Autistic-like traits in the Dutch population

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Objectives

I. To examine the validity of the Dutch translation of the Autism-spectrum Quotient (AQ).

II. To study assortative mating (non-random choice of partner) for autistic-like traits.

III. To estimate genetic and environmental influences on individual differences in autistic-like traits.

Methods

Subjects

I. General population sample (n = 302)

Student sample (n = 961)

3 matched patient groups:

- Autism spectrum conditions (ASC, n = 12)
- Social anxiety disorder (SAD, n = 12)
- Obsessive compulsive disorder (OCD, n = 12)

II. Spouses from general population sample (n = 129 pairs)

III. 18-year-old twin pairs (n = 194 pairs) and their siblings (n = 94)

Measure

Raw total AQ scores (min.= 50: no autistic traits; max. = 200: full endorsement on autistic traits)

Statistics/genetic modelling

I. Mixed model ANOVA to examine sex- and group differences

II. Pearson's correlation

III. Comparison of resemblance in identical (MZ) twins with resemblance in non-identical (DZ) twins and siblings

Results

Group	Sex/degree	N	Mean AQ score	SD
General population	♂	137	105.7	11.0
	♀	160	102.9	11.5
Students	science	239	109.7	13.3
	non-science	722	100.1	11.6
ASC	10♂, 2♀	12	142.3	22.0
SAD	10♂, 2♀	12	114.2	16.6
OCD	10♂, 2♀	12	114.8	12.6

I. Men score higher than women (p=.019)

Science students score higher than non-science students (p<.001)

ASC score higher than SAD/OCD patients (p<.001)

Test-retest reliability: r = .78; internal consistency: α = .79

II. No assortative mating for AQ: correlation = -.02
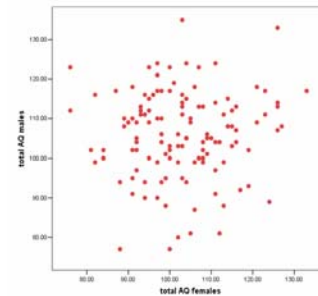
III. MZ twin correlations are higher than DZ correlations
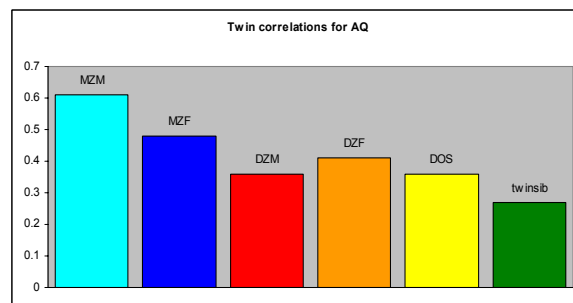
Genetic influences (A) could explain 56% of the variation in both boys and girls. The remaining proportion, 44%, was accounted for by non-shared environmental influences (E).

Conclusions

The Dutch translation of the AQ is a valid instrument to measure autistic-like traits; these traits show substantial heritability.