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CAUSES AND CONSEQUENCES OF PEER VICTIMIZATION AMONG ADOLESCENTS WITH AUTISM

A dissertation submitted in partial fulfillment of the requirements for the Doctor of Philosophy at Virginia Commonwealth University

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Virginia Commonwealth University, 2016
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Abstract

A significant, yet understudied issue that demands attention is the experience of peer victimization among adolescents with autism spectrum disorders (ASDs). Research indicates that youth with disabilities, including those with ASDs, are victimized more frequently as compared to their typically developing peers. However, little is known about the peer victimization experience for adolescents with ASDs beyond its frequency of occurrence. This study examined relations between peer victimization and individual, peer, and parent factors and outcomes including internalizing and externalizing symptoms among adolescents with ASDs. No significant indirect effects were found for peer victimization on relations between individual social-cognitive and emotion regulation factors and internalizing or externalizing symptoms. Moderating effects of peer (i.e., friendship companionship, closeness, and help) factors on relations between peer victimization and internalizing and externalizing symptoms were not supported. Significant direct effects were found as higher levels of friendship companionship and help were associated with lower levels of internalizing symptoms. Parental knowledge moderated the relations between both adolescent-reported and parent-reported peer victimization

and internalizing but not externalizing symptoms. Study findings have implications for prevention and intervention efforts including adolescents with ASDs and directions for future research.

Causes and Consequences of Peer Victimization Among Adolescents with Autism

Peer victimization is a significant problem that occurs far too frequently among youth. It can be defined as being the target of aggressive behavior by peers who are intentionally attempting to inflict hurt or harm. Peer victimization occurs in several forms, including overt and relational victimization. Overt victimization experiences include being the target of physical and/or verbally aggressive behaviors. Conversely, relational victimization experiences include being the target of behaviors like gossip or rumor spreading that can harm social relationships and/or status (Putallaz et al., 2007). Lifetime prevalence rates in the United States suggest that up to 8 out of 10 of school-aged youth have been victimized by peers (Juvonen & Graham, 2001). A nationally representative survey of U.S. middle and high school students also found high prevalence rates of peer victimization over the past 12 months, ranging from 17% to 34% (Centers for Disease Control and Prevention, 2012).

Peer victimization has been linked to difficulties in adjustment (Hawker & Boulton, 2000; Sullivan, Farrell, & Kliewer, 2006) as well as social and academic functioning (Greco, Freeman, & Dufton, 2007; Hodges & Perry, 1999; Nakamoto & Schwartz, 2009). A large body of concurrent and prospective literature has shown that youth who have been victimized report poor psychosocial adjustment including high rates of loneliness (Boivin & Hymel, 1997), school-related fear and anxiety (Kumpulainen et al., 1998), depression (Kaltiala-Heino, Rimpela, Marttunen, Rimpela, & Rantanen, 1999), and low self-esteem (Egan & Perry, 1998; Juvonen, Nishina, & Graham, 2000). Both cross-sectional and longitudinal studies have shown significant associations between peer victimization and externalizing behaviors such as aggression and delinquency (e.g., Graham, Bellmore, & Juvonen, 2003; Khatri, Kupersmidt, & Patterson, 2000; Prinstein, Boergers, & Vernberg, 2001; Schwartz, Proctor, & Chien, 2001), and substance use

(e.g., Sullivan et al., 2006). In addition, peer victimization is harmful because it limits opportunities to develop supportive peer relationships (Coie, Dodge, & Kupersmidt, 1990; Crick, Casas, & Nelson, 2002). Finally, peer victimization has been associated with lower grades and school satisfaction as well as higher levels of absenteeism and school avoidance (Eisenberg, Neumark-Sztainer, & Perry, 2003).

Unfortunately, the negative effects of peer victimization may continue into adulthood. Compared to adults who had not been victimized by peers when they were growing up, those who were victimized had lower levels of self-esteem and higher rates of depressive symptoms as young adults (Olweus, 1991). In addition, adults who experienced peer victimization as adolescents engaged in more violent behaviors than adults who did not have these experiences (Nansel et al., 2001). The severe and chronic nature of these negative outcomes highlights the importance of identifying youth who may be at increased risk for peer victimization (Storch & Ledley, 2005).

A growing body of literature focuses on peer victimization among youth with disabilities, including ASDs, intellectual disabilities, learning disabilities, language impairments, emotional and behavioral disorders, and other health impairments (Davis, Howell, & Cooke, 2002; Estell et al., 2009; Norwich & Kelly, 2004; Saylor & Leach 2009; Sterzing, Shattuck, Narendorf, Wagner, & Cooper, 2012; Van Cleave & Davis, 2006). In an extensive review of this literature, Rose, Monda-Amaya, and Espelage (2011) highlighted that significantly higher frequencies of peer victimization were found among youth with disabilities versus those without, and referenced studies in which 50% or more of the students with disabilities reported experiencing peer victimization. Moreover, previous studies indicated that peer victimization is more prevalent among youth with behavioral, emotional, or developmental concerns.

Although these studies highlighted that youth with disabilities are vulnerable to peer victimization, little research has addressed this topic among adolescents with ASDs. It is important to better understand these experiences as youth with ASDs may be at greater risk for peer victimization due to socio-communicative and behavioral difficulties that directly impact peer interactions (van Roekel, Scholte, & Didden, 2010). The identification of risk and protective factors for peer victimization could inform the enhancement and development of prevention and intervention programs targeting social competence.

Several other limitations exist in prior literature exploring peer victimization among youth with disabilities. First, little research has considered potential risk and protective factors associated with peer victimization among youth with disabilities, and few studies have focused on youth with ASDs (Cappadocia, Weiss, & Pepler, 2012; Rowley et al., 2012; Symes & Humphrey, 2010; Twyman et al., 2010; van Roekel et al., 2010; Zablotsky et al., 2013a; Zablotsky, Anderson, & Law, 2013; Zablotsky, Bradshaw, Anderson, & Law, 2014). Second, most studies including youth with disabilities do not specifically address the developmental period of adolescence. Given the importance of positive peer relationships in adolescence, this is a critical area of exploration. Lastly, the majority of research focusing on peer victimization among youth with ASDs has been dependent upon parent report of peer victimization.

Moreover, the extent to which risk and protective factors identified for peer victimization among typically developing youth generalize to youth with ASDs has received little attention. As such, the present study sought to address this gap by examining the relations among individual-, peer-, and parent-level risk and protective factors, two forms of peer victimization , and multiple adjustment difficulties (i.e., internalizing and externalizing symptoms) among a geographically diverse sample of adolescents with ASDs. The current study explored: (a) associations between

adolescent- and parent-reported peer victimization and internalizing and externalizing symptoms, (b) associations between individual, parent, and peer factors and peer victimization and internalizing and externalizing symptoms, (c) the extent to which peer victimization mediated relations between individual risk factors (i.e., social-cognitive and emotion regulation processes) and internalizing and externalizing symptoms, and (d) the potential moderating role of individual (i.e., child disclosure), parent (i.e., parental solicitation and knowledge), and peer (i.e., friendship closeness, companionship, and help) factors on relations between peer victimization and internalizing and externalizing symptoms. Following an action research paradigm (Meyer & Farrell, 1988), the current project aimed to better understand the peer victimization experience for adolescents with ASDs, including potential risk and protective factors and associations with negative outcomes, and to inform the development and enhancement of interventions that address social and emotional competencies, especially in the context of peer relationships.

Review of the Literature

In the following sections, literature on relations between peer victimization, risk and protective factors, and associated outcomes is presented, focusing specifically on youth with ASDs. First, aspects of social-cognitive and emotional development are discussed, including normative changes in these areas during the developmental period of adolescence. Then, a description of ASDs is provided including diagnostic criteria and core deficits associated with the diagnosis. After this, the relevance of studying peer victimization during adolescence is highlighted, and the literature on relations between peer victimization and psychosocial and adjustment difficulties is reviewed. Next, the literature on individual risk factors for peer victimization that encompass social-cognitive and emotion processes is presented, followed by individual, peer, and parent protective factors that may ameliorate relations between peer

victimization and negative outcomes. Within each component of the literature review on risk and protective factors, literature on peer victimization experiences among youth with disabilities is presented, including studies that focus on or include youth with ASDs. Lastly, the justification for and specific aims of the current study are described.

Social-Cognitive and Emotional Development

The development of socio-emotional competencies is essential for success in everyday social interactions (Burt, Obradovic, Long, & Masten, 2008). In this section, the importance of social competence is briefly discussed, followed by the presentation of several key aspects of normative social and emotional functioning that contribute to social competence. First, social-cognitive information processing models (Crick & Dodge, 1994; Lemerise & Arsenio, 2000) will be used as a framework to discuss steps in processing social information and how emotions and emotional reactions influence this process. Next, I will discuss the normative development of social cognition, emotion regulation, and executive functioning, focusing on changes in these aspects of development during adolescence.

Social competence and its importance. Social competence is an individual's ability to establish and maintain interpersonal relationships, and effectively address negative aspects of interpersonal interactions and relationships (Kupersmidt, Coie, & Dodge, 1990; Parker & Asher, 1987). Examples of behavior that demonstrate social competence include cooperating with others, being helpful, initiating and responding to social interactions, and exhibiting self-control (Vaughn & Haager, 1994). Early social competence and successful peer relationships have long been considered a hallmark of adaptive functioning in early childhood (Blandon, Calkins, Grimm, Keane, & O'Brien, 2010). Not surprisingly, social competence is associated with long-term positive psychological and social adjustment.

In contrast, the literature highlighted several negative outcomes associated with peer rejection, including early conduct problems, later adolescent disorders, school truancy, suspension, and leaving school early (Coie, Lochman, Terry, & Hyman, 1992; Miller-Johnson, Coie, Maumary-Geremaud, Bierman, & Conduct Problems Research Group, 2002; Woodward & Fergusson, 2000). Likewise, self-withdrawal from the peer group was associated with many maladaptive outcomes, including depression, loneliness, and anxiety (Hodges, Boivin, Vitaro, & Bukowksi, 1999; Hodges & Perry, 1999), externalizing behaviors, school avoidance, and academic failure (Hanish & Guerra, 2002; Kochenderfer & Ladd, 1996). Gresham and colleagues (1997) argued that social competence is particularly important for youth who display significant deficits or delays in other areas (e.g., cognitive, academic, and emotional/behavioral functioning), such as youth with ASDs.

Social information processing. One key element of social competence is the ability to effectively process social information. Social-cognitive models, including social information processing, are grounded in the idea that one's behaviors are influenced by the ability to accurately understand and interpret social situations. Specifically, social information processing theory examines how children process and interpret cues in a social situation and how they make decisions based on those cues (Crick & Dodge, 1994; Dodge, Pettit, McClaskey, & Brown, 1986). Crick and Dodge (1994) developed a detailed five-step model to demonstrate how social information is processed. The processing steps are believed to occur quickly and concurrently, utilizing numerous feedback loops (Crick & Dodge, 1994; Dodge et al., 1986). As outlined in the first two steps of the model, social information processing begins when an individual attends to, encodes, and interprets social cues. In the third step of the model, the individual's goals for the situation are clarified. In the final two steps of the model, possible responses to the situation are

generated and evaluated in terms of anticipated outcomes, relations to a goal(s), and the individual's self-efficacy for performing the response. Finally, the response that is evaluated as the most positive with respect to goals, anticipated outcomes, and self-efficacy is selected, enacted, and then evaluated (Crick & Dodge, 1994).

Crick and Dodge (1994) suggested that children bring both past experiences and biologically determined capabilities (e.g., attention, perception, and memory) to social situations. While they underscored the importance of emotion in social information processing, they acknowledged that the role of emotion should be addressed more explicitly in their model. Lemerise and Arsenio (2000) expanded upon Crick and Dodge's model by describing specific emotion processes that need to be integrated into social-cognitive models of information processing. In addition to the database of memories of past experiences and biologically determined capabilities (Crick & Dodge, 1994), Lemerise and Arsenio (2000) argue that emotion processes are also fundamental in determining how individuals process and respond to information in social situations. Individual differences exist in the experience, expression, and ability to regulate emotions, and these authors suggest that emotionality and emotion regulation abilities affect both information processing and decision-making in social situations. In addition to one's own internal emotion and situational cues, Lemerise and Arsenio (2000) included the affective cues of others as an important source of information that must be encoded and interpreted (Saarni, 1999). Finally, they proposed that the encoding and interpretation of social cues and information can be influenced by mood, level of arousal, and discrete emotions.

Social-Cognitive and Emotion Processes in Adolescence

Adolescence is a developmental period characterized by biological, social, and cognitive changes, including puberty, increased ability for perspective-taking, and a shift in cognition from

concrete to formal operational thought (Arnett, 2012). With regard to social changes, adolescence is often described as a time during which youth may align more closely with peers' norms, values, attitudes, and behaviors as compared to those of the adults around them (Berger, 2013). However, close relationships with peers and parents are very important for healthy social development during adolescence. Adolescents are typically influenced by the desire to "fit in" with peer groups that they identify or wish to identify with. Popularity becomes increasingly important and the power of peers is undeniable, and can lead to constructive, destructive, or neutral behavior. Peer relationships are different from those in childhood because adolescents spend more time with peers and are monitored less closely by adults (Berger, 2013). Additionally, adolescents interact in increasingly larger mixed-gender groups, as opposed to the same-sex gender groups that characterize middle childhood. Adolescence also is a time of significant brain and cognitive development and as a result, significant changes in communication functions also become apparent.

Theory of Mind. Recent research points to advancements in ToM development beyond childhood. ToM is significant in adolescence because peer relationships become more important and romantic relationships arise during this developmental period (Steinberg & Morris, 2001). Two specific underlying mechanisms have been identified as responsible for growth in ToM during adolescence. Carlson and Moses (2001) suggest underlying cognitive mechanisms (i.e., the ability to inhibit one's own thoughts in order to understand another person's thoughts) while Blakemore (2008) argues growth in ToM stems from functional brain development across adolescence.

Theory of Mind (ToM) can be defined as the development of an awareness of mental states in the self and others (Baron-Cohen, Tager-Flusberg, & Cohen, 2000). Further, ToM is the

capacity to understand that another person has beliefs, feelings, intent or desires and that these entities may differ from one's own. The ability to infer others' mental states through ToM can be utilized to predict the behavior of others (Perner, 1991). Therefore, ToM is essential for the adequate adjustment of behavior in social situations.

The emergence of ToM functioning has been observed in childhood (Wellman et al., 2001) through the first-order false belief task. This task has long been employed by developmental studies (for a review see Wellman et al., 2001) to test for the first-order cognitive mastery of ToM. Studies have consistently shown that first-order cognitive ToM is obtained across cultures around four years of age (Wellman et al., 2001). The development of ToM is considered critical for several reasons. It helps individuals to respect others and to understand why people may have different thoughts, ideas, and beliefs than they do. By utilizing ToM, one is able to make sense of people's actions. ToM skills also help individuals negotiate and collaborate with others. By listening to the thoughts of others, youth are able to expand on their own way of thinking. Limitations in ToM affect the way people interact with others and can interfere with the development of complex feelings such as sympathy and empathy.

Executive functioning. Similar to theory of mind, adolescent executive functioning has received increased attention, based on research showing that the development of executive functions persists through late adolescence and into adulthood and plays an important role in social development. Executive functions are higher-level cognitive processes that are important for goal-directed thoughts and actions (Zelazo, Müller, Frye, & Marcovitch, 2003). Executive functioning requires the use of mental control and the ability to self-regulate behavior and emotions. Executive functioning includes skills such as planning, inhibition, organization, cognitive flexibility, emotional control, self-monitoring, initiation, and working memory.

Executive functioning skills allow one to solve problems effectively by preventing inappropriate behaviors, promoting thoughtful actions, supporting task performance and self-monitoring, applying feedback, and flexibly shifting from one task to another.

In recent years, growing evidence suggests that development of executive functions persists through late adolescence and into adulthood (for review, see Crone, 2009). Executive functions are directly related to important outcomes such as academic achievement (Latzman, Elkovitch, Young, & Clark, 2010) but are also critical in social situations that involve the ability to preserve and update information as conversations progress, to inhibit distractions, and to formulate relevant thoughts in order to respond appropriately. Advances in executive functions during adolescence enable the emergence of more abstract and efficient processing of language (Nippold, 1998), and they also allow adolescents to meet increasingly complex demands in their academic and social worlds. Executive functioning skills are important to consider in adolescence because the complexity of communication tasks increases substantially during this developmental period.

Emotion Processes. Emotional development is connected to other developmental processes including psychobiological maturation, understanding of self and others, social interaction, self-control, and awareness of social rules and is a key task at every stage of development, including adolescence. There are a variety of skills that comprise competent emotional functioning, though one that is of central importance is emotion regulation (Zeman, Shipman, & Penza-Clyve, 2001). Thompson (1994) defined emotion regulation as "the extrinsic and intrinsic processes responsible for monitoring, evaluating, and modifying emotional reactions, especially their intensive and temporal features, to accomplish one' s goals" (pp. 27–28). Cole and colleagues (2004) conceptualize emotion regulation as a tool that can be used in a

constructive way (e.g. overcoming obstacles, problem-solving, and maintaining well-being) or in a compromising way (e.g. impairing reasoning and endangering health). Gross (2007) outlines several contextual factors that are fundamental in the development of emotion regulation, including caregiver influences, language development, social environment, and cultural values.

Emotion regulation is an interaction of physical, behavioral, and cognitive processes that react collectively to change an individual's emotional state. These emotional changes can be brought on by factors that are internal to the individual (e.g. biological) or external (e.g. contextual). Emotion regulation develops through a series of developmental achievements, starting in the early months of life and persisting through adolescence and beyond. The growth of adaptive emotion regulation skills is considered a key socio-emotional task throughout childhood and adolescence. Each developmental period from infancy to adolescence has distinct achievements in the ability to regulate emotions that are characteristic of that period. Developmental stages from infancy through adolescence are crucial for the growth of emotion regulation competency because this "is a time when temperamental, neurobiological, conceptual, and social forces come together to lay the foundation for the individual differences in emotion regulation we observe in adulthood" (Gross, 2007, p. 19). Successful emotion regulation has important implications for several aspects of later development, including behavioral adjustment, social relationships, and school achievement (Calkins & Howse, 2004; Degnan, Calkins, Keane, & Hill-Soderkind, 2008).

During middle childhood, increases in the capacity for self-regulation and in the awareness of the events leading to emotional reactions are motivated in part by the development of self-esteem and peer approval (Berger, 2013). With this comes an increasing ability to take responsibility. At this developmental stage, children are more reflective and strategic in their

emotional lives. For example, emotions are frequently managed through cognitive means and behavioral strategies (e.g. count to 10, walk away, deep breathing). Lastly, attempts at different coping strategies are indicative of middle childhood (i.e., problem- and emotion-centered coping strategies). According to Piaget, youth in middle childhood transition to concrete operational thought, characterized by the ability to use logic, something that was impossible during early childhood (Piaget, 1972). Youth in middle childhood are no longer egocentric nor do they exhibit challenges surrounding static reasoning, which explains their ability to more fully understand empathy. Piaget also argued that as children get older, they become more flexible with their mental categories, illustrated by their reflective and strategic approaches to emotion regulation (Piaget, 1972).

Adolescent emotional experiences are driven by the adolescents' perceptions of biological, physical, and cognitive changes as well as their responses to these changes (Rosenblum & Lewis, 2003). When considering the emotional lives of adolescents, there are several influences that must be taken into account such as cognitive abilities and hormonal and life events (Rosenblum & Lewis, 2003). Cognitive advances result in a more developed ability to reason that in turn expands the way adolescents think about emotions. According to Piaget (1972), as adolescents actively absorb all of their various life experiences, they begin to develop further logic that is different from that of middle childhood because it is no longer dependent on concrete (e.g. tangible) experiences. Adolescents are now able to think in an abstract way, and emotions can be activated by abstract ideas, anticipated future events, and recalled past events. More systematic logical thinking means adolescents have the ability to understand and manipulate abstract concepts. For example, adolescents begin to understand each other as "personalities" when it comes to interpersonal events. This shift in cognition allows for the

recognition that one event triggers different emotional responses in different people and adolescents can think about their own thoughts and possible thoughts of others in making sense of events (Rosenblum & Lewis, 2003).

Emotion regulation is considered significant in the field of developmental research because it is influential in the assessment of typical and atypical development (Cole et al., 2004). Studies have shown that when emotional regulation is not achieved, there are significant implications for adjustment, namely patterns of emotion inhibition and dysregulation (Cole, Michel, O' Donnell, & Teti, 1994). Emotion dysregulation can be defined as a maladaptive pattern of regulating emotions that involves a failure of regulation and/or disruption in one's adaptive functioning (Hilt, Hanson, & Pollak, 2011). As previously mentioned, emotion regulation is an interaction of individual and environmental processes. Research has established patterns of emotion dysregulation in children with depression (Garber, Braafladt, & Zeman, 1991), aggressive and disruptive behavior (Cole, Zahn-Waxler, & Smith, 1994b), and somatic complaints (Karasu & Plutchik, 1978; Zeman, Shipman, & Penza, 1997).

Autism spectrum disorders

ASDs are an important public health issue affecting increasing numbers of children and families in the United States. Current prevalence estimates from the Centers for Disease Control (CDC; 2014) indicate 1 of every 68 children meets criteria for ASDs, a group of developmental disorders distinguished by social and emotional impairments along a continuum from low functioning to high functioning. ASDs are characterized by impairments in three specific areas: (a) social interactions, (b) communication, and (c) restricted, repetitive, and stereotyped behavior patterns and interests. ASDs affect multiple areas of development and persist across the lifespan. According to statistics from Autism Speaks, autism is the fastest-growing serious developmental

disability in the United States. The newest edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM; American Psychiatric Association, 2013) brought substantial changes to the diagnostic labels previously utilized for ASDs. Those who had been previously diagnosed in any of the autism spectrum subcategories are now included together under new diagnostic criteria. More specifically, the fifth edition of the DSM (American Psychiatric Association, 2013) states that "individuals with a well-established DSM-IV diagnosis of autistic disorder, Asperger's disorder, or pervasive developmental disorder not otherwise specified should be given the diagnosis of autism spectrum disorder" (p. 51).

Core deficits associated with ASDs. ASDs are characterized by several deficits, rather than one primary deficit, that affect the child's social–emotional, language, and cognitive development. It is important to note that these aspects of development are interconnected.

***Social impairments*.** For youth with ASDs, the impairment of social interactions represents a central and often pervasive deficit. This impairment may be especially apparent in adolescence, based on the increased emphasis on and sophistication of peer relationships. Youth with ASDs experience difficulties in relating to other people, even when they have average or above-average intelligence (Pelphrey, Shultz, Hudac, & Vander Wyk, 2011). Research indicates that from a young age, youth with ASDs show deficits in skills that are crucial for normative social development. For example, youth with ASDs often display difficulties in imitating the social behavior of others, sharing a focus of attention with others, engaging in make-believe play, monitoring and being sensitive to the social cues and activities of others, and reciprocating social and emotional gestures (Ozonoff & South, 2001). They may also show a lack of interest and/or difficulty in relating to others and a failure to share enjoyment and interests with others (Landa, Holman, O'Neill, & Stuart, 2011). Additionally, youth with ASDs may exhibit unusual

nonverbal behaviors such as atypical facial expressions and body postures, lack of eye-to-eye gaze, and inappropriate gestures to regulate social interactions (Ozonoff & South, 2001). Finally, research indicates that youth with ASDs display atypical processing of facial expressions (Dawson, Webb, & McPartland, 2005), paying more attention to one part of the face, such as the mouth, rather than attending to its overall shape or focusing on the eyes as is common for typically developing youth (Joseph & Tanaka, 2003).

***Communication impairments*.** Youth with ASDs often display serious abnormalities in communication and language that appear early in their development and persist (Mitchell et al., 2006). The rhythm and intonation of their speech is often unusual (Peppe, McCann, Gibbon, O'Hare, & Rutherford, 2007) and there is a failure to use language for social communication. Language impairments in children with ASDs occur on several levels (Stefanatos & Baron, 2011). Youth with ASDs show proficiency in the computational and semantic use of language but display profound impairments in pragmatics. As a result, they often have difficulty understanding nonliteral statements or adjusting their language to fit the situation (Dawson, 1996; Tager-Flusberg, 1993).

Youth with ASDs also struggle with joint attention, or the ability to coordinate attention to a social partner and an object or event of mutual interest (Mundy & Newell, 2007). Joint attention typically emerges between 9 and 14 months of age and involves making a social connection with another person by directing that person's attention to objects or people by pointing, showing, and looking, and by communicating shared interest. Previous research suggests that deficits in joint attention have been found to impede language development in infants with ASDs at 20 months, and also are predictive of greater problems in language,

communication, and social behavior at age 42 months (Charman, Baron-Cohen, Swettenham, Baird, Cox, & Drew 2003; Luyster, Kadlec, Carter, & Tager-Flusberg, 2008).

***Restricted, repetitive and stereotyped behaviors and interests*.** Youth with ASDs frequently display restricted and repetitive behaviors and narrow interests (Honey, McConachie, Randle, Shearer, & Le Couteur, 2008; Leekam, Prior, & Uljarevic, 2011). These behaviors are characterized by their high frequency, repetition in a fixed manner, and desire for sameness in the environment. Although self-stimulatory and repetitive behaviors also occur in children with other developmental disabilities, they are especially common and persistent in children with ASDs. Overall, these types of difficulties may result in some youth with ASDs being socially rejected more frequently, having fewer close friendships, and receiving less social support from peers (Kuhne & Wiener, 2000; Mishna, 2003). Social isolation from peers can interfere with opportunities to acquire, rehearse, and validate social skills (Greenham, 1999; Lewandowski & Barlow, 2000).

Social Emotional Development among Adolescents with ASD

This central deficit in social interaction means that children with ASDs may lack social intelligence, described as the capacity to "understand interpersonal situations and transactions and to use that understanding to assist one in achieving desired interpersonal outcomes" (Greenspan & Love, 1997, p. 311). Social intelligence includes social tasks such as roletaking, empathic judgment, person perception, moral judgment, referential communication, and interpersonal tactics. These are skills typically seen as deficits in a child diagnosed with ASDs.

Deficits in Processing Social–Emotional Information. The social and communication deficits of children with ASDs have generated much interest in how they process social–emotional information, such as emotional expressions, voice and facial cues, and internal mental

states. In addition to their social difficulties, children with ASDs have difficulty processing emotional information expressed in body language, gestures, facial expressions, or the voice. Youth with ASDs also have difficulties in understanding emotional information, and their own bodily expressions of emotion—often characterized by limited spontaneous use of expressive gestures, and bizarre, rigid, or mechanical facial expressions—are very different from those of typically developing children (Loveland et al., 1994). They also have difficulties in recognizing emotions from body movements of others (Atkinson, 2009). Taken together, these studies show that children with ASDs process and express emotional information in unusual ways.

Theory of mind. Deficits in ToM abilities are suggested as a core feature of ASDs (Baron-Cohen, Leslie, & Frith, 1985). As previous research indicates that higher-order theory of mind abilities (understanding the thoughts and intentions of others) predict peer acceptance (Slaughter et al., 2002), these deficits likely place those with ASDs at increased risk of victimization. Theory of mind deficits make it more difficult for those with ASDs to understand social cues than their typically developing peers, which may increase the likelihood of marginalization and conflict within peer relationships. Further, difficulties understanding the thoughts of others impact the ability of individuals with ASDs to monitor feedback from others about how their behavior is being perceived, likely increasing the risk of both misunderstandings and becoming a target of victimization.

Executive Functioning. While not part of the diagnostic criteria for ASDs, general deficits in higher-order planning and regulatory behaviors are common among youth with ASDs (Russell, 1997). This presence of a general deficit in executive functioning is suggested by difficulties youth with ASDs experience in cognitive functions such as planning and organizing, shifting between cognitive sets, disengaging from relevant stimuli, processing information in

new and unpredictable environments, and applying previously learned information to novel situations (O'Hearn, Asato, Ordaz, & Luna, 2008). For example, children with ASDs display executive functioning deficits that are more generalized and profound than youth with attention deficit hyperactivity disorder (ADHD), showing some deficits similar to children with ADHD (e.g., vigilance, inhibitory) and others that are different (e.g., cognitive flexibility and task switching) (Corbett, Constantine, Hendren, Rocke, & Ozonoff, 2009).

Peer Victimization

Studying peer victimization is important based on the shifting dynamics of adolescent relationships to focus more on peers and peer support (Nansel, Haynie, & Simons-Morton, 2003; Prinstein, Boergers, & Vernberg, 2001). Close personal relationships are very important for healthy social development during adolescence and peers play a critical role when it comes to adolescent social development. For these reasons, peers are a significant developmental influence during adolescence.

Prevalence rates suggest that peer victimization impacts a significant number of youth. The World Health Organization conducted a large-scale international study among a sample of youth aged 11–15 years and results indicated that roughly one-third of youth report occasionally engaging in or experiencing peer victimization, while about 10 % report chronic perpetration or victimization (Molcho et al. 2009). Additionally, a large-scale national study done by Wang and colleagues (2010) examined the prevalence of specific types of peer aggression and victimization and found that out of over 7,000 American students in grades 6–10 and approximately 54% reported that they experienced verbal forms of victimization in the past two months. In addition, 51% reported social forms of victimization, 21% reported physical forms, and 13% reported cyber forms.

A number of studies highlight that youth with disabilities are victimized at higher rates than their typically developing peers, yet the majority of research on peer victimization has focused on children without disabilities. Examining victimization among youth with ASDs is particularly important because these youth experience higher rates of victimization than youth with other mental and physical special health care needs (Rowley et al., 2012; Symes & Humphrey, 2010; Twyman et al., 2010). Several studies have demonstrated higher rates of perceived victimization among youth with ASDs when compared to typically developing peers (Cappadocia et al., 2012; Rowley et al., 2012; Symes & Humphrey, 2010; Twyman et al., 2010; van et al., 2010; Zablotsky et al., 2013). More specifically, research indicates that there might be factors specific to youth with ASDs that put them at higher risk for peer victimization and contribute to a lack of protective factors that have been shown to mitigate relations between peer victimization and adjustment difficulties among typically developing youth. A review conducted by Schroeder et al. (2014) suggested that characteristics and behaviors typically associated with an ASD diagnosis increase chances of peer victimization. For example, social vulnerability (Sofronoff et al., 2011), restricted interests and stereotyped behaviors (Boivin, Hymel, & Bukowski, 1995; Boulton, Trueman, Chau, Whitehand, & Amatya, 1999; Dunn, Saiter, & Rinner, 2002; Hodges & Perry 1999), and emotional and behavioral reactions to victimization experiences (Boivin et al. 1995; Gray 2004) have all been linked to increased rates of peer victimization among youth with ASDs. For these reasons, research is needed to identify the specific social-cognitive and emotion processes that might put youth with ASDs at risk for peer victimization.

Consequences of peer victimization. Both cross-sectional and longitudinal studies have shown significant associations between peer victimization and adjustment difficulties in

adolescence, including youth with and without ASDs. A growing body of literature has shown that peer victimization is concurrently associated with a range of adjustment difficulties including internalizing behaviors such as anxiety and depression (Boivin & Hymel, 1997; Egan & Perry, 1998; Juvonen et al., 2000; Kaltiala-Heino et al., 1999; Kumpulainen et al., 1998), externalizing behaviors such as substance use and aggression (Graham et al., 2003; Kharti et al., 2003; Prinstein et al., 2001; Schwartz et al., 2001; Sullivan et al., 2006), as well as social difficulties (Coie et al., 1990; Crick et al., 2002; Hodges & Perry, 1999). In recent years, the exploration of causes and consequences of peer victimization among adolescents with ASDs has received increasing attention, though the literature is still quite limited.

***Internalizing behaviors*.** The degree to which peer victimization is associated with changes in internalizing behaviors among youth has been assessed across time frames spanning 2 to 24 months (Hanish & Guerra, 2002; Hodges & Perry, 1999; Khatri, Kupersmidt, & Patterson, 2000; McLaughlin, Hatzenbuehler, & Hilt, 2009; Ranta, Kaliala-Heino, Frojd, & Marttunen, 2013; Schwartz, Gorman, Nakamoto, & Tobin, 2005; Siegel, LaGreca, & Harrison, 2009; Storch, Masia-Warner, Crisp, & Klein, 2005; Sweeting, Young, Der, & West, 2006; Tran, Cole, & Weiss, 2012). Some studies found that overt and relational forms of peer victimization were related to increased internalizing symptoms (e.g., Hanish & Guerra, 2002; Hodges & Perry, 1999; Ranta et al., 2013; Schwartz et al., 2005; Sweeting et al., 2006). However, in other studies, relations between peer victimization and internalizing symptoms were not significant (e.g., Tran et al., 2012). Differences in findings related to longitudinal relations may be associated with factors such as the sub-type(s) of peer victimization assessed, age range of the various samples employed, and time frame spanning the assessment of peer victimization experiences and internalizing symptom outcomes.

The literature examining internalizing outcomes as a result of peer victimization among adolescents with ASDs is limited but several studies exist. One study focusing on youth with ASDs found that participants who were frequently victimized showed higher rates of internalizing symptoms as compared to those who were infrequently victimized or not victimized (Zablotsky et al., 2013). Cappadocia et al. (2012) also reported a similar pattern of internalizing symptoms among a sample of youth with ASDs ranging in age from 5-21 (mean age = 11. 71 years) who experienced peer victimization.

***Externalizing behaviors*.** Cross-sectional and longitudinal studies have shown significant associations between peer victimization and externalizing behaviors such as aggression and delinquency (e.g., Khatri et al., 2000; Prinstein et al., 2001; Schwartz, Proctor, & Chien, 2001), and drug use (e.g., Sullivan et al., 2006). Studies have shown the youth who are victimized may use aggressive behaviors as a strategy to fight back against peer victimization (Kumpulainen, Räsänen, & Puura, 2001; O'Moore & Hillery, 1989; Singer, 2005; Van Cleave & Davis, 2006). This behavioral response has also been found among youth with mental health disorders or high-incidence disabilities who may adopt aggressive behaviors in an attempt to eliminate peer victimization (Kumpulainen et al., 2001; Singer, 2005). In this literature review, I found only one study that addressed relations between peer victimization and externalizing behaviors among children with ASDS ranging in age from 5 to 21, and no significant relation was found (Cappadocia et al., 2012).

Risk and protective factors for peer victimization. Developmental-contextual models posit that peer relationships shape and are shaped by transactions among individuals and their environment. Consequently, adolescent social-cognitive and emotional development occurs within a social context. According to Bronfenbrenner's (1979) ecological systems theory

development is influenced by the quality of individuals' social ecologies (e.g., parent, peer, and school), interactions between individuals and their social ecologies, and interactions between social ecologies.

Utilizing a social-ecological framework to understand risk and protective factors for peer victimization has gained support through studies examining parallel influences from multiple systems (e.g., Barboza et al., 2009) and studies focusing on system-specific influences (e.g., Hong & Espelage, 2012). Additionally, an increasing amount of research suggests that aspects of the microsystem, such as individual, peer, and parent factors are significantly related to risk for experiencing peer victimization (for reviews see Arseneault, Bowes, & Shakoor, 2010; Hawker & Boulton, 2000; Hong & Espelage, 2012). Peer victimization research has examined individual characteristics such as age, gender, and social-cognitive, emotion regulation, and child communication processes that may shape peer victimization experiences. Additionally, interactions among and relationships within proximal social contexts such as parent and peers need to be considered in understanding peer victimization. It is important to assess the role of parenting factors when studying peer victimization as youth might self-disclose information about peer victimization experiences to their parents and/or parents may solicit this information. When considering youth with ASDs specifically, direct parental monitoring and control might continue to be important into adolescent years based on the social deficits, difficulties interacting with peers, and challenges making and maintaining friendships. Peers are particularly important in adolescence as they represent key socialization agents and play a critical role in social development and understanding. In the current study, potential protective peer relationship processes were explored in relation to peer victimization and internalizing and externalizing symptoms. Bronfenbrenner outlined more distal influences on development at the levels of the

exosystem (e.g., the educational system) and macrosystem (e.g., the role of culture), however, the current project focused on more proximal peer and parent influences. In summary, this social-ecological perspective provides a conceptual framework to investigate how individual, parent, and peer factors may be associated with peer victimization and internalizing and externalizing symptoms among youth with ASDs.

In the following section, the literature on risk factors for peer victimization related to social-cognitive and emotion regulation processes is reviewed. Then, the potential protective role of individual, parent, and peer factors is examined. A literature search was also conducted to identify risk factors that make it more likely for youth with and without ASDs to experience peer victimization as well as protective factors that reduce the likelihood of peer victimization and adjustment and social difficulties. Research is presented on individual (i.e., social-cognitive, emotion regulation, and communication processes), peer (i.e., friendship companionship, closeness, and help), and parent factors (i.e., parental knowledge and parental solicitation) associated peer victimization, including studies focusing on samples of typically developing youth.

Youth with ASDs might be especially vulnerable to peer victimization because of the characteristics of their diagnosis, such as deficits in communication, stereotyped behaviors and restricted interests, and difficulty with social interactions. The relation between social and communication skills and peer victimization has been explored, however, findings regarding the relation between the severity of these deficits and peer victimization have been mixed. For example, the Social Responsiveness Scale (SRS; Constantino & Gruber, 2005) has been used in studies comprising two different samples of youth with ASDs to assess the relation between the severity of social impairments and peer victimization (Adams, Fredstrom, Duncan, Holleb, &

Bishop, 2014; Storch et al., 2012). Storch and colleagues (2012) found no association between peer victimization and social deficits. In contrast, Adams et al. (2014) found the higher scores on the total SRS score to be associated with peer victimization, such that greater social deficits were related to higher frequencies of peer victimization. These authors also found that parent-reported severity of restricted and repetitive behaviors was positively associated with peer victimization. Engaging in restricted, repetitive patterns of behavior, interests, or activities could make youth with ASDs vulnerable to peer victimization. Youth with ASDs may be at an elevated risk for peer victimization based on difficulties in developing typical social interactions and relationships in addition to difficulty understanding the behavior of others (van Roekel et al., 2010). Similarly, research has found that youth with disabilities who experience victimization often show deficits in social skills (Baker & Donelly, 2001; Doren, Bullis, & Benz, 1996; Kaukiainen et al., 2002; Kuhne & Wiener, 2000; Llewellyn, 2000; Woods & Wolke, 2004). Finally, intense emotional and/or behavioral reactions to victimization might draw negative attention to youth with ASDs and create opportunities for subsequent victimization by peers (Gray, 2004).

Individual-level factors. Individual characteristics have been investigated as risk or protective factors for peer victimization among youth with and without disabilities. Prior research including youth with disabilities focused on individual characteristics such as emotion regulation, social cognition, executive functioning, and those characteristics specific to certain disabilities that may shape social functioning and thus social interactions with peers.

Social-Cognitive Information Processing Models (e.g., Crick & Dodge, 1994; Lemerise & Arsenio, 2000) provide an important framework to consider when exploring risk factors for peer victimization, particularly those related to emotion and social-cognitive processes. This framework details that emotion processes serve motivational, communicative, and regulatory

functions within and between individuals that may facilitate or hinder social competence. These emotion processes are interrelated yet distinct from the contributions of social-cognitive processes (attention, learning, memory, logic) to social competence (Lemerise & Arsenio, 2000).

Emotion Processes. When considering external factors, research among children and adolescents has demonstrated that chronic stressors such as community violence exposure and peer victimization may lead to negative emotions (e.g. Kochenderfer-Ladd, 2004) that then result in difficulties in effectively managing these emotions (Kelly et al., 2008; McLaughlin et al., 2009). In fact, several studies have identified emotion dysregulation as a potential underlying factor that indirectly links peer victimization to adjustment difficulties in samples drawn from general populations of school-aged youth. For example, in a sample of 1,065 early adolescents, higher frequencies of peer victimization resulted in increased emotion dysregulation among early adolescents (Herts, Mclaughlin, & Hatzenbuehler 2009; McLaughlin et al., 2012). Lastly, a study by McLaughlin et al. (2009) found that emotion dysregulation mediated relations between peer victimization and internalizing symptoms among a sample of early adolescents. In combination, these studies highlight the importance of exploring associations between emotion dysregulation and peer victimization.

As seen in the McLaughlin et al. (2009) study presented in the prior paragraph, another perspective is that emotion processes such as difficulties in effectively regulating emotions may serve as a factor that increases the risk for peer victimization. Research among typically developing youth suggest that intense emotional reactions to peer victimization experiences may reinforce the perpetrators' aggressive behavior based on the victims display of emotional distress (Kochenderfer-Ladd, Ladd, & Kochel, 2009). In addition, youth who respond to victimization with aggression might be at higher risk for social rejection and other negative peer related

outcomes such as adjustment difficulties (Schwartz, 2000). In addition to reinforcing the victimization experiences, Hebron and Humprhey (2013) argue that intense emotional reactions may frighten bystanders and deter them from helping the victim.

This may be a particularly relevant factor to investigate for youth with ASDs as they often have difficulty processing and regulating emotional information. Cappadocia et al. (2012) explored peer victimization experiences among youth with ASDs. The sample included 192 parents of children diagnosed with ASDs aged 5 to 21 years old. As reported by parents, youth with ASDs who experienced higher levels of peer victimization had elevated emotional sensitivity when compared to children who experienced low levels or no victimization at all. Zablotsky et al. (2013) conducted a study that included 1,103 school-aged youth with ASDs and found that parents indicated 19% of their children fought back in response to being victimized, while 41% reacted with an "emotional meltdown." Finally, a study completed by Kloosterman, Kelley, Parker, and Craig (2014) found that among youth with ASDs, lower executive functioning abilities were associated with higher rates of peer victimization. The authors highlighted the emotional control domain of executive functioning as a possible explanation for why youth with lower levels of executive functioning ability were susceptible to victimization by their peers.

Social-cognitive processes. Exploring the potential role of social-cognitive processes in peer victimization is important as some researchers argue social cognitions are vital in the time preceding an aggressive act (Huesmann, 1998; Huessman & Guerra, 1997). Associations between social-cognitive processes and peer victimization have been examined among typically developing youth. For example, research has shown that youth who display aggressive behaviors are less accurate in interpreting social interactions with peers (Dodge & Price, 1994; Katsurada

& Sugawara, 1998; Lansford et al., 2006; Ziv, 2012) and are more likely to demonstrate aggressive or ineffective responses (Orobio de Castro, Merk, Koops, Veerman, & Bosch, 2005; Schultz & Shaw, 2003; Webster-Stratton & Lindsay, 1999). Studies exploring social information processing among youth characterized as shy/withdrawn suggest these children conceptualize interpersonal interactions through their own negative experiences with peers (Burgess, Wojslawowicz, Rubin, Rose-Krasnor, & Booth-LaForce, 2006; Hanish & Guerra, 2002; Rubin, Chen, & Hymel, 1993)

Youth with high incidence disabilities including learning disabilities, emotional or behavioral disorders, and intellectual disabilities may struggle in areas of social information processing including challenges in deciphering social cues (Sabornie, 1994) and behaviorally inappropriate responses during social interactions with peers such as unassertive or withdrawn behavior (Vallance, Cummings, & Humphries, 1998). Nabuzoka (2003) suggests students with disabilities might be less at risk for victimization if they understand and exhibit appropriate social behaviors that help them to avoid being victimized. More specifically, if they have difficulty understanding social cues or utilizing strategies to prevent victimization, they become targets. Overall, these types of difficulties may result in some youth with high incidence disabilities experiencing higher rates of social rejection, isolation and thus, less social support (Kuhne & Wiener, 2000; Mishna, 2003). To date, there have been very few research studies exploring social-cognitive processes as a risk factor for peer victimization among adolescents with ASDs. Cappadocia, Weiss, & Pepler (2012) found that among a sample of youth with ASDs, those who were victimized were five times more likely to have higher levels of communication difficulties. Given the lack of research exploring the relation between peer victimization and this characteristic of ASDs, it is important to determine if difficulties in social-

cognitive challenges, including those characteristic of ASDs, are associated with peer victimization among youth.

Parent-level factors. Interactions among and relationships within proximal social contexts such as those with parents have been considered in studies of risk and protective factors for peer victimization. Throughout the literature, positive parent-child relationships have been shown as protective while negative parent-child relationships have demonstrated to be risk factors for problem behaviors, poor psychosocial adjustment, and negative mental health outcomes. One parent factor in particular, parental knowledge of children's activities and whereabouts, has consistently been evidenced as a protective factor for peer victimization among typically developing youth.

It is particularly important to consider the protective role of parents as youth might be more likely to disclose information about peer victimization experiences to their parents. Pepler and Craig (2000) report that 62% of youth who have been victimized by peers report that they informed their parents while only 46% told their teachers. These statistics highlight that parents are likely to have a great number of opportunities to prevent or interrupt patterns of peer victimization. Therefore, research exploring whether parenting practices and behaviors promote or inhibit peer victimization is critical (Boel-Studt & Renner, 2013). This research might be particularly important among youth who are at an increased risk for victimization, especially given the negative outcomes associated with these behaviors and their increased frequency in adolescence (e.g., CDC: Youth Risk Behavior Surveillance Survey, 2012).

Parental knowledge. Stattin and Kerr (2000) defined parental knowledge as the information obtained regarding their children's whereabouts, activities, and behavior (Kerr & Stattin, 2000; Stattin & Kerr, 2000). Their conceptualization of parental knowledge encompassed

three mechanisms by which parents may gain information including parental control (e.g., direct supervision and restrictions on activities), parental solicitation, and child disclosure (Kerr & Stattin, 2000; Stattin & Kerr, 2000). As adolescence is a period marked by increased autonomy and independence, parental monitoring must also shift to less direct forms of monitoring (Holmbeck, Paikoff & Brooks-Gunn, 1995). The current study focused on the two mechanisms representing parent-child communication patterns that included parental solicitation and child self-disclosure of information. These two aspects of parent-child communication highlight that effective parental monitoring is characterized by trust and open communication between parents and adolescents (Leadbeater, Banister, Ellis, & Yeung, 2008) which provides insight into adolescents' whereabouts and activities (Borawski, Ievers-Landis, Lovegreen, & Trapl, 2003). Parental knowledge is important because it is associated with positive adjustment in adolescence and reduced likelihood of problem behaviors (Racz & McMahon, 2011).

Parental solicitation and child-disclosure represent parent- and child-driven aspects of parent-child communication, respectively. Parental solicitation occurs when parents ask for information directly from their adolescent, their adolescents' friends or peers, and/or parents of their adolescents' friends (Stattin & Kerr, 2000). Parental solicitation has been associated with higher levels of parental knowledge (Padilla-Walker, Harper, & Bean, 2011; Stattin & Kerr, 2000) as it may foster more communication within the parent-child relationship (Collins, Gleason, & Sesma, 1997). Child disclosure can be defined as children's spontaneous and voluntary disclosure of information to their parents. Both cross sectional (Eaton, Krueger, Johnson, McGue, & Iacono, 2009; Kerr & Stattin, 2000; Padilla-Walker et al., 2011; Soenens et al., 2006; Stattin & Kerr, 2000; Vieno et al., 2009) and longitudinal studies (Blodgett-Salafia, Gondoli, & Grundy, 2009; Hamza & Willoughby, 2011; Kerr, Stattin, & Burke, 2010;

Willoughby & Hamza, 2011) have found child disclosure to be associated with higher levels of parental knowledge. In fact, studies focused on adolescents found that child disclosure was more strongly related to parental knowledge as compared to parental solicitation and control (Kerr et al., 2010; Stattin & Kerr, 2000).

While several studies have examined parent factors among children who aggress against their peers or engage in bullying behavior (for reviews see Espelage & Swearer, 2003; Griffin & Gross, 2004; Hong & Espelage, 2012; Olweus, 1994; Smith, 2004), less is known about specific parent factors that are associated with peer victimization. This is particularly true when considering peer victimization among youth with ASDs. Thus, it is important to explore specific aspects of parenting such as parental knowledge and parent-child communication patterns (i.e., child disclosure and parental solicitation) among parents who have an adolescent with ASDs. This could be helpful in identifying protective factors against the negative consequences of peer victimization.

Peer-level factors. Friendship is one peer-level factor that has received extensive attention in the peer victimization literature. This has been studied among typically developing youth as well as youth with disabilities, including youth with ASDs.

Friendships. A particularly important and protective aspect of peer relationships is the presence of reciprocal friendships. The literature provides strong support that friendships are important for the children's well-being and psychosocial adjustment (Gresham et al., 1998; Hoza et al., 2005). Friendships have been found to serve many functions, including promoting the exploration and acquisition of new skills and serving as a protective factor against negative outcomes (Bukowski et al., 1994). Unfortunately, youth who are victimized by their peers typically have fewer friendships than children who do not experience victimization and are

more vulnerable to increased victimization over time (Hodges et al., 1999). Therefore, friendships and positive peer relations are important to explore as they may represent protective factors that mitigate relations between peer victimization and negative outcomes. Research findings offer support for the potential protective function of friendships against peer victimization. According to Hodges et al. (1999), youth who were victimized by their peers had fewer friendships compared to children who were not victimized, and were more vulnerable to increased victimization over time. However, it is not only the presence of friendships that is important; research suggests the quality of friendships can make the difference in terms of the function of friendship. Hodges et al. (1999) found that often friends of youth who were victimized also tended to be victimized and therefore could not provide the support necessary to prevent victimization.

Problems with developing and maintaining friendships (Bauminger & Kasari, 2000) may place youth with ASDs at risk for peer victimization. It has been shown that youth with disabilities maintain few close friendships or have unstable relationships, and that this lack of social networks leaves them without a substantial social protection base. Previous research indicated that victimized students with disabilities were rejected by their general education peers and regarded as unpopular (Baker & Donelly, 2001; Kuhne & Wiener, 2000; Llewellyn, 2000; Morrison, Furlong, & Smith, 1994; Nabuzoka & Smith, 1993).

The failure to develop peer relationships is among the social difficulties that are hallmark characteristics of ASDs. In fact, research suggests the majority of adolescents with ASDs report that they find friendships difficult to establish (Carrington & Graham, 2001; Church, Alinsanski, & Amanullah, 2000; Marks, Schrader, Longaker, & Levine, 2000; Molloy & Vasil, 2004; Portway & Johnson, 2003). Further, when youth with ASDs do report having friendships,

these relationships may be strained and are not always reciprocated (Bauminger & Kasari, 2000; Bauminger, Shulman, & Agam, 2003; Chamberlain, Kasari & Rotheram-Fuller, 2007). Finally, the difficulties adolescents with ASDs have in forming and maintaining positive peer relationships and friendships in turn places them at risk for peer victimization (Cappadocia et al., 2012; Zablotsky et al., 2014).

The literature has established that while having limited peer support and friendships places students at risk for victimization, supportive peers and friendships can serve as a protective factor against victimization (Boulton et al., 1999; Humphrey & Symes, 2010). Humphrey and Symes (2010) examined levels of social support and rates of peer victimization among 120 secondary students, including 40 youth with ASDs and 40 with dyslexia. Exploratory analysis suggested that higher levels of support from classmates predicted lower rates of peer victimization (Humphrey & Symes, 2010). In addition, Hebron and Humphrey (2013) highlighted the relation between positive peer relationships and lower levels of peer victimization among youth with ASDs. These findings suggest there are both risk and protective functions associated within peer and friendship domains, illustrating that friendships can buffer youth from negative outcomes associated with peer victimization.

Limitations of Previous Research Concerning Youth with Disabilities

In the past two decades, empirical studies have provided important information about peer victimization experiences in adolescence, however, there are still unknowns and a great deal of progress to make. The literature has provided insight into defining and assessing peer victimization, and the importance of using a socio-ecological viewpoint to investigate this phenomenon (Espelage & Swearer, 2003). We have learned that developmental differences must be taken into account as youth progress through school and that accounting for these differences

is particularly important for effective prevention and intervention programming (Espelage & Swearer, 2003). There is a critical need for further research examining peer victimization with specific populations, such as students with ASDs, as well as students with special learning needs, students with disabilities, and students in special education (Espelage & Swearer, 2003). The majority of the research on peer victimization has focused on typically developing youth. When considering the research conducted on peer victimization among youth with disabilities, there is a significant need for research focusing specifically on adolescents with ASDs.

Statement of the Problem

Although studies show that youth with ASDs experience more frequent peer victimization, little is known about associated risk and protective factors. This study addressed several limitations in the current body of literature on peer victimization and ASDs. The field is just beginning to identify potential risk and protective factors for peer victimization among youth with ASDs. Furthermore, the prior research among youth with ASDs indicates there are relations between several individual and contextual factors and peer victimization that deserve further attention.

Emotional and social challenges are common among individuals with ASDs, and these challenges can lead to difficulties in peer interactions. Thus, one aim of this study was to determine if difficulties in emotion and social-cognitive processes are risk factors for peer victimization. Another goal of this study was to determine if peer victimization is associated with adjustment difficulties including internalizing and externalizing symptoms. This study also explored the degree to which peer victimization mediated relations between individual risk factors (i.e., emotional and social-cognitive variables) and adjustment difficulties (i.e., internalizing and externalizing behaviors). In addition, this study examined whether individual

(i.e., child disclosure), peer (i.e., friendship companionship, closeness, and help), and parent (i.e., parental solicitation and knowledge) factors were protective in moderating relations between peer victimization and adjustment difficulties for a sample of youth with ASDs. Given the substantial increases in the prevalence of ASDs and the negative impact peer victimization has on development, further research is vital. This type of information is critical in assuring that intervention and prevention efforts address relevant factors to decrease peer victimization and associated negative outcomes among youth with ASDs.

Peer victimization is a serious issue, and unfortunately few studies have identified risk and protective factors for peer victimization among adolescents with ASDs. Understanding the associations between individual, parent, and peer factors and peer victimization and adjustment difficulties among youth with ASDs is critical in assuring that prevention efforts address relevant factors to decrease peer victimization. It is also important to assess whether associations found in the general population generalize to youth with ASDs. Overall, this information is critical in assuring that individual-, family-, and school-based prevention efforts address key factors to decrease peer victimization and related adjustment difficulties among youth with ASDs and has the potential to improve their quality of life.

Hypotheses

This study investigated relations between individual, parent, and peer factors, peer victimization, and internalizing and externalizing symptoms among adolescents with ASDs. There were three objectives.

1. To examine the indirect effect of peer victimization on relations between individual factors (i.e., social cognitive and emotion regulation processes) and adjustment difficulties among adolescents with ASDs.

Hypothesis 1.1: It was anticipated that individual difficulties with emotion regulation and social cognitive processes (i.e., social awareness, social cognition, social communication, social motivation, and restrictive interests and repetitive behaviors) would be associated with higher levels of peer victimization.

Hypothesis 1.2: It was expected that higher levels of individual difficulties with emotion regulation and social cognitive processes would be associated with higher frequencies of internalizing and externalizing symptoms.

Hypothesis 1.3: It was anticipated that higher levels of peer victimization would be associated with higher frequencies of internalizing and externalizing symptoms.

Hypothesis 1.4: It was anticipated that a significant indirect effect for peer victimization on relations between individual difficulties with emotion regulation and social cognitive processes and internalizing and externalizing symptoms would be found.

2. To determine the extent to which parent factors moderate relations between peer victimization and internalizing and externalizing symptoms.

Hypothesis 2.1: It was hypothesized that adolescent (i.e., child disclosure) and parent (i.e., parental knowledge and solicitation) factors would moderate relations between peer victimization and internalizing and externalizing symptoms, such that relations between victimization and these adjustment difficulties would be weaker for youth with higher rates of child disclosure and higher levels of parental knowledge and solicitation.

3. To determine the extent to which peer factors moderate relations between peer victimization and internalizing and externalizing symptoms.

Hypothesis 3.1: It was hypothesized that peer-factors (i.e., aspects of friendship quality) would moderate relations between peer victimization and internalizing and externalizing

symptoms, such that relations between victimization and these adjustment difficulties would be weaker for youth with higher quality friendships.

Method

Participants

The current study included adolescents and their primary caregivers who met the following criteria: (a) the participating family had an adolescent diagnosed with an ASD who was between the ages of 10 and 18, (b) the adolescent was able to complete the self-report measures independently (as decided by their parent), (c) the adolescent had experience using a computer, (d) the adolescent did not have a diagnosis of a severe intellectual disability, (e) the adolescent was able to read (as decided by their parents), and (f) the adolescent was enrolled in a school setting outside of the home. Families were also required to live in the United States. Based on the limited research in this area, it is unknown whether the severity of ASDs would be related to peer victimization experiences or associated adjustment difficulties. For this reason, no diagnoses on the autism spectrum were excluded. The diagnoses included for parents to endorse were Autism or Autistic Disorder, Asperger's Syndrome, Pervasive Developmental Disorder-Not Otherwise Specified (PDD-NOS), Childhood Disintegrative Disorder (CDD), Autism Spectrum Disorder (ASD) or Pervasive Developmental Disorder (PDD).

A total of 375 parents submitted responses to an online screener (see "Online Screener (REDCap)" Appendix) accessible via the study's website to enroll in the study. Of these submissions, 48 were determined to be ineligible because the study's inclusion criteria were not met or they were duplicate submissions. Of the 327 parent-adolescent dyads who were eligible to complete the survey, 142 dyads provided adolescent assent and parental consent. A total of 41 dyads were excluded from data analyses based on incomplete data (e.g., only the parent or

adolescent partially or fully completed the survey) and one participant refused. The final sample for the current study included 101 parent-adolescent dyads.

Adolescents ranged in age from 10 to 18 (*M* = 13.6, *SD* = 2.4), and most youth were male (86%). Most adolescents were White or Caucasian (91%), with other races endorsed including Asian (1%) and another racial category (3%). A total of 8% of adolescents were of Hispanic/Latino descent. Diagnoses included autism or autistic disorder (43%), Asperger's syndrome (33%), PDD-NOS (21%), and on the autism spectrum but unclear diagnosis (3%). The average age when diagnosed was 4.3 (*SD* = 2.4). Adolescents were enrolled in elementary (17%), middle (39%), and high (44%) school. Educational settings including general education (64%), special education (13%), self-contained classroom (3%), inclusion classroom (14%), or other (6%). A total of 46% of adolescents had been diagnosed with another disability, disease, chronic illness, and/or health condition, with conditions endorsed including but not limited to anxiety, ADHD, depression, Obsessive Compulsive Disorder (OCD), Sensory Processing Disorder, speech/language delay, and specific allergies.

Parents ranged in age from 32 to 60 (*M* = 44.5, *SD* = 7.6) and most participants were female (97%). The race endorsed by the majority of parents was White or Caucasian (92%); 1% of participants endorsed Asian, 2% multiple racial categories, and 2% another racial category. A total of 6% of parents were of Hispanic/Latino descent. Almost all parents had attended college (98%), with 69% having a bachelor's degree or advanced degree. Seventy percent of parents reported that their family's income for the previous year was $50,000 or greater; 49% endorsed an income of $80,000 or greater, and 11% preferred not to say. Further, 8 % indicated that their family income "does not meet" their family's needs, 24% indicated that their income "somewhat

meets" their needs, and 69% indicated that their income "mostly meets" or "very well meets" their needs.

Procedure

All study procedures were approved by VCU IRB. This study utilized an online questionnaire, with data collection occurring through REDCap Survey and Database Software ©. A unique online identification number was generated for each participating parent-adolescent dyad. A key was used to link identifiable information (i.e., email address) to the data. The key was stored in a secure, locked location which was accessible only to research staff. The key will be destroyed and identifiers removed at the conclusion of data collection. The survey required approximately 20 minutes for the adolescent and 45 minutes for the parent to complete. Completion of questionnaires occurred online, at a time and location that was convenient for participants. Data was collected between March and July of 2015. The questionnaire did not contain any items that asked for identifying information. Although the current study focused only on the initial wave of data collected, parent-adolescent dyads who complete surveys at waves 1 and 2 will receive information about the compensation options (i.e., a $10 Target gift card or the chance to win one of 2 iPod shuffles) and be asked to select their preferred option.

Participants (i.e., parent-adolescent dyads) were recruited through the Interactive Autism Network (IAN; http://ianproject.org). IAN is an online organization that keeps a registry of individuals with ASDs and their family members and conducts and advertises research on its website. IAN offers access to potential participants who have joined the network based on their interest in participating in research related to ASDs. For a fee, IAN provides assistance in connecting researchers with potential research participants.

Initially, an email describing the study was distributed by an IAN representative to registered families that met the study criteria. Parents who were interested in participating or who sought more information were advised to visit the current study's website (www.asdpeerexperiences.com) and complete a brief screener to ensure they met the inclusion criteria. If the inclusion criteria were met, they were e-mailed a unique hyperlink that allowed them access to the parental consent and adolescent assent forms. Parents first reviewed the parental consent form and were asked to provide consent for themselves and their adolescents to participate in the study. Parents could opt to participate in the study by clicking "Yes" or decline by clicking "No." If parents opted to participate, they were provided with the adolescent assent form. Adolescents read and reviewed the assent form and then provided their assent by clicking "Yes" or chose not to participate by clicking "No". Potential participants were encouraged to ask questions about information in the consent/assent forms, and provided the contact information for study staff. Parental consent and adolescent assent was obtained prior to data collection. Participants were provided as much time as they needed to make their decision.

Measures

For the present study, measures were used to assess demographic information, individual, parent, and peer factors, peer victimization, and internalizing and externalizing symptoms.

Demographic questionnaire. Demographic information (see "Demographic Survey" in the Appendix) included: (a) the adolescent's diagnosis, age, sex, race, school enrollment, educational setting, and other health conditions, (b) the parent's age, sex, race, state of residence, marital status, education level, and employment status, and (c) the family's number of children and adults in the home, total number of children with ASDs, and household income.

Internalizing and Externalizing Symptoms. The Child Behavior Checklist 6-18 (CBCL/6-18; Achenbach & Rescorla, 2001) is a parent-report measure that assessed internalizing and externalizing symptoms (e.g., anxious/withdrawn and/or depressive symptoms, attention problems, thought problems, aggressive behavior, and rule-breaking behavior). Parents also provided information for competence items covering their child's activities, social relations, and school performance. The CBCL/6-18 contained a total of 118 items that assess specific behavioral and emotional problems, as well as two open-ended items where parents can report additional problems. The current study focused specifically on the anxious/withdrawn behaviors and aggressive behavior subscales. The anxious/withdrawn subscale consisted of 13 items such as "cries a lot" and "too fearful or anxious" while the aggressive behavior subscale was comprised of 18 items including, "get in many fights" and "threatens people". Parents rated each item based on how true it is for their child within the past 6 months using a scale that ranged from 0 (*not true*) to 2 (*very true or often true*) with higher scores indicating greater frequency of behaviors. The CBCL has been used extensively in clinical and research settings and has demonstrated strong psychometric properties including high internal consistency, test-retest reliability, and construct validity (Achenbach, 1994). The CBCL demonstrated good reliability in this sample for both the anxious/withdrawn and the aggressive behavior subscales ($\alpha = .85$).

Peer victimization. The Revised Peer Experiences Questionnaire (RPEQ; Prinstein et al., 2001) is a self-report measure of peer victimization, developed from the Peer Experiences Questionnaire (Vernberg, Jacobs, & Hershberger, 1999). The RPEQ assessed the following types of victimization: overt (three items: e.g., "A teen threatened to hurt or beat me up"), relational (three items: e.g., "Another teen gossiped about me so others would not like me"), and reputational (three items: e.g., "A teen tried to damage my social reputation by spreading rumors

about me”). There were also four items that were included in analyses that addressed important peer victimization experiences but did not fall under the three subscales (e.g., “A teen gave me the silent treatment”). Summing the items of the measure provided the total victimization score with higher scores indicating greater rates of peer victimization. The RPEQ also contains five items assessing the receipt of prosocial behavior from others, however, this subscale was excluded from analyses based on the objectives of the current study. Adolescents were asked to endorse the frequency of specific behaviors using a scale that ranged from 1 (*never)* to 5 (*a few times a week*) over the past six months (to match the time frame of data collection and the aims of this study). The RPEQ has demonstrated strong six-month test-retest reliability (*r*s ranged from .48 to .52) (Prinstein et al., 2001). Additionally, strong internal consistency has been found among the peer victimization subscales with Cronbach’s alphas ranging from .78 to.84 (de los Reyes & Prinstein, 2004). The RPEQ has been used in research examining peer victimization among adolescents with ASDs (Bailey, 2009; Storch et al., 2012) and the victimization subscales have demonstrated good internal consistency in a sample of adolescents with ASDs with alpha coefficients ranging from .75 to .81 (Bailey, 2009). The adolescent version of the RPEQ demonstrated good reliability in this sample (α =.93).

A parent version of the RPEQ (Prinstein et al., 2001) was developed specifically for this study. The parents were asked to complete the same 13 items assessing overt (e.g., “A teen threatened to hurt or beat my child up”), relational (e.g., “Another teen gossiped about my child so others would not like him/her”) and reputational (e.g., “A teen tried to damage my child’s social reputation by spreading rumors about him/her”) victimization experienced by their adolescent. The additional four items that addressed important peer victimization experiences not included under the three subscales were also included (e.g., “A teen gave me the silent

treatment"). Parents were asked to endorse the frequency of specific behaviors that have happened to their child using the same scale ranging from 1 (*never)* to 5 (*a few times a week*) over the past six months (to match the time frame of data collection and the aims of this study). The parent version of the RPEQ also demonstrated good reliability in this sample (α = .93).

Emotion regulation. Emotion regulation was assessed using the Emotion Regulation Checklist (ERC; Shields & Cicchetti, 1997), a 24-item parent-report measure that assesses a parents' perception of their child's typical methods of managing emotions. The measure consisted of two subscales rated on a four-point scale of 1 (*never*) to 4 (*always*), with higher scores indicating higher management of emotions. The Lability/Negativity subscale measured inflexibility, lability, and dysregulated negative affect (e.g., "Exhibits mood swings"), and the Emotion Regulation subscale measured appropriate emotional expression, empathy, and emotional self-awareness (e.g., "Can modulate excitement in emotionally arousing situations"). The current study focused only on the emotion regulation subscale. Shields and Cicchetti (1997) established validity for this measure through positive correlations with observers' ratings. The emotion dysregulation subscale of the ERC demonstrated good reliability in this sample (α = .79).

Social cognitive variables and social impairment. The Social Responsiveness Scale-Second Edition (SRS-2; Constantino & Gruber, 2005) measures the severity of ASD symptoms as they occur in social settings. This is a 65-item parent-report scale assessing social impairments as well as social awareness (e.g., "Is aware of what others are thinking or feeling"), social cognition (e.g., "Doesn't recognize when others are trying to take advantage of him or her"), social communication (e.g., "Avoids eye contact or has unusual eye contact"), social motivation (e.g., "Would rather be alone than with others"), and restrictive interests and repetitive behavior

(e.g., “Has an unusually narrow range of interests”). The response scale for items ranged from 1 (*not true*) to 4 (*almost always true*) with higher scores reflecting higher levels of social impairment. Previous research studies utilizing the SRS-2 have demonstrated the measure’s capacity to assess severity of social impairment in individuals with ASDs. The SRS-2 demonstrated good reliability in this sample ($\alpha = .95$).

Friendship. The Friendship Qualities Scale **(**Bukowski et al., 1994) was used to assess various aspects of friendship quality. This self-report scale contained 23-items that examined five different features of friendship quality including companionship, help, security, closeness, and conflict. The current study focused on the companionship, closeness, and help aspects of friendship only. The items written to address companionship reflected voluntary time spent together (e.g., “My friend and I spend a lot of our free time together”). The help items explored several different facets including: (a) aid (e.g., “My friend helps me when I am having trouble with something”), (b) guidance (e.g., “My friend gives me advice when I need it”), and (c) protection from victimization (e.g., “If other kids were bothering me, my friend would help me”; “If someone tried to push me around, my friend would help me”). The questions exploring closeness consisted of both the child's feelings towards their friend (e.g., “If I had to move away I would miss him/her”) and their perceptions of the friend's feelings (e.g., “I know that I am important to my friend”). Each item asked the respondent to rate how true each item was of one of their friendships, using a 5-point scale ranging from 1 (*never*) to 5 (*always*), with higher scores indicating greater levels of companionship, closeness, and help present in the friendship. This measure has been used with adolescents with ASDs (Locke, Ishijima, Kasari, & London, 2010). The alpha coefficients for the current sample were .71 for companionship, .90 for closeness, and .95 for help.

Parenting Practices. Three scales of the Parenting Practices Scale (Stattin & Kerr, 2000) were used to assess parental knowledge about children's whereabouts, activities, and behavior, and the mechanisms through which parents may gain this knowledge. The current study focused specifically the parental knowledge, parental solicitation, and child disclosure scales. The parental knowledge subscale (parent-report) included a total of nine items (e.g., "Do you know what (child) does during his/her free time?" and "Do you know which friends (child) hangs out with during his/her free time?"). The child disclosure subscale (child-report) included a total of five items (e.g., "Do you usually tell your parents how school was when you get home (how you did on different exams, your relationships with teachers, etc.)?" and "Do you keep a lot of secrets from your parents about what you do during your free time?"). The parental solicitation subscale (parent-report) included a total of five items (e.g., "How often do you initiate a conversation about things that happen during a normal day at school for (child)?" and "Do you usually ask (child) to talk about things that happened during his/her free time?"). There were a total of 24 items and for each of these constructs, the parent and adolescent answered parallel items. The response scale for items ranged from 1 (*almost always*) to 5 (*never*), with higher scores reflecting lower levels of parental knowledge, parental solicitation, and child disclosure. In prior studies, internal consistency for the scales of the PPS ranged from .69 to .82 and evidence supported the construct validity of the scales (Stattin & Kerr, 2000). The PPS scales demonstrated strong reliability among early adolescent samples. For example, among a sample of over 700 14 year olds, reliability coefficients for parent-reported knowledge and solicitation scales were .89 and 75, respectively, and for adolescent-reported disclosure was .81. The current sample yielded alpha coefficients of .74 for parental knowledge (parent-report), .50 for parental solicitation (parent-report) and .39 for the child disclosure subscale (child-report).

Data Analyses

Data Preparation. Data cleaning and analyses for descriptive statistics were conducted using SPSS 22 (IBM Corp., 2013). For each participant, scale scores were calculated for each measure by summing the item responses. Items were reverse scored, when necessary. The data were checked for normality, skewness, and kurtosis; all values were within normal ranges (between -2.00 and 2.00). The presence of univariate outliers was assessed using distributions, boxplots, and the standardized values of each variable. The presence of multicollinearity and singularity was explored. None of the bivariate correlations among study variables exceeded .80.

Data were then exported into Mplus 7.3 (Muthén & Muthén, 2013), and path models were run to test the hypothesized relations between study variables. Goodness of fit indices were used to evaluate how well each model fit the data and included the comparative fit index (CFI) and the root mean square error of approximation (RMSEA). In general, path models with a CFI of 0.95 or above (Hu & Bentler, 1999) are considered to fit the data well. The RMSEA is considered a "badness of fit" index and provides information about the lack of fit of the model being tested in comparison with population data with optimal parameters. An RMSEA of 0.07 or less (Steiger, 2007) is considered to adequately fit the data.

For the mediation analyses, bootstrapping procedures were incorporated to determine whether the indirect effects of peer victimization on relations between emotion regulation and difficulties in social cognition were significant (Shrout & Bolger, 2002). For these analyses, 3,000 bootstrap samples were run using random sampling with replacement. Results of these analyses included confidence intervals to test the significance of the specific indirect effects. The 2.5^{th} and 97.5^{th} percentiles represent the limits for the 95% confidence interval. The indirect effect is significant at $p < .05$ if this confidence interval does not include zero. Missing data due

to incomplete responses were handled using the full-information maximum likelihood (FIML) method, which uses the data present to estimate values for missing data (Muthén & Muthén, 2013).

Results

Descriptive statistics. Analyses were conducted to determine the prevalence of peer victimization among adolescents with ASDs, as well as the means and standard deviations for study variables and their inter-correlations. The prevalence for the peer victimization items is reported in Table 1 by self- and parent-report. For self-report, half or more of adolescents endorsed being teased in a mean way, left out of activities, and having other peers not sit with them during class or at lunch. Over one-third of adolescents reported being threatened with physical harm, hit, kicked, or pushed, chased, teased by peers so that others would think they were losers, given the silent treatment, not invited to parties or social events, and having peers gossip about them. For parent-report of their adolescent's victimization experiences, half or more of parents indicated that their adolescents had been teased in a mean way or so that others would think they were losers, left out of activities, not invited to parties or social events, given the silent treatment, or had others not sit with them during class or at lunch. Over one-third of parents indicated that adolescents had been threatened with physical harm, chased, hit, kicked, or pushed, targeted via gossip and rumors, or had a peer tell them he/she didn't want to be friends anymore.

Means and standard deviations and bivariate correlations among study variables are reported in Table 2. A Bonferroni correction was conducted with a familywise Type I error rate of $p < .10$, resulting in a per-test significance level of $p < .002$. The total score on the SRS was positively correlated with the Aggression ($r = .45$) and Anxious/Depressed ($r = .44$) subscales of

the CBCL, and negatively correlated with the Emotion Regulation subscale (r = -.58) of the ERC. The parent-reported RPEQ was positively associated with the Aggression (r = .32) and Anxious/Depressed (r = .37) subscales of the CBCL, and with the adolescent-reported RPEQ (r = .68). The three subscales of the FQS (i.e., companionship, closeness, and help) were positively correlated with each other (rs ranged from .66 to .77). The Anxious/Depressed subscale of the CBCL was positively correlated with the Aggression subscale of this measure (r = .34) and negatively correlated with the Emotion Regulation subscale (r = -.40) of the ERC.

Path Models. Two path models assessed the extent to which peer victimization mediated the relations between emotion regulation and difficulties in social cognition and aggressive and anxious/depressed symptoms. Separate models were run for adolescent- and parent-reported victimization. Next, six path models were run to test the potential moderating effect of friendship quality (i.e., closeness, companionship, and help) on relations between peer victimization and aggressive and anxious/depressed symptoms. Separate models were run for each subscale and for adolescent- and parent-reported victimization. Lastly, two path models were run to test the possible moderating role of parental knowledge on relations between peer victimization and aggressive and anxious/depressed symptoms. Separate models were run for adolescent- and parent-reported peer victimization. Based on the low alpha coefficients for both adolescent-reported child disclosure and parent-reported solicitation, no moderating models were run with these variables. Covariates for each model included gender, race/ethnicity, age, adolescents' other diagnoses, and Asperger diagnosis.

Table 1. *Prevalence of peer victimization among adolescents with ASDs*

	Adolescent (%)	*Parent (%)*
A teen left them out of an activity they really wanted to be included in	72	76
A teen left them out of what they were doing	68	85
A teen they wanted to be with would not sit near them at lunch or in class	54	66
A teen teased them in a mean way, by saying rude things or calling them bad names	50	63
A teen threatened to hurt or beat them up	43	35
A teen said mean things about them so that people would think they were a loser	42	59
A teen hit, kicked, or pushed them in a mean way	38	35
A teen gave them the silent treatment (did not talk to them on purpose).	38	50
A teen gossiped about them so others would not like them	37	46
A teen did not invite them to a party/social event even though he/she knew they wanted to go	35	63
A teen chased them like he/she was really trying to hurt them	35	36
A teen told them that he/she would not be friends with them anymore	30	36
A teen tried to damage my their social reputation by spreading rumors about them	28	37

Note: [1]Prevalence represents the percentage of adolescents and parents who reported the event had ever happened.

Table 2.
Bivariate Correlations and Means and Standard Deviations for Peer Victimization, Individual, Parent, and Peer Risk and Protective Factors, and Internalizing and Externalizing Symptoms

Variable	1	2	3	4	5	6	7	8	9	10	11	12
(1) CBCL – Aggression[1]	----											
(2) CBCL – Anxious/Withdrawn[1]	.34*	-----										
(3) Emotion Regulation[1]	-.27	-.40*	-----									
(4) FQS – Closeness[2]	-.02	-.08	.09	-----								
(5) FQS – Companionship[2]	.02	-.11	.19	.69*	------							
(6) FQS – Help[2]	-.05	-.19	.12	.77*	.66*	-----						
(7) PPS – Child Disclosure[2]	-.18	-.15	-.02	-.03	-.06	.11	------					
(8) PPS – Knowledge[1]	.12	.15	-.22	-.15	-.13	-.06	.05	------				
(9) PPS – Solicitation[1]	.05	-.12	-.03	-.08	-.02	.01	.13	.29	-----			
(10) RPEQ – Adolescent[2]	.23	.30	-.05	-.01	.08	.01	-.18	-.02	-.10	-----		
(11) RPEQ – Parent[1]	.32*	.37*	-.15	.01	.10	.06	-.13	.11	-.09	.68*	-----	
(12) SRS[1]	.45 *	.44*	-.58*	-.17	-.21	-.27	-.04	.18	-.09	.13	.23	-----
M	8.16	7.85	21.81	25.69	14.89	34.60	14.02	11.69	8.49	23.52	24.93	166.50
SD	6.05	5.22	5.01	7.55	5.34	11.48	3.37	3.63	3.18	11.48	10.05	29.02

Note: CBCL = Child Behavior Checklist; FQS = Friendship Quality Scale; PPS = Parenting Practices Scale; RPEQ = Revised- Peer Experiences Questionnaire; SRS = Social Responsiveness Scale. *Correlations significant at a per-test significance level of $p < .002$ based on a Bonferroni correction with a family-wise Type 1 error rate of $p < .10$. [1]Parent-report; [2]Adolescent-report

Peer Victimization as a Link between Emotional Regulation and Social Responsiveness and Internalizing and Externalizing Symptoms. For the model testing parent-report of adolescents' peer victimization, the model fit the data well, χ^2 (6, N = 100) = 1.62, p = .95 (CFI = 1.00, RMSEA = 0.00). Significant direct effects were found; higher levels of difficulty in social cognition were associated with higher frequencies of aggressive behavior (β = .41, Z = 3.98, p < .001) and anxious/depressed symptoms (β = .23, Z =- 2.41, p = .02). Higher rates of peer victimization were related to higher frequencies of aggressive behavior (β = .27, Z = 3.11, p = .002) and anxious/depressed symptoms (β = .23, Z = 2.36, p = .02) (See Figure 1). No significant indirect effects were found for peer victimization on relations between: a) emotion regulation and aggressive behavior, b) emotion regulation and anxious/depressed symptoms, c) difficulties in social cognition and aggressive behavior, and d) difficulties in social cognition and anxious/depressed symptoms.

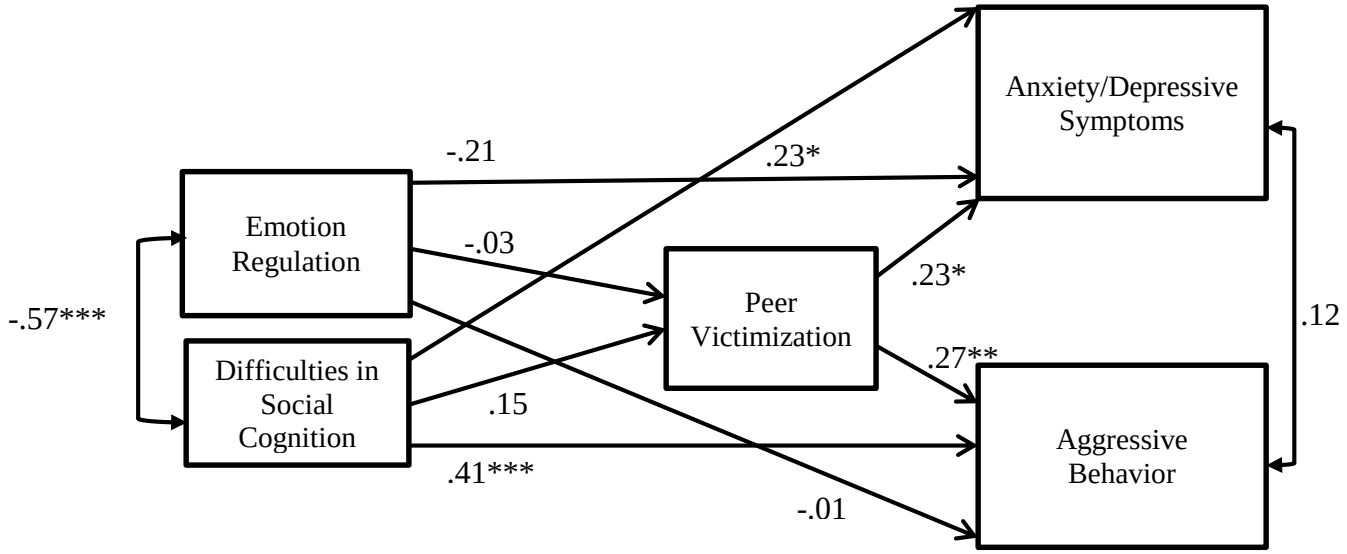

Figure 1. Path model depicting path coefficients of relations between emotion regulation and difficulties in social cognition, parent report of adolescents' victimization experiences, and

aggressive and anxiety/depressive symptoms. *p < .05, **p < .01, ***p < .001. Covariates and all correlations were not included to decrease model complexity.

For the model assessing adolescent-reported peer victimization, the model fit the data well, χ^2 (6, N = 100) = 1.63, p = .95 (CFI = 1.00, RMSEA = 0.00). Significant direct effects were found; higher levels of difficulty in social cognition were associated with higher frequencies of aggressive behavior (β = .43, Z = - 4.08, p < .001) and anxious/depressed symptoms (β = .25, Z = 2.50, p = .01). Higher rates of peer victimization were related to higher frequencies of aggressive behavior (β = .22, Z = 2.17, p = .03). Standardized path coefficients are detailed in Figure 2. No significant indirect effects were found for peer victimization on relations between: a) emotion regulation and aggressive behavior, b) emotion regulation and anxious/depressed symptoms, c) difficulties in social cognition and aggressive behavior, and d) difficulties in social cognition and anxious/depressed symptoms.

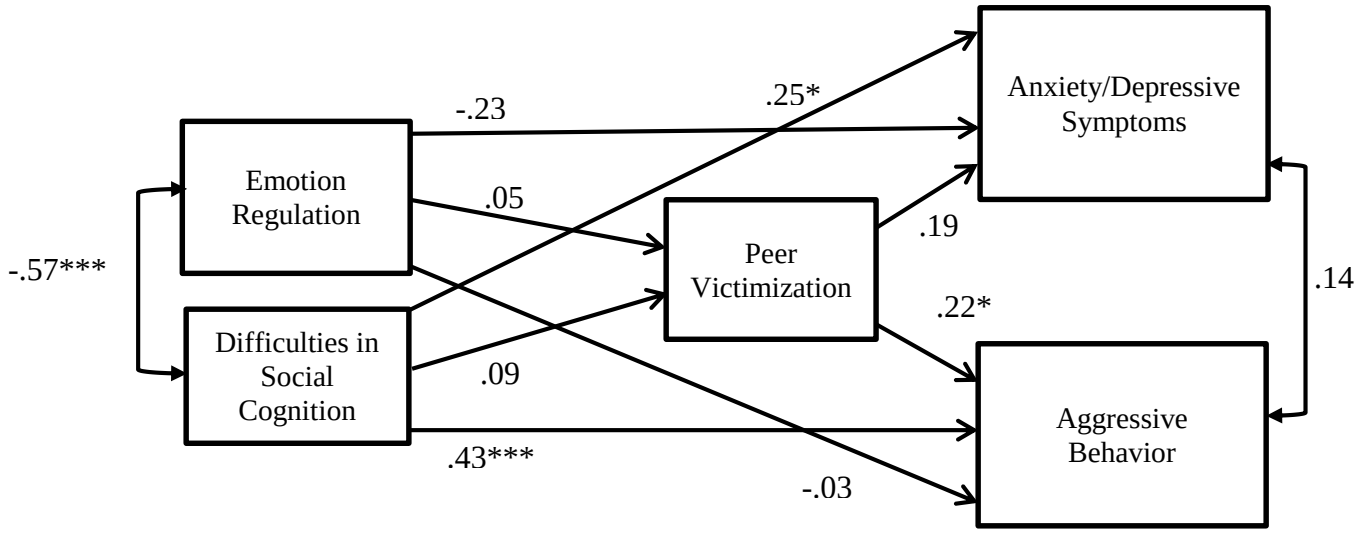

Figure 2. Path model depicting path coefficients for relations between emotion regulation and difficulties in social cognition, adolescent-report of peer victimization, and aggressive and anxiety/depressive symptoms. *p < .05, **p < .01, ***p < .001. Covariates and all correlations were not included to decrease model complexity.

Parental Knowledge as a Moderator of Relations between Peer Victimization and Internalizing and Externalizing Symptoms. For the model assessing adolescent-reported peer victimization, the model fit the data well, χ^2 (8, N = 100) = 8.11, p = 0.42 (CFI = 1.00, RMSEA = 0.01). Although no direct effects were found, parental knowledge moderated relations between peer victimization and anxiety/depressive symptoms, (β = -.30, Z = - 3.19, p = .001) (see Figure 3). Findings showed that at high levels of peer victimization, higher levels of parental knowledge were associated with lower frequencies of anxiety/depressive symptoms. However, at low rates of peer victimization, higher levels of parental knowledge were related to higher levels of anxiety/depressive symptoms.

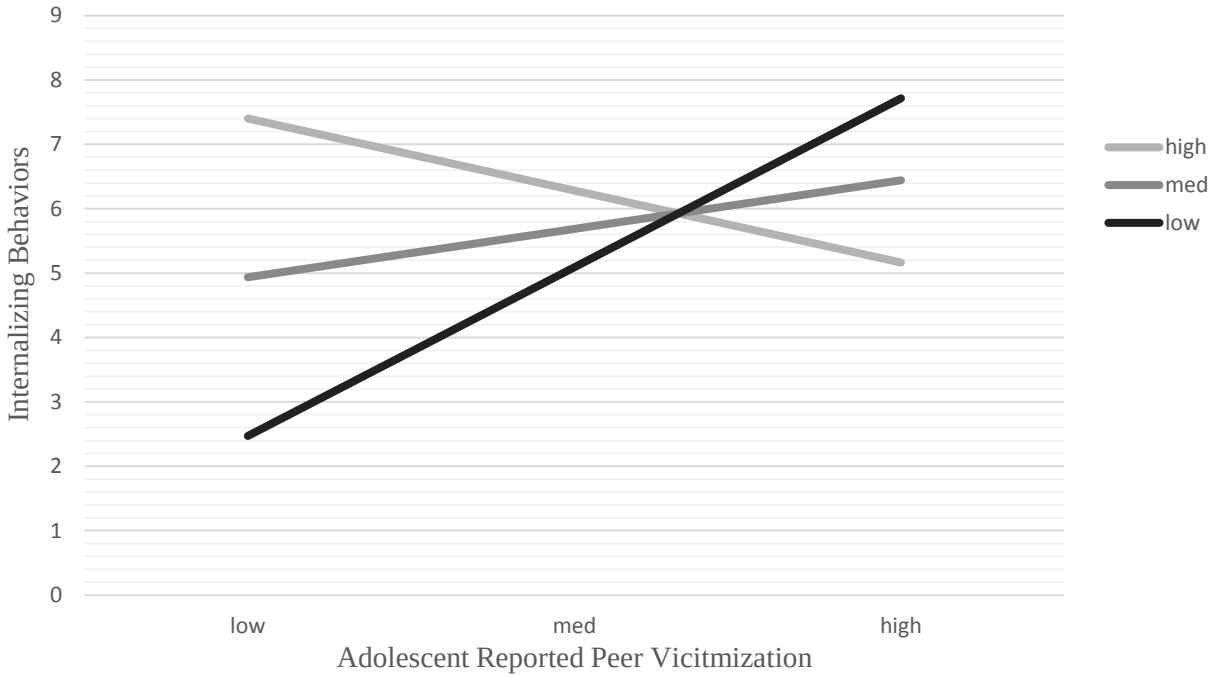

Figure 3. Parental knowledge as a moderator of relations between adolescent-reported peer

victimization and anxiety/depressive symptoms

For the model measuring parent-report of adolescents' victimization experiences, the data fit the model well, χ^2 (8, N = 100) = 6.73, p = 0.57 (CFI = 1.00, RMSEA = 0.00). Peer victimization was positively associated with aggressive behavior (β = .30, Z =- 3.21, p = .001) and anxious/depressed symptoms (β = .22, Z = 2.27, p = .02). A significant moderating effect was found for parental knowledge on relations between peer victimization anxious/depressed symptoms (β = -.20, Z = -2.09, p = .04) (see Figure 4). Results suggested at high rates of peer victimization, higher levels of parental knowledge were associated with lower frequencies of anxiety and depressive symptoms. In contrast, at low rates of peer victimization, higher levels of parental knowledge were associated with higher frequencies of anxiety and depressive symptoms.

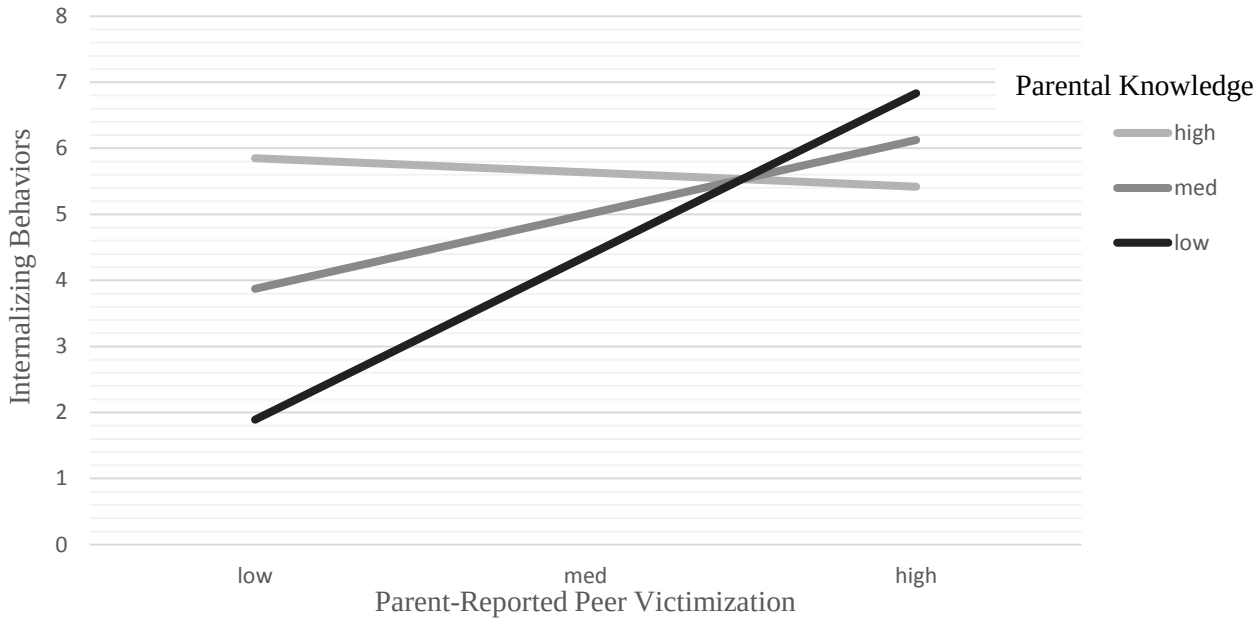

Figure 4. Parental knowledge as a moderator of relations between parent report of adolescents' victimization experiences and anxiety/depressive symptoms.

Friendship Quality as a Moderator of Relations between Peer Victimization and Internalizing and Externalizing Symptoms. Separate models were run to assess the moderating role of friendship quality (i.e., closeness, companionship, and help) on relations between adolescent-reported peer victimization and internalizing and externalizing symptoms. For friendship closeness, the model fit the data adequately χ^2 (8, N = 100) = 10.31, p = 0.24 (CFI = 0.92, RMSEA = 0.05). The only significant direct effects were between peer victimization and aggressive behavior (β = .23, Z = 2.26, p = .02) and anxious/depressed symptoms (β = .20, Z = 1.99, p = .046). No moderating effects were found. For friendship companionship, the model fit the data adequately, χ^2 (8, N = 100) = 10.19, p = 0.25 (CFI = 0.93, RMSEA = 0.05). Peer victimization was positively associated with aggressive behavior (β = .23, Z = 2.30, p = .02) and anxious/depressed symptoms (β = .21, Z = 2.09, p = .04). No other direct or moderating effects were found. For friendship help, the data did not fit the model well, χ^2 (8, N = 100) = 13.57, p = 0.09 (CFI = 0.84, RMSEA = 0.08). Peer victimization was positively associated with aggressive behavior (β = .23, Z = 2.33, p = .02) and anxious/depressed symptoms (β = .22, Z = 2.25, p = .02). Friendship help was negatively related to anxious/depressed symptoms (β = -.24, Z = -2.46, p = .01), but no moderating effects were found.

Three models were run to examine the degree to which friendship quality (i.e., closeness, companionship, and friendship) moderated relations between parent report of adolescents' victimization and internalizing and externalizing symptoms. For friendship closeness, the data did not fit the model well, χ^2 (8, N = 100) = 12.49, p = 0.13 (CFI = 0.89, RMSEA = 0.08). Peer victimization was positively related to aggressive behavior, (β = .36, Z = 4.06, p < .001), and anxious/depressed symptoms, (β = .28, Z = 2.99, p = .003), but no other direct or moderating effects were found. For friendship companionship, the data did not fit the model well, χ^2 (8, N =

100) = 15.02, p = 0.06 (CFI = 0.84, RMSEA = 0.09). Peer victimization was positively related to aggressive behavior, (β = .38, Z = 4.21, p < .001), and anxious/depressed symptoms, (β = .28, Z = 2.98, p = .003). Friendship companionship was negatively related to anxious/depressed symptoms, (β = -.19, Z = -2.08, p = .04). No significant moderating effects were found. For friendship help, the data did not fit the model well, χ^2 (8, N = 100) = 14.02, p = 0.08 (CFI = 0.87, RMSEA = 0.09). Peer victimization was positively related to aggressive behavior, (β = .38, Z = 4.22, p < .001), and anxious/depressed symptoms, (β = .30, Z = 3.22, p = .001). Friendship help was negatively related to anxious/depressed symptoms, (β = -.23, Z = -2.46, p = .01).

Discussion

The current study examined relations among peer victimization, individual, parent, and peer risk and protective factors, and aggression and anxiety/depressive symptoms among adolescents with ASDs. Contrary to hypotheses, peer victimization did not mediate relations between emotion regulation and difficulties in social cognition and aggression or anxiety/depressive symptoms. Similarly, no moderating effects were found for aspects of friendship quality (i.e., closeness, companionship, and help) on relations between peer victimization and aggressive and anxiety/depressive symptoms. However, significant moderating effects were found for parental knowledge of adolescents' whereabouts and behaviors on relations between parent and adolescent-reported peer victimization and anxiety/depressive symptoms. Several direct effects were found between: a) parent and adolescent-reported peer victimization and aggression and anxiety/depressive symptoms and b) difficulties in social cognition and aggression and anxiety/depressive symptoms. Additionally, direct effects were found between higher levels of friendship help and companionship and lower levels of anxiety/depressive symptoms.

These findings extend the literature in several ways. First, to my knowledge, few studies have examined adolescent- and parent-report of youths' peer victimization. It is important to understand similarities and differences in parent- and adolescent-reported frequencies of peer victimization. Furthermore, little research has considered relations between peer victimization and internalizing and externalizing symptoms among adolescents with ASDs (Cappadocia, Weiss, & Pepler, 2012; Storch et al., 2012; van Roekel, Scholte, & Didden, 2010; Zablotsky et al., 2012). Lastly, a paucity of research exists on the identification of risk and protective processes across individual, parent, and peer domains that may place youth with ASDs at increased risk for negative outcomes or mitigate the strength of relations between risk factors and detrimental consequences. Overall, studies addressing these areas are critical in assuring that individual-, family-, and school-based prevention efforts address key factors to decrease peer victimization and adjustment difficulties among youth with ASDs and has the potential to improve the quality of life for adolescents with ASDs.

Prevalence rates of peer victimization among adolescents in the current sample showed that the vast majority had experienced peer victimization. Based on individual items, prevalence rates ranged from 28% to 72% for self-report and from 35% to 85% for parent-report. Results from the literature revealed that youth with ASDs are victimized more frequently than their typically developing peers (Blake et al., 2010; Little, 2002) and more often than youth with other disabilities (e.g., Rowley et al., 2010, Twyman et al., 2010). Rates of peer victimization among youth with ASDs, from the past week to past year, ranged from 28% (Chen & Schwartz, 2012) to 57% (Kowlaski & Fedina, 2011) based on adolescent-report and 36% to 77% (Cappadocia et al., 2012) based on parent-report. Overall, prevalence rates within the current study support the growing literature that highlights peer victimization as a concern for adolescents with ASDs.

Most research assessing peer victimization among youth with ASDs has relied on parent-report to assess youths' peer victimization experiences (Cappadocia et al., 2012; Little, 2002). In order to gain as much insight as possible, I used both adolescent- and parent-report. Researchers have documented youths' social and interpersonal challenges as a reason to depend on parent-report, suggesting youth with ASDs may lack sufficient insight or ability to report their own victimization experiences (Little, 2002). Baron-Cohen (1995) argued that the reliability of self-report is impacted by the challenges in understanding the intent of other's social behavior as it relates to peer victimization. Thus, youth with ASDs may not recognize they are being victimized. However, the results from the current study suggest youth with ASDs reported peer victimization experiences at a frequency that was roughly similar to their parents across many peer victimization items.

Both parent- and adolescent-reported peer victimization was positively associated with higher frequencies of aggression and anxiety/depressive symptoms. These findings are consistent with studies of typically developing youth (Hawker & Boulton, 2000; Kochenderfer-Ladd et al., 2009; Reijntjes, Kamphuis, Prinzie, & Telch, 2010; Reijntjes et al., 2011). Studies examining peer victimization among youth with ASDs have also found positive associations between peer victimization and internalizing behaviors (Adams et al., 2014; Cappadocia et al., 2012; Kowalski & Fedina, 2011; 2012; Storch et al., 2012; Zablotsky et al., 2013). For example, Storch et al. (2012) found that peer victimization was positively related to symptoms of generalized anxiety, social anxiety, loneliness and major depressive symptoms among youth with ASDs. Fewer studies have considered relations between peer victimization and externalizing behaviors among youth with ASDs (Cappadocia et al., 2012). In a study of 192 children ages 5 to 21 diagnosed with ASDs, peer victimization predicted internalizing but not externalizing behaviors

(Cappadocia et al., 2012). In contrast, the current study findings revealed significant relations between peer victimization and aggression. Potential reasons for these differential findings may be differences in measures used to assess externalizing behaviors and in the age ranges for the study samples.

Results indicated greater levels of difficulty with social cognition were related to higher frequencies of aggression and anxiety/depressive symptoms. For youth with ASDs, the impairment of social interactions represents a central and often pervasive deficit that is arguably especially detrimental in adolescence. Sofronoff, Dark, and Stone (2011) found lower social skills predicted greater social vulnerability among a sample of youth with Asperger's syndrome. In addition, these researchers found that higher levels of anxiety and anger were significantly related to greater social vulnerability. One explanation for this could be that the stress associated with peer victimization is not able to be handled effectively given challenges in social cognition, therefore producing aggression, anxiety, and depression in response.

Contrary to expectations, no indirect effects were found for relations between emotion regulation and difficulties in social cognition and aggression and anxiety/depressive symptoms via peer victimization. Based on the cross-sectional nature of the current study, it is not possible to address this finding in terms of how these study variables may relate to each other over time. The results showed that both emotion regulation and difficulties with social responsiveness were unrelated to peer victimization. These lack of associations were surprising given that studies of typically developing youth have documented this association both concurrently (Eisenberg et al., 1995; Losoya, Eisenberg, & Fabes, 1998; Schwartz, Dodge & Coie, 1993) and over time (McLaughlin, Hatzenbuehler, & Hilt, 2009). Similarly, challenges with social responsiveness have been identified as a core reason that adolescents with ASDs struggle in social relationships

with peers (Adams et al., 2014; Sofronoff et al., 2010; van Roekel et al., 2010). However, studies exploring the relations between social deficits and peer victimization have produced mixed findings. The non-significant findings in the current study for relations between social impairment and peer victimization are similar to those of Storch and colleagues (2012) who found no association between peer victimization and social deficits as measured by the SRS.

It is possible that peer victimization is differentially associated with certain aspects of social functioning (e.g., social awareness, social cognition, social motivation, and restrictive interests and repetitive behaviors), and therefore associations might be uncovered if the subscales of the SRS were explored individually. For example, restrictive interests and repetitive behaviors might result in youth with ASDs sticking out amongst their peers, making them more vulnerable to peer victimization (Adams et al., 2014). Another aspect of social responsiveness that might be particularly relevant is social communication. Sterzing and colleagues (2012) found that among a sample of youth with ASDs, youth with greater social challenges were at increased risk for peer victimization. More specifically, conversational ability was significantly related to rates of peer victimization. The authors argued that youth with limited social communication skills might be more susceptible to victimization based on the observable nature of conversation deficits in adolescence and due to being less protected by their educational placement (e.g. general education classes rather than self-contained classrooms). It is also possible that students with less significant social and communication deficits are more likely to report peer victimization experiences (Rowley et al., 2012) and therefore, might benefit from peer or adult support in processing and responding to these negative experiences.

Parenting Practices. The current study also investigated the degree to which parental knowledge moderated relations between peer victimization and adjustment difficulties. Although

analyses of the moderating effects of parent-child communication patterns (i.e., parental solicitation and child disclosure) on relations between peer victimization and adjustment difficulties were planned, neither parent-child communication measure had adequate reliability to justify these analyses. It is possible that items within these measures may not adequately capture the domain of parent-child communication regarding self-disclosure and solicitation of information among adolescents with ASDs and their parents. Some assumptions of the items within these measures include adolescents' independence in peer and school activities and the ability of child to spontaneous disclose day to day events. In contrast, the parental knowledge measure, which had adequate reliability, addressed parents' knowledge of their adolescents' activities and whereabouts which may be derived from a variety of sources (e.g., teacher-report).

Hypotheses regarding the moderating role of parental knowledge on relations between peer victimization and adjustment difficulties were partially supported as significant moderating effects were found for anxiety/depressive outcomes but not aggression. Consistent with the anticipated direction of findings, at high rates of peer victimization, higher levels of parental knowledge were associated with lower frequencies of anxiety/depressive symptoms. This findings suggests that parents who are knowledgeable of their adolescents' experiences may be in a better position to intervene and either directly decrease the peer victimization experiences or help their child to cope with them adaptively. In contrast, at low rates of peer victimization, higher levels of parental knowledge were associated with higher frequencies of anxiety/depressive symptoms. This result was surprising, however, higher levels of parental knowledge in contexts where adolescents are experiencing little peer victimization may be detrimental if associated with over-involvement of the parent in monitoring and attempts to control adolescents' day to day activities.

Several studies have explored the role of parent and family characteristics among youth who display aggression and engage in bullying behavior (Espelage & Swearer, 2003; Griffin & Gross, 2004; Hong & Espelage, 2012; Olweus, 1994; Smith, 2004). However, less is known about specific parent and family factors associated with peer victimization among youth with ASDs, and no studies were found addressing child disclosure, parental knowledge, and parental solicitation for this population. The current study findings suggest that parental knowledge may be important when considering peer victimization experiences and related outcomes among youth with ASDs, and also the need to better understand communication patterns between parents and adolescents with ASDs and how they relate to peer victimization and adjustment.

Friendship Quality. Path models assessed the degree to which aspects of friendship quality moderated relations between peer victimization and adolescent adjustment difficulties. Given that friendships have proven to be protective against peer victimization, several aspects of friendship quality (i.e., closeness, companionship, and help) were explored. These are interesting factors to explore among youth with ASDs as the failure to develop peer relationships is among the social difficulties that are hallmark characteristics of ASDs. Research suggests it is not only the presence of friendships that is important but the quality of friendships that can make the difference.

Current study results showed that the data did not fit the proposed moderating models well for all analyses including parent-reported victimization and for the analysis assessing the moderating role of friendship help on relations between adolescent-reported peer victimization and adjustment difficulties. Furthermore, no significant moderating relations were found across all analyses. This may suggest that the relations between peer victimization, these aspects of friendship quality, and adjustment difficulties are not be best represented by the moderating

relations tested. Significant main effects between higher levels of friendship help and companionship and lower frequencies of anxiety/depressive symptoms highlight potential direct benefits of high quality friendships. One drawback of the analyses conducted was that the direct relations between the three aspects of friendship quality and peer victimization was not tested, and represents a direction for future research. It is also plausible that adolescents with ASDs may receive help and companionship from other peers that are protective but not necessarily in the context of typical friendship relationships.

Limitations. While the current study has strengths and contributes to the literature, several limitations are worth noting. The sample was primarily Caucasian, and comprised mostly of parents who were well-educated and middle to upper class and youth who were high functioning. Additionally, the sample consisted of predominately male adolescent and female parent respondent pairs. It was anticipated that a disproportionate number of males to females would be recruited as ASDs are more common in boys. However, in order to have a comprehensive understanding of peer victimization experiences, it is important to examine potential gender differences in the models that were tested. At present, it is unclear whether these findings will generalize to females with ASDs. The composition and derivation of the current study sample was similar to that of recent literature (e.g., Kogan et al., 2009; Zablotsky et al., 2012). Based on the sample composition, it cannot be determined whether these findings would be replicated among a different or more diverse sample or through alternative means of data collection. The sample size was also modest and replication is needed with larger samples which may afford the opportunity to test moderating effects such as those by gender, severity of disability, and school setting. The lack of significant findings between study variables may be due to lack of power, hence the need for further exploration using a larger sample to support the

number of parameters being estimated. Additionally, it is possible that the electronic method utilized for data collection via one specific network for autism research contributed to the limited sample as it only gave access to families who had the resources at home to participate and were interested in being a part of this research network. Utilizing parent-report on items assessing peer victimization should also be considered a limitation as parents are not experiencing the peer victimization first hand so it is possible their answers are an inaccurate representation of their adolescent's peer victimization experiences. Moreover, in future efforts, researchers should strive to obtain more representative samples. This would result in a more comprehensive understanding of peer victimization experiences among adolescents with ASDs, beyond those who might be considered easier to reach. It is also possible there are cultural factors that could be identified with a more diverse sample of youth with autism. The online survey format could also have resulted in items being interpreted differently by respondents. Particularly given the social and communication challenges associated with ASDs, it is unclear whether or not adolescent participants fully understood the questions they were being asked. Finally, the cross sectional nature of the current study precludes the ability to make causal inferences about the direction of associations between study variables.

Future Directions. The current study highlighted several directions for future research. First, longitudinal efforts are needed to determine if peer victimization and difficulties in social cognition predict increases in internalizing and externalizing symptoms among adolescents with ASDs. It is also important to consider other plausible relations among study variables. In the current study, an indirect effect of peer victimization on relations between emotion regulation and difficulties in social cognition was hypothesized. However, it is also possible that emotion regulation and impairment in social cognition mediate relations between peer victimization and

adjustment difficulties. Among typically developing youth, emotion dysregulation mediated relations between peer victimization and internalizing symptoms (McLaughlin et al., 2009). The authors supported these findings by arguing that stressful life events, such as peer victimization, disrupted the effective processing of emotion (Cicchetti & Toth, 2005; McLaughlin & Hatzenbuehler, 2009).

Given that the majority of research focusing on peer victimization among youth with ASDs has relied upon parent-reported peer victimization, examination of discrepancies between self- and parent-reported peer victimization is an important direction to consider for future research. In this sample, adolescents appeared to underestimate relational victimization (e.g., being left out) but they appeared to over-estimate the overt physical items (e.g., being threatened with physical aggression). Insight into the potentially differential impact of relational and overt victimization could inform prevention and intervention efforts designed to reach adolescents with ASDs.

Based on the findings that parent-child communication processes appear to function differently among adolescents with ASDs and their parents, it is important to explore these patterns of communication further using qualitative and quantitative methodology. It would be particularly beneficial to determine what patterns of communication exist surrounding informational exchanges about peer interactions. Moreover, the impact of peer victimization among adolescents with ASD could be better understood if quantitative research is supplemented with direct data collection methods. This would include more direct measures of peer victimization, including but not limited to sociometric data, peer report and naturalistic observation, and could build upon the information gathered through self-report.

Research testing concurrent and prospective relations between peer victimization and friendship quality is needed. Reciprocal friendships have been identified as important for youths' well-being and psychosocial adjustment (Gresham et al., 1998; Hoza et al., 2005) and protective against peer victimization (Bukowski et al., 1994). Research has indicated that higher levels of support from classmates (Humphrey & Symes, 2010) and positive peer relationships (Hebron & Humphrey, 2013) were associated with lower levels of peer victimization in samples including youth with ASDs. Although these studies findings highlight that positive peer interactions and relationships are associated with lower frequencies of peer victimization, more research is needed to understand how specific qualities within peer interactions and friendships may deter peer victimization.

As the majority of youth with ASDs in the current study experienced peer victimization, it will be important to consider the role of the school experience as it relates to peer victimization in future studies, based on the amount of time adolescents spend at school and the likelihood of peer victimization occurring in this context. The literature supports the notion that the school environment can be very challenging for students with ASDs based on commonly occurring emotional and social challenges. For example, youth with ASDs may have negative school experiences because of difficulties engaging in social interactions and relationships and challenges in understanding others' behavior (van Roekel, Scholte, & Didden, 2010). Thus, youth with ASDs may have fewer opportunities than their peers without disabilities to engage in social interactions to practice and acquire key social and communication skills (Sanford, Levine, & Blackorby, 2008). In addition, preliminary research shows students with ASDs are victimized more youth with other disabilities (van Roekel, Scholte, & Didden, 2010). Youth with ASDs might be especially vulnerable to peer victimization based on the characteristics of their

diagnosis, such as deficits in social communication, stereotyped behaviors, and restricted interests (van Roekel, Scholte, & Didden, 2010).

One way peer victimization within the school environment can be addressed is through school-based violence prevention programming. Research identifying risk and protective factors for peer victimization among adolescent with ASDs can inform the development and refinement of school-based violence prevention programs and individuals behavioral interventions. Many such programs aim to enhance students' social, emotional and behavioral competencies, and may improve academic achievement (Durlak et al., 2011). Although adolescents with ASDs appeared readily able to identify peer victimization experiences in the current study, they may have difficulty identifying precursors and understanding behaviors related to these incidents. While youth with ASDs appeared to recognize when peer victimization was occurring, they may also need help in reporting and effectively coping with these experiences.

Although many schools implement violence prevention programs focused on enhancing social, emotional, and behavioral competencies, most were designed for typically developing youth. Some programs may be delivered to all youth without knowing the relative benefit for youth disabilities or exclude them altogether. Preliminary data explored the effectiveness of universal school-based violence prevention curricula for early adolescents with disabilities (e.g. learning disabilities, emotional or behavioral disorders, and mild intellectual disabilities). Initial qualitative research focusing on these youth highlighted the need to address both individual-level skill development and the broader social context in delivering school-based interventions (Sullivan et al., 2012; Sullivan et al., 2015). An initial research project examined the effectiveness of an evidence-based youth violence prevention program (*Second Step*; Grossman et al., 1997) for sixth graders in three middle schools. Results showed specific effects of this

program for youth with disabilities in decreasing the frequency of relational victimization (Sullivan et al., 2015). In another research project, combined individual-level (i.e., Second Step; Grossman et al., 1997) and school-level (i.e., the Olweus Bullying Prevention Program; Olweus, 2004) universal prevention programs were found to increase social skills (e.g., communication and empathy) and student engagement as reported by teachers among youth with disabilities (Sullivan et al., 2015). The results from the current study can be used to inform the development and refinement of school-based violence prevention programs and individuals behavioral interventions, specifically those focused on social-emotional learning.

As an example, the majority of adolescents with ASD report that friendships are difficult to establish (Carrington & Graham, 2001; Church, Alinsanski, & Amanullah, 2000; Marks, Schrader, Longaker, & Levine, 2000; Molloy & Vasil, 2004; Portway & Johnson, 2003). Research exploring relationships among youth with ASDs indicated that when they are present, they may be strained and are not always reciprocated (Bauminger & Kasari, 2000; Bauminger, Shulman, & Agam, 2003; Chamberlain, Kasari & Rotheram-Fuller, 2007). These difficulties forming and maintaining positive peer relationships and friendships can potentially place them at risk for peer victimization. Youth with ASDs who lack friendships at school and/or exhibit difficulties making friends are more likely to be victimized (Cappadocia et al., 2012; Zablotsky et al., 2014). Given that friendships have been found to promote the exploration and acquisition of new skills (Bukowski et al., 1994), specific skills surrounding the initiation, development, and maintenance of friendships could be incorporated into school-based prevention and intervention efforts to improve the school environment for youth with ASDs.

Social Emotional Learning. The Social Emotional Learning (SEL) approach combines youth development frameworks with competence promotion for reducing risk factors and

fostering protective mechanisms for positive adjustment (Benson, 2006; Catalano, Berglund, Ryan, Lonczak, & Hawkins, 2002; Guerra & Bradshaw, 2008; Weissberg, Kumpfer, & Seligman, 2003). SEL is defined as the process of acquiring core competencies to recognize and manage emotions, set and achieve positive goals, appreciate the perspectives of others, establish and maintain positive relationships, make responsible decisions, and handle interpersonal situations productively (Elias et al. 1997). Five interrelated sets of cognitive, affective, and behavioral competencies are targeted through the proximal goals of SEL programs including self-awareness, self-management, social awareness, relationship skills, and responsible decision making (Collaborative for Academic, Social, and Emotional Learning, 2005). These competencies are believed to provide a foundation for better adjustment and academic performance through more positive social behaviors, fewer conduct problems, less emotional distress, and improved test scores and grades (Greenberg et al., 2003).

SEL programming has been used to build skills to identify and manage emotions, recognize the perspectives of others, create positive goals, make responsible decisions, and work through interpersonal situations effectively (Collaborative for Academic, Social, and Emotional Learning, 2003; Lemerise & Arsenio, 2000). Several studies have found that SEL also increases youth's connection to school through caring, engaging classroom and school practices (McNeeley, Nonnemaker, & Blum, 2002; Osterman, 2000). Learning social and emotional skills is similar to learning other academic skills in that the effect of initial learning is enhanced over time to address the increasingly complex situations children face regarding academics, social relationships, citizenship, and health. Therefore, skills must be developed for negotiating diverse contexts and handling challenges at each developmental level (Weissberg & Greenberg, 1998).

Conclusion

Understanding the peer victimization experience for adolescents with autism is a significant issue that demands further attention based on the notion that youth with ASDs are victimized more frequently than their peers, both those with disabilities and without. Prevalence rates of peer victimization among adolescents in the current sample revealed that the vast majority had experienced peer victimization. This examination of relations between peer victimization and individual, peer, and parent factors and outcomes among adolescents with ASDs provides preliminary insight into the peer victimization experience beyond prevalence and highlights several factors that might be particularly relevant for prevention and intervention efforts.

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Appendix

Online Screener (REDCap) – Questions

Brief Screener Survey and Participant Contact Form

Thank you for your interest in this study!

If you are interested in participating in this study, please take a few minutes to respond to the questions below.

Within 5 business days of submitting your responses, you will receive an e-mail from this study's project coordinator. If you meet the study eligibility criteria, the e-mail you are sent will include a link for the online questionnaire. If you do not meet the study eligibility criteria, your information will be deleted.

Do you consent to have the information in this screener released to the researcher so that you may be contacted to participate in this study?

□ Yes*
□ No

1. What is your e-mail address?

2. Please confirm your e-mail address by entering it again here:

3. Are you a parent or primary caregiver of an adolescent with an autism spectrum disorder who is between the age of 10 and 18?
   (Multiple Choice Response Options)
   □ Yes, I have an adolescent on the autism spectrum who is between age 10 and 18*
   □ No, I do not have an adolescent on the autism spectrum who is between age 10 and 18.

4. What is your relationship to the adolescent?
   □ Mother (adoptive, biological/birth)
   □ Father (adoptive, biological/birth)

5. Are you a primary caregiver for your adolescent?
   □ Yes*
   □ No

6. Does your adolescent have a severe intellectual disability?
   □ Yes
   □ No

7. Does your adolescent attend school outside of your home?
   □ Yes*
   □ No

8. Does your child attend a school specifically for youth with autism?
   □ Yes
   □ No

9. How well does your child read and comprehend?
   □ Not at all
   □ Reads and comprehends much below grade level*
   □ Reads and comprehends a little below grade level*
   □ Reads and comprehends on grade level*
   □ Reads and comprehends above grade level*

10. Does your child use a computer?
    □ Yes*
    □ No

11. Do you currently live in the United States?
    □ Yes*
    □ No

Survey Acknowledgment Text

Thank you for responding to these questions.

Within 5 business days, you will receive an e-mail from this study's project coordinator.

Upon completion participants were directed to the study website:
http://www.asdpeerexperiences.com

Response options that meet study criteria are marked with a *.

Demographic Survey

Questions about your Child

When answering questions below that refer to your "child", please think about your ***adolescent participating in this study*** *when answering the questions below.*

How old is your child?
_____ (drop-down). Will contain integers 10 through 18, inclusive.

When is your child's birthday?
_____ (write in)

What is your child's diagnosis?
- ☐Autism or autistic disorder
- ☐Asperger's Syndrome
- ☐PDD-NOS
- ☐Rett's Disorder
- ☐Childhood Disintegrative Disorder
- ☐On the autism spectrum disorder or has Pervasive Developmental Delay but specific diagnosis is unclear
- ☐ Other _____ (write in)

How old was your child (in years) when he/she first received a diagnosis on the Autism Spectrum?
(drop-down). Will contain values: <1, and 1-18 (with 1 year intervals).

Has your child been diagnosed with any other disabilities, diseases, chronic illnesses, or health condition?
Please describe them here: _____

Is your child male or female?
- ☐ Male
- ☐ Female

What is your child's race?
Check **all** that apply:
- ☐ White or Caucasian
- ☐ Black or African American
- ☐ Asian
- ☐ American Indian or Alaskan Native
- ☐ Native Hawaiian or Other Pacific Islander
- ☐ Another race _____ (write in)
- ☐ Prefer Not to Say

Is your child of Hispanic, Latino, or Spanish origin?

- ☐ No, not of Hispanic, Latino or Spanish origin
- ☐ Yes, Mexican/Mexican American or Chicano
- ☐ Yes, Puerto Rican
- ☐ Yes, Cuban
- ☐ Yes, other. Write in: _____
- ☐ Do not know
- ☐ Prefer not to say

What level of school is your child enrolled in?

- ☐ Elementary school
- ☐ Middle school
- ☐ High school

What type of school is your child enrolled in?

- ☐ Public
- ☐ Private
- ☐ Other

Does your child attend a school specifically for children with autism?

- ☐ Yes
- ☐ No

What grade is your child in?
(drop-down). Will contain values: 4-12 (with 1 year intervals).

- ☐ Other. Write in: _____

What type of classroom setting is your child enrolled?

- ☐ General education
- ☐ Special education
- ☐ Self-contained classroom
- ☐ Inclusion classroom
- ☐ Other_____ (write in)

Does your child have an aide?

- ☐ Yes
- ☐ No

If so, what is the ratio of staff to students for the aide?
_____ (write in)

How many hours a day does the child have an aide?

(drop-down). Will contain values: <1- 10 (with half hour intervals)

Does your child receive free and reduced priced meals at school?

- ☐ Yes
- ☐ No

Questions about Yourself

When answering questions below that refer to your "child", please think about your ***adolescent participating in this study*** *when answering the questions below.*

Are you male of female?

- ☐ Male
- ☐ Female

What is your age (in years)?

_____ (write in)

In what state do you live?

(Drop-down). Contained all U.S. states and territories.

Please enter your zip code.

_____ (write in)

What best describes your relationship to your child?

- ☐ Mother (biological/birth or adoptive)
- ☐ Father (biological/birth or adoptive)
- ☐ Other _____ (write in)

What is the highest level of education that you have completed?

- ☐ Less than a high school diploma
- ☐ High school diploma/GED
- ☐ Trade school
- ☐ Some college/university, but less than a Bachelor's degree
- ☐ Bachelor's degree (B.A or B.S.)
- ☐ Some graduate school, but less than a Master's Degree
- ☐ Master's Degree (M.A. or M.S.)
- ☐ Doctoral Degree (PhD)
- ☐ Professional Degree (medicine, law, dentistry, veterinary, etc.)
- ☐ Other _____ (write in)

What is your race?

Check **all** that apply:

- ☐ White or Caucasian
- ☐ Black or African American
- ☐ Asian
- ☐ American Indian or Alaskan Native

- ☐ Native Hawaiian or Other Pacific Islander
- ☐ Another race _____ (write in)
- ☐ Prefer Not to Say

Are you of Hispanic, Latino, or Spanish origin?

- ☐ No, not of Hispanic, Latino or Spanish origin
- ☐ Yes, Mexican/Mexican American or Chicano
- ☐ Yes, Puerto Rican
- ☐ Yes, Cuban
- ☐ Yes, other. Write in: _____
- ☐ Do not know
- ☐ Prefer not to say

What is your employment status?

- ☐ Employed full-time in one or more paid positions (35 hours a week or more)
- ☐ Employed part-time in one or more paid positions (less than 35 hours a week)
- ☐ Not employed
- ☐ Other _____ (write in)

What is your marital/relationship status?

- ☐ Currently married to child's other parent
- ☐ Currently in a relationship/domestic partnership with child's other parent
- ☐ Other _____ (write in)

If you are married, for how many years have you been married?
_____ (write in)

Questions about your spouse/partner

When answering questions below that refer to your "child", please think about your ***adolescent participating in this study*** *when answering the questions below.*

Is your spouse/partner male or female?

- ☐ Male
- ☐ Female
- ☐ Other _____ (write in)

What is the relationship of your spouse/partner to your child?

- ☐ Mother (biological/birth or adoptive)
- ☐ Father (biological/birth or adoptive)

What is your spouse/partner's age (in years)?
_____ (write in)

What is the highest level of education that your spouse/partner has completed?

- ☐ Less than a high school diploma
- ☐ High school diploma/GED
- ☐ Trade school
- ☐ Some college/university, but less than a Bachelor's degree
- ☐ Bachelor's degree (B.A or B.S.)
- ☐ Some graduate school, but less than a Master's Degree
- ☐ Master's Degree (M.A. or M.S.)
- ☐ Doctoral Degree (PhD)
- ☐ Professional Degree (medicine, law, dentistry, veterinary, etc.)
- ☐ Other _____ (write in)

What is your spouse/partner's race? Check **all that apply:**

- ☐ White or Caucasian
- ☐ Black or African American
- ☐ Asian
- ☐ American Indian or Alaskan Native
- ☐ Native Hawaiian or Other Pacific Islander
- ☐ Another race _____ (write in)
- ☐ Prefer Not to Say

Is your spouse/partner of Hispanic, Latino, or Spanish origin?

- ☐ No, not of Hispanic, Latino or Spanish origin
- ☐ Yes, Mexican/Mexican American or Chicano
- ☐ Yes, Puerto Rican
- ☐ Yes, Cuban
- ☐ Yes, other. Write in: _____
- ☐ Do not know
- ☐ Prefer not to say

What is your spouse/partner's current employment status?

- ☐ Employed full-time in one or more paid positions (35 hours a week or more)
- ☐ Employed part-time in one or more paid positions (less than 35 hours a week)
- ☐ Not employed
- ☐ Other _____ (write in)

What was your household's approximate pre-tax income for the previous calendar year?
Please include you and/or your spouse/partner's earned wages, tips, investment income, as well as income from child support, properties, public assistance, estates and trust.

- ☐ Less than $9,999
- ☐ $10,000 - $19,999
- ☐ $20,000 - $24,999
- ☐ $25,000 - $29,999
- ☐ $30,000 - $39,999

- ☐ $40,000 - $49,999
- ☐ $50,000 - $59,999
- ☐ $60,000 - $69,999
- ☐ $70,000 - $79,999
- ☐ $80,000 - $89,999
- ☐ $90,000 - $99,999
- ☐ $100,000 - $124,999
- ☐ $125,000 - $149,999
- ☐ Greater than $150,000
- ☐ Prefer not to say

How well does your household's income meet your family's needs?

Please respond using the following rating system. Scale of 0 to 3, where 0 = family's needs are not at all met by household income and 3 = family's needs are very well met by household income.

- ☐ 0. Not at all met
- ☐ 1. Somewhat met
- ☐ 2. Mostly met
- ☐ 3. Very well met

Questions about your Family

How many children (adopted, biological, or step-) who are 18 years old and under live in your home?

_____ (write in)

How many adults in total live in your home (e.g. parents, grandparents, other adults)? **Please include you and your partner/spouse**. **Do not include adult children.**

_____ (write in)

Including your **adolescent participating in this study**, how many of your children have ever been diagnosed with an autism spectrum disorder?

_____ (write in)

Adolescent-Report Measures

Revised Peer Experiences Questionnaire

Instructions: These questions ask about some things that often happen between teens. Please rate how often these things have happened to you in the six months.

Response Options: 1=Never**,** 2=Once or Twice**,** 3=A Few Times**,** 4=About Once a Week**,** 5=A Few Times a Week

Overt, Relational, Reputational, Receipt of Prosocial

1. Some teens left me out of an activity that I really wanted to be included in.
2. A teen chased me like he/she was really trying to hurt me.
3. Another teen helped me when I was having a problem.
4. A teen I wanted to be with would not sit near me at lunch or in class.
5. A teen tried to damage my social reputation by spreading rumors about me.
6. Another teen was nice and friendly to me when I needed help.
7. A teen did not invite me to a party/social event even though they knew that I wanted to go.
8. A teen left me out of what they were doing.
9. To get back at me, another teen told me that he/she would not be friends with me anymore.
10. Another teen stuck up for me when I was being picked on or excluded.
11. Another teen gossiped about me so others would not like me.
12. A teen threatened to hurt or beat me up.
13. A teen gave me the silent treatment (did not talk to me on purpose).
14. Another teen said mean things about me so that people would think I was a loser.
15. A teen helped me join a group or conversation.
16. A teen hit, kicked, or pushed me in a mean way.

17. A teen teased me in a mean way, by saying rude things or calling me bad names.

18. A teen spent time with me when I had no one else to hang out with.

Friendship Qualities Scale

Put the name of your very best friend here_____.

Instructions: We want to ask some questions just about you and the person you think of as your best friend so we can know what your best friend is like. We have some sentences that we would like you to read. Please tell us whether this sentence describes your friendship or not. Some of the sentences might be really true for your friendship while other sentences might be not very true for your friendship. We simply want you to read the sentence and tell us how true the sentence is for your friendship. Remember, there are no right or wrong ways to answer these questions, and you can use any of the numbers on the scale.

Response Options: 1 = means the sentence is probably not true for your friendship, 2 = means that it might be true, 3 = means that it is usually true, 4 = means that it is very true, 5 = means that it is really true for your friendship.

Circle the number on the scale that is best for you. Be sure to read carefully and answer as honestly as possible.

Example: X1. My friend and I play games and other activities with each other.

1. My friend and I spend a lot of our free time together.
2. My friend gives me advice when I need it.
3. My friend and I do things together.
4. My friend and I help each other.
5. Even if my friend and I have an argument we would still be able to be friends with each other.

6. My friend and I play together at recess.

7. If other kids were bothering me, my friend would help me.

8. Our friendship is just as important to me as it is to my friend.

9. I can trust and rely upon my friend.

10. My friend helps me when I am having trouble with something.

11. If my friend had to move away I would miss him.

12. If I can't figure out how to do something, my friend shows me how.

13. Sometimes it seems that I care more about our friendship than my friend does.

14. When I do a good job at something my friend is happy for me.

15. There is nothing that would stop my friend and I from being friends.

16. Sometimes my friend does things for me or makes me feel special.

17. When my friend and I have an argument, he can hurt my feelings.

18. When I have not been with my friend for a while I really miss being with him.

19. If somebody tried to push me around, my friend would help me.

20. I can get into fights with my friend.

21. My friend would stick up for me if another kid was causing me trouble.

22. When we have free time at school, such as at lunchtime or recess, my friend and I usually do something together or spend time with each other.

23. If I have a problem at school or at home I can talk to my friend about it.

24. My friend can bug me or annoy me even though I ask him not to.

25. If I forgot my lunch or needed a little money my friend would loan it to me.

26. I think of things for us to do more often than my friend does.

27. If I said I was sorry after I had a fight with my friend he would still stay mad at me.

28. My friend helps me with tasks that are hard or that need two people.

29. My friend and I go to each other's houses after school and on weekends.

30. Sometimes my friend and I just sit around and talk about things like school, sports, and other things we like.

31. If I have questions about something my friend would help me get some answers.

32. Even if other persons stopped liking me, my friend would still be my friend.

33. I know that I am important to my friend.

34. My friend would help me if I needed it.

35. Being friends together is more important to me than it is to my friend.

36. If there is something bothering me I can tell my friend about it even if it is something I cannot tell to other people.

37. Things are usually pretty even in my friendship.

38. My friend puts our friendship ahead of other things.

39. When I have to do something that is hard I can count on my friend for help.

40. If my friend or I do something that bothers the other one of us we can make up easily.

41. My friend and I can argue a lot.

42. My friend and I disagree about many things.

43. If my friend and I have a fight or argument we can say "I'm sorry" and everything will be alright.

44. I feel happy when I am with my friend.

45. My friend likes me as much as I like him.

46. I think about my friend even when my friend is not around.

Parenting Practices Scale

Response Options: 1 = Almost Always, 2 = Usually, 3 = It Depends, 4 = Seldom, 5 = Never

1. Do your parents know what you do during your free time?
2. Do your parents know the friends you hang out with during your free time?
3. Do your parents usually know what type of homework you have?
4. Do your parents know what you spend your money on?
5. Do your parents usually know when you have an exam or paper due at school?
6. Do your parents know how you do in different subjects at school?
7. Do your parents know where you go when you are out with friends at night?
8. Do your parents normally know where you go and what you do after school?
9. Do your parents normally know where you go and what you do after school?
10. In the last month, have your parents ever had no idea of where you were at night?
11. Do you talk at home with your parents about how you are doing in the different subjects in school?
12. Do you usually tell your parents how school was when you get home (how you did on different exams, your relationships with teachers, etc.)?
13. Do you keep a lot of secrets from your parents about what you do during your free time?
14. Do you hide a lot from your parents about what you do during nights and weekends?
15. If you are out at night, when you get home, do you tell what you have done that evening?
16. In the last month, have your parents talked with the parents of your friends?
17. How often do your parents talk with your friends when they come to your home (ask what they do or what they think and feel about different things)?

18. During the past month, how often have your parents started a conversation with you about your free time?
19. How often do your parents initiate a conversation about things that happened during a normal day at school?
20. Do your parents usually ask you to talk about things that happened during your free time (whom you met when you were out in the city, free time activities...)?
21. Do you need to have your parents' permission to stay out late on a weekday evening?
22. Do you need to ask your parents before you can decide with your friends what you will do on a Saturday evening?
23. If you have been out very late one night, do your parents require that you explain what you did and whom you were with?
24. Do your parents always require that you tell them where you are at night, who you are with, and what you do together?
25. Before you go out on a Saturday night, do your parents require you to tell them where you are going and with whom?

Parent-Report Measures

Revised Peer Experiences Questionnaire

Instructions: These questions ask about some things that often happen between teens. Please rate how often these things have happened to your child in the six months. *When answering questions below that refer to your "child", please think about your* ***adolescent with autism who is participating in this study*** *when answering the questions below.*

Response Options: 1=Never, 2=Once or Twice, 3=A Few Times, 4=About Once a Week, 5=A Few Times a Week

1. Some teens left my child out of an activity that he/she really wanted to be included in.
2. A teen chased my child like he/she was really trying to hurt him/her.
3. Another teen helped my child with autism when I was having a problem.
4. A teen my child wanted to be with would not sit near him/her at lunch or in class.
5. A teen tried to damage my child's social reputation by spreading rumors about him/her.
6. Another teen was nice and friendly to my child when they needed help.
7. A teen did not invite my child to a party/social event even though they knew that he/she wanted to go.
8. A teen left my child out of what they were doing.
9. To get back at him/her, another teen told my child that he/she would not be friends with them anymore.
10. Another teen stuck up for my child when he/she was being picked on or excluded.
11. Another teen gossiped about my child so others would not like him/her.
12. A teen threatened to hurt or beat my child up.

13. A teen gave my child the silent treatment (did not talk to him/her on purpose).

14. Another teen said mean things about my child so that people would think he/she was a loser.

15. A teen helped my child join a group or conversation.

16. A teen hit, kicked, or pushed my child in a mean way.

17. A teen teased my child in a mean way, by saying rude things or calling him/her bad names.

18. A teen spent time with my child when he/she had no one else to hang out with.

Parenting Practices Scale

Instructions: When answering questions below that refer to your "child", please think about your ***adolescent participating in this study*** *when answering the questions below.*

Response Options: 1 = Almost Always, 2 = Usually, 3 = It Depends, 4 = Seldom, 5 = Never

1. Do you know what (child) does during his/her free time?

2. Do you know which friends (child) hangs out with during his/her free time?

3. Do you usually know what type of homework (child) has?

4. Do you know what (child) spends his/her money on?

5. Do you know when (child) has an exam or paper due at school?

6. Do you know how (child) does in different subjects at school?

7. Do you know where (child) goes when s/he is out with friends at night?

8. Do you normally know where (child) goes and what s/he does after school?

9. In the last month, have you ever had no idea of where (child) was at night?

10. Do you talk at home about how (child) is doing in the different subjects in school?

11. Does (child) usually tell you how school was when s/he gets home?

12. Does (child) keep a lot of secrets from you about what s/he does during his/her free time?

13. Does (child) hide a lot from you about what s/he does during nights and weekends?

14. If (child) is out at night, when s/he gets home, does s/he tell you what s/he has done that evening?
15. In the last month, how many times have you talked with the parents of (child's) friends?
16. How often to you talk with (child's) friends when they come to your home?
17. During the past month, how often have you started a conversation with (child) about his/her free time?
18. How often do you initiate a conversation about things that happened during a normal day at school for (child)?
19. Do you usually ask (child) to talk about things that happened during his/her free time?
20. Does (child) need to have your permission to stay out late on a weekday evening?
21. Does (child) need to ask you before deciding with his/her friends what they will do on a weekend evening?
22. If (child) has been out very late one night, do you require that s/he explain what s/he did and who s/he was with?
23. Do you require that (child) tell you where s/he is at night, who s/he is with, and what they do together?
24. Before (child) goes out on a weekend night, do you require (child) to tell you where s/he is going and with whom?

Child Behavior Checklist 6-18

The Child Behavior Checklist 6-18 (CBCL/6-18; Achenbach & Rescorla, 2001) is a parent-report measure that assesses social skills and problem behaviors (e.g., anxious/withdrawn depressed, attention problems, thought problems, aggressive behavior, and rule-breaking behavior). Parents will also provide information for competence items covering their child's

activities, social relations, and school performance. The CBCL/6-18 contains a total of 118 items that inquire about specific behavioral (e.g., “disobedient at home;” “impulsive, or acts without thinking;” “can’t concentrate, can’t pay attention for long”) and emotional problems (e.g., “unhappy, sad, or depressed;” “sudden changes in mood or feelings;” “worries;”), as well as two open-ended items where parents can report additional problems. Parents are asked to rate each item based on how true it is for their child within the past 6 months using a scale of 0 (*not true*) to 2 (*very true or often true*).

Emotion Regulation Checklist

The Emotion Regulation Checklist (ERC; Shields & Cicchetti, 1997), a 24-item parent-report measures that assesses a parents’ perception of their child’s typical methods of managing emotions. The measure consists of two subscales rated on a four-point scale of 1 (*never*) to 4 (*always*). The Lability/Negativity subscale measures inflexibility, lability, and dysregulated negative affect (e.g., “Exhibits mood swings”) while the Emotion Regulation subscale measures appropriate emotional expression, empathy, and emotional self-awareness (e.g., “Can modulate excitement in emotionally arousing situations”). Shields and Cicchetti (1997) established validity for this measure through positive correlations with observers’ ratings and discriminant validity suggesting the ERC can reliably be distinguished from other emotion-related constructs.

Social Responsiveness Scale- Second Edition

The Social Responsiveness Scale- Second Edition (SRS-2; Constantino & Gruber, 2012) measures the severity of autism spectrum disorder (ASD) symptoms as they occur in social settings. This is a 65-item parent-report scale assessing social impairments as well as social awareness (e.g., “Is aware of what others are thinking or feeling”), social cognition (e.g., Doesn’t recognize when others are trying to take advantage of him or her”), social communication (e.g.,

Avoids eye contact or has unusual eye contact"), social motivation (e.g., "Would rather be alone than with others"), and restrictive interests and repetitive behavior (e.g., "Has an unusually narrow range of interests"). Previous research studies utilizing the SRS-2 have demonstrated the measure's capacity to assess severity of social impairment in individuals with ASD.

Vita

Sarah Tyler Doyle was born on March 2, 1985, in Richmond, Virginia. She graduated from Western Albemarle High School in Crozet, Virginia in 2003. Sarah received her Bachelor of Arts degree in Psychology from the University of Kentucky in 2007 and received a Master of Arts degree in Psychology from American University in 2010. Through her graduate training, Sarah received extensive training in child and adolescent development, developmental disabilities, multidisciplinary teamwork and leadership, and school-based interventions. She is also a graduate of the Va-LEND (Leadership Education in Neurodevelopmental Disabilities) program. In addition to her graduate studies and experiences, she has years of experience working with youth with neurological and developmental differences and their families in home, educational, and clinical settings. Sarah is currently working at The Charterhouse School (UMFS) in Richmond, Virginia as the Associate Director of Developmental Education.