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Self-Reported Social Skills Impairment Explains Elevated Autistic Traits in Individuals with Generalized Social Anxiety Disorder

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Abstract

Screening for autism in individuals with generalized social anxiety disorder (GSAD) is complicated by symptom overlap between GSAD and autism spectrum disorder (ASD). We examined the prevalence of self-reported autistic traits within a sample of participants with a diagnosis of GSAD ($n = 37$) compared to individuals without a GSAD diagnosis (NOSAD; $n = 26$). Of the GSAD sample participants, 70.84% self-reported autistic traits above a cut-off of 65 on the Autism Quotient-Short (AQ-S), and reported significantly more autistic traits on 3 of 5 AQ-S subscales compared to the NOSAD group. Diagnosis uniquely predicted variation in the social skills subscale above and beyond the other subscales and other predictors. Furthermore, variation in the social skills subscale largely explained group differences on the other subscales. Our results suggest caution in utilizing measures like the AQ-S with clinical populations characterized by social difficulties such as individuals with a GSAD diagnosis.

Keywords

anxiety; social anxiety; assessment; measurement; theory of mind

Social anxiety disorder (SAD) and autism spectrum disorder (ASD) are described by distinct diagnostic criteria. However, overlap between some of the associated features of these two disorders exists, potentially making accurate assessment a challenge, particularly for researchers and clinicians interested in identifying autistic traits in individuals with a SAD diagnosis. Changes in the diagnostic guidelines for ASD between the Diagnostic and Statistical Manual, 3rd edition (DSM-III; American Psychiatric Association, 1980) and the revised 4th edition (DSM-IV-TR; American Psychological Association, 2000) has only made the distinctions between social difficulties in SAD and ASD narrower, and these

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changes were carried over into the Diagnostic and Statistical Manual, 5th edition (DSM-5; American Psychological Association, 2013). Between the DSM-III and DSM-IV-TR, the phrasing of the diagnostic criteria for ASD was altered from “pervasive lack of responsiveness to other people” to “qualitative impairment in social interaction.” The DSM-5 criteria for ASD diagnosis includes social communication and social interaction deficits such as abnormal eye contact, reduced ability to respond to or initiate social interactions, and difficulties maintaining relationships, but these symptoms are frequently reported among individuals with SAD as well (i.e., social interaction deficits and abnormal eye-contact; Moukheiber et al., 2010; Ruscio et al., 2008).

Despite researchers' emphasis on the importance of having tools and protocols that can accurately identify autistic traits in children (Daniels, Halladay, Shih, Elder, & Dawson, 2014), a diagnosis of an ASD is not always made in childhood. Tools that are suitable for use in adults are therefore needed to identify undiagnosed cases of autism that persist into adulthood (Brugha & McManus, 2011; Fombonne, 2012; James, Mukaetova-ladinska, Reichelt, Briel, & Scully, 2006). Herein a problem arises: few tools exist that are designed to diagnose autism in adulthood, and the tools that do exist may not readily differentiate ASD from a disorder with several overlapping features, such as SAD.

Establishing the discriminant validity of screening tools designed for use in clinical populations is an important component of measure refinement (Smith & McCarthy, 1995), and vital in the case of screening for autistic traits in non-specialty clinics or research settings where a range of disorders might be present. The Autism Quotient (AQ), for example, was developed to simplify the process of detecting elevated autistic traits and has demonstrated good psychometric properties, but the measure was developed primarily based on a comparison of the symptom presentations of individuals with an ASD diagnosis and community members who were not assessed for psychopathology (Baron-Cohen, Wheelwright, Skinner, Martin, & Clubley, 2001). Because the process of scale development and validation is likely effective when in similar settings, the broader utility of the measure, particularly in clinical or community settings where a wider range of psychopathologies might be predominant, must also be explored (Woodbury-Smith, Robinson, Wheelwright, & Baron-Cohen, 2005). For assessment purposes, this is an especially important issue as it suggests that screening for autistic traits among a population with confirmed SAD may not yield valid results. In at least one study, SAD and ASD participant AQ scores were statistically equivalent, raising the possibility that an autism screening measure like the AQ might be inappropriate for use as a screening instrument for clinical populations of individuals with SAD (Richey et al., 2014).

The presence of symptom overlap between adults with SAD and adults with ASD who are administered a screening instrument like the AQ has been examined in only a handful of studies (Bejerot, Eriksson, & Mörtberg, 2014; Cath, Ran, Smit, van Balkom, & Comijs, 2008). In these studies, individuals with SAD could be differentiated from control participants, but due to small sample sizes and diagnostic comorbidities, it is difficult to understand the relationship between self-reported autistic traits and SAD. Additionally, two studies conducted with student samples suggest differences between the AQ total score and the AQ subscales in terms of the ability to differentiate diagnostic groups (Freeth, Bullock,

& Milne, 2012; White, Bray, & Ollendick, 2012). Specifically, subscales that are strongly related to impaired social functioning appear to be endorsed at higher rates by participants with higher levels of social anxiety. Whether these findings generalize to clinical samples of individuals with SAD remains unknown.

The purpose of this study is to add to the literature on the symptom overlap between ASD and SAD by examining the endorsement of autistic traits within a clinical sample of individuals with generalized SAD (GSAD). Unlike previous studies, we specifically aimed to explore the hypothesis that adults with a diagnosis of GSAD would have higher endorsement of items measuring social skills impairment on the AQ (i.e., the social skills subscale) when compared to a control group of individuals without a GSAD diagnosis. As part of this hypothesis, we predicted that individuals with GSAD would not have higher endorsement of items measuring other autistic traits once differences in reported social skills impairment were accounted for. We also hypothesized that individuals with GSAD would score above cutoff on the AQ at rates well in excess of the 5.7% of GSAD individuals expected to have ASD, given current comorbidity rates (see below). Finally, we believed that high endorsement rates of ASD symptoms would be limited to high endorsement of items on social-skills-related subscales.

1. Material and methods

1.1. Participants

Recruitment was part of a larger study examining relationships among adults with and without GSAD. The participants reported here are a subsample from Sample 2 of the individuals reported in a previous study (Rodebaugh et al., 2014), and additional information on characteristics of the whole sample can be found in that publication. Participants with GSAD were recruited through print, television, and internet advertisements in the St. Louis metropolitan area, and control participants without a diagnosis of GSAD (NOSAD) were recruited through a volunteer registry and demographically matched to GSAD participants. The study took place at a Midwestern university and was approved by the university's Institutional Review Board. Individuals who were intoxicated during a study session, psychotic, manic, suicidal, who presented with any psychological problems requiring immediate treatment, or who showed evidence of a substance abuse problem within 60 days of participation were either not invited to participate or excluded from the study. Once inclusion criteria were met according to a phone screen, participants were administered structured interviews to either confirm the presence or absence of a GSAD diagnosis using DSM-IV-TR criteria. Individuals meeting criteria for the generalized subtype of social anxiety disorder displayed fear or avoidance of a variety of social situations. The subsample used in the current study consisted of 63 participants, 37 GSAD and 26 NOSAD, who were administered the Autism Quotient-Short (AQ-S; Hoekstra et al., 2011), a short form version of the AQ. Participants received \$15 per hour as compensation for their time and effort. Participant groups did not differ with respect to gender, race, or ethnicity, but did differ with respect to age (see Table 1). Missing data, which included data from individuals missing an item due to a typographical error and skipped items, were imputed using multiple imputation.

1.2. Measures

Participants completed self-report, interview, and behavioral measures as part of the larger study, but only the AQ-S and the Liebowitz Social Anxiety Scale (LSAS) are analyzed and reported here. The Structured Clinical Interview for Diagnosis – DSM-IV was the primary diagnostic instrument for GSAD.

Structured Clinical Interview for DSM-IV—(SCID-IV-TR; First, Spitzer, Gibbon, & Williams, 2002). The SCID-IV-TR is a semi-structured interview used to determine current and lifetime disorders based on DSM-IV criteria. This study used an abridged version of the SCID to determine current diagnoses of mood and anxiety-related disorders. The SCID-IV-TR was administered by a trained clinician, either a PhD-level clinical psychologist or advanced clinical psychology graduate student, who interviewed the participant and qualified the diagnosis as *absent*, *present*, or *sub-threshold*. For GSAD, the SCID-IV-TR has demonstrated excellent inter-rater reliability of .86 (First et al., 2002). Inter-rater reliability was obtained for 10% of participants in the sample the current study's subsample was drawn from and inter-rater reliability was 100%.

Liebowitz Social Anxiety Scale—(LSAS; Liebowitz, 1987). The LSAS is a 24-item clinician-administered interview that assesses fear and avoidance of social situations. Each of the 24 items is rated on a 4-point Likert-type scale ranging from 0 (*None* on fear items or *Never* on avoidance items) to 3 (*Severe* for fear items or *Usually* for avoidance items). The LSAS has excellent convergent and divergent validity (Heimberg et al., 1999). The measure's total score and six subscales were reported to have high internal consistency ($\alpha > .81$), indicating sufficient reliability for use in clinical settings (Rosenthal & Rosnow, 1991). The LSAS also has psychometric properties that allow it to be used to distinguish between diagnosis of GSAD, diagnosis of social anxiety limited to performance situations, and to no social anxiety. A total score of 60 or greater on the LSAS has a sensitivity and specificity of 72.52% and 73.53% respectively when classifying GSAD and non-GSAD individuals. A score above 30 correctly classified 93.28% of GSAD individuals and misclassified only 5.88% of NOSAD individuals (Mennin et al., 2002). In the current study, participants with LSAS scores below 30 were included in the NOSAD group and participants with scores of 60 or greater were included in the GSAD group if the associated SCID diagnostic criteria were also met.

Autism Quotient Scale – Short—(AQ-S; Hoekstra et al., 2011). The AQ-S is a 28-item version of the popular screening tool, the AQ (Baron-Cohen et al., 2001). Using item selection analyses in a sample of English and Dutch speaking adults, the authors reduced the original 50-item, 5-subscale AQ to 28 items and 5 subscales: social skills, routine, switching, imagination, and numbers/patterns (which we refer to as *patterns*). This factor structure was supported in a study by Kuenssberg and colleagues (2014). The AQ-S authors suggested a cut-off of greater than 65 in order to obtain discriminability and specificity of .97 and .82 respectively. A more stringent cut-off of 70 or greater was proposed for discriminability and specificity of .94 and .91 respectively. Responses were on a 4 point Likert-type scale ranging from 0 (*Definitely Disagree*) to 4 (*Definitely Agree*), yielding a score range of 28-112.

1.3. Data Analytic Procedure

Missing data were estimated using multiple imputation performed using the R package *mice* (Buuren & Groothuis-Oudshoorn, 2011; Rubin, 1987; R Development Core Team, 2013). The data used for multiple imputation included participant demographics, diagnosis, total LSAS scores, AQ-S total and subscale total scores, and 8 items from the imagination subscale, which had high missingness on one item due to clerical error. Values for other missing items were also estimated. We examined diagnostics for the resulting imputations according to guidelines presented in the *mice* package documentation (van Buuren & Groothuis-Oudshoorn, 2011). Diagnostics suggested healthy convergence indicating that multiple imputation was successful.

2. Results

2.1. Percentage of Participants Scoring Above Cutoff on the AQ-S

In our sample, 70.84% of GSAD individuals and 10.74% of NOSAD individuals scored above the AQ-S recommended cutoff of 65, whereas 50.84% of GSAD and 7.69% of NOSAD individuals scored above the AQ-S cutoff of 70. The small percentage of NOSAD individuals scoring above the more stringent cut-off of 70 was consistent with the reported false-positive rate on the AQ-S in a non-patient sample; that is, the result was plausible given no or a small number of NOSAD participants with an ASD (Hoekstra et al., 2011). Using Bayes' theorem, we calculated the expected percentage of GSAD participants who should have an ASD diagnosis given a base rate of 7.4% for a current GSAD diagnosis (Kessler, Petukhova, Sampson, Zaslavsky, & Wittchen, 2012), a 1.5% base rate for ASD (Baio, 2012), and a high-end ASD and GSAD adult comorbidity rate estimate of 28% (Bejerot et al., 2014). Results indicated we could expect 5.7% of individuals with GSAD, or 2 individuals in our sample, to also have an ASD diagnosis. Our obtained proportion of individuals scoring above cutoff is therefore 9 to 12 times greater than what we might expect, depending on the cutoff value utilized.

2.2. Differences by Diagnosis on Demographics and AQ-S Subscales

As expected, the GSAD group scored significantly higher on the AQ-S total score; $t(57.58) = 7.32, p < .001$ than the NOSAD group. Compared to the NOSAD group, the GSAD group also scored higher on the social skills, $t(58.87) = 7.92$, imagination, $t(56.40) = 5.39$, and switching subscales, $t(50.08) = 3.94$, all $ps < .001$. There was a trend level group difference on the routine subscale $t(57.23) = 1.72, p = .09$, and no significant difference between groups on the patterns subscales $t(57.10) = -.50, p = .61$. Groups were significantly different with respect to age: the GSAD participants were older than the NOSAD participants (see Table 1). Due to a significant difference between groups on age, we entered age and the Age $\times$ Diagnosis interaction as predictors in further analyses. In all analyses, Age $\times$ Diagnosis was non-significant (all $ps > .05$).

2.3. Diagnosis as a Predictor of AQ-S Total Score and Subscales

We used a series of multiple regression analyses to isolate the unique contribution of diagnosis to each of the five AQ-S subscales. Each of the five regression models consisted of one subscale as the dependent variable with diagnosis, age, the Age $\times$ Diagnosis

interaction, and the four remaining subscales entered as predictors. The models and their results are depicted in Table 3. Diagnosis significantly predicted social skills, $p < .01$, such that a GSAD diagnosis led to greater reported social skills impairment. Diagnosis, was a trend-level predictor of the imagination subscale, $p = .06$, and was not a significant predictor of any other AQ-S subscale in the models described above, $ps > .78$. Having previously identified a significant difference between the GSAD and NOSAD groups on the imagination and switching subscales, we sought out to test whether the diagnosis-related difference on those subscales was better explained by the social skills subscale. We tested two new regression models with the routine and pattern subscales, the two subscales that did not differ between groups, removed as predictors. The two new models consisted of imagination and switching subscales as the dependent variables with four predictors: diagnosis, social skills, age, and the Age $\times$ Diagnosis interaction. Social skills, but not diagnosis, was a significant predictor of the variance in the imagination and switching subscales, $b^* = .38$, $p = .01$ and $b^* = .44$, $p < .01$, respectively. No other predictors were significantly related to the switching subscale; however, there was a trend level effect of diagnosis on imagination, $b^* = .30$, $p = .058$.

3. Discussion

The goal of this study was to examine how self-reported autistic traits manifest in individuals with a clinical diagnosis of GSAD. The social skills subscale was significantly predicted by diagnosis above and beyond the effects of the other four subscales, but diagnosis did not significantly predict the routine, switching, imagination or patterns subscales when the remaining subscales were entered as predictors. Tests of the effect of diagnosis on the imagination and switching subscales when the only other subscale entered as a predictor was social skills allowed us to determine that diagnosis, without the variance accounted for by the social skills subscale, was not a significant predictor of the AQ-S subscales. This result provided evidence for our initial hypothesis that the responses to the social skills items would account for GSAD participants' higher AQ-S total and subscale scores relative to control participants.

Our finding indicating that the social skills subscale is responsible for much of the variation in the AQ-S total score and subscale scores in our sample of GSAD individuals is echoed by previous factor analyses of the structure of the AQ and AQ-S, and calls into question whether *social skills* is an adequate characterization of the collection of items related to social interaction. Hoekstra and colleagues (2011) found a higher order factor they called *social interaction* that encompassed the routine, switching, imagination, and social skills subscales among individuals with and without autism. White et al.'s factor analysis of the 23-item version of the Social Phobia and Anxiety Inventory (SPAI-23) and AQ items demonstrated that many of the AQ items presented on the social skills subscale cross-loaded with anxiety-related items on the SPAI-23 (White et al., 2012). Considering the content of the social skills subscale items (e.g., *I find social situations easy*, *I find it hard to make new friends*, *New situations make me anxious*), perhaps *complaint of social interaction difficulties* is a more compelling characterization of the construct being measured by the AQ or AQ-S than *social skills deficit*.

Interestingly, the imagination subscale consistently had a trend-level relationship with diagnosis. The result suggests that, in the absence of the other subscales, much of the variance in the imagination subscale could be explained by reported social skills deficit. However, the result also suggests that some other aspect related to diagnosis was driving a group difference in response on the imagination subscale. In taking a closer look at the imagination subscale, its composition is notably different: The scale is comprised of items that deal with how easy or difficult it is to make predictions about the mental states of real and fictional others. The questions have a social interaction component that is perhaps most related to the social skills subscale; however, 100% of the imagination-related questions ask that the responder evaluate the relative ease of the described scenarios as opposed to the 50% or 25% of items on each of the switching and social skills subscales, respectively, with similar phrasing.

This particular use of phrasing establishes the opportunity for social comparison in a way that more straightforwardly worded items do not: “I find making up stories easy” suggests to responders that they can be better or worse at the activity compared to others, whereas “I enjoy meeting new people” has less of a comparative element. Existing research suggests that among individuals with GSAD, there is a negative self-report bias, as well as a tendency toward negative social comparison (Antony, Rowa, Liss, Swallow, & Swinson, 2005; Moscovitch, Orr, Rowa, Reimer, & Antony, 2009). Considering this research, it may be that the remaining variance in the imagination subscale that is related to diagnosis could be due to a negatively biased reporting style.

The current study is the first, to our knowledge, to provide an analysis that supports the hypothesis that complaint of social interaction difficulties best characterizes symptom overlap between GSAD and ASD in a clinical sample of GSAD individuals. We also demonstrated that a high proportion of the GSAD group scored above the recommended cutoffs of 65 and 70 on the AQ-S suggesting that the measure might be inappropriate for use as a screening tool with this population. Scores above cutoff would suggest possible autism and need for full diagnostic testing if the guidelines for use of the AQ scales were followed (Baron-Cohen et al., 2001), but the proportion of GSAD individuals scoring above cutoff in our sample was implausible.

Our study is limited in that we did not obtain diagnoses of ASD within our GSAD participant sample. Despite not being able to account for ASD diagnosis, we believe that the likelihood of the finding that more than 50% of our sample actually had ASD is implausible for three reasons: First, because we know the base rates of ASD and GSAD and have estimates of GSAD prevalence within adults with ASD, we were able to determine that only 5.7% of people with GSAD would be expected to also have an ASD diagnosis. In our sample, this would mean that we could expect to find 2 participants with ASD, but we instead found 9 to 12 times that number scored above the suggested cut-offs for diagnosis on the AQ-S. We based our value for comorbidity on the high-end estimate of the comorbidity rate (Bejerot et al., 2014); based on a meta-analysis by van Steensel and colleagues (2011), the comorbidity rate could be a much lower 16.6% in people with ASD. This would mean that 3.6% of people with GSAD, or 1 person in our sample, would be expected to also have an ASD diagnosis.

Further, we believe our results do not reflect real presence of ASD, as high scores on the AQ-S were primarily due to variance in the social skills subscale. Autism is a multi-faceted disorder and social difficulty, in the form of social skills or imagination deficits, is not by itself sufficient for a diagnosis of an ASD (American Psychological Association, 2013). The response pattern in our sample further suggests that the majority of individuals in our sample would not meet criteria on a diagnostic interview that assessed multiple diagnostic criteria for ASD even though they had high scores on the AQ-S. Finally, there is converging evidence that suggests other ASD screening measures have similarly problematic performance when used with a population with mood and anxiety disorders. In a study of children diagnosed with mood and anxiety disorders, Towbin and colleagues found that individual ASD screening measures falsely identified 62% of their sample as being in a range suggestive of having ASD, even though none of the children had co-morbid ASD diagnosis (Towbin, Pradella, Gorrindo, Pine, & Leibenluft, 2005).

The high percentage of self-reported autistic traits in this sample calls attention to the measures themselves. One possibility is that the symptom overlap between ASD and GSAD exists because there are true behavioral similarities that are being assessed or, in other words, true social skills deficits; however, this interpretation would run opposed to current conceptualizations of ASD and GSAD. Individuals with an ASD are thought generally to have social cognitive or social motivation deficits that lead to profound social skills deficits (Baron-Cohen, Leslie, & Frith, 1985; Chevallier, Kohls, Troiani, Brodtkin, & Schultz, 2012), whereas individuals with GSAD are described as having maladaptive cognitions about their own social performance, but more or less intact social skills (Cartwright-Hatton, Tschernitz, & Gomersall, 2005; Rapee & Heimberg, 1997). To paraphrase Tantam (2000), with regard to social difficulties, ASD can be thought of as a disorder of competence and GSAD as a disorder of performance. Theoretically, social difficulties among ASD individuals would be seen in a variety of contexts, whereas presentation of socially anxious behavior in GSAD would be more context-specific.

Another interpretation that is more in line with these conceptualizations is that social skills deficits can indeed distinguish GSAD and ASD, but that current self-report measures are not sensitive enough to highlight the distinguishing characteristics of the disorders. Assuming this is the case, clinician administered scales or self-report scales that are sensitive to time and context could yield better results in terms of discriminative validity. Given the conceptualization of GSAD and ASD, we might expect that clinicians could tease apart low confidence in social skills, as would likely be seen in GSAD, from low competence of social norms, as would likely be seen in ASD. Similarly, self-report scales that allow respondents to consider their ability and willingness to engage socially in a variety of contexts could be expected to yield a different pattern of responses across disorders: Individuals with GSAD would likely report being more social engaged in some social situations, and with people that are known very well, whereas individuals with an ASD would likely report similar social engagement regardless of context.

Being able to recognize the nature of social difficulties experienced by individuals with ASD and being able to differentiate those difficulties from similar disorders like GSAD is critical from both treatment and research perspectives. The goal of screening measures such

as the AQ-S is to help alleviate the burden of a full diagnostic procedure by giving an indication of how likely or unlikely autism is in screened individuals within a clinical setting (Hoekstra et al., 2011). Our results, however, demonstrate the limitations of using such a measure in a broad clinical setting due high endorsement of autistic traits by individuals with GSAD, and these limitations are likely shared by other self-report measures of autism. Until the inclusion of psychiatric samples with known overlapping social difficulties is made a part of the development process for screening tools, researchers and clinicians will need to use caution when drawing conclusions from tools that are meant to differentiate psychiatric groups with overlapping symptomatology.

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Highlights

- Social anxiety disorder was related to high rates of self-reported autistic traits.
- Social anxiety group differed from controls on several autism related subscales.
- Diagnosis was uniquely predicted by variation in the social skills subscale.
- Responses to social skills items explain group differences.
- Care using autism measures to assess people with social difficulties is advised.

Table 1
Frequencies and Descriptive Statistics of GSAD and NOSAD Participants

	GSAD (<i>n</i> = 37)	NOSAD (<i>n</i> = 26)	<i>p</i>
Age	43.00 (12.77)	33.73 (11.01)	.004
Women	25 (67.6%)	18 (69.2%)	.889
Race			
Asian	0	1 (3.8%)	
Black	18 (48.6%)	11 (42.3%)	
Multiracial	3 (8.1%)	0	
White	16 (43.2%)	14 (53.8%)	.281
Ethnicity			
Non-Hispanic	36 (97.3%)	24 (92.3%)	.368

Note. For age, sex, and ethnicity, *p*-values represent the result of a t-test between groups. For race, the *p*-value represents the result of Fisher's Exact Test. GSAD = generalized social anxiety disorder; NOSAD = no diagnosed generalized social anxiety disorder.

Table 2
Mean Autism Quotient-Short (AQ-S) Subscale and Total Scores for GSAD and NOSAD Participants

	GSAD	NOSAD	Total	
AQ-S Scales	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	Cohen's <i>d</i>
Social Skills	22.19 (4.58)	13.77 (3.47)	18.74 (5.89)	2.03**
Imagination	19 (3.16)	14.35 (3.12)	17.02 (3.89)	1.48**
Switching	10.41 (2.36)	7.85 (2.12)	9.23 (2.46)	1.15**
Routine	7 (1.68)	6.23 (1.86)	6.69 (1.81)	0.44
Patterns	11.29 (3.92)	11.92 (3.57)	11.64 (3.73)	0.17
Total Score	69.88 (7.94)	54.08 (8.89)	63.36 (11.42)	1.89**

Note. Effect sizes represent difference between groups based on a t-test. GSAD = generalized social anxiety disorder; NOSAD = no diagnosed social anxiety disorder.

**
 $p < .01$

Table 3
Regression Models and Predictors for Each of the Five Autism Quotient-Short Subscales

Predictors	Model 1: Social Skills	Model 2: Imagination	Model 3: Switching	Model 4: Routine	Model 5: Patterns
Diagnosis	0.44**	0.30	-0.05	0.07	-0.002
Social Skills	-	0.37*	0.40*	0.44*	-0.31
Imagination	0.22*	-	0.10	-0.10	0.03
Switching	0.21*	0.09	-	0.13	-0.13
Routine	0.21*	-0.08	0.12	-	0.40**
Pattern	-0.13	0.02	-0.11	0.35**	-
Age	0.01	-0.06	0.10	-0.26	0.39
Age × Diagnosis	-0.08	-0.07	-0.004	-0.02	-0.14

Note. Table displays standardized regression coefficients. The dependent variable is noted by the Model heading (e.g., the social skills subscale is the dependent variable in Model 1).

*
 $p < .05$

**
 $p < .01$