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Asperger's Disorder and Social Phobia: A Comparison of Social Functioning

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ABSTRACT: Asperger's Disorder (AD) is a pervasive developmental disorder in which individuals show impairment in social skills by engaging in eccentric behavior, which leads to social isolation and rejection. Social Phobia (SP) is a disorder in which individuals report excessive anxiety while in social situations, resulting in significant distress and avoidance of social situations. A diagnosis of either AD or SP in childhood bears a significant impact on academic, social, and emotional development. As a result, a child can find it difficult to establish friendships, resulting in feelings of loneliness. Although studies have addressed the issue of loneliness in children with SP, this issue has not been adequately addressed for children with AD. Additionally, it is not known if children with AD experience loneliness that is equal to or greater than children with SP. Using previously collected data, we found that child self-reported loneliness was highest in children with AD as compared to typically developing children (TD) and children with SP. Child self-reported anxiety and parental reports of their children's anxiety were highest in children with SP. Based on parental reports, children with AD were rated high in externalizing behaviors and children with SP were rated high in internalizing behaviors (i.e., anxiety). Furthermore, there is a positive relationship between child self-reported social withdrawal and parental report of social withdrawal in their children. A positive relationship between child self-reported loneliness and anxiety was also identified. Results from this study will aid in the improvement of social skills treatment programs for children with AD and children with SP.

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INTRODUCTION

Contributing Factors of Loneliness

Loneliness is associated with feelings of aloneness and sadness, often resulting from peer rejection or dissatisfaction with one's current relationships (Cassidy & Asher 1992). Sociologist Robert Weiss (1973) suggested that although aloneness (i.e., being apart from others) is a key component in feeling lonely, ineffective attachment is at the root of loneliness. This theory proposes that it is still possible to feel lonely in the presence of other people. Thus loneliness is more than a desire for social interaction; it is a desire to form a connection with another person.

Emotional and Social Isolation

Ineffective attachment can be explained with two forms of loneliness: social isolation and emotional isolation (Weiss 1973). Social isolation refers to a longing to be a part of a community. People who experience social isolation feel excluded from a social network (Weiss 1973). In contrast, emotional isolation is due to the absence of an emotional bond or meaningful relationship with another person. Emotional isolation may result in feelings of restlessness, anxiety, and aloneness (Weiss 1973). These two forms of loneliness are not mutually exclusive and are important to understand when coping with feeling lonely. In other words, people need to be part of a social network in order to form meaningful relationships with other people. Since the introduction of this two-fold theory on loneliness, many researchers have examined peer acceptance and rejection, as well as loneliness, in young children.

The Importance of Social Networks

Research focused on understanding loneliness points to a key factor in the dynamics of social networks (Cassidy & Asher 1992; Margalit & Levin-Alyagon 1994; Asher & Paquette 2003; Bauminger & Kasari 2000). Peer acceptance or rejection is vital in understanding loneliness in children. Feelings of loneliness arise when children have internalizing (anxious) tendencies and believe they find little acceptance from their peers (Margalit & Levin-Alyagon 1994).

Recently, an emerging body of research has examined loneliness in children with Asperger's Disorder (AD) (Bauminger & Kasari 2000; Chamberlain, Kasari, & Rotheram-Fuller 2007; Pierson & Glaeser 2007). One study (Bauminger, Shulman, & Agam 2003) in particular sought to test the two-fold theory of loneliness (Weiss

1973) on children with AD. To assess their understanding of the social aspect of loneliness, researchers presented children with a drawing of a peer interaction scenario in which two children were conversing and another child was off to the side looking at them as if he wanted to join their conversation. Similar to children with no diagnosis, children with AD were able to infer from the drawing that the third child was left out of the social situation and wanted to be included. To assess their understanding of the emotional aspect of loneliness, researchers asked children with AD two questions: "Can a child feel lonely if s/he is in the company of other children?" and "Can a child feel lonely when he/she is with his/her close friend?" After responding to the questions, children were asked to justify their answers. Children with AD were reported to express an ample understanding of the emotional aspect of loneliness.

The results of this study (Bauminger et al. 2003) are central to the advancement of research with children with AD. Due to increasing rates of diagnoses of AD in children, studies on loneliness are increasingly important, both to understand the impact of this disorder on peer relationships and to aid in the development of appropriate interventions (Pierson & Glaeser 2007). Thus far, the study of loneliness in children with AD has been limited to comparing children with AD to typically developing children (TD). However, what is not clear is how children with AD compare to other children who also have difficulties with social interactions. For example, do children with AD have levels of loneliness that are the same as, or higher than, children with Social Phobia (SP)? Both groups experience social isolation and express feelings of loneliness but for different diagnostic reasons. Persons affected with AD are characterized as engaging in eccentric and repetitive behaviors, which leads to social isolation/rejection from peers. Children with SP purposely avoid social situations because of the anxiety they provoke; thus neither group develops appropriate social skills. It is unclear whether these groups experience equal social distress, social isolation, and loneliness, particularly when both are compared to a group of TD children. Feelings of loneliness may reflect the child's interest in social interactions, which is a motivating factor for success in social skills training.

The objective of this project was to gain a better understanding of loneliness in children with AD. More specifically, how will children with AD compare on a self-report measure of loneliness to TD children and children diagnosed with SP? In attempting to understand

why children in the diagnostic groups feel lonely, social functioning was examined based on behavioral characteristics and level of anxiety.

The current study had four aims: (a) to investigate group differences on self-reported loneliness and anxiety; (b) to investigate group differences on level of anxiety and behavioral characteristics (i.e., internalizing or externalizing) based on parental reports; (c) to assess the relationship between parent ratings of children and child self-report ratings of social withdrawal; (d) to assess the relationship between child self-report of loneliness and anxiety. Overall, it is expected that children with AD and SP will have higher ratings of loneliness than TD. Based on the literature, children with AD will have the highest ratings of loneliness as compared to children with SP and TD. Children with AD experience peer rejection, whereas children with SP purposely avoid social situations; thus, being rejected by peers would have a stronger effect on the child. For anxiety, children with SP and their parents will report higher ratings of anxiety than TD children and children with AD. There will be a positive relationship between parental reports of their child's social withdrawnness and children's self-reports. Furthermore, there will also be a positive relationship between children's self-reports of loneliness and anxiety in children with AD and SP.

LITERATURE REVIEW

Children with Asperger's Disorder

Asperger's Disorder (AD) is a disorder in which individuals show impairment in social skills and non-verbal communication. Persons affected with AD are characterized as engaging in repetitive behaviors and of lacking social reciprocity, which often leads to social isolation (DSM-IV: American Psychiatric Association [APA] 1994; Pierson & Glaeser 2007). At first, it was thought that all children on the autism spectrum preferred to be alone and were indifferent to peer interaction (Kanner 1943). However, recent studies show that children on the higher end of the spectrum desire friendship and express frustration for their lack of opportunities for social interaction (Bauminger & Kasari 2000; Pierson & Glaeser 2007). As a result, they report intense feelings of loneliness that last longer than for their typical peers (Bauminger & Kasari 2000).

In studying loneliness in children with AD, there has been speculation as to whether these children understand the concept of loneliness. Studies have revealed that children with AD have interpersonal awareness and are

capable of experiencing feelings of empathy when presented with various emotional scenarios (Bauminger & Kasari 2000; Yirmiya, Sigman, Kasari, & Mundy 1992). One study (Pierson & Glaeser 2007) used verbal assertions by children (e.g., "no one will play with me") to confirm their feelings of loneliness. Statements collected from the sample indicate that children with AD have the capacity to understand abstract emotions such as loneliness and to care about establishing friendships with others. In another study (Bauminger & Kasari 2000), children with AD happily reported having at least one friend. Results of this study also confirm that children with AD desire to be involved in friendships with others. However, this is not true of all individuals on the autism spectrum. There seems to be a direct relationship between cognitive ability or level of functioning and an understanding of abstract emotions, and these children report feelings of loneliness (Yirmiya et al. 1992).

Children with AD appear to understand both the social and emotional aspects of loneliness, but fail to ascribe feelings such as emptiness and sadness to their feelings of loneliness. They seem to only evaluate their loneliness on a social level, and endorse feelings of loneliness in the absence of a friend or a social network. It is hypothesized that this self-evaluation and social comparison to their typical peers on friendship quantity causes children with AD to feel lonely more frequently and more intensely than the average child (Bauminger & Kasari 2000).

One interesting finding was that children with AD do not always report greater feelings of loneliness than TD children. In a study assessing the social networks of children with AD in regular classrooms (Chamberlain et al. 2007), researchers took sociometric ratings (i.e., the degree of peer acceptance and friendship reciprocity) from each child in the classroom. To assess peer acceptance, researchers had children sort photos of their classmates into three piles: liking, disliking, and neutrality. To assess friendship reciprocity, researchers had the children complete a questionnaire in which they were asked to list their best friends in the classroom. In comparing ratings and friend lists between children with AD and their typical peers, results indicated that children with AD were rated lower by their peers in peer acceptance and experienced less reciprocity in their friendship nominations. Despite being rated lower, children with AD did not differ significantly from their typical peers in ratings of loneliness. This finding suggests peer popularity may be only one factor contributing to feelings of loneliness.

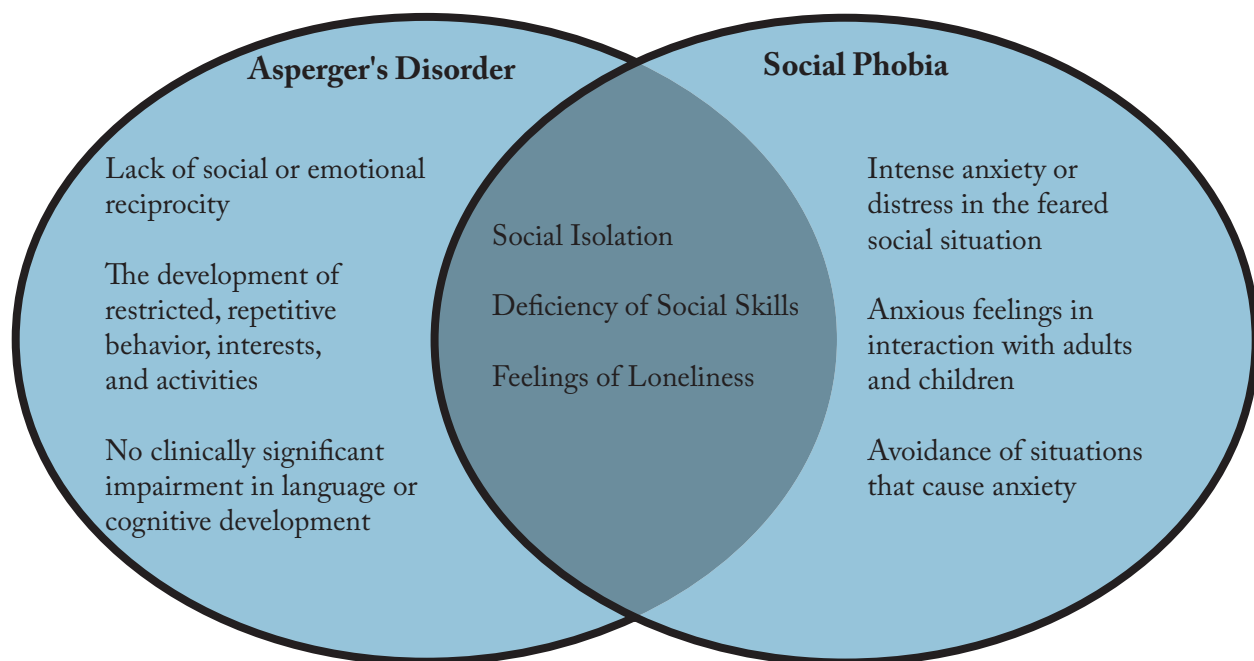
Children with Social Phobia

Social Phobia (SP) is a “marked and persistent fear of one or more social performances in which the person is exposed to unfamiliar people or to possible scrutiny by others” (APA 1994). Such individuals fear that they may humiliate themselves in front of other people or show symptoms of anxiety. A diagnosis of SP in children requires a “capacity for social relationships with familiar people and the anxiety must occur in peer settings, not just in interaction with adults” (APA 1994). Parents of children with SP often recount that their children isolate themselves from social activities, such as recess at school, and feel more comfortable engaging in solitary activities (Beidel, Turner, & Morris 1999). It seems that children with SP engage in avoidance behaviors to ease overwhelming feelings of anxiety in social situations.

Similar to children with AD, children with SP report feelings of social isolation and loneliness (Beidel et al. 1999). Their inability to effectively engage in social interactions can lead to feelings of loneliness. Self-reports of social acceptance by high socially-anxious

children in comparison to low socially anxious children reveal that children high in anxiety rate their social acceptance as lower, and perceive their interactions with peers more negatively (e.g., being bullied and teased at school) (Ginsburg, La Greca, & Silverman 1998). In addition to rejection, these children are also neglected by peers (Beidel & Turner 2007). Like children with AD, these children desire to develop friendships with peers and convey frustration over their lack of friendships (e.g., “all I want is one friend”) (Beidel et al. 1999). Conversely, as a result of typical development and no cognitive developmental delays in children with SP, there is no question as to whether they understand the concept of loneliness as in children with AD (see Figure 1).

In summary, both children with AD and children with SP express loneliness, although it is unclear if they experience equivalent levels of loneliness, and for the same reasons. Because children in both groups experience social isolation, it is important to understand what factors may influence that loneliness, as those factors may offer an important target of intervention.

FIGURE 1: DSM-IV CRITERIA

METHOD**Participants**

Data from 53 children (n = 44, boys; n = 9, girls) between the ages of 7 and 12 were analyzed for this study. Parental ratings from one parent of each child were also analyzed. Three groups were evaluated: 19 children diagnosed with AD, 18 children diagnosed with SP, and 16 TD children served as the control group. All children in the diagnostic groups were diagnosed by a Ph.D. clinical psychologist using a structured diagnostic interview. The children did not meet diagnostic criteria for any other Axis I or Axis II disorder. TD children were recruited separately to serve as friendly peers in social interactions with other children. Children in the TD group did not meet diagnostic criteria for any Axis I or Axis II disorder.

We matched each child with a diagnosis of AD with a SP child and a TD child on gender, chronological age, and race. All children were of average or above average intelligence. In this sample, 83% were Caucasian, 11% African American, 1.9% were Latino, and 3.8% were of other non-specified ethnicity (see Table 1). The sample is unbalanced in terms of sex because AD is much more common in boys than girls and anxiety disorders are more common in girls than boys. The demographics of the sample are consistent with the demographics found in children of the Orlando area (T. Daly, personal communication, April 15, 2009).

MATERIALS**Loneliness Scale**

The Loneliness Scale (LS) is a self-report measure that assesses social withdrawal, feelings of loneliness, and satisfaction of peer relationships in children (Asher & Wheeler 1985). The greater the total score, the lonelier the child is perceived to be. This score was used to compare and evaluate loneliness between the two diagnostic groups.

The Child Behavior Checklist

The Child Behavior Checklist (CBCL) is used to evaluate social competence and behavioral problems in children as reported by their parents (Achenbach, 1991). The scale consists of three broad-band scales: (a) externalizing behaviors (e.g., "demands a lot of attention"), (b) internalizing behaviors (e.g., "fears he/she might think or do something bad"), and (c) overall behavioral tendencies. Broad-band scales consist of several narrow-band scales. The withdrawn/depressed narrow-band scale of the internalizing behaviors scale was used to obtain a parental report of social withdrawal/isolation in their children. Scores on the CBCL were used to gauge social functioning between the two diagnostic groups.

The Social Phobia and Anxiety Inventory for Children – Parent Version

The Social Phobia and Anxiety Inventory for Children – Parent Version (SPAI –C PV) is another questionnaire used to assess anxiety and social phobia in children (Higa, Fernandez, Nakamura, Chorpita, & Daleiden 2006). The total score was used to evaluate anxiety in children from the perspective of their parents.

TABLE 1: CHI SQUARE ANALYSIS OF DEMOGRAPHIC INFORMATION

	Asperger's Disorder	Social Phobia	Typically Developing	X²	P value
Gender				11.65	.003
Male	18	17	9		
Female	1	1	7		
Race/Ethnicity				25.07	.000
Caucasian	19	18	7		
African American	0	0	6		
Latino	0	0	1		
Other	0	0	2		

RESULTS

Groups were compared using Analysis of Variance (ANOVA) for (a) child self-reported loneliness and anxiety, and (b) parental report of internalizing and externalizing behaviors in their children (i.e., CBCL) and anxiety (i.e., SPAI-C PV) (see Table 2). Furthermore, relationships of variables were assessed using a Pearson Correlation between (a) parental score of social isolation in their children with child self-reported social withdrawal/loneliness (i.e., LS), and (b) child self-report of loneliness with child self-report of anxiety.

Loneliness

Results revealed that children with AD, children with SP, and children with TD differ on the factor of self-reported loneliness ($F(2,50) = 18.83, p < .05$) (see Figure 2). Scheffe post hoc analyses indicated that the mean of TD children ($M = 20.68, SD = 4.45$) was significantly lower than for children with AD ($M = 43.00, SD =$

10.67) or SP ($M = 35.55, SD = 10.67$), which did not differ from each other.

Anxiety

Scheffe post hoc analyses indicated significant differences in mean scores on self-report ratings of anxiety, with the TD group ($M = 6.13, SD = 6.57$) significantly lower than children with AD ($M = 16.11, SD = 10.72$) and SP ($M = 23.30, SD = 7.42$). Children with AD and children with SP did not significantly differ from each other ($F(2, 50) = 17.14, p < .05$). Parental ratings of social anxiety in their children revealed a difference between groups as well ($F(2, 50) = 35, p < .05$). Scheffe post hoc analyses for the SPAI-C PV revealed that the three groups differed significantly from each other with the largest difference between children with SP ($M = 32.68, SD = 10.17$) and TD children ($M = 5.01, SD = 5.66$). The mean of the AD group ($M = 22.27, SD = 11.48$) fell between the other two groups and was significantly different from both of the others (Figure 3).

TABLE 2. ANALYSIS OF VARIANCE FOR LS, SPAI-C, SPAI-C PV, CBCL AND CBCL SUBSCALES¹

Scale	Asperger's Disorder M (SD)	Social Phobia M (SD)	Typically Developing M (SD)	F value (2, 50)
LS*	43 (14.19) ^a	35.55 (10.67) ^a	20.68 (4.45) ^b	18.83
SPAI-C**	16.11 (10.72) ^a	23.20 (7.42) ^a	6.13 (6.57) ^b	17.14
SPAI-C PV***	22.27 (11.48) ^a	32.68 (10.17) ^b	5.01 (5.66) ^c	35.59
CBCL****	68.31 (8.59) ^a	57.44 (8.35) ^b	46.12 (7.91) ^c	30.98
Externalizing behaviors	61.42 (12.69) ^a	47 (8.87) ^b	46.43 (7.05) ^b	13.19
Internalizing behaviors	66.05 (10.52) ^a	67.22 (7.07) ^a	44.56 (8.27) ^b	35.19
Withdrawn/depressed narrow-band scale	66.68 (8.99) ^a	66.88 (8.80) ^a	53.37 (4.70) ^b	16.17

*LS = Loneliness Scale

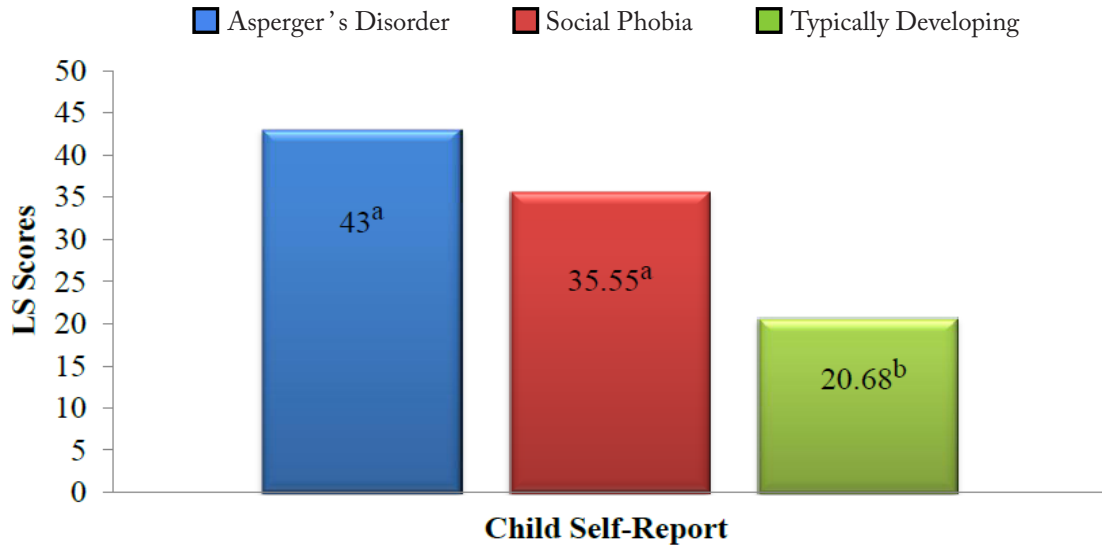
**SPAI-C = Social Phobia and Anxiety Inventory for Children

***SPAI-C PV = Social Phobia and Anxiety Inventory for Children – Parent Version

****CBCL = Child Behavior Checklist

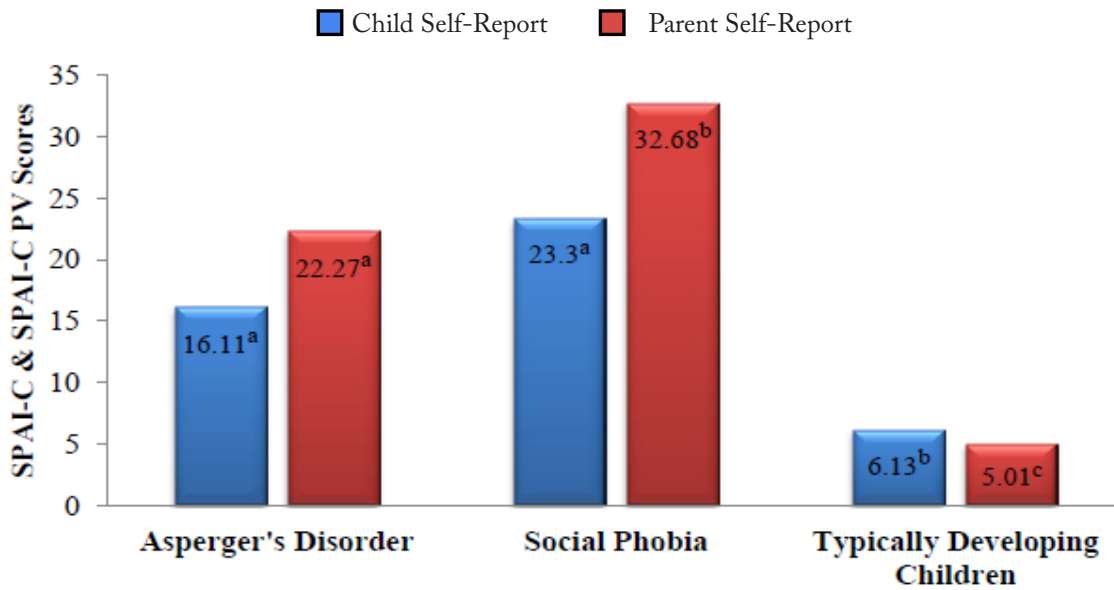
1. Means not sharing superscripts are significantly different at $p < .05$

FIGURE 2: LONELINESS¹



1. Means not sharing superscripts are significantly different at $p < .05$

FIGURE 3: ANXIETY¹



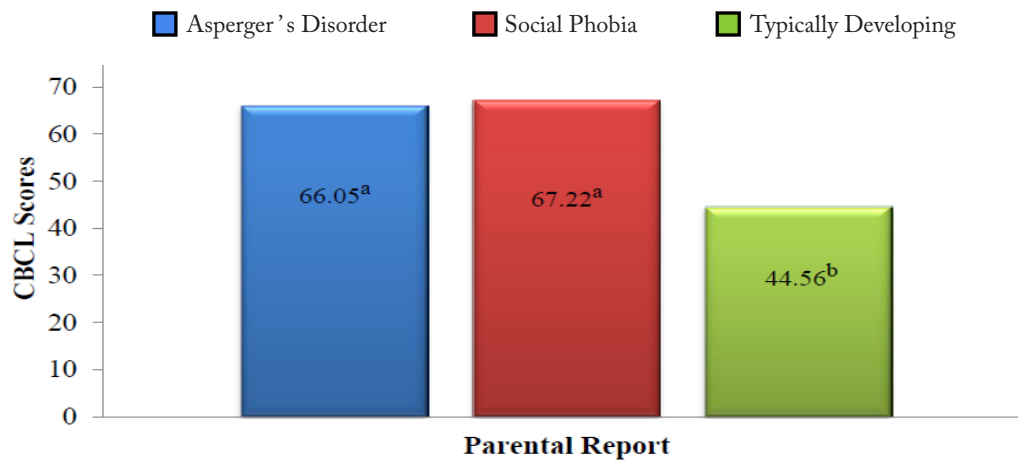
1. Means not sharing superscripts are significantly different at $p < .05$

Behavioral Characteristics

Parental reports of behaviors of their children revealed that the three groups differ on the degree of internalizing behaviors ($F(2, 50) = 35.19, p < .05$) (see Figure 4). Scheffe post hoc analyses indicated that the mean of internalizing behaviors in TD children ($M = 44.56, SD = 8.27$) was significantly lower than for children with AD ($M = 66.05, SD = 10.52$) and children with SP ($M = 67.22, SD = 7.07$). Internalizing behaviors in children

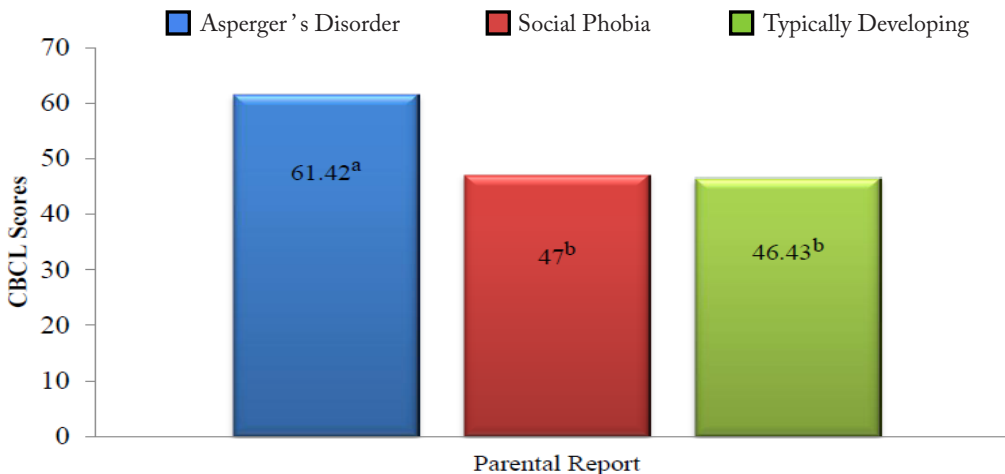
with AD and children with SP did not significantly differ from each other. Children's level of externalizing behavior also differed ($F(2, 50) = 13.19, p < .05$) (see Figure 5). Scheffe post hoc analyses indicated that externalizing behavior of children with AD ($M = 61.42, SD = 12.69$) was significantly higher than externalizing behavior of children with SP ($M = 47, SD = 8.87$) and TD children ($M = 46.43, SD = 7.05$). Externalizing behaviors of children with SP and TD children did not significantly differ from each other.

FIGURE 4: INTERNALIZING BEHAVIORS¹



1. Means not sharing superscripts are significantly different at $p < .05$

FIGURE 5: EXTERNALIZING BEHAVIORS¹



1. Means not sharing superscripts are significantly different at $p < .05$

Social Withdrawal

A Pearson correlation between the withdrawn/depressed subscale of the CBCL internalizing scale and the LS (i.e., the relationship between child self-reported social withdrawal and parental report of social withdrawal in their children) was significant ($r = .502, p < .01$) and positive (see Table 3). Children whose parents reported them to be more withdrawn and depressed were more likely to report higher levels of loneliness.

TABLE 3: CORRELATION MATRIX FOR SOCIAL WITHDRAWAL/ISOLATION

Scale	CBCL Depressed/withdrawn narrow-band scale	P value
LS*	.502	.000

*LS = Loneliness Scale; Child self-report of social withdrawal

**CBCL= Child Behavior Checklist; Parent self-report of social withdrawal

Loneliness and Anxiety

Lastly, a Pearson correlation (see Table 4) was run to assess the relationship between child self-report of loneliness and anxiety. The correlation was significant ($r = .408, p < .01$) and positive. Children who reported more anxiety also described themselves as lonelier.

TABLE 4: CORRELATION MATRIX FOR LONELINESS AND ANXIETY

Scale	**SPAI-C	P value
LS*	.408	.002

*LS = Loneliness Scale; Child report of social withdrawal

**SPAI-C= Social Phobia and Anxiety Inventory for Children; Child report of anxiety

DISCUSSION

Loneliness ratings of children with AD, children with SP, and children who were typically developing were compared. In an attempt to understand why the two diagnostic groups experience feelings of loneliness, social functioning was also analyzed and compared. More specifically, this study aimed: (a) to investigate group differences on self-reported loneliness and anxiety; (b) to investigate group differences on level of anxiety and behavioral characteristics (i.e., internalizing or externalizing) based on parental reports; (c) to assess the relationship between parent ratings of children and child self-report ratings of social withdrawal; (d) and to assess the relationship between child self-report of loneliness

and anxiety. Previous studies of loneliness in children with AD have revealed that they experience loneliness more frequently and more intensely than TD children (Bauminger & Kasari 2000). The current study assessed if children with AD also have higher ratings of loneliness than children with SP.

Loneliness

As expected, children with AD had the highest ratings of loneliness, but their ratings were not significantly higher from children with SP. Both children with SP and children with AD differed significantly from TD children, indicating that both groups experienced more loneliness than children with no disorder.

Anxiety

Self-reported ratings of anxiety were significantly lower in TD children. Interestingly, there was not a significant difference in anxiety between children with AD and children with SP.

Based on parental ratings of social anxiety in their children, all three groups were significantly different, with the largest difference between children with SP and TD children. These results suggest that parents of children with SP see their children as significantly more socially anxious than do parents of children with AD.

Behavioral Characteristics

Children with AD scored significantly higher than children with SP on a measure of externalizing behaviors, such as disobedience and stubbornness. Children who exhibit these behaviors are often viewed negatively by their peers, which may lead to rejection. This rejection, in turn, can lead to social isolation and feelings of loneliness (Margalit & Levin-Alyagon 1994).

In contrast, children with SP scored high on a measure of internalizing behaviors, which includes behaviors such as shyness and social withdrawal. Avoidant behaviors of this type can lead to neglect from peers, which could also, in turn, lead to social isolation and feelings of loneliness (Beidel & Turner 2007). Therefore, although both groups experience loneliness, the behavior that may lead to those feelings appears to be different. These differences suggest that appropriate interventions to prevent or treat feelings of loneliness would require different intervention strategies for these two groups. Results from a longitudinal study would better explain why and when children with AD and SP become socially isolated by peers.

Social Withdrawal

A positive and significant relationship exists between parental reports of social withdrawal in their children and child self-report of social withdrawal. This relationship indicates that there is agreement between parents and children of negative effect and that parents may be objective reporters of their child's social impairment. Therefore, should treatment be implemented, parental report may be used as an objective measure of treatment outcome.

Loneliness and Anxiety

A positive and significant relationship also exists between child self-report of anxiety and loneliness. Results from this analysis reveal that anxiety is a factor, but not the greatest factor influencing feelings of loneliness. Thus, further research to find other factors that influence loneliness is important.

CONCLUSION

The goal of this research was to gain a better understanding of the factors that influence feelings of loneliness in children with AD by assessing and comparing their social functioning to children with SP. Studies comparing different diagnostic groups with similar behavioral characteristics will aid in the treatment of the unique disorders. Comparison studies help differentiate which specific behaviors influence negative feelings, such as loneliness and social withdrawal or isolation. The results of this study indicate that it appears important to consider the role of internalizing and externalizing behaviors in developing interventions for childhood loneliness for groups with different disorders. Because loneliness ratings were highest in children with AD, it is possible that engaging in externalizing behaviors has more of an impact on peer acceptance. Furthermore, childhood loneliness in children with AD and SP, while influenced by a myriad of factors, appears to be correlated with high rates of anxiety. Treating this anxiety may be beneficial in decreasing feelings of loneliness. Thus, future research should focus on looking at different factors within different disorder groups that contribute to children's feelings of loneliness, and developing and evaluating interventions to address their unique profiles. Ultimately, continued research in the assessment of social functioning in children with AD and SP who experience feelings of loneliness will help therapists assist these children in developing healthy foundations for forming relationships with their peers.

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