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Autistic People Do Enhance Their Selves

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Abstract

We investigated whether autistic people are less prone to self-enhance (i.e., portray themselves in socially desirable ways). Autistic ($N = 130$) and non-autistic ($N = 130$) participants first responded to social desirability items using the standard instruction to endorse each item as true or false about themselves. Then, all participants read an explanation of what social desirability items measure before responding again to the social desirability items. Self-enhancement was operationalized as participants endorsing more social desirability items before learning the explanation than after. All participants endorsed significantly more social desirability items before learning the explanation than after, $F_{\text{subjects}}(1,258) = 57.73, p < .001, \eta^2_p = .183$; $F_{\text{items}}(1,34) = 43.04, p < .001, \eta^2_p = .559$). However, autistic and non-autistic participants did not significantly differ in how many items they endorsed, either before or after reading the explanation, indicating that autistic people are as susceptible to social desirability and self-enhancement as non-autistic people are. Our results challenge the claim that autistic people are immune to reputation management.

Keywords

autism; personality; social desirability; self-enhancement

“When normal persons take personality questionnaires,” Ellis (1946, p. 386) noted several decades ago, “there is a general over-estimation, or self-halo, effect.” In current day, psychologists refer to this “self-halo” as “self-enhancement,” which Krueger (1998, p. 505) defines as “the tendency to describe oneself more positively than a normative criterion would predict.” Individuals differ in their tendency toward self-enhancement (Asendorpf & Ostendorf, 1998; John & Robins, 1994), as do groups. For example, on average, Westerners describe themselves more positively on personality questionnaires than do Easterners (Heine

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Declaration of Conflicting Interests

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Data and Material Availability

All data and stimuli are available in the Open Science Framework (OSF) repository (<https://osf.io/aj5g5>).

& Hamamura, 2007), and Marketing majors describe themselves more positively on behavior questionnaires than do Finance majors (Schlee, Curren, Harich, & Kiesler, 2007).

In this study, we examined group differences in self-enhancement. The two groups we studied were autistic¹ and non-autistic adults. In what follows, first, we describe three previous approaches to measuring self-enhancement in non-autistic populations and those three approaches' limitations; then, we review assumptions about autistic people's self-enhancement and the limitations of those assumptions; finally, we describe how we overcame previous limitations to assess self-enhancement in autistic and non-autistic people.

Approaches to Self-Enhancement

More than two decades ago, Colvin, Block, and Funder (1995, p. 1153) lamented that “no single, perfect criterion for self-enhancement exists,” and that challenge has remained (Dufner, Gebauer, Sedikides, & Denissen, 2019; Humberg et al., 2018; Walker & Keller, 2019). At least three methods have been tried. In one, participants rate their own personality or behavior, and ratings about each participant are also obtained from a spouse or friend. For example, in Pauls and Stemmler's (2003) study, college students rated their Big Five personality traits, and each student's personality was also rated by one of their close friends and one of their brief acquaintances. Self-enhancement was operationalized as participants rating themselves more flatteringly than their friends or acquaintances did (H. Kim, Di Domenico, & Connelly, 2019).

Krueger (1998) calls this method of assessing self-enhancement “the common target paradigm”; Kwan, Kuang, John, and Robins (2008) call it “self-insight”; and Kurt and Paulhus (2008) call it “criterion discrepancy.” Assessing the criterion validity of self-report via knowledgeable others holds a long tradition in clinical assessment. However, assessing traits in minority group members (e.g., disabled participants) using as criteria the judgments of majority group members (e.g., non-disabled spouses or parents) can complicate rather than ensure validity. Measuring self-enhancement via criterion discrepancy can also be complicated by the need to obtain multiple informants (e.g., nearly a fourth of the college students in Pauls and Stemmler's study could not secure ratings from a close friend and acquaintance, despite the activity fulfilling a course requirement).

In another method of measuring self-enhancement, participant first rate their own personality, behavior, or performance and then rate their peers on the same personality instrument, behavior scales, or tasks. For example, in Alicke's (1985) study, college students rated themselves on a set of personality adjectives and then rated the “average college student” on the same adjectives. Krueger (1998) calls this method “the common rater paradigm”; Kurt and Paulhus (2008) and Kwan et al. (2008) call it a metric of “social comparison.” Self-enhancement is operationalized as participants rating themselves more flatteringly than they rate their average peers, often resulting in a “better-than-average” effect (Dunning, Meyerowitz, & Holzberg, 1989; Kruger, 1999).

¹We use identity-first language (e.g., autistic people, non-autistic people) rather than person-first language (e.g., people with autism, people without autism) because identity-first language is preferred by autistic people (Kenny et al., 2015), is recommended by APA (Dunn & Andrews, 2015), and is less likely to contribute to stigma (Gernsbacher, 2017).

One challenge when using the social comparison method is variability in who is considered an average peer. The more concretely participants estimate their comparator, from the average college student to another participant in the experiment to another participant in the experiment with whom the estimator has had direct contact, the less robust the “better-than-average” effect (Alicke, Klotz, Breitenbecher, Yurak, & Vredenburg, 1995). In addition, the less socially desirable the traits, behaviors, or achievements, the less robust the measure of self-enhancement (Alicke, 1985; Asendorpf & Ostendorf, 1998; Brown, 1986; 2012; Dunning et al., 1989; Taylor, Lerner, Sherman, Sage, & McDowell, 2003).

Therefore, a third method of measuring self-enhancement draws directly on social desirability. Krueger’s (1998) “social normative paradigm” collects participants’ ratings of themselves on a set of traits along with participants’ ratings of each trait’s social desirability (“how desirable or undesirable do you feel it is for people to be or act this way?”). Because the social normative method neither requires obtaining knowledgeable others nor relies on estimating average others, it can more easily and accurately capture self-enhancement than either the criterion discrepancy method (participants also rated by knowledgeable others) or the social comparison method (participants also rating average others) — particularly when other participants’ ratings of social desirability are incorporated (see also Sinha & Krueger, 1998). The method of measuring self-enhancement used in this article is also based on social desirability.

Autism and Self-Enhancement

Some researchers assume that autistic people are less prone to self-enhancement (C. D. Frith & Frith, 2008; U. Frith & Frith, 2011; Lombardo & Baron-Cohen, 2011). In fact, some researchers suggest not only that autistic people are immune to self-enhancement (Izuma, Matsumoto, Camerer, & Adolphs, 2011) but also non-autistic people with more autistic traits are less prone to self-enhancement (Jameel, Vyas, Bellesi, Roberts, & Channon, 2014).

Why do some researchers assume autistic people are less prone to self-enhancement? The assumption usually derives from the empirically weak but highly popular misconception that autistic people lack a “theory of mind” — that they fail to understand that they have a mind, much less that other people have a mind (Gernsbacher & Frymiare, 2005; Gernsbacher & Pripas-Kapit, 2012; Gernsbacher & Yergeau, 2019). For example, Schriber, Robins, and Solomon (2014, p. 115) motivated their examination of self-enhancement in autistic participants by reference to autistic people’s “Theory of Mind deficits,” along with putative “deficits in basic self-awareness.”

“Counter to the prediction of poor self-insight,” Schriber et al. (2014, p. 121, Study 2) found that autistic participants rated several of their personality traits more flatteringly than their parents rated those traits, suggesting that autistic participants are susceptible to self-enhancement. However, it is well known that non-autistic parents poorly estimate their autistic offspring’s traits and abilities (Gernsbacher, 2015). Compared with objective assessments, non-autistic parents underestimate their autistic offspring’s intelligence (Chandler, Howlin, Simonoff, Kennedy, & Baird, 2016), intentionality (Fong 1991), social skills (Faja & Dawson, 2015), communication abilities (Gernsbacher, Morson, & Grace,

2015), and attentional control (McLean, Harrison, Zimak, Joseph, & Morrow, 2014) and overestimate their anxiety (Bitsika, Sharpley, Andronicos, & Agnew, 2015), fearfulness (Sterling et al., 2013), and emotional reactivity (Mertens, Zane, Neumeyer, & Grossman, 2017). Even when non-autistic parents rate their autistic offspring's autistic traits, they often fail to agree with objective assessments (see Gernsbacher, Stevenson, & Dern, 2017, for a review).

Non-autistic parents' well-documented underestimation of their autistic offspring's positive traits and overestimation of their negative traits raise the following question: When Schriber et al.'s (2014) autistic participants rated their own personality traits more flatteringly than did their parents, was that evidence of autistic offspring self-enhancing or evidence of non-autistic parents other-diminishing? One hint comes from the fact that, compared to clinician's ratings, the non-autistic parents in Schriber et al.'s (2014) study also poorly estimated their autistic offspring's autistic traits (R. Schriber, data on Open Science Framework [OSF]).

Furthermore, in Schriber et al.'s (2014) study, the non-autistic, rather than the autistic, offspring rated their personality traits less, rather than more, flatteringly than their parents did, suggesting that non-autistic participants self-diminish, rather than self-enhance. But this odd finding, in addition to contradicting other studies, raises a question: Was it due to non-autistic offspring self-diminishing or non-autistic parents other-enhancing (as observed in other studies, e.g., Deimann & Kastner-Koller, 2011)? The method of measuring self-enhancement used in this article avoids these complications by assessing self-enhancement directly from autistic and non-autistic participants, rather than via their parents.

Autism and Social Desirability

Because social desirability, the desire to be viewed favorably by others, drives self-enhancement, the tendency to enhance self-descriptions in socially desirable ways (Alicke, 1985), three studies that have directly assessed autistic and non-autistic participants' susceptibility to social desirability are relevant (E. A. Cage, 2015; Dziobek et al., 2008; Izuma et al., 2011). In these studies, autistic and non-autistic participants completed Crowne and Marlowe's (1960) Social Desirability Scale, which assesses personality and behavior traits phrased in extremely desirable ways, for example, "I never resent being asked to return a favor." Endorsing a majority of social desirability items indicates a high level of social desirability. As with most psychological scales, some of the social desirability items are reverse-scored (e.g., "If I could get into a movie without paying and be sure I was not seen I would probably do it"), for which a lack of endorsement indicates higher social desirability.

In none of the three previous studies did the level of autistic participants' endorsement of social desirability items differ significantly from that of non-autistic participants. Therefore, these studies suggested that autistic participants are just as prone to social desirability as non-autistic participants. However, all three studies relied on small samples (E. A. Cage, 2015, $N = 20/19$; Dziobek et al., 2008, $N = 17/18$; Izuma et al., 2011, $N = 10/11$), and none were able to determine whether autistic or non-autistic participants self-enhanced their responses to the social desirability items. For example, participants might endorse the item

“I always try to practice what I preach” because they always do try to practice what they preach. As Wiggins (1973, p. 437) noted decades ago, social desirability items cannot distinguish between “saints” and “liars.” Our study overcame this limitation by measuring not only how autistic versus non-autistic participants responded to social desirability items but how much each group self-enhanced their responses to those social desirability items.

Overview of the Study

Autistic and non-autistic participants first responded to Crowne and Marlowe’s (1960) Social Desirability Scale with only the standard instruction to “read each statement and decide whether the statement is true or false about you.” Then, both autistic and non-autistic participants read an explanation of the Social Desirability Scale and our explanation for measuring it. After reading the explanation, participants responded again to the social desirability items; thus, we measured how many items participants endorsed before and after learning the explanation. We operationalized self-enhancement as participants endorsing more social desirability items before reading the explanation than after. Our primary interest was between-group differences in number of items participants endorsed; however, we also explored between-group differences in the level of endorsement of specific items.

Method

Materials and Procedure

Table 1 lists our experimental stimuli, which comprised all 33 items on Crowne and Marlowe’s (1960) Social Desirability Scale plus 2 additional items (“I would never try to get away with using pay-for-use Wi-Fi Internet access if I hadn’t actually paid for it,” added as a more contemporary assay, Stöber, 2001; Uziel, 2010; and “I always achieve the goals I set out for myself,” added as a more general assay). Some items were slightly modified for clarity. For example, “I can remember ‘playing sick’ to get out of something” was clarified as “I can remember pretending to be sick to get out of having to do something.”

All idioms were defined through web links (the content of which Table 1 illustrates with brackets). Each item was accompanied by the two response options traditionally used in the Social Desirability Scale, “true” and “false,” as well as “not applicable,” in case an item was outdated or an activity was inapplicable to the participants’ lives (e.g., driving long distances).

The items appeared in the original Social Desirability Scale’s order with the 2 additional items at the end. Prior to the first, before explanation, administration, participants read the following:

The next 35 items concern personal attitudes and actions. Read each statement and decide whether the statement is true or false about you. It’s best to go with your first judgment and not spend too long thinking about any one statement.

Prior to the second, after explanation, administration, participants read the following:

Now we will explain the origin of the items you just completed. In the 1950s, researchers began noticing that some people's desire to be seen in the best light possible was often a factor in how those people completed surveys. Regardless of what the survey was about, some people tended to respond in the way that was most flattering about themselves.

To investigate this phenomenon, two researchers, Douglas Crowne and David Marlowe, put together a group of survey items that represented attitudes and actions that are assumed to be either the "right thing to do" or the "wrong thing to do." But, in reality, most people can't or don't always do the right thing.

An example of this type of item is "I never hesitate to go out of my way to help someone." Most people would like to be seen as "never hesitating to help someone," but most everyone hesitates at least some time to go out of their way to help someone.

The survey items that the researchers, Crowne and Marlowe, put together are the ones you completed. Therefore, the purpose of the items you just completed is to assess whether people tend to respond in a way that is most flattering about themselves.

Now that we have explained the purpose for these items, we'd like for you to respond to each of the items again. It's okay if you give different responses to these items the second time than you gave the first time — and it's okay if you give the same responses to these items the second time as you gave the first time.

α Level

All analyses adopted an $\alpha = .001$ to protect against Type I error, given the high rate of false positives in autism research (Buxbaum et al., 2019).

Participants

Participants were recruited via the Gateway Project (<http://thegatewayproject.org>), which is an Internet-based research platform committed to inclusive, respectful, accessible, and relevant research with autistic and non-autistic adults. Gateway Project participants complete a 30-min Gateway Survey comprising demographic items (e.g., age, gender, and parental education) and the Autism-Spectrum Quotient (Baron-Cohen, Wheelwright, Skinner, Martin, & Clubley, 2001), which is a 50-item instrument that assesses autistic traits.

Autistic participants met or exceeded and non-autistic participants did not meet or exceed criteria on the Autism-Spectrum Quotient. Scores on the Autism-Spectrum Quotient were computed as a percentage because, in addition to the Autism-Spectrum Quotient response choices "definitely agree," "slightly agree," "slightly disagree," and "definitely disagree," participants were allowed to respond "do not wish to say" (although, to be selected for the study, participants were required to have responded to at least 85% of the Autism-Spectrum Quotient items with responses other than "do not wish to say"). Autistic participants agreed with at least 62% of the Autism-Spectrum Quotient items (i.e., scored 31 or higher on the 50 items, which is a common cutoff). Non-autistic participants agreed with 60% or fewer of the Autism-Spectrum Quotient items (i.e., scored 30 or lower on the 50 items).

All autistic participants had previously responded (during the Gateway Survey) to the statement “I consider myself to be on the autistic spectrum” (including Autistic Disorder, Asperger’s Disorder, and PDD-NOS) with either “Yes, and I have been formally diagnosed” or “Yes, but I have not been formally diagnosed.” The majority (71.54%) reported having been formally diagnosed, and, as described below, the results of the study replicated when autistic participants who were not formally diagnosed were excluded from analysis. All non-autistic participants had previously responded “no” to both the statement “I consider myself to be on the autistic spectrum” and the statement “I consider myself to have a disability.”

Several fidelity checks were used (Reips, 2002). To be included in the data set, participants had to (1) consistently record their birthdate (in month and year), gender, and sex; (2) consistently identify as autistic or non-autistic; (3) pass a seriousness check (i.e., agree with the statement “I completed this study to the best of my ability;” Aust, Diedenhofen, Ullrich, & Musch, 2013) on both the Gateway Survey and the current experiment; and (4) pass the fidelity checks in one, or if they participated in both, of Gernsbacher et al. (2017) experiments.

Data from 130 autistic and 130 non-autistic participants were analyzed. As Table 2 illustrates, autistic and non-autistic participants were matched on age, sex, gender, race, ethnicity, and parental education, but not country of residence. Because autistic women are usually underrepresented in research (and non-autistic women can also be underrepresented; A. M. Kim, Tingen, & Woodruff, 2010), we included equal numbers of autistic and non-autistic women and men. Sample size was appropriate for an α of .001, with 99.9% power, assuming Heine and Hamamura’s (2007) between-group effect size ($d = 0.84$), which was meta-analytically derived from nearly 100 two-group comparisons. Participants were compensated with a 1 in 25 chance to win a US\$25 Amazon gift certificate. To keep participants naive about the study’s hypotheses, the study was titled “Interaction Study,” and the set of social desirability items was referred to as “Attitudes and Actions I” before the participants read the explanation and “Attitudes and Actions II” after the explanation.

Ethics statement.—Participants gave informed consent, and the study was approved by and conducted in accordance with University of Wisconsin-Madison institutional review board (SE-2011–0422). In addition, the Gateway Council, which comprises autistic and non-autistic researchers, approved the study for its inclusivity, respectful perspective and language, accessibility, and relevance.

Results

Participant Analyses

Figure 1 illustrates the autistic and non-autistic participants’ percent endorsement of social desirability items. All participants endorsed significantly more social desirability items before learning the explanation (mean (M) = 43.47%, standard deviation (SD) = 16.40%) than after (M = 39.68%, SD = 17.59%; $F(1, 258) = 57.73$, $p < .001$, $\eta^2_p = .183$, 99% confidence interval [CI] of η^2_p [.084, .290]). Thus, the experiment successfully manipulated self-enhancement. Furthermore, replicating other studies (E. A. Cage, 2015; Dziobek et al.,

2008; Izuma et al., 2011), autistic and non-autistic participants did not significantly differ in the percentage of social desirability items they endorsed either before learning the explanation (autistic participants: $M = 41.93\%$, $SD = 15.11\%$; non-autistic participants: $M = 45.02\%$, $SD = 17.53\%$; $t(258) = -1.524$, $p = .129$, $d = -0.189$, 99% CI of $d[-0.509, 0.132]$) or after learning the explanation (autistic participants: $M = 38.39\%$, $SD = 15.84\%$; non-autistic participants: $M = 40.97\%$, $SD = 19.16\%$; $t(258) = -1.184$, $p = .238$, $d = -0.147$, 99% CI of $d[-0.467, 0.173]$). Therefore, these data demonstrate that autistic participants are as prone to self-enhancement as are non-autistic participants.

Only 20 autistic participants (15% of the autistic sample) and 26 non-autistic participants (20% of the non-autistic sample) endorsed fewer social desirability items before learning the explanation than after; these frequencies did not significantly differ between the two groups ($\chi^2(1) = 0.951$, $p = .330$, $d = 0.121$). As Figure 2 illustrates, members of both groups showed high reliability in their response to social desirability items before versus after learning the explanation (autistic participants: $r(128) = .902$, $p < .001$, 99.9% CI [.830, .944]; non-autistic participants: $r(128) = .881$, $p < .001$, 99.9% CI [.796, .932]; all participants: $r(258) = .890$, $p < .001$, 99.9% CI [.838, .925]). This high degree of test–retest reliability did not significantly differ between the two groups ($z = 0.793$, $p = .428$, $d = 0.099$) and allays concerns about the reliability of Crowne and Marlowe’s (1960) Social Desirability Scale (e.g., Uziel, 2010).

Exploratory analyses suggested that participants’ Autism-Spectrum Quotient scores were not significantly related to the percentage of social desirability items participants endorsed either before learning the explanation ($r(258) = -.137$, $p = .027$, 99.9% CI [-.330, .067]) or after ($r(258) = -.109$, $p = .081$, 99.9% CI [-.305, .096]). As illustrated in Figure 3, participants’ Autism-Spectrum Quotient scores were also not related to participants’ change in endorsement before versus after learning the explanation ($r(258) = -.042$, $p = .500$, 99.9% CI [-.242, .162]). Although exploratory, these correlations again demonstrate that degree of autistic traits is unrelated to tendencies toward both social desirability and self-enhancement.

All results replicated when the sample of autistic participants was limited to those with a formal autism diagnosis. For example, similar to the full sample, autistic participants with a formal diagnosis did not significantly differ from non-autistic participants in the percentage of social desirability items they endorsed either before learning the explanation ($t(221) = -1.230$, $p = .220$, $d = -0.167$, 99% CI of $d[-0.517, 0.183]$) or after ($t(221) = -0.857$, $p = .392$, $d = -0.116$, 99% CI of $d[-0.467, 0.233]$). But both participant groups, autistic participants with a formal diagnosis and non-autistic participants, endorsed significantly more social desirability items before learning the explanation ($M = 43.86\%$, $SD = 16.65\%$) than after ($M = 40.97\%$, $SD = 19.16\%$; $F(1,221) = 42.99$, $p < .001$, $\eta^2_p = .163$, 99% CI of $\eta^2_p [.062, .277]$).

Item Analyses

All results replicated when the social desirability items, rather than the participants, were treated as random effects (Clark, 1973; Judd, Westfall, & Kenny, 2012). The social desirability items elicited significantly more endorsement before participants learned the explanation than after ($F(1,34) = 43.04$, $p < .001$, $\eta^2_p = .559$, 99% CI of $\eta^2_p [.228, .729]$),

and the social desirability items did not elicit significantly more endorsement from autistic than non-autistic participants either before participants learned the explanation ($\kappa(34) = -1.436, p = .160, d = -0.147, 99\% \text{ CI of } d[-0.424, 0.125]$) or after ($\kappa(34) = -1.154, p < .256, d = -0.110, 99\% \text{ CI of } d[-0.365, 0.142]$).

As Table 1 illustrates, the social desirability items varied in the level of endorsement they elicited; however, no item elicited significantly less endorsement before participants learned the explanation than after (with $z > 3.291$ and $p < .001$). The social desirability items also showed high reliability across the two administrations (autistic participants: $\kappa(33) = .988, p < .001, 99.9\% \text{ CI } [.962, .996]$; non-autistic participants: $\kappa(33) = .980, p < .001, 99.9\% \text{ CI } [.937, .994]$; all participants: $\kappa(33) = .986, p < .001, 99.9\% \text{ CI } [.956, .996]$). This high degree of test-retest reliability did not significantly differ between the two groups ($z = 1.03, p = .303, d = 0.128$) and again allays concerns about the reliability of Crowne and Marlowe's (1960) scale.

Post hoc analyses highlighted several items that elicited a significantly different level of endorsement from autistic versus non-autistic participants (with $|z| > 3.291$ and $p < .001$), for example, "I would never try to get away with using pay-for-use Wi-Fi for Internet access if I hadn't actually paid for it" (which was endorsed by 62% of autistic participants but only 40% of non-autistic participants before learning the explanation) and "I have never believed that I was punished without justification" (endorsed by only 11% autistic participants vs. 29% non-autistic participants before explanation). The reverse-scored item "I sometimes gossip" evoked the largest between-group differences (endorsed by 47% and 52% of autistic participants before vs. after learning the explanation vs. 84% and 85% of non-autistic participants).

Discussion

Because people differ in their desire to be viewed favorably by others (social desirability) and their tendency to enhance self-descriptions in socially desirable ways (self-enhancement), we examined whether autistic people differ from non-autistic people in social desirability and self-enhancement. We found that autistic and non-autistic participants did not differ in their level of endorsement of social desirability items, either before they learned the explanation of the social desirability items or after. We also found that both groups of participants endorsed more social desirability items before learning the explanation than after. Thus, autistic people are as susceptible to social desirability and self-enhancement as are non-autistic people. Our study, therefore, demonstrates a viable way to measure self-enhancement in minority populations and challenges frequently held assumptions about reputation management in autistic people.

Measuring Self-Enhancement in Minority Populations

The approach to measuring self-enhancement used in this study capitalizes on the empirical and procedural strengths of previous approaches while avoiding their weaknesses. The approach avoids the pitfalls of comparing participants' self-ratings to ratings made about those participants by others. Obtaining ratings from others can be cumbersome, and relying on out-group members to accurately assess in-group members can be risky. Our approach

also eliminates the challenges of comparing participants' self-ratings to their ratings of average others, such as the average college student. The average-other approach is particularly problematic when participants are members of non-average groups (e.g., students at elite colleges or people with disabilities; Gernsbacher et al., 2017), confounding the assessment of self-enhancement (as illustrated in Pfeifer et al., 2013).

In addition to providing a viable way to measure self-enhancement in minority populations, our approach contributes to understanding the basis of self-enhancement. In previous decades, psychologists questioned whether the tendency to self-enhance arises “from conscious protection of sensitive personality areas” or “from unconscious protection of these sensitive areas” (Laslett & Bennett, 1934, p. 460). More recently, most researchers agree with Krueger (1998, p. 505) who has demonstrated that self-enhancement is a “controllable bias-rather than a cognitive illusion” (Alicke et al., 1995; Sedikides, Campbell, Reeder, & Elliot, 1998; Sedikides, Herbst, Hardin, & Dardis, 2002). We demonstrated that simply telling participants the purpose of Crowne and Marlowe's (1960) Social Desirability Scale encourages them to reduce their self-enhancement bias.

Crowne and Marlowe's (1960) Social Desirability Scale is not a personality scale per se; however, several researchers have suggested that it can capture personality differences (McCrae & Costa, 1983; Paulhus & John, 1998; Sedikides & Gebauer, 2010). Our data suggest that it can also capture phenotypic and experiential differences. For example, most likely our autistic participants were more prone than our non-autistic participants to endorse the item “At times I have really insisted on having things my own way” and less prone to endorse the item “I sometimes gossip” because of their autistic phenotype. As another example, most likely our autistic participants were more prone to endorse the item “On a few occasions, I have given up something because I thought too little of my ability” because of their experience of being disabled.

Evidence of Reputation Management in Autistic People

Because Crowne and Marlowe's (1960) Social Desirability Scale captures impression management (Uziel, 2010), our data answer a question of great interest to autism researchers. After proposing that birds, fish, and human infants engage in reputation management, Tennie, Frith, and Frith (2010, p. 483) wondered whether autistic adults also “care about their own reputation.” Chevallier, Kohls, Troiani, Brodtkin, and Schultz (2012, p. 234) suggested “anecdotally” that non-autistic parents think their autistic offspring are “less influenced by considerations of impression management,” and Hamilton and Lind (2016, p. 172) claimed that autistic people “do not engage in reputation management.”

Unfortunately, previous studies that could answer this question have been equivocal, perhaps due to small samples. Izuma et al. (2011) reported that autistic participants ($N = 10$) were less likely than non-autistic participants ($N = 11$) to increase their donation to a charity when they were observed by an experimenter, suggesting that autistic participants were less motivated by reputation management. However, E. Cage, Pellicano, Shah, and Bird (2013) were unable to replicate that result when they told autistic ($N = 9$) and non-autistic ($N = 9$) participants that the person observing them would reciprocate their donation; neither autistic nor non-autistic participants increased their donation. Using larger samples, E. Cage, Bird,

and Pellicano (2016) reported that autistic participants ($N=33$) did not differ from non-autistic participants ($N=33$) in the number of points they were willing to give away in a computer game when they were versus were not observed.

Although Chevallier, Molesworth, and Happé (2012) reported that autistic participants ($N=18$) were less likely than non-autistic participants ($N=18$) to inflate the rating they gave a drawing when they learned the drawing was made by the experimenter, these results relied on only a single trial (data on OSF). In contrast, Begeer et al. (2008) reported that autistic ($N=43$) participants were more likely than non-autistic ($N=43$) participants to inflate their self-descriptions in the context of being selected to win prizes; using the same paradigm, Scheeren, Begeer, Banerjee, Terwogt, and Koot (2010) reported that autistic children ($N=43$) were as likely as non-autistic ($N=21$) children to inflate their self-descriptions, as did Scheeren, Banerjee, Koot, and Begeer (2016; see also Usher, Burrows, Messinger, & Henderson, 2018). Our data, based on larger samples and more contexts, also demonstrate that autistic people resemble non-autistic people in their reputation management.

Study Limitations and Future Directions

As with all research, our study would benefit from future attempts at replication, which of course is the cornerstone of reliable science (Gernsbacher, 2018). Although it might be difficult to obtain the large samples of autistic participants we were fortunate to secure, we have found that engaging with the autistic community, pursuing the research questions they prioritize, and inviting community members to be active participants in the research process are key (Gernsbacher, 2007). Indeed, our third author, who is autistic, strongly motivated the current research question and was engaged in many aspects of the research process.

In addition to replicating the current study with other samples of autistic and non-autistic participants, it would be fruitful to explore the generalizability of the current study's approach with other minority groups or atypical populations. Because the approach to measuring self-enhancement used in this study does not require gathering informant responses, our approach is easier to administer, making it more amenable to use with hard-to-access populations.

Lastly, it would be interesting to explore finer grained, but still easy to collect, metrics of self-enhancement. For example, requiring participants to respond to the social desirability items with a Likert-type scale rather than the traditional true–false binary response options might provide a richer data set. However, the current study using a binary response option has demonstrated a viable way to measure self-enhancement and has provided evidence that autistic people are as susceptible to social desirability and self-enhancement as non-autistic people.

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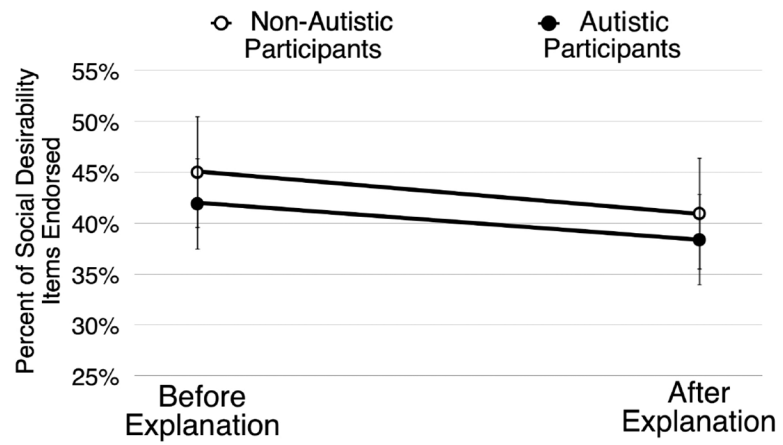


Figure 1. Means of autistic and non-autistic participants' percentage of social desirability items endorsed before versus after learning the explanation of the Social Desirability Scale. Error bars are 99.9% confidence intervals of the means.

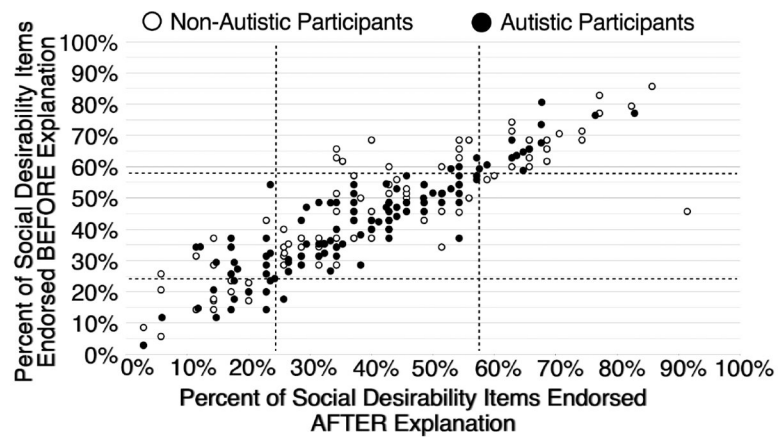


Figure 2. Scatterplot of autistic and non-autistic participants' percentage of social desirability items endorsed before and after learning the explanation of the Social Desirability Scale. The lower and higher dashed lines indicate a popular threshold for a low and high level of self-enhancement (Nevid & Rathus, 2016). Some data points in the scatterplot represent more than one participant.

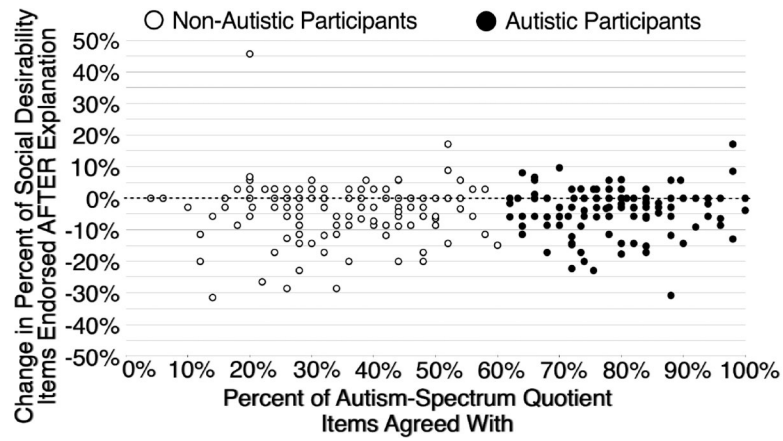


Figure 3. Distribution of autistic and non-autistic participants' change in percentage of social desirability items endorsed after learning the explanation of the Social Desirability Scale as a function of participants' Autism-Spectrum Quotient scores (i.e., the percentage of items each participant agreed with on the Autism-Spectrum Quotient). Some data points in the figure represent more than one participant.

Table 1. Experimental Stimuli (Social Desirability Items) and Their Levels of Endorsement.

	Percent Endorsement Before Explanation (%)	Percent Endorsement After Explanation (%)	Percent “Not Applicable” Responses (%)
Before voting I thoroughly investigate the qualifications of all the candidates.	67.59	59.68	2.692
I never hesitate to go out of my way to help someone. [In this context, to go out of [your] way means to make an extra effort to do something even though it is not convenient or easy to do.]	42.97	32.42	1.538
It is sometimes hard for me to go on with my work if I am not encouraged. ^a	43.08	35.38	0.000
I have never intensely disliked anyone.	13.08	13.46	0.000
On occasions I have had doubts about my ability to succeed in life. ^a	18.18	16.60	1.538
Sometimes I am resentful when I don't get my way. ^a	20.16	18.15	0.577
I am always careful about my manner of dress. [Manner of dress refers to the type of clothes a person wears.]	35.77	31.66	0.192
When I eat at home, my table manners are of a high quality, just like I was eating out in a restaurant.	30.35	29.57	1.154
If I could get into a movie without paying and be sure I was not caught I would probably do it. ^a	76.74	73.85	0.385
On a few occasions, I have given up something because I thought too little of my ability. ^a	29.96	23.94	0.769
I sometimes gossip. ^a [To gossip means to communicate information about a person or event that might be personal, private, or has not been confirmed as true.]	34.75	31.66	0.385
There have been times when I wanted to rebel against people in authority even though I knew they were right. ^a	57.75	53.88	0.769
I am always attentive to the person I am communicating with.	43.63	37.84	0.385
I can remember pretending to be sick to get out of having to do something. ^a	41.54	40.00	0.000
There have been occasions when I have taken advantage of someone. ^a [To take advantage of someone means to use that person's weakness to improve your own situation.]	56.81	49.42	0.769
I'm always willing to admit when I make a mistake.	61.01	61.01	0.385
I always try to practice what I preach. [To practice what [you] preach means you do yourself what you advise others to do.]	92.69	88.85	0.000
I don't find it particularly difficult to get along with loud-mouthed, obnoxious people. [Obnoxious means highly offensive.]	19.92	15.12	1.154
I sometimes try to get even rather than forgive and forget. ^a [To get even means to try to do something bad in return for someone having done something bad to you.]	64.73	60.85	0.769
When I don't know something, I really don't mind admitting it.	83.33	80.31	0.577
I am always courteous, even to people who are disagreeable. [Courteous means having or showing good manners or being polite. Disagreeable means unpleasant in manner or nature.]	55.77	47.88	0.192

	Percent Endorsement Before Explanation (%)	Percent Endorsement After Explanation (%)	Percent “Not Applicable” Responses (%)
At times I have really insisted on having things my own way. ^a	22.69	16.99	0.192
There have been occasions when I was so angry I wanted to throw something. ^a	18.85	19.62	0.000
I would never consider letting someone else be punished for my wrongdoings.	87.26	85.27	0.577
I never resent being asked to return a favor. [To return a favor means to do something nice for someone else because they have done something nice for you.]	70.08	52.53	1.731
I have never been irked when people expressed ideas very different from my own. [Irked means irritated, annoyed, or exasperated.]	26.64	21.54	0.192
I never make a long trip without first checking the safety of my car.	48.43	45.74	14.231
There have been times when I was quite jealous of the good fortune of others. ^a	36.68	35.77	0.192
I have almost never wanted to tell someone off. [To tell someone off means to criticize that person harshly or to severely scold or correct that person.]	25.19	19.69	0.577
I am sometimes irritated by people who ask favors of me. ^a	37.98	30.12	0.577
I have never believed that I was punished without justification. [Without justification means without reason.]	19.77	19.46	0.962
Sometimes when people have a misfortune, I believe they are getting what they deserve. ^a [Misfortune means bad luck or an unfortunate outcome of an event.]	44.36	41.63	1.154
I have never deliberately said something that hurt someone's feelings.	36.54	34.62	0.000
I always achieve the goals I set out for myself.	16.22	16.28	0.577
I would never try to get away with using pay-for-use Wi-Fi for Internet access if I hadn't actually paid for it. [Wi-Fi is a mechanism for wirelessly connecting electronic devices, such as a personal computer, to the Internet.]	51.00	49.20	3.654

^aIndicates the item is reverse-scored; percentages reflect reversal.

Participants' Characteristics.

Table 2.

	Autistic Participants		Non-Autistic Participants		Test Statistic	<i>p</i>	Effect Size Cohen's <i>d</i>
	<i>N</i> = 130	<i>N</i> = 130	<i>N</i> = 130	<i>N</i> = 130			
Autism-Spectrum Quotient (%): <i>M</i> (<i>SD</i>)	79.51 (9.333)	34.18 (12.36)			<i>t</i> (240) = 33.38	<.001	4.309
Formal diagnosis: yes/no	93/37	0/130			$\chi^2(0) = 144.8$	<.001	2.242
Age (in years): <i>M</i> (<i>SD</i>)	41.14 (12.48)	41.10 (12.36)			<i>t</i> (258) = 0.025	.980	0.003
Sex: male/female	65/65	65/65			$\chi^2(0) = 0.000$	1.000	0.000
Gender: man/woman/outside gender binary	64/58/7 ^a	65/65			$\chi^2(2) = 7.042$.025	0.334
Racial identity: White/person of color ^b	118/9 ^c	116/14			$\chi^2(5) = 4.849$.435	n/a
Latino or Hispanic: no/yes	125/5	125/5			$\chi^2(0) = 0.000$	1.000	0.000
Parent education (in years): <i>M</i> (<i>SD</i>)	15.26 (2.752)	15.32 (2.600)			<i>t</i> (258) = -0.162	.871	0.020
Country: USA/other	83/47	120/10			$\chi^2(0) = 30.76$	<.001	0.733

^{a,c} One or three participants (respectively) chose not to disclose this information.

^b The six Racial Identity categories were American Indian or Alaska Native, Asian, Native Hawaiian or other Pacific Islander, Black or African American, White, and multiracial.