Assortative mating for autistic traits, systemizing, and theory of mind

Gareth Richards1,2, Simon Baron-Cohen3, Varun Warrier2, Shanhong Luo3, Robin Dunbar4, Emily Jackson1, Hannah Proctor1, Holly Stokes5 Eva Lee1, Ben Mellor1, Jessica Davies3, Laura Gee5, & John Galvin5

1 School of Psychology, Newcastle University, Newcastle upon Tyne, Tyne and Wear, UK
2 Autism Research Centre, University of Cambridge, Cambridge, Cambridgeshire, UK
3 Department of Psychology, University of North Carolina Wilmington, Wilmington, North Carolina, USA
4 Department of Experimental Psychology, University of Oxford, Oxford, Oxfordshire, UK
5 School of Psychology, Birmingham City University, Birmingham, West Midlands UK

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ABSTRACT:
We aimed to test the hypothesis that traits associated with autism spectrum conditions are subject to assortative mating. Study 1 examined self-reported autistic traits (Autism Spectrum Quotient [AQ]), systemizing (Systemizing Quotient-Revised [SQ-R]), and empathizing (Empathy Quotient [EQ]), as well as behavioral measures related to socio-perceptual Theory of Mind (Reading the Mind in the Eyes Test [RMET]) and systemizing (Embedded Figures Task [EFT]). Variable-centered analyses revealed couple-similarity correlations for AQ ($r$=0.305, $p$=0.002), SQ-R ($r$=0.263, $p$=0.007), RMET ($r$=0.438, $p$<0.001) and EFT ($r$=0.423, $p$<0.001), but not EQ ($r$=-0.018, $p$=0.860). Further analysis suggested people pair with others more similar than chance (initial assortment) rather than become alike during a relationship (convergence), and that they seek out similar partners (active assortment) rather than pair with similar people due to social stratification (social homogamy). We next used couple-centered analyses to compare similarity scores between actual couples and the average of all other possible male-female pairings within the dataset. Actual couples were more similar for AQ ($d$=0.250, $p$=0.002), SQ-R ($d$=0.211, $p$=0.007), RMET ($d$=0.393, $p$=0.007) and EFT ($d$=0.365, $p$=0.006), but not EQ ($d$=0.002, $p$=0.980). In Study 2, we replicated the variable-centered ($r$=0.284, $p$=0.005) and couple-centered results ($d$=0.253, $p$=0.032) for socio-perceptual Theory of Mind (RMET). However, there was no evidence for assortment for socio-cognitive Theory of Mind when using the Stiller-Dunbar Stories Task (variable-centered: $r$=0.048, $p$=0.635; couple-centered, $d$=0.012, $p$=0.917). Random-effects meta-analysis ($k$=16, $n$=5,892) confirmed a significant couple-similarity correlation for autistic traits, $r$=0.186, $p$<0.0001. These findings support the assortative mating theory of autism and should be considered when estimating heritability.

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