

# Studies of autistic traits in the general population are not studies of autism

Autism  
1–2  
© The Author(s) 2021  
Article reuse guidelines:  
sagepub.com/journals-permissions  
DOI: 10.1177/13623613211058515  
journals.sagepub.com/home/aut



Noah J Sasson<sup>1</sup>  and Kristen Bottema-Beutel<sup>2</sup> 

## Abstract

Studies of autistic traits in the general population are becoming increasingly prevalent. In this letter to the editor, we caution researchers against framing and interpreting studies of autistic traits in the general population as extending to autism and implore them to be clear about when their study sample does and does not include autistic participants.

## Keywords

autism quotient, autism traits, autistic traits, broad autism phenotype

A recent study in this journal, “Anthropomorphic Tendencies in Autism” (Clutterbuck et al., in press), included no autistic people as participants. Rather, the authors surveyed an online sample from the general population using the Autism Spectrum Quotient (AQ10), a 10-item self-report measure of autistic traits that may not be psychometrically sound in the general population (Taylor et al., 2020). The nature of the sample was not clear from the title or the abstract, which states the study “re-examined the relationship between autism and anthropomorphism in a large sample of adults.” Clarity about participants is important, because studies about autistic traits and studies about autism are not the same.

Although the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., DSM-IV) formally recognized autism as a spectrum, providing a framework for conceptualizing autism as a continuum extending to subclinical levels, studies of autistic traits in the general population were rare before measures such as the Autism Quotient were available. This and similar questionnaires are easy to administer and facilitate rapid, large-scale data collection, particularly when administered online. Perhaps not coincidentally, studies on autistic traits have increased at twice the rate of studies of autism over the last decade (Mottron & Bzdok, 2020), with a surge occurring during the COVID-19 pandemic as researchers moved to remote data collection.

Research on autistic traits has produced some notable benefits. Recognizing the continuity between autism and autistic traits in the general population underscores that autism is a natural form of human diversity. Examining autistic traits can also generate hypotheses about how these traits interact with other relevant constructs. However,

researchers must be careful about framing and interpreting findings about autistic traits as extending to autism for several reasons.

First, the autism spectrum does not extend indefinitely, and everybody is not “a little bit autistic.” Autistic traits differ from autism both quantitatively, as emphasized in trait studies, and qualitatively. Autism confers an experience of disability that does not extend to the general population, even in those with autistic traits below clinical threshold or in combinations that do not warrant autism diagnoses. Assumptions of similarity can propagate misconceptions that the spectrum is linear, where characteristics can be rank ordered from high to low and are presumed to relate predictably to (dis)ability.

Second, the extent to which associations with autistic traits in the general population replicate in autistic populations is not clear. Autistic trait questionnaires require no clinical judgment and are not intended as diagnostic assessments. Unlike the diagnosis of autism, autistic traits are typically measured through self-report surveys and contain items that are often interpreted differently by autistic and non-autistic individuals (Gernsbacher et al., 2017). Furthermore, because autistic traits are separable in the general population but co-occur in autism, isolated “traits” may represent socialized characteristics that bear little or no relevance to autism (Mottron & Bzdok, 2020). Autistic

<sup>1</sup>The University of Texas at Dallas, USA

<sup>2</sup>Boston College, USA

## Corresponding author:

Noah J Sasson, The University of Texas at Dallas, Richardson, TX 75080-3021, USA.

Email: nsasson@utdallas.edu

traits are also not unique to autism. They often are found at high levels in non-autistic people with anxiety, schizophrenia, and other conditions and vary among autistic people. Additionally, many autistic people do not meet clinical cutoffs on autistic trait questionnaires.

Third, studies of autistic traits in the general population can reinforce deficit frameworks that can exacerbate autism stigma. Many trait studies examine whether “deficits” found in autism, such as poor social outcomes, extend to those with subclinical autistic traits. Increasingly, however, such outcomes are recognized as relational, not individual. Both within autism (Crompton et al., 2020) and within autistic traits in the general population (Bolis et al., 2021), communication efficacy and interpersonal connection are better predicted by compatibility between partners rather than individual traits. That is, individual traits do not always drive impairments. Instead, consistent with the social model of disability, whether an impairment is disabling depends on discrepancy between traits and environmental demands, social constructions of human value, and the degree to which society accommodates human differences.

Rather than recruiting autistic people, researchers may be tempted to use measures that can be easily administered online and on populations that are large and convenient to reach. However, studies of autistic traits are not substitutes for studies of autism. The construct validity of “autistic traits” is uncertain, and the relevance to autism of measuring autistic traits among non-autistic people requires further exploration. Researchers interested in the relevance of autistic traits in general populations to autistic people should conduct analyses that treat this as a hypothesis rather than an assumption.

We encourage researchers to be clear when their study sample does not include autistic participants, and to refrain from generalizing findings to autistic populations unless backed by appropriate data.

### Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

### Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

### ORCID iDs

Noah J Sasson  <https://orcid.org/0000-0002-3676-1253>

Kristen Bottema-Beutel  <https://orcid.org/0000-0002-0009-9464>

### References

- Bolis, D., Lahnakoski, J. M., Seidel, D., Tamm, J., & Schilbach, L. (2021). Interpersonal similarity of autistic traits predicts friendship quality. *Social Cognitive and Affective Neuroscience*, *16*(1–2), 222–231.
- Clutterbuck, R. A., Shah, P., Leung, H. S., Callan, M. J., Gjersoe, N., & Livingston, L. A. (in press). Anthropomorphic tendencies in autism: A conceptual replication and extension of White and Remington (2019) and preliminary development of a novel anthropomorphism measure. *Autism*.
- Crompton, C. J., Ropar, D., Evans-Williams, C. V., Flynn, E. G., & Fletcher-Watson, S. (2020). Autistic peer-to-peer information transfer is highly effective. *Autism*, *24*(7), 1704–1712.
- Gernsbacher, M. A., Stevenson, J. L., & Dern, S. (2017). Specificity, contexts, and reference groups matter when assessing autistic traits. *PLOS ONE*, *12*(2), Article e0171931.
- Mottron, L., & Bzdok, D. (2020). Autism spectrum heterogeneity: Fact or artifact? *Molecular Psychiatry*, *25*(12), 3178–3185.
- Taylor, E. C., Livingston, L. A., Clutterbuck, R. A., Shah, P., & Payne, C. (2020). Psychometric concerns with the 10-item Autism-Spectrum Quotient (AQ10) as a measure of trait autism in the general population. *Experimental Results*, *1*, Article E3.