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Social impairment in relation to clinical symptoms in youth at high risk for bipolar disorder

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Abstract

Aim: Social impairment is common in individuals with bipolar disorder (BD), although its role in youths at high-risk for BD (i.e., mood symptoms in the context of a family history of BD) is not well understood. Social impairment takes many forms including social withdrawal, relational aggression, physical aggression, and victimization. The aim of this study was to explore the links between social impairment and clinical symptoms in youth at high-risk for BD.

Methods: The sample included 127 youths with elevations in mood symptoms (depression or hypomania) and at least one first and/or second degree relative with BD. Measures of youths' current psychopathology (i.e., depressive and manic severity, suicidality, anxiety, and attention-deficit/hyperactivity disorder [ADHD]) were regressed onto youths' self-reports of social impairment (i.e., social withdrawal, relational aggression, physical aggression, and victimization).

Results: Depressive symptoms, suicidal ideation, and anxiety symptoms were related to social withdrawal. Suicidal ideation was also related to reactive aggression. ADHD symptoms related to reactive and proactive aggression as well as relational victimization. Manic symptoms were not associated with social impairment in this sample.

Conclusions: Although cross-sectional, study findings point to potential treatment targets related to social functioning. Specifically, social withdrawal should be a target for treatment of childhood depressive and anxiety symptoms. Treatments that focus on social skills and cognitive functioning deficits associated with BD may also have clinical utility.

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DATA AVAILABILITY STATEMENT

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

Keywords

adolescent; clinical characteristics; paediatric; peer; social functioning

1 | INTRODUCTION

Individuals with bipolar disorder (BD) have lower perceived social support, fewer social interactions, and increased interpersonal conflict compared to healthy individuals (Beyer et al., 2003; Freeman et al., 2009; Morriss et al., 2007). In adults with BD, social impairment is prospectively linked with increased mood symptoms and longer time to recovery following a mood episode (Johnson et al., 1999). Impairments in social functioning have also been documented within a few years of developing BD (Goldstein et al., 2006; Keenan-Miller et al., 2012; Quackenbush et al., 1996), but there are few data on social functioning in the intervals prior to illness onset (Kutcher et al., 1998). In this study, we examined the relationships among social impairment with peers and various clinical characteristics in youth at familial and clinical high risk for BD.

Youth at high risk for BD are usually identified by recurrent depressive and/or brief manic episodes that do not meet DSM-5 criteria (American Psychiatric Association, 2013) for bipolar I or II disorder. Most have at least one first- or second-degree relative with a lifetime history of BD (Axelson et al., 2015). The combination of a family history and recurrent but subthreshold manic symptoms (unspecified BD in DSM-5 or bipolar not otherwise specified [NOS] in DSM-IV-TR (American Psychiatric Association, 2000)) is associated with conversion to full BD in 53.6% of individuals over 11.5 years compared to 2% in the general population (Birmaher et al., 2018). In addition, youth at high risk for BD commonly have high rates of co-occurring disorders, most notably attention-deficit/hyperactivity disorder (ADHD) and anxiety disorders (Goldstein et al., 2010; Hafeman et al., 2013; Weintraub et al., 2020).

The majority of studies examining peer social impairment in paediatric-onset BD have examined the construct as a singular dimension (see Keenan-Miller & Miklowitz, 2011 for a review). However, peer social impairment can be rated on several different dimensions. *Peer social withdrawal* refers to the degree an individual is engaging with and feels connected to peers versus avoids peer interactions despite feeling lonely (Weissman & Bothwell, 1976). *Aggressive behaviours* with peers can be categorized into two domains: relational aggression (causing interpersonal harm by damaging peer relationships or feelings) and physical aggression (using physical force to harm another person; Crick & Grotpeter, 1995). Aggressive behaviours can be either *proactively initiated* by an individual or *reactive* in response to peer aggression. Finally, *peer victimization* refers to the individual being the target of physical or relational aggression from peers (Linder et al., 2002).

These various dimensions of peer social impairment have distinct clinical correlates in youth with psychiatric disorders. Notably, depression and anxiety are associated with increased social withdrawal (Barzeva et al., 2019; Becker et al., 2015; Rytsälä et al., 2006), and increasing social activities is an objective target of behavioural interventions for these conditions (Abramowitz et al., 2019; Kanter et al., 2010). ADHD is related

to increased relational aggressive behaviour as well as victimization by peers (Becker et al., 2015; Carpenter Rich et al., 2009). Suicidal ideation and acts have been linked to relational aggression and, in particular, reactive social aggression in youth with depression or emotional dysregulation (Conner et al., 2003; Fite et al., 2009).

Elucidating these relationships can help point to underlying mechanisms (e.g., emotional dysregulation; social skills deficits) to target in treatments aiming to enhance peer functioning. In this exploratory study of youth at high risk for BD, we examined whether there were distinct clinical correlates of peer-related social withdrawal, aggression, and victimization. We hypothesized that, like in other studies of these disorders without BD, depressive and anxiety symptoms in youth at high risk for BD would most strongly relate to peer-related social withdrawal, that ADHD symptom severity would relate to relational aggression and peer victimization, and, finally, that suicidal ideation would relate to reactive aggression.

2 | METHODS

2.1 | Participants

Participants for this study were recruited for a randomized clinical trial at one of three medical institutions – the University of California, Los Angeles Semel Institute, the University of Colorado, Boulder and Anschutz Medical Campus, and Stanford University’s outpatient psychiatry program. Eligible participants had the following characteristics: (1) ages 9 years 0 months to 17 years 11 months; (2) met lifetime DSM-IV and, later DSM-5 criteria for unspecified BD or major depressive disorder; (3) were experiencing at least moderate levels of current mood symptoms (i.e., scored more than 11 on the Young Mania Rating Scale (YMRS; Young et al., 1978) over the prior week or more than 29 on the Childrens’ Depression Rating Scale, Revised (CDRS; Poznanski & Mokros, 1996) over the prior 2 weeks); and (4) had at least one first- or second-degree relative who met lifetime criteria for BD I or II.

To assess current diagnoses, study clinicians administered the Kiddie Schedule for Affective Disorder and Schizophrenia (KSADS), Present and Lifetime Version (Chambers et al., 1985; Kaufman et al., 2013) to the youth participant and at least one parent. Diagnostic item ratings were based on a consensus of ratings of the youth and the parent’s report about the youth. Interrater reliability (based on intraclass correlations) for KSADS Depression and Mania Rating Scales were .74 and .84, respectively, across study sites. Study assessors administered the MINI International Neuropsychiatric Interview to first- or second-degree relative(s) who were suspected of meeting lifetime criteria for BD I or II based on a parent’s report. When relatives could not be interviewed directly, diagnoses were based on secondary parent reports using the Family History Screening interview (Weissman et al., 2000). More details regarding study design and procedures can be found elsewhere (Miklowitz et al., 2020).

2.2 | Study outcomes

Youths' peer-related social impairment was gathered at study intake from two measures. The peer subscale of the social adjustment scale – self report: short was used to measure the youths' social engagement/withdrawal from peers (Gameroff et al., 2012). Items are rated on five- and six-point Likert scales with higher scores indicative of greater social withdrawal. Cronbach's alpha for the Social Adjustment Scale's peer subscale was acceptable in this sample ($\alpha = .71$). The self-report of aggression and social behaviour measure (SRASBM) was used to assess youths' ratings of their relational and physical aggression and relational and physical victimization with peers (Linder et al., 2002). The SRASBM subscales include: (1) proactive physical aggression; (2) reactive physical aggression; (3) proactive relational aggression; (4) reactive relational aggression; (5) physical victimization; and (6) relational victimization (see Table 1). Items are rated on a seven-point Likert scale with higher scores indicative of greater social relational aggressive behaviours. Cronbach's alphas for the aforementioned subscales were good (α 's = .76–.80) with the exception of physical victimization ($\alpha = .57$).

Depressive symptom severity was examined using the CDRS and manic symptom severity was examined using the YMRS as described above. Interrater reliability (based on intraclass correlations) for CDRS and the YMRS were .75 and .87, respectively, across study sites. We collected suicidal ideation using the suicidal ideation questionnaire (SIQ; Reynolds, 1987). The items are rated based on youth self-report on a 7-point Likert scale. Cronbach's alpha was excellent for the SIQ ($\alpha = .96$). Anxiety severity was measured using the screen for child anxiety related disorder, which includes 41 items rated by youth on a three-point Likert scale (Birmaher et al., 1997). Cronbach's alpha was excellent for this self-report measure of anxiety ($\alpha = .94$). ADHD symptom severity was measured using ADHD Rating Scale (DuPaul et al., 1998) The ADHD Rating Scale has 18-items rated on a four-point Likert scale by parent report. Cronbach's alpha was excellent for this measure ($\alpha = .95$). Socioeconomic status (SES) was measured using the Hollingshead SES Scale (Hollingshead, 1975).

2.3 | Statistical analyses

Due to significant skew in the SRASBM subscales (positively skewed), the data were first log-transformed; however, the SRASBM subscales remained significantly skewed. Thus, we used a mean-split for the SRASBM subscales, which separated individuals with no-to-minimal social relational aggression from those with more moderate-to-severe levels. Next, the relationships between demographic variables (i.e., age, sex, race, ethnicity, and SES) and the clinical and social impairment variables were examined. Any demographic variables that significantly correlated with social impairment variables were covaried in the tests of the primary hypotheses. The correlations between social impairment measures were examined. Phi correlation coefficients were generated when examining the relationships between the dichotomous SRASBM subscale; Pearson point-biserial correlations were used to examine the relationship between SRASBM subscales and the measure of social withdrawal.

We first examined the relationships between clinical characteristic (i.e., symptoms of depression and mania, anxiety, ADHD, and suicidal ideation) and the social impairment

outcomes. Simple linear regression analyses were used to examine the relationship between clinical characteristics and social withdrawal. Binary logistic regressions were used to examine the relationship between clinical characteristics and SRASBM (low vs. high) subscales. In the case where more than one clinical characteristic related to the same social impairment variable, we sought to examine which of these significant clinical characteristics was the strongest predictor in a multiple regression analysis. However, because multicollinearity can create unreliable estimates in multiple regression analyses, we did not conduct post-hoc multiple regression analyses when clinical characteristics that were highly correlated with one another related to the same social impairment outcome. Finally, in order to ease interpretation of odds ratios produced from logistic regression analyses, predictor variables were standardized for those computations.

3 | RESULTS

3.1 | Preliminary analyses

A total 127 youth were recruited for this study (64.6% female, average age of 13.2 [SD = 2.6]), who were predominantly middle class (Hollingshead SES = 3.9, SD = .8). A total of 23 youth (18.1%) identified as Hispanic and an additional 22 (17.3%) identified as non-White race. Seventy five (59.1%) were diagnosed with major depressive disorder and 52 (40.9%) were diagnosed with BD NOS. The large majority of youth ($n = 105$; 82.6%) had at least one first-degree relative with BD; the remainder ($n = 22$, 17.4%) had a second-degree affected relative. Of the 127 participants, 81 (63.7%) had a comorbid anxiety disorder and 49 (38.6%) had comorbid ADHD (see Table 2 for the sample's demographic and clinical characteristics). As expected, youth with comorbid anxiety had higher scores on the self-report measure of anxiety relative to youth without comorbid anxiety ($F[1114] = 10.23$, $p = .002$). Similarly, youth with comorbid ADHD had higher scores on the ADHD Self-Rating Scale compared to youth without ADHD ($F[1115] = 36.47$, $p < .001$). Correlations between continuous measures of youths' clinical characteristics (i.e., depression, mania, suicidal ideation, anxiety, and ADHD ratings) are presented in Table 3.

None of the demographic variables (i.e., age, sex, race, ethnicity, or SES) were related to the social withdrawal, relational aggression, physical aggression, or victimization subscales. However, female youth were more likely to experience greater relational victimization ($b = 1.25$, $SE = .49$, Wald $\chi^2(1) = 6.48$, $p = .01$).

Among the social impairment variables, each of the SRASBM subscales (relational aggression, physical aggression, and victimization) significantly correlated with one another ($ps < .01$; see Table 3). Social withdrawal did not relate to any of the SRASBM subscales.

3.2 | Social withdrawal

Greater depressive symptom severity and greater suicidal ideation (SIQ) were related to higher social withdrawal scores. Greater anxiety was also related with higher social withdrawal scores. None of the other clinical features related to social withdrawal. Since both anxiety and depression were highly correlated, follow-up multiple regression analyses

were not conducted. The results of the simple regression analyses for each social impairment outcome are presented in Table 4.

3.3 | Relational aggression

Suicidal ideation and ADHD symptoms were associated with increased reactive aggression. Both suicidal ideation and ADHD remained related to reactive relational aggression when entered into a multiple logistic regression analysis. Only ADHD symptoms were associated with increased proactive relational aggression.

3.4 | Physical aggression

Suicidal ideation and ADHD symptoms were significantly related to increased reactive aggression. In a multiple logistic regression analysis, they both remained significantly related to reactive aggression. ADHD symptoms also related to greater proactive physical aggression.

3.5 | Victimization

Only ADHD related to greater relational victimization (in which the high-risk youth was a target) in the univariate analysis. This relationship remained significant when controlling for the patient's sex. None of the clinical features related to physical victimization.

4 | DISCUSSION

This is the first systematic investigation, to our knowledge, of social impairments across peer relationship domains in youth at high risk for BD. The relatively young age of the sample allowed us to conduct an exploratory examination of social impairments prior to the period of greatest risk for BD onset. We examined the relationship between clinician-rated clinical characteristics (i.e., mood symptom severity, suicidal ideation, and ADHD and anxiety) and participant-rated social impairment (i.e., social withdrawal, relational and physical aggression, and victimization). Interestingly, although many of the social impairment subscales were correlated and many of the clinical features were correlated with one another, there were unique relationships that emerged among these variables. Depressive and anxiety symptom severity were the clinical characteristics that most strongly related to social withdrawal. Both suicidal ideation and ADHD were associated with reactive aggression. ADHD was also associated with proactive aggression as well as relational victimization. Manic symptom severity was not related to any of the social impairment domains. These findings provide an initial picture of the peer social impairments linked to symptom states in youth at high risk for BD.

Although this study is cross-sectional, prior research indicates that the relationships between clinical and social functioning variables are likely related via bidirectional pathways. The relationship between depressive symptomatology and social impairment is particularly relevant to youth along the bipolar spectrum, as the majority of their symptomatic course is spent with depressive symptoms (Birmaher et al., 2009). These findings also indicate that anxiety symptoms play a strong role in social withdrawal for these youth. Previous work has found that social withdrawal predicts social impairment which then predicts

future mental health symptoms in a general community sample (Katz et al., 2011). Additionally, social withdrawal can increase over the course of adolescence, especially in the context of friendship instability and exclusion (Oh et al., 2008). Our results indicate that high-risk children show signs of social withdrawal at relatively young ages. Therefore, clinical strategies to alleviate social withdrawal in early adolescence may be an important component of early intervention protocols. Addressing social withdrawal with behavioural activation may be an efficacious means of preventing a worsening of depressive symptoms (Jacobson et al., 2001).

Reactive social aggression was connected to suicidal ideation and ADHD symptoms. Previous evidence suggests that suicidality can lead to reactive aggression as a result of high emotional reactivity and dysregulation in stressful situations (Conner et al., 2003). Emotional dysregulation represents a core clinical features of individuals along the BD spectrum (Birmaher et al., 2013; Weintraub et al., 2017). More specifically to social situations, reactive aggression may be an overreaction to perceived threat or social discord (Fava & Rosenbaum, 1999). Reactive aggression was also relevant for youth with greater ADHD symptoms. This parallels other research that indicates ADHD symptoms are closely coupled with reactive aggression (Murray et al., 2020). Both hyperactivity as well as emotional impulsivity appear to play a role in these reactive social encounters, as these youth have a difficult time inhibiting behavioural responses, particularly between the ages of 7 and 15 years (Döpfner et al., 2015; Monuteaux et al., 2010). Individuals with elevated emotional dysregulation and impulsivity may overreact to perceived interpersonal threats by retaliating against peers rather than taking a measured approach to interpret and respond to peer conflicts. Intervening to enhance emotion regulation (perhaps via mindfulness strategies that focus on distress tolerance and acceptance) may help reduce the association between suicidality and reactive aggression (Neacsiu et al., 2014).

Although proactive aggression and victimization may appear to be opposing social behaviours, youth with ADHD are categorized as victims, bullies, *and* bully/victims more than non-ADHD youth (Wiener & Mak, 2009). Cognitive and executive functioning deficits (e.g., impulsivity, a characteristic of both BD and ADHD) appear to play a critical role in physical aggression and bullying (Unnever & Cornell, 2003). Impairments in social skill performance (as opposed to knowledge of appropriate social behaviours) characterize youth with BD compared to health controls (Goldstein et al., 2006). Youths with mood disorders and ADHD may be more likely to interrupt peers or speak off-topic in conversations, which may elicit teasing, bullying or social rejection from peers. The youth may then physically aggress against these peers when emotionally upset due to poor impulse control, leading to further social alienation. Behavioural interventions that directly teach social skills could prove useful for youth at risk for BD, particularly those with ADHD (Lecroy & Beker, 2014). However, social skills alone appear insufficient in ameliorating difficulties in peer relationships for youth with ADHD (Willis et al., 2019). Interventions that improve cognitive functioning in BD, such as cognitive remediation programs (Torrent et al., 2013), or other interventions that directly address executive functioning skills in adolescents with ADHD may also be necessary (Sprich et al., 2016).

The study has several limitations. First, it was a cross-sectional analysis, which limited our ability to draw conclusions about the causal directions between variables. Because it was an exploratory study, we maintained an alpha level of .05 rather than adjust for multiple comparisons. Second, we relied on self-report measures of social impairment, which may be affected by the individuals' mood states or interfere with their insight into social interactions (Gotlib et al., 2014). Nonetheless, objective ratings of the youths' social milieu are subject to observer biases. Future studies should examine the social behaviour of high-risk youths from multiple vantage points. Third, youths had minimal variability in manic symptoms, which limited our ability to detect a relationship with social impairment. Previous research has also indicated no relationship between manic symptoms and social impairment in adolescents with BD (Keenan-Miller et al., 2012); however, it remains unclear whether these null findings are a result of low manic symptom severity at time of assessment or if truly no relationship exists between manic symptoms and social impairment.

Our findings provide an initial understanding of the relationships between clinical characteristics and social impairments among youth at high risk for developing BD. Future research should investigate the causal role that specific symptoms and correlated cognitive vulnerabilities (e.g., information processing biases) may play in the development of these impairments. Conversely, investigating the causal role of social impairments in the development of psychiatric disturbances can further our understanding of how social factors impact the onset and course of mental health difficulties. For high-risk youth, we also see value in comparing behavioural treatments that specifically target social impairments (e.g., social skills training) with pharmacotherapy that targets early-onset mood symptoms and their associated impairments.

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CONFLICT OF INTEREST

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Abbreviations:

ADHD	attention deficit/hyperactivity disorder
BD	bipolar disorder
CDRS	child depression rating scale
SES	socioeconomic status
SIQ	suicidal ideation questionnaire
SRASBM	self-report of aggression and social behaviour measure
YMRS	young mania rating scale

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TABLE 1

Self-report of aggression and social behavioural measure (SRASBM) subscale definitions

Term	Definition
1. Proactive relational aggression	Initiating social or emotional harm towards peers Example Item: "I have intentionally ignored a person until they gave me my way about something."
2. Reactive relational aggression	Responding to a social situation through use of social or emotional harm Example Item: "When I am not invited to do something with a group of people, I will exclude those people from future activities."
3. Proactive physical aggression	Initiating or threatening physical harm of peers Example Item: "I have pushed or shoved others in order to get things that I want."
4. Reactive physical aggression	Responding to social situation with use or threats of physical harm Example Item: "When someone has angered or provoked me in some way, I have reacted by hitting that person."
5. Relational victimization	Being the victim of social or emotion harm by peers Example Item: "I have a friend who excludes me from doing things with her/him and her/his other friends when s/he is mad at me"
6. Physical victimization	Being the victim of physical threats or harm by peers Example Item: "I have a friend who has threatened to physically harm me in order to get his/her own way."

TABLE 2

Demographic and illness characteristics ($N = 127$)

Demographics	
	Mean (SD)
Age (years)	13.2 (2.6)
Socioeconomic status	3.9 (.8)
	n (%)
Female	82 (64.6)
Nonwhite race	22 (17.3)
Hispanic ethnicity	23 (18.1)
Illness Characteristics	
	Mean (SD)
Young Mania Rating Scale	12.6 (7.3)
Children's Depression Rating Scale	47.3 (14.5)
Screen for Childhood Anxiety and Related Disorders	30.9 (16.8)
ADHD rating scale	22.2 (13.2)
	Median (IQR)
Suicidal Ideation Questionnaire	29.0 (19–50)
	n (%)
<i>Primary diagnosis</i>	
Major depressive disorder	75 (59.1)
Bipolar disorder, not otherwise specified	52 (40.9)
Comorbid anxiety disorder	81 (63.8)
Comorbid ADHD	49 (38.6)
<i>Baseline medications</i>	
None	56 (44.1)
Lithium	1 (.8)
Antipsychotic	30 (23.6)
Anticonvulsant	18 (14.2)
Antidepressant	47 (37.0)
Anxiolytic	4 (3.1)
Psychostimulant or other ADHD agent	26 (20.5)
<i>Family history of bipolar disorder</i>	
Youths with first-degree relative	105 (82.7)

Note: The median and interquartile range are presented for the Suicidal Ideation Questionnaire as this variable had significant positive skew and did not fit the normal Gaussian distribution.

Abbreviations: ADHD, attention-deficit/hyperactivity disorder; IQR, Interquartile Range; SD, Standard Deviation.

TABLE 3

Correlation matrices of study variables

Clinical characteristics	1.	2.	3.	4.	5.
1. CDRS	-	-.07	.36 ^{***}	.27 ^{**}	-.03
2. YMRS		-	.01	-.20 [*]	.33 ^{***}
3. SCARED			-	.51 ^{***}	.03
4. SIQ				-	-.02
5. ARS					-

Social impairment variables	1.	2.	3.	4.	5.	6.	7.
1. Proactive relational aggression	-	.57 ^{***}	.55 ^{***}	.33 ^{***}	.41 ^{***}	.25 ^{**}	.01
2. Reactive relational aggression		-	.42 ^{**}	.37 ^{**}	.39 ^{***}	.35 ^{***}	.09
3. Proactive physical aggression			-	.63 ^{***}	.32 ^{***}	.33 ^{***}	-.04
4. Reactive physical aggression				-	.27 ^{**}	.48 ^{***}	-.03
5. Relational victimization					-	.45 ^{***}	.06
6. Physical victimization						-	.04
7. Social withdrawal							-

Note: Pearson correlations are presented for the correlations between clinical characteristic measures. Phi correlation coefficients are presented for all correlations between two dichotomous variables (i.e., correlations between SR-ASBM subscales). Point-biserial Pearson correlations are presented for correlations between social withdrawal and SR-ASBM subscales.

Abbreviations: ADHD, attention-deficit/hyperactivity disorder; ARS, ADHD rating scale; CDRS, child depression rating scale; SCARED, screen for child anxiety related emotional disorders; SIQ, suicidal ideation questionnaire.

^{***} $p < .001$;

^{**} $p < .01$;

^{*} $p < .05$.

TABLE 4

Simple regression results for relationships between clinical characteristics and social impairment outcomes

	Standardized statistic	<i>p</i>
Social withdrawal		
CDRS	$\beta = .37$	<.001
YMRS	$\beta = -.15$.14
SIQ	$\beta = .25$.009
SCARED	$\beta = .30$.001
ARS	$\beta = -.05$.60
Relational aggression – reactive		
CDRS	$\beta = .08$; Exp(B) = 1.19	.33
YMRS	$\beta = .00$; Exp(B) = 1.00	.98
SIQ	$\beta = .30$; Exp(B) = 1.64	.002
SCARED	$\beta = .13$; Exp(B) = 1.29	.18
ARS	$\beta = .26$; Exp(B) = 1.73	.006
Relational aggression – proactive		
CDRS	$\beta = .04$; Exp(B) = 1.08	.66
YMRS	$\beta = -.08$; Exp(B) = .84	.35
SIQ	$\beta = .10$; Exp(B) = 1.24	.27
SCARED	$\beta = .00$; Exp(B) = 1.00	.99
ARS	$\beta = .24$; Exp(B) = 1.68	.01
Physical aggression – reactive		
CDRS	$\beta = .14$; Exp(B) = 1.13	.13
YMRS	$\beta = -.08$; Exp(B) = .86	.40
SIQ	$\beta = .20$; Exp(B) = 1.52	.03
SCARED	$\beta = .00$; Exp(B) = 1.00	1.00
ARS	$\beta = .26$; Exp(B) = 1.74	.006
Physical aggression – proactive		
CDRS	$\beta = .06$; Exp(B) = 1.13	.49
YMRS	$\beta = -.02$; Exp(B) = .96	.84
SIQ	$\beta = .00$; Exp(B) = 1.00	1.00
SCARED	$\beta = -.02$; Exp(B) = .95	.79
ARS	$\beta = .24$; Exp(B) = 1.67	.01
Victimization – relational		
CDRS	$\beta = .15$; Exp(B) = 1.35	.10
YMRS	$\beta = .03$; Exp(B) = 1.05	.77
SIQ	$\beta = .15$; Exp(B) = 1.35	.12
SCARED	$\beta = .08$; Exp(B) = 1.17	.41
ARS	$\beta = .26$; Exp(B) = 1.74	.006
Victimization – physical		
CDRS	$\beta = .04$; Exp(B) = 1.09	.65
YMRS	$\beta = -.09$; Exp(B) = .83	.29

	Standardized statistic	<i>p</i>
SIQ	$\beta = .17$; Exp(B) = 1.44	.07
SCARED	$\beta = .05$; Exp(B) = 1.10	.60
ARS	$\beta = .13$; Exp(B) = 1.30	.17

Note: β indicates standardized linear regression coefficient; Exp(B) indicates odd ratio.

Abbreviations: ADHD, attention-deficit/hyperactivity disorder; ARS, ADHD rating scale; CDRS, child depression rating scale; SCARED, screen for child anxiety related emotional disorders; SIQ, suicidal ideation questionnaire.

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