GUIDELINES FOR PERSONALITY STYLE MEASURES

FOR SUBCLINICAL NEURODIVERGENT TRAITS

Friederike Charlotte Hechler, Outi Tuomainen, Nathan Weber, Frank Fahr, Bodie Karlek, Marie Maroske, Meike Misia, & Nathan Caruana

Respect

I. **Use a neurodiversity approach.** Instead of applying a deficit approach, be non-judgemental and respectful, adopting a neurodiversity framework (Dwyer, 2022; Pellicano, & den Houting, 2021). Avoid pejorative or stigmatising descriptions that have connotations to experiences/traits being abnormal/unusual, such as "disorder".

   E.g., "~~impaired~~" vs. "different"

II. **Use gender-inclusive language.** Despite the elevated rates of coexisting gender diversity and neurodiversity (Warrier et al., 2020), these individuals often remain under- or misdiagnosed with the respective consequences for mental and physical health (Hull et al., 2020; Mandy et al., 2012).

   E.g., "~~he~~" vs. "they"

III. **Think non-stereotypically.** The traditional conceptualisation of neurodiversity has been shaped by a neurotypical perspective (cf. Dinishak, 2021) and based on gender-imbalanced studies (Watkins et al., 2014). For instance, the assumption that autistic people lack a theory of mind or insight into internal experience has been challenged by recent work (e.g., Gernsbacher, & Yergeau, 2019; Keith et al., 2019).

   E.g., "~~I do not feel a desire for social interactions.~~" vs. "I prefer social interactions to occur in certain ways."

IV. **Accept language preferences of the community.** Amaral (2023) provides an overview of respectful language for autism research (but cf. also Keating et al., 2023; Kenny et al., 2016).

   E.g. person-first language ("person with autism") vs. identity-first ("autistic person").

V. **Differentiate between in-group and out-group interaction partners.** Research suggests that difficulties only arise when neurodivergent and neurotypical people interact, not during interactions between neurodivergent people (see Milton, 2012 on the 'double empathy problem' and Bolis & Schilbach, 2018 for an interpersonal account of autism). For instance, autistic people might be misunderstood by non-autistic interlocutors but not necessarily by other neurodivergent people (Compton et al., 2020; Edey et al., 2016).

   One collaborator commented:

   "It is important to differentiate between social interactions with allistic/neurotypical people and with other autistic people, and sometimes with other neurodivergent people as well, as the latter is usually easier for autistic people. Communication difficulties depend heavily on the environment. The representation of social situations as a problem for autistic people in questionnaires refers to interactions with allistic/neurotypical

people, which are used as the only correct standard - this approach is ableist. It is important to consider the Double Empathy Problem."

(Marie Maroske)

E.g., "~~Other people tend to misunderstand me.~~" vs. "Neurotypical people tend to misunderstand me."

VI. Consider positive aspects of neurodiversity. Understanding individual strengths could assist neurodivergent individuals in building self-efficacy and confidence. Among the non-pathologized traits are, for instance, authenticity, honesty, and loyalty or the ability to perceive details and find patterns (e.g., Russel et al., 2019; Happé, & Frith, 2006).

One collaborator commented:

"Non-pathologized traits are an important aspect of autism. For example, a strong sense of justice can lead us to accept significant personal disadvantage in order to stand up for our beliefs. Misinterpreting these non-pathologized traits can lead to misdiagnosis, so they should finally play a more prominent role in differential diagnosis. Additionally, these traits should become more essential for the self-image of autistic people."

(Meike Misia)

E.g., "I can deeply focus on things that interest me."

VII. Involve the community in all its diversity. Participatory research cannot not only improve the outcome of your research (e.g., Gillespie-Lynch et al., 2022) and induce a change in basic autism science research (Pellicano, 2020) but it may also lead to adjustments in clinical and educational practices as well as in broader public policies (e.g., Benevides et al., 2020).

E.g., in the steps of problem identification, research question development, data collection, and interpretation of results

Accessibility

VIII. Be literal. Autistic people may find non-literal interpretations difficult (Lee & Kamhi, 1990). Thus, make sure the literal interpretation of the text matches your intended interpretation. Instead of using figurative language and metaphors, or quotation marks to indicate conditional word meanings, make everything concrete and explicit.

E.g., "~~I rely on scripts when I talk with others.~~" vs. "I plan how I will interact with others."

IX. Be precise. Imprecise or vague language might create an obstacle for autistic and non-autistic people.

One collaborator commented:

"Precision = Accessibility. If this is not given, it can lead to misunderstandings, incorrect results, and great frustration and loss of energy. Sometimes, it may not even be possible to complete the questionnaire."

(Marie Maroske)

E.g., "~~five times a day~~" vs. "often"

X. **Be broad enough but not too general.** Where necessary, make it broad enough, since the individual autistic phenotype is heterogeneous (Lord et al., 2022). However, do not generalise too much. In some cases, examples might be counterproductive as they can distract neurodivergent people by restricting the relevance of the item to a particular context or scenario.

E.g., Always give at least two examples.

XI. **Do not assume awareness of strategies.** People are not necessarily aware why they engage in certain behaviours.

One collaborator commented:

"I now realize that I do expend a lot of mental energy, for instance, trying to fit in with others, but it was hard work to get to that point."

(Bodie Karlek)

E.g., "~~I look for strategies to appear more sociable.~~" vs. "I make an effort to appear more sociable."

XII. **Address past and present behaviour.** Guide people to consider the relevance of statements both in the present as well as across their lifetime. This would help capture persistent characteristics of respondents' disposition, as opposed to their current context. Moreover, there is growing recognition that some autistic traits or experiences may change over time up to a point where diagnostic criteria are no longer met (Fein et al., 2013). Repetitive sensory and motor behaviours, for instance, seem to correlate negatively with age (Barrett et al. 2018).

E.g., Add the instruction "Think about yourself both now and across your life.".

XIII. **Add optional free-text comments.** Where possible, give people additional room to explain their choices. Autistic people often require more time to decide which interpretation is correct, in contrast to questionnaires that usually prompt people to go with their initial instinct. Overlap among rankings, for instance, may cause not only autistic people to struggle to answer accurately. Moreover, qualitative data may not only help to understand how participants interpret specific items or entire concepts but may also inform future research (see Truijens et al., 2022 for a phenomenological analysis of annotated self-report questionnaires).

One collaborator commented:

"Autistic people find it difficult to make a 'Yes/No' decision or evaluate 'a lot' vs. 'little'. Being able to add an explanation helps the decision-making process."

(Frank Fahr)

References

Amaral, D.G. (2023), Language in *Autism Research*: Accurate and Respectful. Autism Research, 16: 7-8. https://doi-org.simsrad.net.ocs.mq.edu.au/10.1002/aur.2886

Barrett, S., Uljarevic, M., Jones, C., & Leekam, S. (2018). Assessing subtypes of restricted and repetitive behaviour using the adult repetitive behaviour questionnaire-2 in autistic adults. *Molecular Autism*, *9*. https://doi.org/10.1186/s13229-018-0242-4

Benevides, T. W., Shore, S. M., Palmer, K., Duncan, P., Plank, A., Andresen, M.-L., Caplan, R., Cook, B., Gassner, D., Hector, B. L., Morgan, L., Nebeker, L., Purkis, Y., Rankowski, B., Wittig, K., & Coughlin, S. S. (2020). Listening to the autistic voice: Mental health priorities to guide research and practice in autism from a stakeholder-driven project. *Autism*, 24, 822–833. https://doi.org/10.1177/1362361320908410

Bolis, D., & Schilbach, L. (2018). Observing and participating in social interactions: Action perception and action control across the autistic spectrum. *Developmental cognitive neuroscience*, *29*, 168–175. https://doi.org/10.1016/j.dcn.2017.01.009

Bottema-Beutel, K., Kapp, S. K., Lester, J. N., Sasson, N. J., & Hand, B. N. (2021). Avoiding ableist language: Suggestions for autism researchers. *Autism in Adulthood*, 3(1), 18-29. https://doi.org/10.1089/aut.2020.0014

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 : The International Journal of Research and Practice*, *24*(7), 1704–1712. https://doi.org/10.1177/1362361320919286

Dinishak, J. (2021). Autistic autobiography and hermeneutical injustice. *Metaphilosophy*, *52*(5), 556–569.

Dwyer, P. (2022). The Neurodiversity Approach(es): What Are They and What Do They Mean for Researchers? *Human Development*, *66*(2), 73–92. https://doi.org/10.1159/000523723

Edey, R., Cook, J., Brewer, R., Johnson, M. H., Bird, G., & Press, C. (2016). Interaction Takes Two: Typical Adults Exhibit Mind-Blindness Towards Those With Autism Spectrum Disorder. *Journal of Abnormal Psychology (1965)*, *125*(7), 879–885. https://doi.org/10.1037/abn0000199

Fein, D., Barton, M., Eigsti, I.-M., Kelley, E., Naigles, L., Schultz, R. T., Stevens, M., Helt, M., Orinstein, A., Rosenthal, M., Troyb, E., & Tyson, K. (2013). Optimal outcome in individuals with a history of autism. *Journal of Child Psychology and Psychiatry*, *54*(2), 195–205.

Gillespie-Lynch, K., Bisson, J. B., Saade, S., Obeid, R., Kofner, B., Johnson Harrison, A., Daou, N., Tricarico, N., Delos Santos, J., Pinkava, W., & Jordan, A. (2022). If you want to develop an effective autism training, ask autistic students to help you. *Autism*, 26(5), 1082-1094. https://doi.org/10.1177/13623613211041006

Happé, F., & Frith, U. (2006). The weak coherence account: detail-focused cognitive style in autism spectrum disorders. *Journal of Autism and Developmental Disorders*, *36*(1), 5–25. https://doi.org/10.1007/s10803-005-0039-0

Hull, L., Lai, M.-C., Baron-Cohen, S., Allison, C., Smith, P., Petrides, K., & Mandy, W. (2020). Gender differences in self-reported camouflaging in autistic and non-autistic adults. Autism: The International Journal of Research and Practice, 24(2), 352–363.

Keating, C. T., Hickman, L., Leung, J., Monk, R., Montgomery, A., Heath, H., & Sowden, S. (2023). Autism-related language preferences of English-speaking people across the globe: A mixed methods investigation. *Autism Research*, 16(2), 406-428. https://doi.org/10.1002/aur.2864

Keith, J. M., Jamieson, J. P., & Bennetto, L. (2019). The Importance of Adolescent Self-Report in Autism Spectrum Disorder: Integration of Questionnaire and Autonomic Measures. Journal of Abnormal Child Psychology, 47(4), 741–754. https://doi.org/10.1007/s10802-018-0455-1

Kenny, L., Hattersley, C., Molins, B., Buckley, C., Povey, and C., & Pellicano, E. (2016). Which terms should be used to describe autism? Perspectives from the UK autism community. *Autism*, 20(4),442-62. https://doi.org/10.1177/1362361315588200

Lord, C., Charman, T., Havdahl, A., Carbone, P., Anagnostou, E., Boyd, B., … McCauley, J. B. (2022). The lancet commission on the future of care and clinical research in autism. *The Lancet*, *399*(10321), 271–334. https://doi.org/https://doi.org/10.1016/S0140-6736(21)01541-5

Mandy, W., Chilvers, R., Chowdhury, U., Salter, G., Seigal, A., & Skuse, D. (2012). Sex differences in autism spectrum disorder: Evidence from a large sample of children and adolescents. *Journal of Autism and Developmental Disorders*, *42*(7), 1304–1313.

Pellicano, E. (2020). Commentary: Broadening the research remit of participatory methods in autism science – a commentary on happé and frith (2020). *Journal of Child Psychology and Psychiatry*, *61*(3), 233–235.

Pellicano, E., & den Houting, J. (2021). Annual Research Review: Shifting from 'normal science' to neurodiversity in autism science. *Journal of Child Psychology and Psychiatry*. Advance online publication. https://doi.org/10.1111/jcpp.13534

Rundblad, G., & Annaz, D. (2010). The atypical development of metaphor and metonymy comprehension in children with autism. *Autism*, *14*(1), 29–46. https://doi.org/10.1177/1362361309340667

Russell, G., Kapp, S. K., Elliott, D., Elphick, C., Gwernan-Jones, R., & Owens, C. (2019). Mapping the Autistic Advantage from the Accounts of Adults Diagnosed with Autism: A Qualitative Study. *Autism in Adulthood*, *1*(2), 124–133. https://doi.org/10.1089/aut.2018.0035

Truijens, F. L., Desmet, M., De Coster, E., Uyttenhove, H., Deeren, B., & Meganck, R. (2022). When quantitative measures become a qualitative storybook: A phenomenological case analysis of validity and performativity of questionnaire administration in psychotherapy research. *Qualitative Research in Psychology*, *19*(1), 244–287. https://doi.org/10.1080/14780887.2019 .1579287

Warrier, V., Greenberg, D. M., Weir, E., Buckingham, C., Smith, P., Lai, M.-C., … Baron-Cohen, S. (2020). Elevated rates of autism, other neurodevelopmental and psychiatric diagnoses, and autistic traits in transgender and gender-diverse individuals. *Nature Communications*, *11*(1), 3959–3959. https://doi.org/10.1038/s41467-020-17794-1

Watkins, E. E., Zimmermann, Z. J., & Poling, A. (2014). The gender of participants in published research involving people with autism spectrum disorders. *Research in Autism Spectrum Disorders*, *8*(2), 143–146. https://doi.org/https://doi.org/10.1016/j.rasd.2013.10.010