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Why the COVID-19 pandemic is interesting from a behavior genetic perspective: a focus on quality of life and self-rated health.

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ABSTRACT:

Due to lockdown and social distancing measures, the COVID-19 pandemic has not only impacted those who have been infected by the virus, but also those who remain infected. An important question in this regard is how the pandemic has affected people's (mental) health. Moreover, from a behavior genetic perspective, an interesting question is how this large environmental change might have impacted (sources of) individual differences in health measures. We present two (ongoing) projects that focus on the influence of the COVID-19 pandemic on the Dutch population using Netherlands Twin Register data. First, we present a project where we use three sets of analyses to study the impact of the pandemic on self-rated health (SRH). These analyses include 1) comparisons of pre-pandemic and pandemic SRH scores, 2) the impact of age, sex, educational attainment, and chronic illness on pre-pandemic SRH, pandemic SRH and SRH difference scores, and 3) bivariate genetic analyses in a sample of twins to decompose (co)variation in SRH at the two time-points into genetic and environmental sources. Second, we present a project where we use the Mendel software package (Lange et al, 2013) to perform an extended twin-pedigree study of quality of life during and before the pandemic. The projects provide two important messages. First, the projects illustrate how intertwined genetic and environmental influences are, and that heritability is far from a fixed predisposition. Second, they reconfirm the importance of examining individual differences instead of mean effects when studying complex human traits.

References

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