

UCLA

UCLA Previously Published Works

Title

Bullying of youth with autism spectrum disorder, intellectual disability, or typical development: Victim and parent perspectives

Permalink

<https://escholarship.org/uc/item/2tn652sn>

Journal

Research in Autism Spectrum Disorders, 8(9)

ISSN

1750-9467

Authors

Zeedyk, SM
Rodriguez, G
Tipton, LA
[et al.](#)

Publication Date

2014-09-01

DOI

10.1016/j.rasd.2014.06.001

Peer reviewed



ELSEVIER

Contents lists available at ScienceDirect

Research in Autism Spectrum Disorders

Journal homepage: <http://ees.elsevier.com/RASD/default.asp>

Bullying of youth with autism spectrum disorder, intellectual disability, or typical development: Victim and parent perspectives

S.M. Zeedyk^{a,*}, G. Rodriguez^a, L.A. Tipton^a, B.L. Baker^b, J. Blacher^a^a Graduate School of Education, Attn: SEARCH Center, University of California, Riverside, Riverside, CA 92521, USA^b Department of Psychology, University of California, Los Angeles, 1285 Franz Hall, Box 951563, Los Angeles, CA 90095-1563, USA

ARTICLE INFO

Article history:

Received 21 April 2014

Accepted 2 June 2014

Keywords:

Autism
Intellectual disability
Bullying
Adolescents
Friendship

ABSTRACT

In-depth interviews conducted separately with 13-year-olds with autism spectrum disorder (ASD), intellectual disability (ID), or typical development (TD) and their mothers investigated the experiences of victimization in the form of bullying. Coded constructs from the interviews were utilized to compare groups on the frequency, type, and impact of victimization. Youth with ASD were victimized more frequently than their ID or TD peers, and the groups differed with regard to the type of bullying and the impact it had, with ASD youth faring the worst. Higher internalizing problems and conflict in friendships were found to be significant predictors of victimization, according to both youth- and mother-reports. These predictors were found to be more salient than ASD status alone. Implications for practice are discussed.

© 2014 Elsevier Ltd. All rights reserved.

1. Introduction

Victims of bullying often endure repeated exposure to intentional negative actions on the part of one or more individuals, especially if there is an imbalance of power in their relationship (Olweus, 1994). This problematic behavior is prevalent among all adolescents in the U.S., with 28–30% of students reported to be involved in bullying behaviors (Carlyle & Stenman, 2007; Nansel et al., 2001; National Center for Educational Statistics, 2011). Sadly, there is reason to believe that youth with autism spectrum disorder (ASD) or intellectual disability (ID) experience even more bullying than their typically developing (TD) peers. This study addressed the need for research on the frequency, type, and impact of victimization by incorporating the perspectives of three groups of youth—ASD, ID and TD—and their mothers.

1.1. Victimization of ASD and ID youth

Nearly seven decades ago, Hans Asperger wrote about the tendency of children with autism to be tormented and rejected by their classmates (Asperger, 1944). This situation has not changed much today, with high rates of victimization reported for children and youth with ASD at school. For example, Cappadocia, Weiss, and Pepler (2012) found that 77% of 192 parents

* Corresponding author. Tel.: +1 702 521 2040.

E-mail addresses: szeed001@ucr.edu, szeedyk@gmail.com (S.M. Zeedyk), geovanna.rodriguez@ucr.edu (G. Rodriguez), ltipt001@ucr.edu (L.A. Tipton), baker@psych.ucla.edu (B.L. Baker), jan.blacher@ucr.edu (J. Blacher).

reported that their child with ASD, aged 5–21 years, had been bullied at school within the last month, with 46% reporting even more frequent victimization (i.e., “once per week” or “several times per week”).

Studies involving comparison groups are useful for understanding whether youth with ASD experience more frequent bullying than other disability groups or their TD peers. Research has indicated that youth with ASD experience more social exclusion (Locke, Ishjima, Kasari, & London, 2010), are more likely to be verbally and physically bullied, and, relative to TD youth, are more likely to have peers in their class “who do not like them” (Wainscot, Naylor, Sutcliffe, & Williams, 2008). Research has also shown that repeated victimization is significantly higher for elementary and middle school students with ASD than for other disability groups, as reported from a longitudinal dataset (Blake, Lund, Zhou, Kwok, & Benz, 2012) as well as in ratings by parents (Rowley et al., 2012).

Christensen, Fryant, Neece, and Baker (2012) compared the prevalence, chronicity, and severity of bullying between 13-year-old adolescents with ID ($N = 46$) and TD youth ($N = 91$). Adolescents with ID experienced significantly higher rates of victimization (62%) compared to their TD peers (41%). Yet, the chronicity and severity was not found to differ between groups. This study also reported the agreement between mother and youth accounts of victimization, which was low. Although mothers and adolescents agreed fairly well about whether victimization occurred, they did not agree about the severity or frequency of bullying or whether the adolescent had bullied others. In a study of 186 adolescents with mild ID aged 12–21, 83% of the sample reported having been bullied physically, emotionally, and/or verbally (Reiter & Lapidot-Leflet, 2007). In the present study, we explored the similarities and differences between ASD and ID youth, relative to TD youth.

1.2. The role of friendships in adolescence

Friendships are important in adolescence, possibly providing some protection against bullying, as friends serve a variety of functions, including emotional security, advice, validation, and opportunities for intimate disclosure. Potentially, they also can increase self-esteem and social skills and provide a context for continued exploration of the impact of an adolescent's personal actions on himself and others (Rubin, Bukowski, & Parker, 2006; Rubin, Fredstrom, & Bowker, 2008). Friendships, theoretically, are reciprocal and voluntary, and presumably acknowledged by both parties (Rubin et al., 2008; Rubin, Wojslawowicz, Rose-Krasnor, Booth-LaForce, & Burgess, 2006).

1.2.1. Friendships of adolescents with ASD and ID

The friendships of those with ASD or ID are characterized differently than those of TD adolescents. Due to the nature of their disability (i.e., impairments in social-communication and restricted interests), individuals with ASD have been found to have significantly fewer reciprocal relationships than their TD peers (Howlin, 2000; Howlin, Goode, Hutton, & Rutter, 2004; Orsmond, Krauss, & Seltzer, 2004). Wainscot et al. (2008) found that while adolescents with ASD reported significantly fewer friendships than TD controls, they were just as likely to report having a “best” friend.

Similar to youth with ASD, adolescents with ID have experienced reduced participation in social activities, fewer friendships, and higher levels of loneliness (Heiman, 2000; McVilly, Stancliffe, Parmenter, & Burton-Smith, 2006; Solish, Perry, & Minnes, 2010). They have been reported to exhibit reduced social competence and conflict resolution skills and to engage in friendships that would be considered less sophisticated than those of TD adolescents (Larkin, Jahoda, MacMahon, & Pert, 2012; Matheson, Olsen, & Weisner, 2007). In a study comparing youth with ASD, ID, and TD youth, ages 5–17, Solish et al. (2010) found both disability groups to have significantly fewer mutual friendships than TD youth, but those with ID had significantly more friends than those with ASD (i.e., 20% of youth with ID versus 50% of youth with ASD were reported to have no friends). These deficits in friendships may contribute to the increased victimization rates seen in bullying studies, among other problems (e.g., depression, anxiety). In this study, we attempted to understand the extent to which friendships play a role in victimization.

1.3. Risk factors for victimization

Though relatively little research has been conducted to identify bullying risk factors for those with developmental disabilities, some studies specifically with youth with ID have found the strongest predictors for bullying risk to be poor social skills (i.e., social problems and social withdrawal) and behavior problems (Christensen et al., 2012). Emotional and interpersonal problems have also been linked to victimization in this population (Reiter & Lapidot-Leflet, 2007). Because social skills and interpersonal communication deficits are also central features of ASD, we would expect the variables that are predictive of bullying and friendships of youth with ID to be similar for those with ASD. Yet, this is not always what has been reported. For example, Rowley et al. (2012) found that youth with ASD with the fewest social and communication impairments actually experienced the highest rates of victimization; however, the authors did not explore the relationship between behavior problems and bullying. In contrast, Cappadocia et al. (2012) reported that communication difficulty was a significant predictor of greater victimization for those with ASD, controlling for age and gender. One reason for this discrepancy could be the difference in measurement of communication impairment or deficit. Importantly, both groups of researchers found that fewer friendships at school and more internalizing behavior problems were each predictive of victimization. They also found younger children more likely to be bullied than older children.

In addition to the ambiguity surrounding the identification of risk factors, using self-reported measures confounds the research in this field. Youth with ASD often misperceive and inaccurately report on their friendships (Rotheram-Fuller,

Kasari, Chamberlain, & Locke, 2010). Too, adolescents with ASD or ID who are targets of bullying may under-report victimization, and individuals with ASD in particular have been shown to be poor self-reporters of bullying experiences (van Roekel, Scholte, & Didden, 2010). Because it is difficult to determine whether youth with ASD correctly interpret acts of bullying, it is helpful to have more than one reporter. In the present study, we assessed both youth and mother perspectives.

1.3.1. Internalizing behavior as a risk factor

There may be a relationship between internalizing problems (e.g., anxiety, depression) and peer victimization for youth with ASD and ID. Youth with ASD in particular display internalizing problems. Mazurek and Kanne (2010) found that children and adolescents ($N = 1200$) with ASD, aged 4–17, were significantly more anxious/depressed, and scored significantly higher on the Internalizing Problems scale of the Child Behavior Checklist (CBCL; Achenbach & Rescorla, 2001) when compared to a normative sample. Youth age was not found to be related to internalizing problems in this study. Others have similarly reported higher levels of anxiety, depression and social withdrawal when compared to TD youth (Bauminger, Solomon, & Rogers, 2010; White, Oswald, Ollendick, & Scahill, 2009).

It is possible that internalizing problems may put adolescents with ASD at increased risk for being bullied, and/or that victimization may lead to increased levels of internalizing symptoms. For example, Cappadocia et al. (2012) found internalizing (but not externalizing) behavior problems to be a significant predictor of victimization in youth with ASD. Whitehouse, Durkin, Jaquet, and Ziatas (2009) found that depression in adolescents with Asperger's syndrome was predicted by "best" friendships characterized by high levels of conflict/betrayal, or stressful friendships. Similarly, other social problems (i.e., the inability to get along with peers, social withdrawal, poor social judgment, and immaturity) have been linked with anxiety and depression among youth with ASD (Mayes, Calhoun, Murray, & Zahid, 2011).

1.3.2. Friendship difficulties as a risk factor

The role of friendship in bullying is unclear. Bowker, Rubin, Burgess, Booth-LaForce, and Rose-Krasnor (2006) found that children with no best friend experienced significantly more victimization than those with stable best friendships or those who gained a best friend over the course of the school year. Yet studies of youth with ASD and friendship contain contradictions. Rowley et al. (2012) reported that while those with ASD and less severe social and communication impairments had more meaningful friendships, this group also experienced higher levels of bullying. The authors suggested that youth with ASD who were less impaired socially may have been more aware of their social relationships and thus better able to report experiences of victimization. Alternatively, it may be that those with more friendships may have had more exposure to social situations, including conflict, and thus faced increased opportunities for bullying to occur.

On the other hand, friendships in TD adolescents have been found to be a protective factor against internalizing problems (Hodges, Boivin, Vitaro, & Bukowski, 1999; Holt & Espelage, 2007; Schmidt & Bagwell, 2007). However, this relationship is not as clear for those with ASD. Controlling for autism severity and IQ, Mazurek and Kanne (2010) found youth with ASD with one or more friendships had significantly higher rates of internalizing symptoms than that those with no or poor quality friendships. Greater participation in social and recreational activities has also been found to be predicted by a greater number of internalizing behavior problems for adolescents and adults with ASD (Orsmond et al., 2004). Along the same vein, Tipton, Christensen, and Blacher (2013) found higher levels of internalizing behavior to be predictive of higher levels of warm and close friendships for adolescents with ID, whereas the opposite was true for TD youth. To claim that friendships may be anything but positive for any adolescent may seem contrary to theory. However, for those with ASD or ID, these studies suggest that the relationship between friendships and victimization may be more complicated than would be found among TD adolescents.

1.4. Present study

Although risk factors and predictors have been identified for those with ASD and ID, some inconsistencies have been found, perhaps due to the wide age ranges included, lack of multiple informants or the use of surveys. The present study utilized direct interviews separately with youth and their mothers to probe incidences of bullying or victimization, and to explore friendships. Our primary research questions were: (1) To what extent do experiences of victimization vary among adolescents with ASD, ID, or TD? (2) Do mothers and adolescents agree in their reports of type of victimization and its impact? (3) What are the predictors (risk or protective) of victimization? (4) To what extent do quality friendships serve as protective factors against victimization?

2. Materials and methods

Participants ($N = 175$) were recruited from a larger longitudinal study through the collaboration of three major universities located in Southern California and Central Pennsylvania. The purpose of the larger study was to examine family processes, child emotion regulation, and behavior problems and mental disorders in youth with ID or TD, from age 3 years through adolescence.

At age 13, a sample of youth with ASD joined the study; thus, participants were categorized into one of three following groups: high-functioning ASD ($N = 44$), ID ($N = 39$) or TD ($N = 92$). A subsample of the ID and TD groups were reported on in Christensen et al. (2012), though with different analyses. Participants in the ASD group were referred to the study by local

Table 1
Demographics by disability status.

Variable	ASD (<i>n</i> = 44) <i>M</i> (<i>SD</i>)	ID (<i>n</i> = 39) <i>M</i> (<i>SD</i>)	TD (<i>n</i> = 92) <i>M</i> (<i>SD</i>)	χ^2 or <i>F</i>
<i>Adolescents</i>				
WISC-IV IQ FSIQ	99.2 (18.1) _a	62.1 (13.0) _b	109.1 (12.3) _c	<i>F</i> = 153.20 ^{***}
Vineland composite	76.3 (10.0) _a	73.7 (11.6) _a	97.0 (8.7) _b	<i>F</i> = 111.32 ^{***}
Gender (% male)	88.6 _a	53.8 _b	47.8 _b	χ^2 = 21.21 ^{***}
Race (% Caucasian)	56.8	46.2	58.7	χ^2 = 1.79
Classroom setting: general Ed. (%)	38.6 _a	30.8 _a	100.0 _b	χ^2 = 87.17 ^{***}
Internalizing Bx (<i>T</i> score)	63.2 (9.9) _a	53.4 (11.5) _b	48.2 (10.7) _c	<i>F</i> = 27.13 ^{***}
Externalizing Bx (<i>T</i> score)	56.0 (9.8) _a	54.2 (10.2) _a	47.0 (9.3) _b	<i>F</i> = 15.12 ^{***}
<i>Mothers</i>				
Income (% >\$50,000)	65.9	56.4	73.3	χ^2 = 3.64
Mother's education (years of school)	15.0 (2.4) _{a,b}	14.1 (3.1) _a	15.9 (2.3) _b	<i>F</i> = 6.91 [*]

Note. ASD = autism spectrum disorder; ID = intellectual disability; TD = typically developing. Means with differing subscripts within rows are significantly different at the $p < .05$ based on Fisher's LSD post hoc paired comparisons. Frequencies with differing subscripts within rows are significantly different at the $p < .05$ level based on Cramer's *V*.

* $p < .01$.

** $p < .001$.

service agencies, schools, and state regional centers. Adolescents were included in the ASD group if they had a previous diagnosis of ASD and an IQ on the Wechsler Intelligence Scale for Children (WISC-IV; Wechsler, 2003) of 70 or above. Participants in the ASD sample *did not* have a concurrent diagnosis of ID. These youth met criteria for ASD from outside agencies and/or met criteria for autistic-like behaviors at their schools as evidenced by their Individualized Education Plan (IEP) or existing 504 Plan.

Individuals in the ID group were classified according to the criteria set forth by the Diagnostic and Statistical Manual of Mental Disorders—Fourth Edition Revised (American Psychiatric Association, 2000). That is, participants were included in the ID sample if they had an IQ in the clinical or borderline range for ID, below 85 on the WISC-IV (Wechsler, 2003), and a standard score below 85 on the Vineland Scales of Adaptive Behavior-II (VABS; Sparrow, Cicchetti, & Balla, 2005). We combined those with IQs below 70 ($N = 26$) per DSM-IV classification and those with IQs ranging from 71 to 84 (i.e., in the borderline range) ($N = 13$) in the ID group. This decision was based on prior research demonstrating similarities in the difficulties faced by those with borderline intellectual functioning and those with ID (DSM-IV-TR, APA, 2000; Fenning, Baker, Baker, & Crnic, 2007). No individuals with ASD were included in the ID group. Participants in the TD group were included if they had an IQ of 85 or above on the WISC-IV, and no previous history of a developmental delay or disability.

Table 1 shows participant demographics by group status. Classroom placements varied across the ID and ASD samples, with 39% of adolescents with ASD and 31% of those with ID being in a general education classroom all day and 100% of TD youth in general education. There were statistically significant gender differences between groups. This uneven representation of gender can be explained by the expected higher prevalence rate of ASD among males (here 89%) (Centers for Disease Control & Prevention, 2012). Race/ethnicity did not differ among groups, with the majority of participants (55.4%) being Caucasian.

With regard to mother demographics, family income did not differ across groups. There was, however, a significant difference across groups in mother's education; mothers of TD youth attended more years of school than did mothers of ID youth. Mothers' education in the ASD group did not differ from the other two groups.

2.1. Procedure

The Institutional Review Boards of the participating universities approved study procedures. Informed consent forms were mailed home and then reviewed with, and collected from, both mothers and youth upon the day of the interview. Mothers completed measures of social skills and child behavior problems. During the on-site assessment, graduate student researchers trained in the study procedures met separately with the youth and mother to complete a variety of tasks, including an extensive interview addressing the adolescents' friendships, school experiences and experiences with victimization.

2.2. Measures

Wechsler Intelligence Scale for Children, Fourth Edition (WISC-IV; Wechsler, 2003). Adolescents' cognitive ability was measured with the WISC-IV, an assessment instrument with sound psychometric properties. The WISC-IV yields an IQ score with a $M = 100$ and $SD = 15$. A calculated Full Scale IQ (FSIQ) score was computed from a short form of the WISC-IV, which included three subtests: matrix reasoning, vocabulary, and arithmetic. The selection of these three subtests was based on their high correlation ($r = .91$) with the full scale IQ from the WISC-IV (Satler & Dumont, 2004).

Vineland Adaptive Behavior Scales, Second Edition (VABS-II; Sparrow et al., 2005). Adolescent adaptive behavior and functioning was measured using mother report on the VABS-II. The VABS-II is a semi-structured interview that assesses the adaptive (i.e., daily living) skills of individuals with or without a disability. Three subscales, communication, daily living skills, and socialization skills, were combined to form an Adaptive Behavior Composite score. The VABS-II instrument has an internal consistency from .75 to .80 and Cronbach's alpha of .93 (Sparrow et al., 2005).

Child Behavior Checklist (CBCL; Achenbach & Rescorla, 2001). The CBCL was used to evaluate the adolescents' behavioral and emotional functioning, social problems and competencies. The child/adolescent version (ages 6–18) of the CBCL consists of 118 items rated on a scale of *not true* (0), *somewhat or sometimes true* (1), and *very true or often true* (2). The CBCL yields a total problem score, broadband externalizing and internalizing scores, and seven narrow-band scales. The present study used total broadband *T* scores for internalizing and externalizing behavior problems subscales, with the $M = 50$ and $SD = 10$. The CBCL parent report form has alpha coefficients from .69 to .97 and reliability from .82 to .94 (Achenbach & Rescorla, 2001).

Social Skills Rating System (SSRS; Gresham & Elliott, 1990). Adolescents' social functioning and social competencies were assessed through the SSRS parent rating form, which was completed by mothers. The SSRS is a widely used questionnaire that provides a broad assessment in three domains of social skills, problem behaviors, and academic competence. The present analyses utilized the Social Skills standard score, which is comprised of five subscales: responsibility, cooperation, self-control, assertiveness, and empathy. It has been shown to have high test-retest reliability (.90) and validity, as well as adequate internal consistency for Social Skills, ranging from .83 to .94 (Gresham & Elliott, 1990).

Mother and Adolescent Semi-Structured Interviews (Self-Report). Interviews of approximately 45 min were administered separately to mothers and youth. Interviewers were trained in the administration of semi-structured interviews and received ongoing feedback throughout the course of the study to ensure fidelity across interviewers. Interviews were audio recorded. The interviews addressed topics regarding significant life events (e.g., adolescent relationships with friends and peers, adolescents' experiences with victimization or bullying others).

Detailed coding systems were developed for the mother and youth interviews. Coding teams for each interview met weekly with a master coder to establish reliability. The coding system targeted areas of interest addressed in the interviews, such as the following constructs: warmth/closeness in friendship, positive reciprocity between friends and bullying. Reliability checks were conducted on 20% of the interviews. Reliability criteria required all coders to meet over 70% exact agreement with the master coder and 95% agreement within one scale point.

In the interviews, bullying was defined as follows: "*When someone intimidates or mistreats another person by saying or doing something to hurt him/her, or to make him/her feel bad. This can range from making fun of someone to physically hurting him/her.*" Responses to the bullying prompt were divided into type of bullying: verbal, physical, relational, or other. Each of these bullying types was coded on a 0–1 scale to indicate whether it had been present (1) or not (0). Verbal bullying was defined as an incident where teasing, name-calling, or threats (in the most severe cases) were directed at the youth. Incidents of physical bullying ranged from no physical harm to physical violence that left behind bruising or required medical attention. Finally, relational bullying was defined as an incident involving the spreading of rumors about the youth, gossiping about the youth or explicitly excluding the youth from social peer interactions.

In order to assess the details related to bullying incidents, youth and mothers (interviewed separately) were each asked to discuss a time the youth had been "picked on" or bullied. After discussing the *incident*, interviewers then continued to ask follow-up questions about the impact of the experience on the youth or how the youth *reacted* to the experience, and also about the level of *injury* (if any) that was incurred by the incident. Reactions to bullying varied from emotional (i.e., anger, sadness, indifference), to behavioral (i.e., retaliation, ignoring, telling an authority figure), and finally, social (i.e., impacting their peer and family relationships). Responses were then probed for the level of *intensity* by asking the youth how upset he or she was about the bullying incident, and whether or not the incident required parental or school involvement. *Chronicity* of bullying was coded on a scale from 0 to 4, as follows: (0) no incidents; (1) one incident; (2) 2–5 incidents; (3) frequent, lasting less than one month; and (4) frequent, lasting more than one month. Similarly, *severity* was coded on a scale from 0 to 4, as follows: (0) no bullying; (1) minimal severity; (2) moderate severity; (3) marked severity; (4) severe incident(s).

Composite bullying variable from interviews. In addition to comparing groups on the individual bullying variables, a composite variable was created. The purpose of the composite variable was to create a construct that represented severe and chronic bullying (regardless of type of bullying) that had an impact upon the youth, as compared to minor incidents of bullying that had little impact upon the youth (emotionally, behaviorally, or socially). The composite bullying variable (created only for the 86 youth who reported bullying, and the 79 youth whose mothers reported they had been bullied) consisted of a 6-point scale, created by combining the following 0/1 scale codes: chronicity (low frequency/high frequency), social impact on youth (no/yes), Emotional Impact on Youth (no/yes), behavioral impact on youth (no/yes), and 0–2 scale code of Severity (low/med/high). The mean of the youth bullying composite was 1.99 ($SD = 1.29$). The mean of the mother bullying composite was 2.97 ($SD = 1.43$).

Friendship variables from interviews. To capture the three main factors of a friendship, a trained coding team analyzed youth and mother reports of warmth/closeness, positive reciprocity, and conflict. Warmth/closeness refers to, "*A desire to spend time with the friend, affection, joint play and mutual liking,*" and "*The youths' ability to provide social support to each other (standing up for each other, confiding in secrets and being sensitive during difficult life circumstances).*" This construct was coded on a scale from 0 to 4, with '0' indicating 'no warm/close friendship' and '4' indicating 'predominantly warm/close friendship.'

Positive reciprocity between friends refers to, “The degree to which the peer and target youth are equally invested and mutually benefitting from their relationship. This includes a mutual understanding of the relationship, shared interests, intimacy, familiarity and advice exchange. Positive reciprocity occurs when a relationship has a positive effect upon someone and is reciprocated with the relationship having an equally positive effect upon another.” This construct was coded on a scale of 0–4, with ‘0’ being ‘no positive reciprocity’ to ‘4’ being ‘high positive reciprocity’ (i.e., both target and peer are highly invested in each other).

Conflict between friends refers to, “Tension, arguments, fights, and overt disagreements between friends. This may be evidenced by friends trying to provoke one another, making each other upset, using a tense tone of voice, and/or negative comments. It may also include gossiping behind each other’s back or playing hostile pranks against each other.” This construct was coded on a 0–4 scale from ‘0’ indicating ‘no conflict’ in the friendship to ‘4’ indicating ‘predominantly conflict in the friendship’ (i.e., high frequency, high intensity conflicts).

For chi-square analyses, these friendship constructs were dichotomized, as little-to-no and moderate-to-high. Additionally, mothers and youth were asked about whether the youth had a best friend. This was coded on a ‘0–1’ scale indicating the presence (1) or absence (0) of a best friend.

3. Results

To measure differences among status groups on the questions about bullying, chi-square analyses were conducted using SPSS version 22.0 on the dichotomized variables (e.g., bullied no/yes) derived from the adolescent and mother interviews, and Cramer’s V was used to determine which groups differed. A one-way ANOVA and least significant differences (LSD) tests were also conducted for post hoc analyses to determine the differences between groups for the continuous variables (e.g., WISC-IV FSIQ). The LSD test was utilized because it takes into account the unequal sample size (Raykov & Marcoulides, 2008).

3.1. Extent of victimization

Table 2 shows youth and mother reports of victimization. There were significant differences among groups in the number of adolescents who were bullied according to both youth- and mother-reports. The highest levels of bullying were reported from youth (75%) and mothers (80%) of youth with ASD. The next highest level of bullying was found in youth with ID (49% youth report and 57% mother report), followed by TD youth (42% and 36%). Youth reports of physical, verbal, and relational bullying each differed significantly across the three groups. Youth with ASD reported the highest levels of physical and verbal bullying, and the lowest level of relational bullying. Mother reports, however, did not differ significantly across status groups on any of these three dimensions. Youth reports of the emotional impact of bullying were significantly higher for both ASD (76%) and ID (80%) groups when compared to the TD group (47%). Here, too, mothers’ reports of emotional impact did not differ significantly across the three groups. Mothers did, however, differ significantly in their reports of the chronicity of bullying, with 78.6% of mothers of youth with ASD reporting chronic bullying, significantly higher than the still high 50% of mothers of youth with TD who reported bullying to be chronic. Slightly fewer youth in each group reported chronic bullying, and the group percentages did not differ significantly.

3.2. Agreement in youth and mother reports of bullying

Cohen’s Kappa was used as a measurement of agreement between mother and adolescent reports of bullying. The strength of agreement was determined as outlined by Landis and Koch (1977), where a Kappa coefficient of $<0.00 = \text{poor}$,

Table 2
Youth and mother interview reports of victimization.

Youth report	ASD (n = 44)	ID (n = 33)	TD (n = 89)	χ^2	Mother report	ASD (n = 35)	ID (n = 37)	TD (n = 84)	χ^2
N bullied	33	16	37		% bullied	28	21	30	
% bullied	75.0 _a	48.5 _b	41.6 _b	15.30 ^{***}	% bullied	80.0 _a	56.8 _b	35.7 _c	20.11 ^{***}
Of those bullied									
% physical	51.5 _a	37.5 _{a,b}	16.2 _b	9.85 ^{**}	% physical	64.3	71.4	63.3	.41
% verbal	78.8 _a	43.8 _b	62.2 _{a,b}	6.07 [*]	% verbal	71.4	66.7	66.7	.19
% relational	9.1 _a	12.5 _{a,b}	32.4 _b	6.65 [*]	% relational	14.2	28.6	23.3	1.54
% social impact	18.1	20.0	14.7	.25	% social impact	42.9	25.0	20.7	3.65
% emotional impact	75.8 _a	80.0 _a	47.1 _b	7.93 [*]	% emotional impact	78.6	61.9	73.3	1.69
% behavior impact	24.2	26.7	11.8	2.26	% behavior impact	32.1	28.6	16.7	2.00
% mod/high severity	56.3	43.8	33.3	3.61	% mod/high severity	71.4	66.7	70.0	.13
% chronic	65.6	40.0	45.9	3.79	% chronic	78.6 _a	65.0 _{a,b}	50.0 _b	7.42 [*]

Note. Of the 175 participants in the sample, 166 adolescents and 156 mothers participated in the in-depth interviews. ASD = autism spectrum disorder; ID = intellectual disability; TD = typically developing. Means with differing subscripts within rows are significantly different at the $p < .05$ level based on Fisher’s LSD post hoc paired comparisons. Frequencies with differing subscripts within rows are significantly different at the $p < .05$ level based on Cramer’s V.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

0.00–0.20 = *slight*, 0.21–0.40 = *fair*, 0.41–0.60 = *moderate*, 0.61–0.80 = *substantial* and 0.81–1.00 = *almost perfect*. Mothers and youth in the ASD group (Kappa = .52, $p < .01$) and mothers and youth in the TD group (Kappa = .33, $p < .05$) demonstrated *fair-to-moderate* levels of agreement that bullying occurred. With regard to the type of bullying (i.e., physical, verbal, relational), mothers and youth in the TD group demonstrated a fair level of agreement about the verbal type of bullying occurring (Kappa = .51, $p < .05$). However, this was not the case for the other types of bullying or for the other status groups. For the ASD and ID groups, there were no statistically significant levels of agreement on the types of bullying between mother and youth report as measured by Cohen's Kappa. In terms of severity (i.e., low/moderate-severe) and impact of bullying (i.e., social, emotional, behavioral), the only statistically significant level of agreement was found between mother and youth responses in the ASD group with regard to behavioral impact (Kappa = .42, $p < .05$). No other statistically significant levels of agreement were found. Of note, 43% of mothers of youth with ASD, as opposed to only 18% of the adolescents themselves, reported the adolescents to be impacted socially by the bullying.

3.3. Reports of friendship

Friendships were considered as a possible protective factor against victimization, and thus it was encouraging to find that over 70% of youth and mothers reported the youth to have warm and reciprocal friendships as well as a best friend. Table 3 shows chi-square analyses to determine group differences with regard to the quality of friendships. Youth reports of warm and reciprocal friendships differed significantly across groups, with almost all TD youth reporting such friendships, and about 3 in 4 youth with ID or ASD endorsing these. The three groups did not differ in their reports of the presence of a best friend and conflict with peers was rarely endorsed.

Mothers' reports of warmth and reciprocity in friendships were quite similar to youth report, differing significantly across the three groups. Warm and reciprocal youth friendships were reported by virtually all mothers of youth with TD and by 78–88% of mothers of youth with ASD or ID. Mothers' reports also differed significantly in their reports of a best friend for their son or daughter; these reports ranged from 70% and 74% for youth with ID and ASD, to 87% for TD youth. While mothers reported more conflict in relationships than youth did, the percentages were still low and the groups did not differ from one another.

3.4. Risk and protective factors for victimization

Table 4 shows the correlations between the youth and mother reported bullying composite scores and a number of youth and mother reported variables. For youth reported bullying composite scores, there was a significant positive relationship with the youth's CBCL internalizing and externalizing T scores and conflict with friends. There was a significant negative

Table 3
Youth and mother interview reports of friendship.

Youth report	ASD (n = 44)	ID (n = 33)	TD (n = 89)	χ^2	Mother report	ASD (n = 35)	ID (n = 37)	TD (n = 84)	χ^2
% warm	77.3 _a	78.1 _a	92.3 _b	7.26*	% warm	81.3 _a	77.8 _a	98.8 _b	15.92***
% reciprocal	83.3 _a	76.7 _a	95.5 _b	9.58**	% reciprocal	83.9 _a	88.2 _a	98.88 _b	9.61**
% best friend	75.0	87.1	80.4	1.68	% best friend	74.3 _{a,b}	70.3 _a	87.4 _b	5.93*
% conflict	9.3	0.0	5.4	3.04	% conflict	16.1	18.2	12.5	0.68

Note. Of the 175 participants in the sample, 166 adolescents and 156 mothers participated in the in-depth interviews. Frequencies with differing subscripts within rows are significantly different at the $p < .05$ level based on Cramer's V.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Table 4
Correlations: youth and mother report bullying composites.

	Intern. prob. Bx. (PR)	Extern. prob. Bx. (PR)	Social skills (PR)	Warm and close friends (YR)	Reciprocal friends (YR)	Conflict w/friends (YR)	Best friends (YR)
Bullying composite (youth) n = 86	.42***	.31**	-.27*	.03	-.10	.29**	.11
	Intern. prob. Bx. (PR)	Extern. prob. Bx. (PR)	Social skills (PR)	Warm and close friends (PR)	Reciprocal friends (PR)	Conflict w/friends (PR)	Best friends (PR)
Bullying composite (mother) n = 79	.48***	.39**	-.33*	-.12	-.09	.24**	.14

Note. PR = mother report; YR = youth report.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Table 5
Hierarchical linear regressions predicting youth victimization—youth and mother reports.

Block	Adolescent	B	SE B	β	R^2	Block	Mother	B	SE B	β	R^2
1	Mother's education	.02	.06	.03	.17	1	Mother's education	-.00	.06	-.01	.13
	Youth gender	.68	.31	.25 [*]			Youth gender	.13	.37	.04	
	Classroom setting	-.85	.33	-.29 [*]			Classroom setting	-1.03	.37	-.35 ^{**}	
2	Mother's education	.03	.06	.06	.19	2	Mother's education	.01	.06	.02	.15
	Youth gender	.49	.35	.18			Youth gender	-.01	.38	-.01	
	Classroom setting	-.71	.35	-.24 [*]			Classroom setting	-.89	.38	-.30 [*]	
	ASD status	.49	.40	.17			ASD status	.54	.41	.18	
3	Mother's education	.03	.06	.06	.28	3	Mother's education	.04	.06	.08	.28
	Youth gender	.62	.34	.23 [†]			Youth gender	.30	.39	.10	
	Classroom setting	-.61	.35	-.21 [†]			Classroom setting	-.57	.40	-.19	
	ASD status	-.00	.43	-.00			ASD status	.06	.44	.02	
	CBCL_Int	.04	.02	.34 [*]			CBCL_Int	.04	.02	.36 [*]	
	CBCL_Ext	-.01	.02	-.08			CBCL_Ext	.02	.03	.15	
	Soc_Skills	-.01	.01	-.10			Soc_Skills	.00	.02	.05	
4	Mother's education	.00	.06	.01	.35	4	Mother's education	.05	.06	.10	.32
	Youth gender	.87	.34	.31 [*]			Youth gender	.26	.39	.09	
	Classroom setting	-.49	.34	-.17			Classroom setting	-.51	.39	-.17	
	ASD status	-.26	.42	-.09			ASD status	.15	.43	.05	
	CBCL_Int	.04	.02	.34 [*]			CBCL_Int	.04	.02	.36 [*]	
	CBCL_Ext	-.02	.02	-.13			CBCL_Ext	.01	.03	.09	
	Soc_Skills	-.02	.01	-.18			Soc_Skills	.01	.02	.08	
	Conflict w/friends	1.56	.60	.29 [*]			Conflict w/friends	.91	.51	.22 [†]	

Note.

* $p < .05$.

** $p < .01$.

† $p < .10$.

relationship between being bullied and the youth's social skills. For mother-reported bullying composite scores, there were highly similar significant relationships with these same four variables. Internalizing and externalizing behavior problems, as well as conflict with friends, related to higher bullying composite scores, while more social skills was a protective factor. No significant correlations were found between either youth or mother reports of other potential protective factors (i.e., warmth in friendships, reciprocal friendships, presence of a best friend) and the bullying composite variables. The significant independent variables were next used to examine the unique contribution of risk factors for being bullied. Separate hierarchical multiple regression analyses were performed for youth and mother reports of victimization, utilizing the bullying composite variables as outcomes. Variables were entered in four steps. The results of each regression can be found in Table 5.

3.4.1. Predictors of youth victimization—youth report

The first hierarchical linear regression—youth report of victimization—is summarized in the left half of Table 5. In Step 1, the following control variables on which the groups differed significantly were entered: Mother's education (i.e., years of schooling), youth gender (i.e., F/M) and classroom setting (i.e., general vs. special education). The variance accounted for by these demographic variables was 17% ($R^2 = .17$, $F = 4.64$, $p < .01$). In Step 2, the youth's ASD status (i.e., not ASD/ASD) was entered into the model, only accounting for a non-significant additional 2% of the variance in victimization. The model variance accounted for remained significant ($R^2 = .19$, $F = 3.89$, $p < .01$). In Step 3, youth behavior variables (internalizing behavior problems, externalizing behavior problems, and social skills) accounted for an additional 9% of the variance ($\Delta R^2 = .09$, $p < .05$), and the model variance accounted for remained significant ($R^2 = .28$, $F = 3.59$, $p < .01$). In the final step, the additional risk factor of having conflict with friends was entered into the model to account for the youth's peer relationships. The results of Step 4 indicated that this risk factor accounted for an additional 7% of the variance in victimization ($\Delta R^2 = .07$, $p < .05$) and the final model increased in significance ($R^2 = .35$, $F = 4.27$, $p < .001$). The final model for youth report of victimization, accounting for 35% of the variance, indicated that the youth' sex (male), internalizing problems, and conflict with their friends were all significant (at $p < .05$) in predicting higher youth bullying composite. The remaining predictors were not significant at the $p < .05$ level.

3.4.2. Predictors of youth victimization—mother report

The second hierarchical linear regression—mother report of victimization—is summarized in the right half of Table 5. In Step 1, the following control variables on which the groups differed significantly were entered: Mother's education (i.e., years of schooling), youth gender (i.e., F/M) and classroom setting (i.e., general vs. special education). The variance accounted for by these demographic variables was 13% ($R^2 = .13$, $F = 2.87$, $p < .05$). In Step 2, the youth's ASD status (i.e., not ASD/ASD) was entered, only accounting for a non-significant additional 2% of the variance in victimization; the model variance accounted

for remained significant ($R^2 = .15$, $F = 2.62$, $p < .05$). In Step 3 youth behavior variables (internalizing behavior problems, externalizing behavior problems, and social skills) accounted for a significant additional 13% of the variance in victimization ($\Delta R^2 = .13$, $p < .05$) and the model increased in significance ($R^2 = .28$, $F = 3.08$, $p < .01$). In the final step, conflict with friends was entered and accounted for an additional 4% of the variance in victimization ($\Delta R^2 = .04$, $p = .08$). The model variance remained significant ($R^2 = .32$, $F = 3.20$, $p < .01$). The final model, accounting for 32% of the variance, indicated that internalizing behavior problems was a significant predictor of the mother bullying composite (at $p < .05$); conflict with friends entered at the $p = .079$ level. The remaining predictors were not significant at the $p < .05$ level).

4. Discussion

The experiences of victimization in the form of bullying among adolescents with ASD, ID or typical development were assessed utilizing in-depth mother and youth interviews. According to both mother and youth reports, adolescents with ASD were more likely to experience victimization, followed by those with ID and then TD youth. This is consistent with previous studies that have indicated that youth with ASD are victimized more frequently than their TD peers (Blake et al., 2012; Rowley et al., 2012; Wainscot et al., 2008), as are those youth with ID (Christensen et al., 2012). The present study is, to our knowledge, the first to include both ASD and ID comparison groups. Although Rowley et al. (2012) compared children in Special Education with and without ASD, the use of youth with ID as a comparison group to those with ASD in our study provided a better understanding of victimization among those with developmental disabilities. Although youth with high functioning ASD have a cognitive advantage over those with ID, the two groups' distinct behavioral phenotypes (i.e., those with ASD have increased social-communication deficits, more restricted interests and increased prevalence of psychiatric comorbidities—e.g., anxiety, depression, relative to those with ID) make these ideal comparison groups (Seltzer, Abbeduto, Krauss, Greenberg, & Swe, 2004).

Of those bullied, youth reports indicated that those with ASD experienced significantly more physical bullying than those with ID or their TD peers. Those with ASD also reported experiencing significantly more verbal bullying than their peers with ID; however, this group did not differ significantly from the TD group. Mother reports of the types of victimization (i.e., physical, verbal, or relational) did not show significant group differences. However, mothers of youth with ASD reported significantly more chronic (i.e., frequent) bullying than the mothers of TD youth, whereas the ID group did not differ from either of the other groups according to mother report.

Although there was fair-to-moderate agreement between adolescents and mothers on whether or not bullying occurred, mother and youth agreement for the ASD and ID groups on the types of bullying was found to be poor. Individuals with ASD have been shown to be poor self-reporters of bullying experiences in previous studies (van Roekel et al., 2010). A strength of the present study is the use of both youth and mother reports, as it is difficult to determine whether youth with ASD correctly interpret acts of bullying. Despite previous research to suggest that this group provides "poor" self-reports (e.g., Bauminger & Kasari, 2000; Rotheram-Fuller et al., 2010), our results suggest that many youth with ASD do see themselves as victims of bullying.

In terms of how the adolescents who were victimized were impacted by the bullying, youth reports of emotional impact were significantly higher in the ASD and ID groups when compared with their TD peers. Interestingly, for the ASD group, 43% of mothers reported their adolescent to be socially impacted by the bullying, whereas only 18% of the youth themselves reported social impact. Similarly, in another sample of adolescents with ASD, van Roekel et al. (2010) found differences between adolescent and teacher reports of victimization. The more impaired the adolescents' Theory of Mind skills (i.e., the ability to infer intent in other's actions), the more adolescents made mistakes in their perceptions of bullying (e.g., perceiving bullying situations as non-bullying). Perhaps participants in our ASD sample misperceived the extent to which bullying affected them socially, whereas their mothers were able to more easily recognize this effect.

This study utilized rich, detailed, interviews with both mothers and youth, contributing to the literature base on bullying by providing a more nuanced look into the perceived impact the bullying had on the youth, something that paper-and-pencil measures do not capture. Moreover, we aimed to identify risk and protective factors of victimization and to determine the extent to which these factors predicted victimization. Bullying composites were created for those youth who experienced bullying to represent severe and chronic bullying that had an impact upon the youth. Correlations revealed that increased internalizing and externalizing problems, decreased social skills, and more conflict in friendships were associated with more bullying according to both youth and mother reports. Regression analysis showed youth gender, internalizing problems and conflict with friends to all significantly predict victimization. That is, being male, having higher levels of internalizing behavior problems and more conflict with friends were all contributing factors to victimization according to youth report. Similarly, higher internalizing behavior problems and more conflict in friendships predicted bullying according to mothers' reports. Interestingly, ASD status was not found to be a significant predictor of the bullying composite when other variables were accounted for. This is not surprising, given that males were more likely to be bullied and that there were considerably more males in the ASD group.

Our findings are consistent with Cappadocia et al. (2012), who found that internalizing (but not externalizing) behavior problems were a significant predictor of victimization in a sample of youth with ASD. Whitehouse et al. (2009) found conflict in friendships to be a significant predictor of depression among high functioning adolescents on the spectrum. There appears to be a relationship between internalizing problems and victimization/problems with peers among youth with ASD.

Unfortunately, youth with ASD have been found to have greater internalizing problems than their TD peers (Bauminger et al., 2010; Mazurek & Kanne, 2010; White et al., 2009), putting them at increased risk for victimization.

5. Conclusions and implications

For youth with ASD, perhaps targeting their internalizing behavior problems in intervention settings would help to ameliorate their bullying experiences. A better understanding of the nature of the relationships among victimization in the form of bullying, friendships, and internalizing problems among adolescents with ASD and ID can assist researchers in designing interventions suited to meet their needs. Presently, there are social skills interventions aimed at improving social-communication, assertion, and conflict resolution skills among adolescents (Laugeson, Frankel, Gantman, Dillon, & Mogil, 2012; Learner, Mikami, & Levine, 2011; Tse, Strulovitch, Tagalakis, Meng, & Fombonne, 2007; White, Koenig, & Scahill, 2010). The UCLA PEERS program, in particular, has components aimed at recognizing and addressing bullying behaviors (Laugeson et al., 2012). Laugeson (2013) provided separate chapters as a guide for handling each type of bullying (i.e., physical, relational, verbal and cyber), although there is no specific focus on characteristics such as internalizing disorders. Others have used counseling/discussion-based formats to help youth with internalizing problems such as social anxiety (Hillier, Fish, Cloppert, & Beversdorf, 2007; Hillier, Fish, Siegel, & Beversdorf, 2011). The present study found associations between bullying, conflict in friendships, and internalizing behavior. It is our hope that these results will contribute to interventionists' knowledge so that the risk factors can be decreased among affected adolescents. Reducing the risk factors through intervention may lead to a better quality of life for these individuals as they transition from early adolescence into adulthood.

Acknowledgements

This paper was based on the activities of the Collaborative Family Study, supported by the Eunice Kennedy Shriver National Institute of Child Health and Human Development, Grant number: 34879-1459 (PIs, Bruce L. Baker, Jan Blacher, Keith Crnic). This research was conducted in collaboration with Dr. Elizabeth Laugeson and The Help Group-UCLA Autism Research Alliance. We are indebted to our staff, to the doctoral students who worked on this study, and to the families who participated in this longitudinal research.

References

- Achenbach, T. M., & Rescorla, L. (2001). *Manual for the ASEBA school-age forms & profiles: An integrated system of multiinformant assessment*. Burlington, VT: University of Vermont, Research Center for Children, Youth & Families.
- American Psychiatric Association (APA) (2000). *Diagnostic and statistical manual of mental disorders, DSM-IV, fourth edition text revision*. Washington, DC: American Psychiatric Association.
- Asperger, H. (1944). Autistic psychopathology in childhood. In U. Frith (Ed.), *Autism and Asperger syndrome 1991*. Cambridge: Cambridge University Press.
- Bauminger, N., & Kasari, C. (2000). Loneliness and friendships in high-functioning children with autism. *Child Development*, 71, 447–456.
- Bauminger, N., Solomon, M., & Rogers, S. J. (2010). Externalizing and internalizing behaviors in ASD. *Autism Research*, 3(3), 101–112.
- Blake, J. J., Lund, E. M., Zhou, Q., Kwok, O., & Benz, M. (2012). National prevalence rates of bully victimization among students with disabilities in the United States. *School Psychology Quarterly*, 27(4), 2100–2222.
- Bowker, J. C. W., Rubin, K. H., Burgess, K. B., Booth-LaForce, & Rose-Krasnor, L. (2006). Behavioral characteristics associated with stable and fluid best friendship patterns in middle childhood. *Merrill-Palmer Quarterly*, 52(4), 671–693.
- Cappadocia, M. C., Weiss, J. A., & Pepler, D. (2012). Bullying experiences among children and youth with autism spectrum disorders. *Journal of Autism and Developmental Disorders*, 42(2), 266–277.
- Carlyle, K. E., & Stenman, K. J. (2007). Demographic differences in the prevalence, co-occurrence, and correlates of adolescent bullying at school. *Journal of School Health*, 77(9), 623–629.
- Centers for Disease Control and Prevention (2012). *Autism spectrum disorders (ASDs): Facts about ASDs*. Retrieved from <http://www.cdc.gov/ncbddd/autism/facts.html>
- Christensen, L. L., Fryant, R. J., Neece, C. L., & Baker, B. (2012). Bullying adolescents with intellectual disability. *Journal of Mental Health Research in Intellectual Disabilities*, 5, 49–65.
- Fenning, R. M., Baker, J. K., Baker, B. L., & Crnic, K. A. (2007). Parenting children with borderline intellectual functioning: A unique risk population. *American Journal on Mental Retardation*, 112, 107–121.
- Gresham, F. M., & Elliott, S. N. (1990). *Manual for social skills rating system*. Circle Pines, MN: American Guidance Service.
- Heiman, T. (2000). Quality and quantity of friendship: Students' and teacher perceptions. *School Psychology International*, 21(3), 330–339.
- Hillier, A., Fish, T., Cloppert, P., & Beversdorf, D. Q. (2007). Outcomes of a social and vocational skills support group for young adults on the autism spectrum. *Focus on Autism and Other Developmental Disabilities*, 22, 107–115.
- Hillier, A. J., Fish, T., Siegel, J. H., & Beversdorf, D. Q. (2011). Social and vocational skills training reduces self-reported anxiety and depression among young adults on the autism spectrum. *Journal of Developmental and Physical Disabilities*, 23, 267–276.
- Hodges, E. V. E., Boivin, M., Vitaro, F., & Bukowski, W. M. (1999). The power of friendship protection against an escalating cycle of peer victimization. *Developmental Psychology*, 35(1), 94–101.
- Holt, M. K., & Espelage, D. L. (2007). Perceived social support among bullies, victims, and bully-victims. *Journal of Youth and Adolescence*, 36(8), 984–994.
- Howlin, P. (2000). Outcome in adult life for more able individuals with autism or Asperger syndrome. *Autism*, 4, 63–83.
- Howlin, P., Goode, S., Hutton, J., & Rutter, M. (2004). Adult outcome for children with autism. *Journal of Child Psychology and Psychiatry*, 42(2), 212–229.
- IBM Corp (2013). *IBM SPSS statistics for windows, version 22.0*. Armonk, NY: IBM Corp.
- Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics*, 33(1), 159–174.
- Larkin, P., Jahoda, A., MacMahon, K., & Pert, C. (2012). Interpersonal sources of conflict in young people with and without mild to moderate intellectual disabilities at transition from adolescence to adulthood. *Journal of Applied Research in Intellectual Disabilities*, 25(1), 29–38.
- Laugeson, E. A. (2013). *The science of making friends: Helping socially challenged teens and young adults*. San Francisco, CA: Wiley.
- Laugeson, E. A., Frankel, F., Gantman, A., Dillon, A. R., & Mogil, C. (2012). Evidence-based social skills training for adolescents with autism spectrum disorders: The UCLA PEERS program. *Journal of Autism and Developmental Disorders*, 42(6), 1025–1036.

- Lerner, M. D., Mikami, A. Y., & Levine, K. (2011). Socio-dramatic affective-relational intervention for adolescents with Asperger syndrome and high functioning autism: Pilot study. *Autism, 15*(1), 21–42.
- Locke, J., Ishijima, E. H., Kasari, C., & London, N. (2010). Loneliness, friendship quality, and the social networks of adolescents with high-functioning autism in an inclusive school setting. *Journal of Research in Special Education Needs, 10*(2), 74–81.
- Matheson, C., Olsen, R. J., & Weisner, T. (2007). A good friend is hard to find: Friendship among adolescents with disabilities. *American Journal on Mental Retardation, 112*(5), 319–329.
- Mayes, S. D., Calhoun, S. L., Murray, M. J., & Zahid, J. (2011). Variables associated with anxiety and depression in children with autism. *Journal of Developmental and Physical Disabilities, 23*(4), 325–337.
- Mazurek, M. O., & Kanne, S. M. (2010). Friendship and internalizing symptoms among children and adolescents with ASD. *Journal of Autism and Developmental Disorders, 40*, 1512–1520.
- McVilly, K. R., Stancliffe, R. J., Parmenter, T. R., & Burton-Smith, R. M. (2006). 'I get by with a little help from my friends': Adults with intellectual disability discuss loneliness. *Journal of Applied Research in Intellectual Disabilities, 19*, 191–203.
- Nansel, T. R., Overpeck, M. O., Pilla, R. S., Ruan, W. J., Simons-Morton, B., & Scheidt, P. (2001). Bullying behaviors among U.S. youth. *Journal of the American Medical Association, 285*(16), 2094–2100.
- National Center for Educational Statistics, U.S. Department of Education (2011). *Student reports of bullying and cyber-bullying: Results from the 2009 School Crime Supplement to the National Crime Victimization Survey. Web Tables (NCES 2011-336)*. Retrieved from <http://nces.ed.gov/pubdocs2011/2011336.pdf>
- Olweus, D. (1994). Bullying at school: Basic facts and effects of a school based intervention program. *Journal of Child Psychology and Psychiatry, 35*, 1171–1190.
- Orsmond, G. I., Krauss, M. W., & Seltzer, M. M. (2004). Peer relationships and social recreational activities among adolescents and adults with autism. *Journal of Autism and Developmental Disorders, 34*(3), 245–256.
- Raykov, T., & Marcoulides, G. (2008). *An introduction to applied multivariate analysis*. New York, NY: Routledge.
- Reiter, S., & Lapidot-Leflet, N. (2007). Bullying among special education students with intellectual disabilities: Differences in social adjustment and social skills. *Journal of Intellectual and Developmental Disabilities, 45*(3), 174–181.
- Rotheram-Fuller, E., Kasari, C., Chamberlain, B., & Locke, J. (2010). Social involvement of children with autism spectrum disorders in elementary school classrooms. *Journal of Child Psychology and Psychiatry, 51*, 1227–1234.
- Rowley, E., Chandler, S., Baird, G., Simonoff, E., Pickles, A., Loucas, T., et al. (2012). The experiences of friendship, victimization and bullying in children with an autism spectrum disorder: Associations with child characteristics and school placement. *Research in Autism Spectrum Disorders, 6*, 1126–1134.
- Rubin, K. H., Bukowski, W. M., & Parker, J. G. (2006). Peer interactions, relationships, and groups. In W. Damon, R. M. Lerner, & N. Eisenberg (Eds.), *New York: Wiley*.
- Rubin, K., Fredstrom, B., & Bowker, J. (2008). Future directions in . . . Friendship in childhood and early adolescence. *Social Development, 17*(4), 1085–1096.
- Rubin, K. H., Wojslawowicz, J. C., Rose-Krasnor, L., Booth-LaForce, C., & Burgess, K. B. (2006). The best friendships of shy/withdrawn children: Prevalence, stability, and relationship quality. *Journal of Abnormal Child Psychology, 34*, 143–157.
- Satler, J. M., & Dumont, R. (2004). *Assessment of children: WISC-IV and WPPSI-III supplement*. La Mesa, CA: Jerome M Satler Publisher.
- Schmidt, M. E., & Bagwell, C. L. (2007). The protective role of friendships in overtly and relationally victimized boys and girls. *Merrill-Palmer Quarterly, 53*(3), 439–460.
- Seltzer, M. M., Abbeduto, L., Krauss, M. W., Greenberg, J., & Swe, A. (2004). Comparison groups in autism family research: Down syndrome, fragile X syndrome, and schizophrenia. *Journal of Autism and Developmental Disorders, 34*(1), 41–48.
- Solish, A., Perry, A., & Minnes, P. (2010). Participation of children with and without disabilities in social, recreational and leisure activities. *Journal of Applied Research in Intellectual Disabilities, 23*, 226–236.
- Sparrow, S. S., Cicchetti, D. V., & Balla, B. A. (2005). *Vineland scales of adaptive behavior* (2nd ed.). Circle Pine, MN: American Guidance Service.
- Tipton, L. A., Christensen, L., & Blacher, J. (2013). Friendship quality in adolescents with and without an intellectual disability. *Journal of Applied Research in Intellectual Disabilities, 26*(6), 522–532.
- Tse, J., Strulovitch, J., Tagalakis, V., Meng, L., & Fombonne, E. (2007). Social skills training for adolescents with Asperger's syndrome and high functioning autism. *Journal of Autism and Developmental Disorders, 37*, 1960–1968.
- van Roekel, E., Scholte, R. H. J., & Didden, R. (2010). Bullying among adolescents with autism spectrum disorders: Prevalence and perception. *Journal of Autism and Developmental Disorders, 40*, 63–73.
- Wainscot, J. J., Naylor, P., Sutcliffe, D. T., & Williams, J. V. (2008). Relationship with peers and use of the school environment of mainstream secondary school pupils with Asperger syndrome (high-functioning autism): A case-control study. *International Journal of Psychology and Psychological Therapy, 8*(1), 25–28.
- Wechsler, D. (2003). *Wechsler intelligence scale for children—fourth edition (WISC-IV)*. San Antonio, TX: The Psychological Corporation.
- White, S., Koenig, K., & Scahill, L. (2010). Group social skills instruction for adolescents with high-functioning autism spectrum disorders. *Focus on Autism and Other Developmental Disabilities, 25*(4), 209–219.
- White, S. W., Oswald, D., Ollendick, T., & Scahill, L. (2009). Anxiety in children and adolescents with autism spectrum disorders. *Clinical Psychology Review, 29*(3), 216–229.
- Whitehouse, A. J. O., Durkin, K., Jaquet, E., & Ziatas, K. (2009). Friendship, loneliness and depression in adolescents with Asperger's syndrome. *Journal of Adolescence, 32*, 309–322.