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ORIGINAL PAPER

Self-Presentation and the Role of Perspective Taking and Social Motivation in Autism Spectrum Disorder

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Abstract We compared self-presentation abilities of 132 children and adolescents with autism spectrum disorders (ASD) to those of 41 typically developing (TD) peers, and examined the potential link with their social motivation and perspective taking. Participants introduced themselves to an interviewer in a baseline condition (without incentive) and a self-promotion condition (with incentive). Children with ASD (6–12 years) were just as likely as or even more likely than TD children to highlight personal characteristics that would increase their chances of obtaining the incentive. Thus, they were strategic in their self-presentation. However, adolescents with ASD (12–19 years) were less strategic than TD adolescents as well as children with ASD. We discuss the role of social motivation and perspective taking in children's self-presentation.

Keywords Autism · Self-presentation · Adolescents · Social motivation · Theory of mind

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Introduction

Self-presentation is an effort to shape others' perceptions of ourselves (Levine and Feldman 1997), and is a key aspect of everyday social behavior (Leary and Kowalski 1990). As Baumeister and Leary (1995) put it, all human beings have 'a need to belong' and therefore we engage in behaviors, such as self-presentation, that will promote our chances of social belonging. A successful self-presentation likely relies on both the motivation to make a good impression (Leary and Kowalski 1990) and the ability to imagine what kind of information the other person would like to hear. Many children with an autism spectrum disorder (ASD) show limitations in their social motivation (Chevallier et al. 2012a) and perspective taking skills (Yirmiya et al. 1998). Based on these features, children with ASD are expected to be limited in their self-presentation skills. Empirical studies have indeed shown that children with ASD are less strategic in the way they present themselves compared to typically developing peers (Begeer et al. 2008; Scheeren et al. 2010). However, these studies relied on children's responses to hypothetical situations (Begeer et al. 2008) or included relatively small samples (Scheeren et al. 2010). In the present study, we examined the self-presentation abilities of a large sample of children and adolescents with ASD in both hypothetical and real social contexts and we evaluated the role of children's social motivation and perspective taking skills.

In typical development, children can adjust their self-presentation to audience preferences from 8 years onwards (Aloise-Young 1993; Banerjee 2002). When informed that they may be selected for a prize-winning game based on their self-description typically developing (TD) children highlight their positive attributes and game-related abilities. In a study by Begeer et al. (2008) children with ASD

(6–12 years) also increased in positive statements about themselves, yet these statements were less related to their abilities or preferences in playing games. These findings suggest that children with ASD can be motivated to adjust their self-presentation, but they do so less strategically.

A limitation of the aforementioned study is that children's self-presentation abilities were based on their responses to hypothetical scenarios. Children were instructed to imagine that a camera crew came to their school and interviewed them. The hypothetical nature of the procedure may have been particularly disadvantageous for children with ASD given their limited imaginative abilities (Craig and Baron-Cohen 1999). Therefore, Scheeren et al. (2010) expanded the experimental paradigm by including social situations where the participant presents him/herself directly to an interviewer. However, regardless of the context, both children (6–10 years) and adolescents (16–20 years) with ASD were found to be less strategic in their self-presentation compared to TD participants.

A reduced strategic self-presentation may stem from limited perspective taking abilities. Yet, some participants with ASD in the Scheeren et al. (2010) study explained that they did know what kind of self-presentation was expected from them, but they preferred to be veridical rather than adhering to specific audience preferences. In other words, their need to stay true to themselves sometimes overruled their 'need to belong'. A lack of social motivation thus offers an additional explanation for reduced strategic self-presentation in ASD. This explanation agrees well with recent findings of a reduced tendency of individuals with ASD to manage their social reputation (Cage et al. 2013; Izuma et al. 2011).

Even though social interactive abilities tend to improve in adolescence in ASD (McGovern and Sigman 2005), Scheeren et al. (2010) found children to outperform adolescents with regard to strategic self-presentation. If self-presentation relies crucially on motivation, then highly motivated children may be equally strategic or even more strategic compared to poorly motivated adolescents. In the present study we further explored the differences in self-presentation between children and adolescents with ASD. We aimed to (a) replicate previous research findings on self-presenting in ASD within a larger sample and (b) examine the potential role of perspective taking skills and social motivation in self-presentation.

In keeping with previous procedures, we tested self-presentation abilities in both real and hypothetical contexts. In the real life context, participants with and without an ASD diagnosis presented themselves to an interviewer in two consecutive conditions: (1) a baseline condition without an incentive, and (2) a self-promotion condition with the possible prospect of entering a prize-winning game. A more positive self-description in the self-promotion condition compared to baseline reflects the fundamental ability to adjust one's self-presentation to reach a desired goal (in this case a prize-winning game). A positive self-presentation is considered strategic when those personal characteristics are stressed that increase the likelihood that the incentive will be obtained. In line with previous findings we expected that children and adolescents with ASD would increase their positive self-statements in the self-promotion condition, but would use fewer strategic self-statements than the comparison group. In the hypothetical context, all participants described how they would introduce themselves in a self-promotion situation. Again, we hypothesized that participants with ASD would be less strategic than the comparison group. Finally, we assessed children's ability to take others' perspectives with a set of complex social stories and we asked parents to rate their child's social motivation. Social motivation was defined as a preference to be in the company of others rather than being alone. We expected children's perspective taking and social motivation to be positively associated with their ability to present themselves strategically to an audience, both in the group with and without ASD.

Methods

Participants

In total 214 children and adolescents (183 boys; 31 girls) with an autism spectrum disorder (ASD) and a normal intellectual ability participated in this study. These participants were recruited via a specialized school that only admitted students with a clinical diagnosis of ASD and a normal intellectual ability. All children were diagnosed by an independent psychiatrist/psychologist prior to the current study according to DSM-IV-TR criteria (APA 2000). As a comparison group, 73 children and adolescents (62 boys; 11 girls) with a typical development were recruited via regular primary and secondary schools.

Within the ASD group, 82 participants (38 %) were excluded from the final analysis due to a receptive verbal IQ-score below 70 based on the Peabody Picture Vocabulary Test-III-NL (Dunn and Dunn 2004; $n = 4$), incomplete data of children's self-presentation ($n = 11$), receptive verbal IQ ($n = 6$), Theory of Mind ($n = 9$) or social motivation ($n = 41$), or an unsuccessful task manipulation as indicated by a lack of motivation to participate in a prize-winning game ($n = 11$). Participants with ASD who were included in the final analysis had a significantly higher receptive verbal IQ compared to their excluded counterparts (included: 105.9; excluded: 99.5; $t(206) = 3.34$, $p = .001$), but groups were comparable

with regard to age and parent-reported autistic symptom ratings on the Social Responsiveness Scale (Constantino and Gruber 2007; p's $> .10$). Within the comparison group, 31 participants (32 %) were excluded from the final analysis due to incomplete data of self-presentation (n = 3), receptive verbal IQ (n = 3), Theory of Mind (n = 5) or social motivation (n = 13), a score of 70 or higher on the Social Responsiveness Scale (SRS; n = 4), or an unsuccessful task manipulation (n = 4). Included participants in the comparison group did not differ from their excluded peers with regard to age, receptive verbal IQ and SRS score (all p's $> .10$). Thus, in the final analyses the self-presentation abilities of 132 participants (115 boys; 17 girls) with a clinical diagnosis of either autism (n = 24), Asperger's syndrome (n = 20) or PDD-NOS (n = 88) were compared to those of 41 peers without ASD (38 boys; 3 girls). To allow for a direct comparison with previous findings of Scheeren et al. (2010), we created two different age groups: a children's group younger than 12.0 years and a group of adolescents older than 12.0 years. Separate analyses for the child and adolescent groups revealed that children with ASD had a significantly lower receptive verbal IQ compared to their TD peers, whereas adolescents with ASD had a significantly higher receptive verbal IQ compared to the TD adolescents (see Table 1). Because receptive verbal IQ may play a role in the performance on a verbal task, we decided to add receptive verbal IQ as a covariate in the analyses. Furthermore, as would be expected, parents of a child/adolescent with ASD reported significantly more autistic symptoms on the SRS compared to parents of a typically developing child/adolescent (see Table 1). A small number of participants with ASD did obtain rather low SRS scores (<60), indicating that parents did not observe as many autistic symptoms in their child's behavior in the past six months. The older age of these participants (67 % were adolescents) might explain their lower scores on the SRS. Some adolescents with ASD may have learned social skills or social rules by then.

Measures

Self-Presentation Task: Baseline Condition

At the start of the interview, the interviewer shortly introduced him/herself to the participant by saying: 'My name is …, I am … years old, and I live in …'. Then the interviewer asked: 'Can you also tell me something about yourself?' After the participant's initial response, the interviewer gave a second prompt: 'Can you tell me something more about yourself?' If the participant's response took longer than 2 min, the interviewer was instructed to kindly interrupt and to continue with the interview.

Self-Presentation Task: Self-Promotion Condition

Following the self-presentation task used by Begeer et al. (2008) and Scheeren et al. (2010), a prize-winning game was introduced to raise participants' motivation to self-promote. The interviewer said 'A couple of children who participate in this study can enter a game where you win lots of cool prizes. To determine who should be picked for this game with prizes, I ask everyone to tell me something about him/herself. I will write everything down that you tell me, so we can reread it later and decide which children should be selected for the game with prizes. So, can you tell me something about yourself?' After the participant's initial answer the interviewer asked: 'Can you tell me something more about yourself?' To check whether the participant was sufficiently motivated to be selected for the

Table 1 Descriptive statistics for the group with ASD and the typically developing (TD) comparison group

Child variables	Group with ASD				Comparison group				Group difference (ASD–TD)		Age group difference (Child–Adol)	
	Children (n = 44)		Adolescents (n = 88)		Children (n = 21)		Adolescents (n = 20)		C	A	ASD	TD
	M (SD)	Range	*M* (SD)	Range	*M* (SD)	Range	*M* (SD)	Range	*Sig.* (*p*)	*Sig.* (*p*)	*Sig.* (*p*)	*Sig.* (*p*)
Age (in years)	10.2 (1.36)	6.9–11.9	15.2 (1.79)	12.1–18.8	9.8 (1.64)	6.0–11.9	14.0 (1.28)	12.5–16.8	.26	.00	<.001	<.001
Gender (boy; girl)	38; 6		77; 11		21; 0		17; 3		.08	.76	.85	.07
Receptive verbal IQ	104.1 (12.59)	72–127	106.8 (12.46)	76–132	112.0 (9.08)	99–130	99.4 (8.13)	85–125	.01	.00	.25	<.001
SRS score	83.3 (21.66)	36–126	78.9 (23.20)	23–133	31.5 (14.46)	13–59	32.5 (10.72)	19–63	<.001	<.001	.30	.82

C children, *A* adolescents, *SRS* social responsiveness scale

game, each participant was asked to rate how much fun he/she thought it would be to enter the game on a five-point scale ranging from 0 (no fun at all) to 4 (a lot of fun).

Hypothetical Self-Promotion Task

The hypothetical self-promotion task was partly modeled after the self-promotion condition used in the interview. In both tasks the participant (a) presents him/herself to an unknown adult, (b) a non-social incentive is offered, and (c) the selection criteria to obtain the incentive are only vaguely specified. In the hypothetical self-promotion task the interviewer reads the following vignette out loud to the participant: 'Imagine that you have new neighbors. You have heard that your new neighbors are looking for someone to do some small chores in and around the house and they are willing to pay a lot of money for it. You can think of lots of nice things to spend that money. Now, you meet your neighbor for the first time and he/she introduces him/herself to you. What would you tell him/her about yourself?'

Emotionality Activity Sociability Temperament Survey (EAS)

The EAS (Buss and Plomin 1984) is a 20-item parental temperament questionnaire consisting of four subscales: emotionality (e.g., 'Child gets easily upset'), activity (e.g., 'Child is always on the go'), sociability (e.g., 'Child likes to be with people') and shyness (e.g., 'Child takes long time to warm up to people'). In this study we will only discuss the results of the sociability scale, which we used as an index of general social motivation. This scale consists of five statements that can be answered on a 5-point scale ranging from 1 (not at all descriptive of my child) to 5 (very well descriptive of my child). A higher score indicates a stronger preference to be among others rather than being alone. Average Cronbach's alpha of the EAS scales was .78 in a Dutch elementary school sample, which is acceptable given the low number of items in each scale (Boer and Westenberg 1994).

Advanced Theory of Mind task

The advanced Theory of Mind task assesses participants' perspective taking and consists of five social stories (for a more detailed description, please see Scheeren et al. 2013). After a story is read out loud to the participant, a question follows about the protagonist's mental state (e.g., intention, belief, emotion). Each of the five mental state questions is awarded one point (correct) or zero points (incorrect or 'don't know') and the results add up to a total score of 0–5. Interrater reliability of the mental state questions was moderate to very good (20 % of the data were coded by two individuals), with kappa's ranging from .57 to 1.00.

Procedure

Parents of all participants and participants of 12 years and older gave their informed consent to enter the study. Participants were tested individually at school by a trained interviewer (typically a psychology or medical student) as part of a large study on social and empathic abilities of children with ASD. The baseline condition of the self-presentation task was presented right at the start of the interview. Shortly after, the advanced Theory of Mind task was administered. The Theory of Mind task took about 20 min. After another 40 min of testing the interviewer introduced the self-promotion condition (prize-winning game), which was followed up in 5 min by the hypothetical self-promotion task. After a child's participation, parents would receive a booklet of questionnaires about their child's functioning. When the entire study was completed, participants entered a lottery game created by the researchers.

Coding

Coders who were blind to participants' group status coded all self-statements (sentences with 'I' as grammatical subject or other self-referring statement) positive, neutral, or negative. Positive self-statements included references to positive affect ('I like basketball'), abilities ('I can make nice drawings'), or socially desirable attributes ('I am nice to other children'). Each positive self-statement was further coded as strategic (i.e., enhancing the chances of receiving the incentive) or non-strategic (other). In the self-presentation to the interviewer, strategic statements were always game-related ('I like playing video games'). If the participant made a strategic statement without referring to the self ('Video games are fun'), this would also be coded as a strategic statement. In the hypothetical self-promotion task, a strategic statement was always chore-related ('I would like to do some chores'). We established a moderate to very good interrater reliability in a previous study with the same coding protocol and the same coders (Scheeren et al. 2010).

Results

Self-Presentation Task

Those participants who rated the prize-winning game as 'no fun' were excluded from the analyses, because we assumed they would not be sufficiently motivated to make a positive and strategic self-presentation. Therefore, 11

participants with ASD (3 children and 8 adolescents) and 4 participants from the comparison group (2 children and 2 adolescents) were excluded from the analyses (see also Participants section). The fun ratings in the remaining participants ranged between 'fun' (2) to 'a lot of fun' (4). The group with ASD reported equally high fun ratings as the TD group, both at child ($\chi^2(2) = 1.13$, $p = .57$) and adolescent level ($\chi^2(2) = 2.50$, $p = .29$).

Because the number of self-statements varied considerably between participants (e.g., number of neutral self-statements in the baseline condition ranged between 1 and 13), we calculated the *proportion* of positive strategic self-statements of the total number of expressed self-statements (positive, neutral and negative self-statements). See Table 2 for means and SDs of the main outcome variables of the self-presentation task. First, to check whether the basic task manipulation of the self-presentation task (adding the incentive of a prize-winning game) was successful, the proportion of positive self-statements in the self-promotion condition was compared to that expressed during baseline. In a MANOVA, Group (ASD vs. TD) and Age Group (younger vs. older) were entered as between subject factors and Condition (baseline vs. self-promotion) as a within subject factor. Indeed, participants expressed significantly more positive self-statements in the self-promotion condition (38 %) compared to baseline [12 %; $F(1, 169) = 89.18$, $p < .001$, partial eta squared = .35]. Also, a Group × Age group × Condition effect was found [$F(1, 169) = 4.67$, $p < .05$, partial eta squared = .03]. Post-hoc comparisons indicated that within the younger groups, children with ASD increased less in positive self-statements from baseline to self-promotion condition compared to their TD peers [$F(1, 63) = 5.41$, $p = .02$, partial eta squared = .08]. This Group × Condition interaction was not found among the adolescents, indicating equal condition effects in both groups.

Possible group differences in strategic self-statements were examined with a MANOVA with Group (ASD vs. TD) and Age Group (younger vs. older) as between subject factors, Strategy (strategic vs. non-strategic) as within subject factor, and positive self-statements as dependent variable. No main effect of Strategy was found [$F(1, 169) = 1.78$, $p = .18$, partial eta squared = .01], but a three-way interaction effect [$F(1, 169) = 5.32$, $p < .05$, partial eta squared = .03] was followed up by separate MANOVA's for each Age group and each Group. Within the younger age group, the participants with ASD showed the same distribution of strategic versus non-strategic self-statements as TD peers [$F(1, 63) = 1.82$, $p = .18$, partial eta squared = .03]. Within the older age group, there was a trend for a Group × Strategy interaction [$F(1, 106) = 3.65$, $p = .06$, partial eta squared = .03]. Adolescents with ASD tended to mention fewer strategic self-statements (14 %) compared to TD adolescents (24 %; $t(106) = 1.98$, $p = .05$). Separate MANOVA's for each Group showed a significant Age group × Strategy interaction only within the group with ASD [$F(1, 130) = 6.25$, $p < .05$, partial eta squared = .05]. Adolescents with ASD also mentioned significantly fewer strategic self-statements (14 %) compared to the children with ASD [29 %; $t(130) = 3.37$, $p = .001$].

Because groups differed in receptive verbal IQ, we repeated the main analysis with receptive verbal IQ as a covariate. Results remained largely the same, except that we now found a trend for a Group × Strategy interaction in the younger age group [$F(1, 62) = 3.09$, $p = .08$, partial eta squared = .05]. Children with ASD tended to report even more strategic self-statements than their TD peers [$F(1, 62) = 4.02$, $p = .05$, partial eta squared = .06]. Furthermore, the smaller proportion of strategic self-statements reported by adolescents with ASD compared to TD adolescents was significant after adding receptive verbal IQ as a covariate [$F(1, 105) = 2.88$, $p < .05$, partial eta squared = .03].

Finally, to examine a potential developmental trend of declining strategic self-presentation in ASD we also

Table 2 Main outcome variables for the group with ASD and the typically developing comparison group

Condition/task	Type of positive self-statement	Group with ASD		Comparison group	
		Children (n = 44) *M* (SD)	Adolescents (n = 88) *M* (SD)	Children (n = 21) *M* (SD)	Adolescents (n = 20) *M* (SD)
Baseline condition	Strategic	.03 (.09)	.05 (.11)	.06 (.13)	.07 (.11)
	Non-strategic	.05 (.11)	.06 (.12)	.11 (.16)	.04 (.08)
Self-promotion condition	Strategic	.29 (.34)	.14 (.18)	.17 (.20)	.24 (.27)
	Non-strategic	.17 (.22)	.19 (.24)	.18 (.17)	.13 (.13)
Hypothetical self-promotion	Strategic	.40 (.45)	.33 (36)	.21 (.34)	.45 (.31)
	Non-strategic	.05 (.13)	.06 (.19)	.06 (.16)	.06 (.12)

Each score is the proportion of a particular type of self-statement compared to the total number of self-statements expressed in that condition or task

performed a hierarchical regression analysis where we entered age as a continuous predictor of the strategic self-presentation scores, after controlling for verbal IQ. In the case of both TD children and TD adolescents, age did not significantly add explained variance in strategic self-statements (TD children: $\Delta R^2 = .03$; $\beta = -.16$; $p = .49$; TD adolescents: $\Delta R^2 = .02$; $\beta = -.16$; $p = .57$). Similarly, for the children with ASD, age also did not add explained variance to the model ($\Delta R^2 = .00$; $\beta = .00$; $p = .99$). However, within the group of adolescents with ASD, age did predict variance in strategic self-statements ($\Delta R^2 = .07$; $\beta = -.26$; $p = .02$). Specifically, older adolescents with ASD tended to mention even fewer strategic self-statements than younger adolescents with ASD.

Hypothetical Self-Promotion Task

See Table 2 for means and SD's of the main outcome variables of the hypothetical self-promotion task. We ran a MANOVA on the positive self-statements mentioned in the hypothetical self-promotion task. Group and Age group were entered as between subject variables and Strategy (strategic vs. non-strategic) as within subject variable. A three-way interaction effect ($F(1, 153) = 3.86$, $p = .05$, partial eta squared = .03) was followed up by separate MANOVA's for each Age group and Group. In both age groups, participants with ASD showed the same distribution of strategic versus non-strategic self-statements as the TD group (children: $F(1, 53) = 2.04$, $p = .16$, partial eta squared = .04) adolescents: $F(1, 100) = 1.60$, $p = .21$, partial eta squared = .02). Hence, based on the hypothetical self-promotion task no support was found for a reduced strategic self-presentation in the ASD group. Only within the TD group, a trend for an Age group × Strategy interaction was found ($F(1, 36) = 3.94$, $p = .06$, partial eta squared = .10), because TD adolescents expressed significantly more strategic self-statements (45 %) than TD children (21 %; $t(36) = 2.28$, $p < .05$). In contrast, adolescents with ASD did not differ in their use of strategic self-statements (33 %) compared to children with ASD (40 %; $t(117) = .85$, $p = .40$). When the analyses were repeated with receptive verbal IQ as a covariate, all results remained the same except for the difference in strategic self-statements between TD adolescents and TD children, which became significant ($F(1, 35) = 4.25$, $p < .05$, partial eta squared = .11).

Perspective Taking and Social Motivation

ANCOVA's were used to test for possible group differences in children's perspective taking and social motivation. After controlling for age and verbal ability (both factors have been positively associated with performance on Theory of Mind tasks), participants with ASD showed similar perspective taking ability as indicated by their comparable performances on the advanced Theory of Mind stories (ASD: $M = 3.6$, $SD = 1.18$; TD: $M = 3.1$, $SD = 1.07$; $F(1, 172) = 1.11$, $p = .29$, partial eta squared = .01). For a complete discussion of the Theory of Mind results, please see Scheeren et al. (2013). With regard to social motivation, parents with a child with ASD reported that their child had a significantly weaker preference to be in the company of others ($M = 14.9$, $SD = 3.61$) compared to parents with a TD child ($M = 19.5$, $SD = 2.90$; $F(1, 172) = 46.96$, $p < .001$, partial eta squared = .22).

We performed a hierarchical linear regression analysis to check whether the reduced strategic self-presentation during the self-promotion condition of the group of adolescents with ASD was (partly) mediated by their reduced social motivation. After controlling for group status, social motivation was entered as a second predictor in the regression model. Adding social motivation did not decrease the Beta of the group status variable, nor did it significantly increase the explained variance of the model (see Table 3). Hence, the association between group status and strategic self-presentation in the adolescent group does not appear to be mediated by a reduced social motivation. An additional Sobel test confirmed this conclusion.

Symptom Severity and Self-Presentation

We performed additional exploratory analyses to check whether ASD symptom severity (as operationalized by the SRS) was associated with our primary outcome measure: children's strategic self-statements in the self-promotion condition. In the group with ASD, symptom severity was not significantly correlated with strategic self-statements during self-promotion (Pearson's $r = .00$, $p = .98$). Also, we examined whether the tendency for children with ASD to have circumscribed interests and show rigid behavior was associated with poorer self-presentation. It is plausible that a lack of flexibility lowers a strategic presentation of

Table 3 Results of a multiple hierarchical regression analysis in the group of adolescents with strategic self-statements in the self-promotion condition as outcome variable

Predictors	Strategic self-statements				
	ΔR^2	*B*	SE	β	*Sig.*
Step 1	.04				
Group		−.10	.05	−.19	.05
Step 2	.00				
Group		−.11	.06	−.22	.05
Social motivation		−.00	.01	−.06	.62
Total R^2	.04				

the self. However, we found an increase in positive self-statements from baseline to self-promotion conditions in all groups of participants. Even the least strategic group, the adolescents with ASD, increased from 11 to 33 % of positive self-statements (as a percentage of the total number of self-statements). This indicates that participants with ASD are not merely repeating the same information that they reported during baseline. Furthermore, the subscale of the SRS 'autistic mannerisms' was not significantly correlated with strategic self-statements during self-promotion (Pearson's $r = -.04$, $p = .75$).

Discussion

We compared self-presentation abilities of children and adolescents with autism spectrum disorders (ASD) to those of typically developing (TD) peers in real and hypothetical social contexts and examined the potential link with children's perspective taking and social motivation. As expected, participants with and without ASD increased their positive self-statements when they knew they might be selected for a prize-winning game. Counter to previous findings (Begeer et al. 2008; Scheeren et al. 2010), we did not find uniform support for a reduced strategic self-presentation in ASD. Children with ASD (6–12 years) equally expressed strategic self-statements during self-promoting as their TD peers, both in real and hypothetical social contexts. After controlling for verbal IQ differences, children with ASD showed a tendency to be even more strategic than the TD group in the real social context. Adolescents with and without ASD (12–19 years) did not differ in their performances on the hypothetical self-promotion task, but adolescents with ASD tended to be less strategic in the real context compared to TD adolescents. After controlling for verbal IQ differences, this group difference was significant. Although participants with ASD were less socially motivated than TD participants according to their parents, this reduced social motivation could not explain the reduced strategic self-presentation of the adolescents with ASD.

The unexpected finding that school-aged children with ASD were equally strategic or even more strategic than TD peers during self-promoting suggests that, once an incentive is added, children with ASD appear to be competent in presenting themselves. This conclusion stands in clear contrast with the limitations in strategic self-presentation of children with ASD found in previous studies (Begeer et al. 2008; Scheeren et al. 2010). Differences in outcome might stem from a dependency on imaginative abilities in the Begeer et al. study (2008) and the relatively small sample size in the Scheeren et al. study (2010). Children with ASD in the present study might have been equally or perhaps even more motivated to obtain the incentive (participate in a game with prizes) compared to their TD peers. Indeed, their estimations of how much fun they thought the game would be were comparable to those of the TD peer group. However, additional exploratory analyses did not reveal a significant association between participants' fun estimations and their degree of strategic self-presentation during self-promotion (ASD group: $r = .07$, $p = .23$; TD group: $r = .10$, $p = .56$). An alternative explanation for the surprisingly good outcomes of the children with ASD is that many of them have received social skills training. Indeed, when we asked parents to report on the type of treatment their child had received, we found that 63 % of the participants with ASD in the current sample had received a programme of social skills training. However, social skills training cannot fully explain the strategic self-presentation by the young group with ASD, because the older group with ASD also received (even more) social skills training and they were actually less strategic in promoting themselves.

Performances of the adolescent group with ASD matches earlier findings of reduced strategic self-presentation in ASD. During typical adolescence, peer relations become increasingly important and complex (Carter et al. 2014) and reputation management becomes important as well. Adolescents with ASD may fall behind their TD peers in their reputation management abilities, because social expectations and demands may exceed their development of social skills (Rosenthal et al. 2013). In the Scheeren et al. study (2010), some adolescents with ASD uttered reluctance to change the way they presented themselves to an audience just to please the audience's preferences or fit the audience's frame of reference. This suggests a role for motivation rather than ability. Yet, in the present study, adolescents with and without ASD reported equal motivation to participate in the prize-winning game. We also examined the role of perspective taking abilities and social motivation. On a group level, participants with ASD did not show perspective taking problems compared to the TD group (for an elaborate discussion see Scheeren et al. 2013). Participants with ASD did show a significantly reduced preference for social engagements as reported by their parents, which corresponds well with previous findings and the social motivation theory (Chevallier et al. 2012a, b; Whitehouse et al. 2009). However, general social motivation of the adolescents with ASD was unrelated to their strategic self-presentation. Thus, general social motivation does not appear to affect the way they present themselves to others. Nonetheless, it may still be that only a specific aspect of social motivation, such as caring about social evaluations of peers, is involved in self-presenting. Social motivation as we operationalized it in this study may not cover this particular aspect.

Based on cross-sectional data across a broad age range, self-presentation in ASD does not seem to follow the usual pattern of development. During a conversation with an interviewer, adolescents with ASD were substantially less strategic in their self-presentation than their younger counterparts, and analyses revealed a developmental decline in strategic self-presentation *within* the adolescent group. Also, counter to the age effect found in the TD group, adolescents with ASD did not use more strategic self-statements in the hypothetical task compared to children. Thus, while stability or increases in strategic self-presentation might characterize normal development, we may actually observe reductions in strategic self-presentation in ASD. Poor self-presentation may have a large impact on the daily lives of individuals with ASD. Self-presentation is not only required in the social realm (making and maintaining friendships), but is also required for a successful integration in the community such as finding a job or an accommodation (think of an interview with a future employer or landlord). It is known that individuals with ASD, despite adequate intellectual abilities, find it difficult to find a paid job or live independently (Howlin and Moss 2012). Poor community integration not only poses a large economic burden on society, but also puts the individual with ASD at risk for social alienation, reduced feelings of autonomy, and reduced quality of life. Self-presentation may therefore be an important topic for practitioners to focus on. Further longitudinal research is warranted to establish the role of age and development in self-presentation.

Some additional limitations of the present study may also be fruitfully addressed in further research. First of all, we relied on adult interviewers but children and adolescents are likely to present themselves differently to an age mate than to an unfamiliar adult. Increased similarity between participant and interviewer possibly makes it easier for participants to identify themselves with the interviewer's intentions and wishes (Preston and de Waal 2002), and may therefore increase the chances of a successful strategic self-presentation. Based on the literature, it is expected that typically developing children will be more strategic in their interaction with a peer than an adult due to increased social motivation or increased similarity (Preston and de Waal 2002; Saarni 2001), and this peer effect may be less pronounced among children and adolescents with HFASD (Hauck et al. 1995; Jackson et al. 2003). Thus, although we cannot generalize the present findings to other social contexts with different conversation partners, we believe that systematic variation of the interviewer status in future studies would further enhance our understanding of the self-presentation profile of youths with ASD.

Moreover, our operationalization of children's social motivation was broad (i.e., preference to be in the company of others) and based on parents' perspective. Even though parent reports of children's behavior are generally reliable (e.g., Dirks and Boyle 2010), meaningful (Verhulst et al. 1994) and diagnostically relevant (Ozonoff et al. 2009), it may be difficult for parents to report on the internal motives of their child. Future studies on the role of children's social motivation in self-presentation or reputation management should therefore ideally include both broad and narrow operationalizations of social motivation and different informants (parent and child) or methods (experiment and questionnaires). This would help researchers to determine the extent to which aspects of social motivation play a role in children's self-presentation.

Overall, the present study offers valuable new evidence on the social profile of children and adolescents on the autistic spectrum. With a large sample, we have been able to illuminate a complex pattern of self-presentational behavior that varies by age. Of particular interest is the suggestion that even if children with ASD can exhibit strategic self-presentational behavior, perhaps facilitated by experiences of social skills training, this tendency is *less* apparent in adolescents who in general have been exposed to even more such training. We believe this sets an important agenda for research that can further clarify the interplay of social, cognitive, and motivational factors in the self-presentational profile of individuals with ASD through the life course. This work would, in turn, provide a robust foundation for targeted intervention work that addresses the nuances of everyday social interaction.

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