler JM, Riebel J, & Hughes HM (2015). A review of child and adolescent diagnostic interviews for clinical practitioners. Assessment, 22(6), 690–703. [PubMed: 25520212]

Masselink M, Van Roekel E, & Oldehinkel AJ (2018). Self-esteem in early adolescence as predictor of depressive symptoms in late adolescence and early adulthood: the mediating role of motivational and social factors. Journal of Youth and Adolescence, 47, 932–946. [PubMed: 28785953]

McClure AC, Tanski SE, Kingsbury J, Gerrard M, & Sargent JD (2010). Characteristics associated with low self-esteem among US adolescents. Academic Pediatrics, 10, 238–244. [PubMed: 20605547]

McQuade JD (2020). Peer functioning in adolescents with ADHD. In Becker SP (Ed.), ADHD in adolescence: development, assessment, and treatment, (pp. 128–147). New York, NY: Guilford Press.

McQuade JD, & Hoza B (2008). Peer problems in attention deficit hyperactivity disorder: Current status and future directions. Developmental Disabilities Research Reviews, 14(4), 320–324. [PubMed: 19072753]

Olweus D (1999) Sweden. In Smith PK, Morita Y, Junger-Tas J, Olweus D, Catalano R & Slee P (Eds), The nature of school bullying: A cross-national perspective, (pp. 2–27). New York, NY: Routledge.

Przybylski AK, & Bowes L (2017). Cyberbullying and adolescent well-being in England: a population-based cross-sectional study. The Lancet Child & Adolescent Health, 1(1), 19–26. [PubMed: 30169221]

Reijntjes A, Kamphuis JH, Prinzie P, & Telch MJ (2010). Peer victimization and internalizing problems in children: A meta-analysis of longitudinal studies. Child Abuse & Neglect, 34(4), 244–252. [PubMed: 20304490]

Salmivalli C, Sainio M, & Hodges EV (2013). Electronic victimization: Correlates, antecedents, and consequences among elementary and middle school students. Journal of Clinical Child & Adolescent Psychology, 42(4), 442–453. [PubMed: 23384048]

Sciberras E, Ohan J, & Anderson V (2012). Bullying and peer victimisation in adolescent girls with attention-deficit/hyperactivity disorder. Child Psychiatry and Human Development, 43, 254–270. [PubMed: 22038319]

Smalley SL, McGough JJ, Moilanen IK, Loo SK, Taanila A, Ebeling H, Hurtig T, Kaakinen M, Humphrey LA, McCracken JT, & Varilo T (2007). Prevalence and psychiatric comorbidity of attention-deficit/hyperactivity disorder in an adolescent Finnish population. Journal of the American Academy of Child & Adolescent Psychiatry, 46(12), 1575–1583. [PubMed: 18030079]

Sowislo JF, & Orth U (2013). Does low self-esteem predict depression and anxiety? A meta-analysis of longitudinal studies. Psychological Bulletin, 139(1), 213. [PubMed: 22730921]

Taylor LA, Saylor C, Twyman K, & Macias M (2010). Adding insult to injury: Bullying experiences of youth with attention deficit hyperactivity disorder. Children's Health Care, 39(1), 59–72.

Tennant JE, Demaray MK, Coyle S, & Malecki CK (2015). The dangers of the web: Cybervictimization, depression, and social support in college students. Computers in Human Behavior, 50, 348–357.

Troop-Gordon W (2017). Peer victimization in adolescence: The nature, progression, and consequences of being bullied within a developmental context. Journal of Adolescence, 55, 116–128. [PubMed: 28081521]

Turner HA, Finkelhor D, Hamby SL, Shattuck A, & Ormrod RK (2011). Specifying type and location of peer victimization in a national sample of children and youth. Journal of Youth and Adolescence, 40(8), 1052–1067. [PubMed: 21373905]

Twenge JM, Cooper AB, Joiner TE, Duffy ME, & Binau SG (2019). Age, period, and cohort trends in mood disorder indicators and suicide-related outcomes in a nationally representative dataset, 2005–2017. Journal of Abnormal Psychology, 128(3), 185–199. [PubMed: 30869927]

Twenge JM, & Nolen-Hoeksema S (2002). Age, gender, race, socioeconomic status, and birth cohort difference on the children's depression inventory: A meta-analysis. Journal of Abnormal Psychology, 111(4), 578. [PubMed: 12428771]

van Geel M, Goemans A, Zwaanswijk W, Gini G, & Vedder P (2018). Does peer victimization predict low self-esteem, or does low self-esteem predict peer victimization? Meta-analyses on longitudinal studies. Developmental Review, 49, 31–40.

Wigderson S, & Lynch M (2013). Cyber-and traditional peer victimization: Unique relationships with adolescent well-being. Psychology of Violence, 3(4), 297.

Wolke D, Lee K, & Guy A (2017). Cyberbullying: a storm in a teacup?. European Child & Adolescent Psychiatry, 26(8), 899–908. [PubMed: 28188382]

Wolraich ML, Lambert W, Doffing MA, Bickman L, Simmons T, & Worley K (2003). Psychometric properties of the Vanderbilt ADHD diagnostic parent rating scale in a referred population. Journal of Pediatric Psychology, 28(8), 559–568. [PubMed: 14602846]

Yen CF, Chou WJ, Liu TL, Ko CH, Yang P, & Hu HF (2014). Cyberbullying among male adolescents with attention-deficit/hyperactivity disorder: Prevalence, correlates, and association with poor mental health status. Research in Developmental Disabilities, 35(12), 3543–3553. [PubMed: 25241113]

Zimmerman MA, Copeland LA, Shope JT, & Dielman TE (1997). A longitudinal study of self-esteem: Implications for adolescent development. Journal of Youth and Adolescence, 26(2), 117–141.

Key Messages

- In-person victimization is uniquely associated with higher adolescent-reported anxiety symptoms in adolescents with ADHD.
- Cyber victimization is uniquely associated with higher parent-reported depressive symptoms in adolescents with ADHD.
- Adolescents with ADHD who experience polyvictimization report the greatest anxiety and depressive symptoms and the lowest self-esteem.

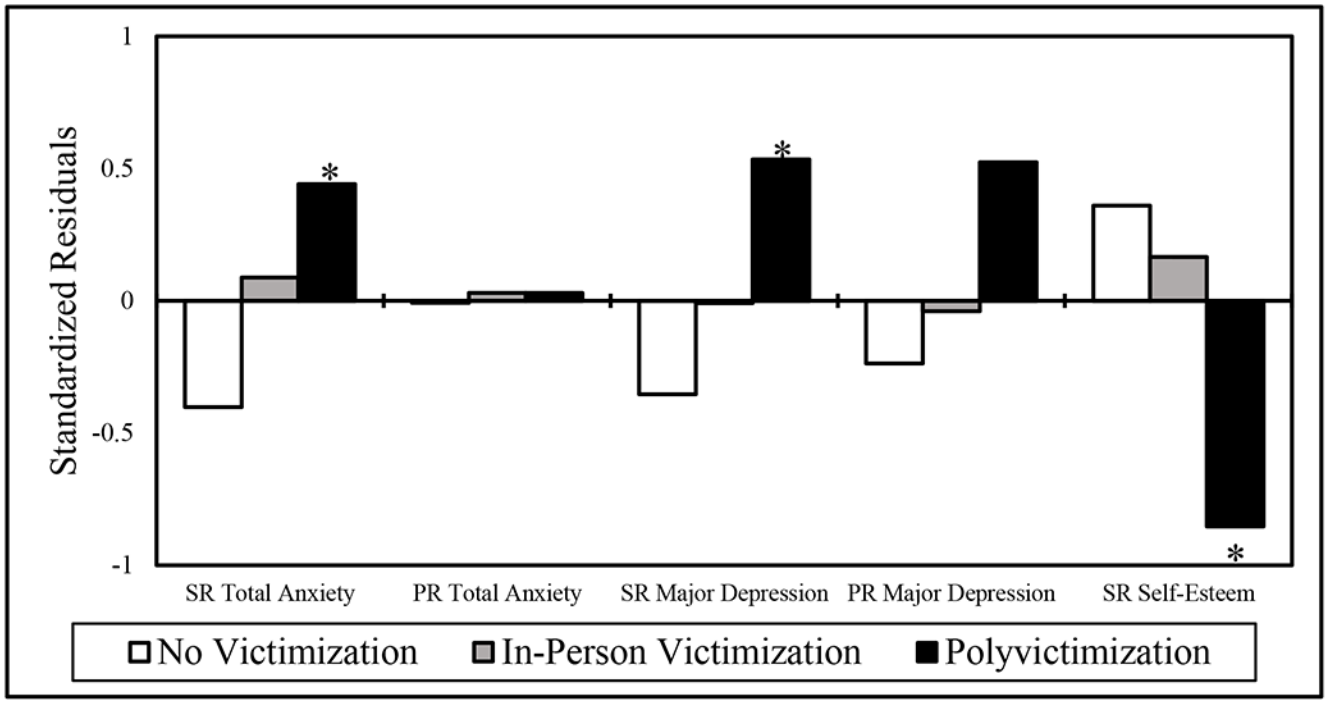

Figure 1.

Differences in Anxiety, Depression, and Self-Esteem among Adolescents with ADHD Reporting No Victimization, Only In-Person Victimization, or Polyvictimization (i.e., Both In-Person and Cyber Victimization)

Note. PR = parent-report. SR = adolescent self-report.

*p<.05.

Table 1

Sample Characteristics

	M* ± *SD
Age	15.01 ± 1.09
Estimated IQ[a]	103.46 ± 12.31
	***N* (%)**
Sex	
Male	55 (70.5%)
Female	23 (29.5%)
Grade[b]	
8	18 (25.7%)
9	17 (21.8%)
10	22 (31.4%)
11	13 (18.6%)
Race	
White	61 (78.2%)
Black/African American	8 (10.3%)
Asian	1 (1.3%)
Hispanic/Latino	1 (1.3%)
Multiracial	7 (9.0%)
ADHD medication	29 (37.2%)
Family Income[c]	
Up to $20,000	3 (3.9%)
$20,001 - $40,000	7 (9.1%)
$40,001 - $60,000	11 (14.3%)
$60,001 - $80,000	9 (11.7%)
Over $80,000	47 (61.0%)
Psychiatric Diagnoses[d]	**Parent Interview / Adolescent Interview / "Or" Rule *N* (%)**
ADHD	78 (100%) / 47 (60.3%) / 78 (100%)
Combined Presentation	19 (24.4%) / 11 (14.1%) / n/a
Inattentive Presentation	59 (75.6%) / 36 (46.2%) / n/a
Depression/Dysthymia	1 (1.3%) / 0 (0.0%) / 1 (1.3%)
Generalized Anxiety Disorder	3 (3.8%) / 4 (5.1) / 5 (6.4%)
PTSD	1 (1.3%) / 1 (1.3%) / 2 (2.6%)
ODD	6 (7.7%) / 2 (2.6%) / 6 (7.7%)
CD	1 (1.3%) / 1 (1.3%) / 1 (1.3%)
Any Comorbid Diagnosis	10 (12.8%) / 6 (7.7%) / 12 (15.4%)
Peer Victimization	
In-person victimization	50 (64.1%)
Cyber victimization	18 (23.1%)
Polyvictimization	17 (21.8%)

Note. ADHD = attention-deficit/hyperactivity disorder. CD = conduct disorder. ODD = oppositional defiant disorder. PTSD = posttraumatic stress disorder.

[a] Estimated intelligence quotient (IQ) determined using the *Kaufman Brief Intelligence Scale, Second Edition* (KBIT-2).

[b] Eight parents declined to answer the adolescent grade question.

[c] One parent declined to answer the family income question.

[d] Diagnoses established using the *Kiddie Schedule for Affective Disorders and Schizophrenia for School-Age Children* (K-SADS), with ADHD diagnosis based on interview with the adolescent's parent used for study inclusion.

Table 2

PBFS-AR Item Frequencies for In-Person Victimization and Cyber Victimization Scales

In-person physical victimization		**Cyber physical victimization**	
Someone threatened to hit or physically harm you.	15.40%	Someone used text-messaging to threaten to hurt you physically.	0.00%
Someone pushed or shoved you.	26.60%	Someone used cell phone pictures to threaten to hurt you physically.	0.00%
Someone threatened or injured you with a weapon (gun, knife, club, etc.).	0.00%		
Someone threw something at you to hurt you.	6.40%		
Someone hit you hard enough to hurt.	5.10%		
In-person verbal victimization		**Cyber verbal victimization**	
Someone put you down to your face.	15.40%	Someone used cell phone pictures to make fun of you.	3.80%
Someone said something disrespectful to you about your family.	9.00%	Someone used text-messaging to make fun of you.	2.60%
Someone teased you to make you mad.	26.90%	Someone used a chat room or Internet website to make fun of you	2.60%
Someone made fun of you to make others laugh.	23.10%	Someone called you mean names online or using a cell phone.	7.70%
Someone yelled at you or called you mean names.	25.60%		
In-person relational victimization		**Cyber relational victimization**	
Someone who was mad at you tried to get back at you by not letting you be in their group.	10.30%	Someone sent or posted embarrassing pictures of you without your permission.	6.40%
Someone said they wouldn't like you unless you did what he or she wanted.	7.70%	Someone pretended to be someone else online or using a cell phone to trick you.	2.60%
Someone left you out on purpose when it was time to do an activity.	17.90%	Someone left you out of an online group or unfriended you on Facebook.	6.40%
Someone spread a false rumor about you.	20.50%	Someone posted rude comments about you online.	2.60%
Someone tried to keep others from liking you by saying mean things about you.	12.80%	Someone spread rumors about you online or by texting.	7.70%

Note. PBFS-AR = Problem Behavior Frequency Scale – Adolescent Report.

Table 3

Pearson Bivariate Correlations and Descriptive Statistics of Study Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Sex	--													
2. Age	−.10	--												
3. Race	.00	.12	--											
4. Family income	−.02	.14	.45***	--										
5. ADHD medication	−.08	.16	.15	.10	--									
6. ADHD-IN	.09	−.13	−.03	−.15	−.19	--								
7. ADHD-HI	.06	−.32**	−.03	−.15	−.13	.32**	--							
8. In-person victimization	−.17	−.03	−.25*	−.21	−.06	.13	.00	--						
9. Cyber victimization	.02	−.02	−.22	−.16	−.04	−.02	−.24*	.32**	--					
10. SR anxiety	−.23*	−.06	−.23*	−.22	.00	.00	−.02	.42***	.19	--				
11. PR anxiety	.08	−.01	−.07	−.08	.10	.29*	.00	−.02	−.06	.20	--			
12. SR depression	−.32**	.04	−.24*	−.21	.00	.07	.08	.24*	.23*	.62***	.07	--		
13. PR depression	.04	−.04	−.13	.00	−.02	.33**	.08	.04	.25*	.21	.45***	.25*	--	
14. SR self-esteem	.05	.01	.27*	.12	−.02	−.04	.09	−.42***	−.50***	−.43***	−.21	−.39***	−.26*	--
Mean	--	15.01	--	--	--	1.96	1.00	1.17	1.04	0.56	0.36	0.60	0.48	3.09
Standard Deviation	--	1.09	--	--	--	0.62	0.68	0.21	0.09	0.34	0.22	0.39	0.32	0.72

Note. For sex, 0 = female, 1 = male. For race, 0 = not White, 1 = White. For family income, 0 = ≤$60,000, 1= >$60,000. For ADHD medication, 0 = not prescribed medication, 1 = prescribed medication. SR = adolescent self-report. PR = parent-report.

* $p<.05$.

** $p<.01$.

*** $p<001$.

Table 4

Regression Analyses Examining In-Person Victimization and Cyber Victimization in Relation to Internalizing Symptoms

	Adolescent Report						Parent Report			
	Anxiety		Depression		Self-Esteem		Anxiety		Depression	
	β	*t*	*β*	*t*	*β*	*t*	*β*	*t*	*β*	*t*
	R^2 = .23		R^2 = .21		R^2 = .33		R^2 = .10		R^2 = .19	
Sex	−.16	−1.54	−.32	−2.98**	.04	.38	.05	.43	−.01	−.13
Race	−.14	−1.27	−.19	−1.69	.13	1.24	−.09	−.74	−.09	−.81
ADHD-IN	−.03	−.29	.09	.84	−.03	−.29	.28	2.49*	.35	3.26**
In-person victimization	.35	3.04**	.07	.63	−.24	−2.18*	−.05	−.41	−.12	−1.02
Cyber victimization	.05	.42	.18	1.57	−.38	−3.48***	−.06	−.47	.28	2.46*

Note. For sex, 0 = female, 1 = male. For race, 0 = not White, 1 = White.

* p<.05.

** p<.01.

*** p≤001.