

The Relationship between Autistic Traits and the Ability to make Judgements from Faces



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AIM

- To investigate the relationship between the degree of autistic traits in typical adults of average intelligence and the ability to make subtle evaluations from the faces of unfamiliar people.

RATIONALE

- Human face perception is imperative in our social world and signals from an individual's facial expression helps modify our behavioural responses during social interactions.
- Difficulties in evaluating these cues can lead to social interaction problems which are seen in the neurodevelopmental disorder autism.
- The impairments in social interaction, communication and rigid and repetitive behaviours observed in autism are thought to lie on a continuum which can extend into the general population.
- The Autism Quotient (AQ) has been developed to measure the degree of autistic traits in adults of normal intelligence, and performance on tasks where autistic individuals show impairments has been correlated with performance on the AQ.
- As individuals with autism show impairments on making subtle evaluations from faces we therefore hypothesise that there will be a relationship between AQ scores and accuracy in trait evaluations from unfamiliar faces.

SAMPLE

- The sample included 52 adults with typical IQ's and no history of neurological disorders. Ages ranged from 18 years to 50 years (mean age = 27, standard deviation = 9.8), and 26 were male and 26 were female.

STIMULI



Competence

Extraversion

Threat

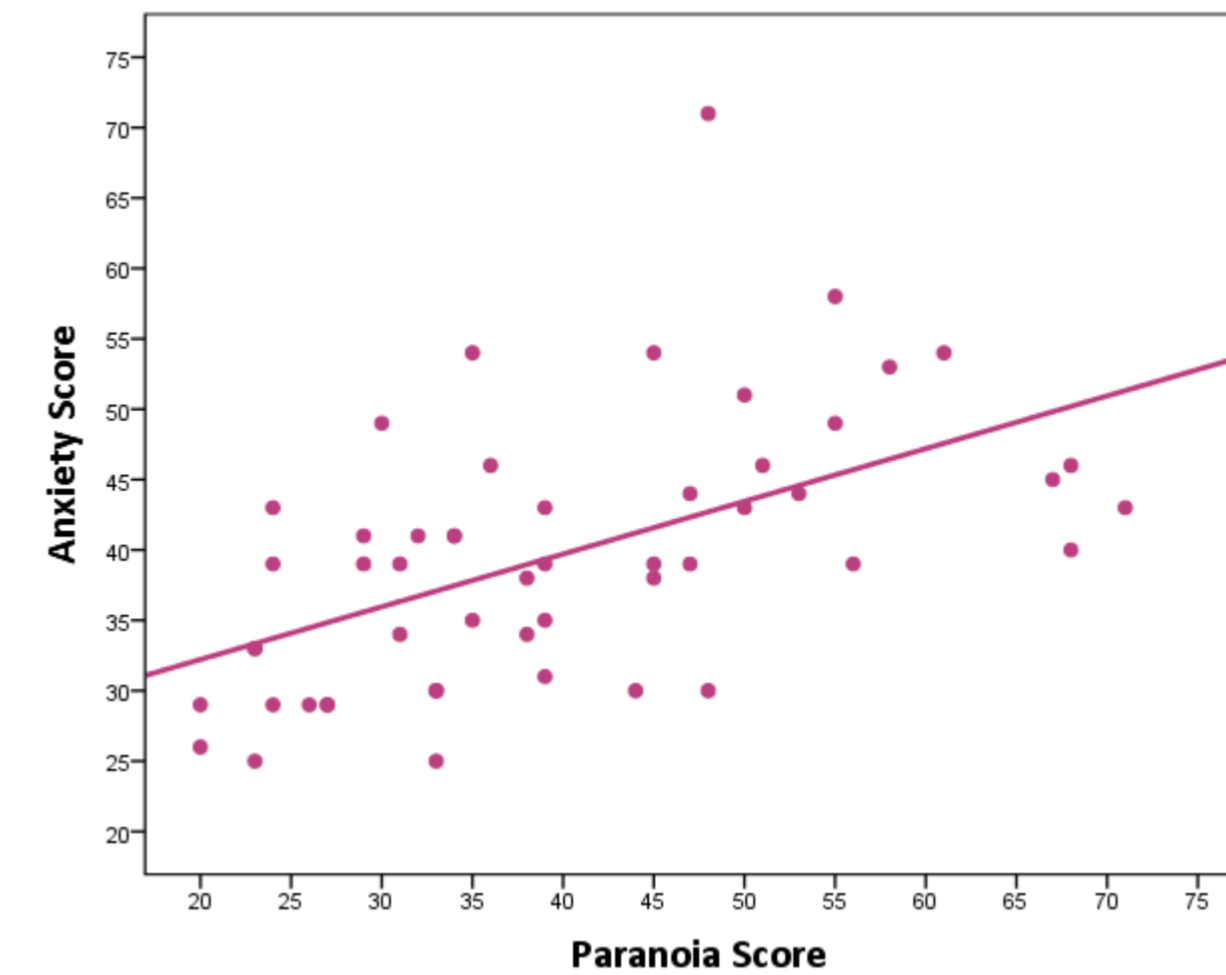
Trust

TASKS

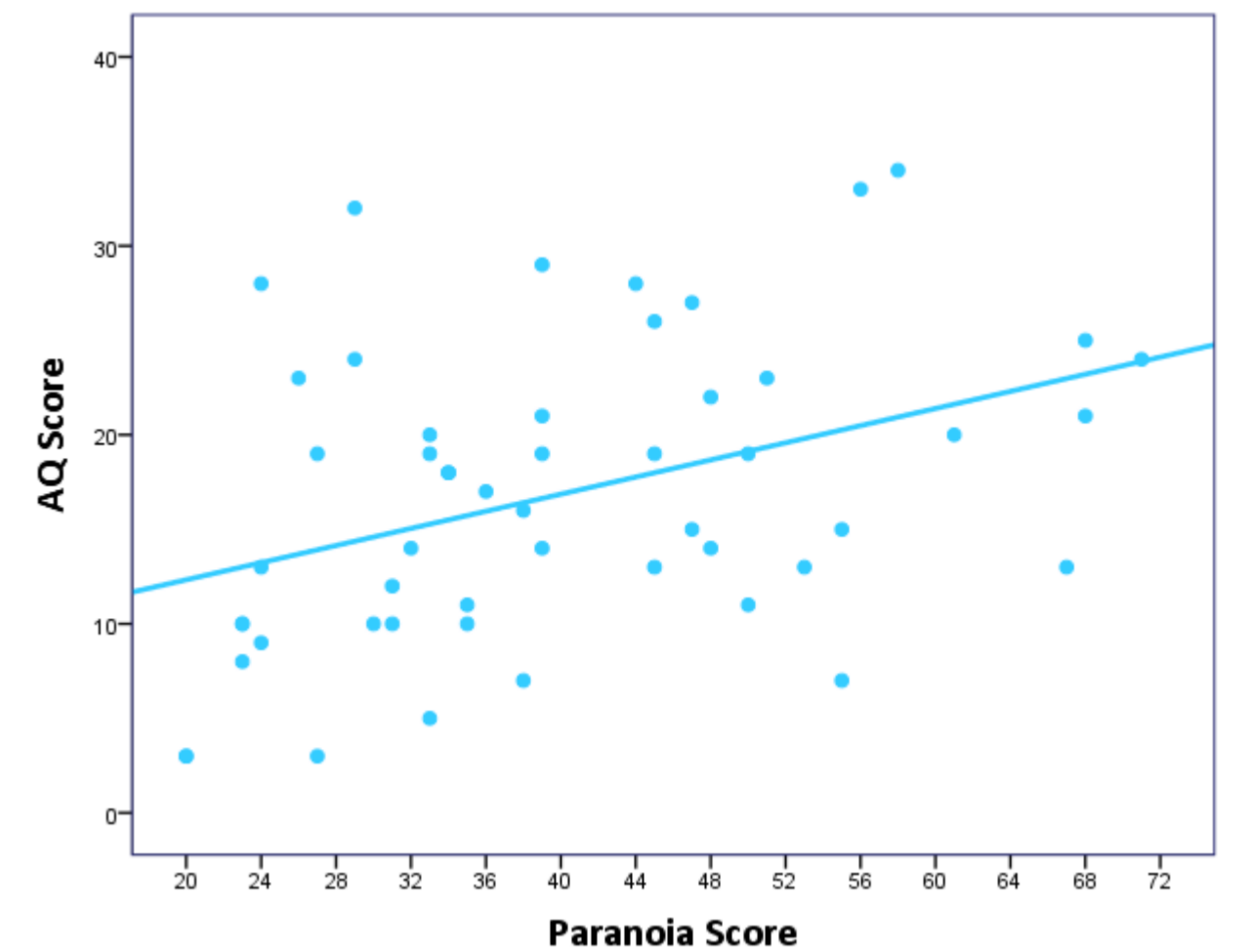
- Forty face stimuli were used from the Karonlinska Face Database and were presented to participants in blocks of 10 for the dimensions competence, extraversion, threat and trust.
- Subjects had to decide whether the face looked "more than average" or "less than average" for the given dimension and were shown an "average" face for every trait for comparison.
- They were then given 3 questionnaires to complete; the Autism Quotient, Zung's Anxiety Index and Fenigstein's Paranoia Scale.

RESULTS

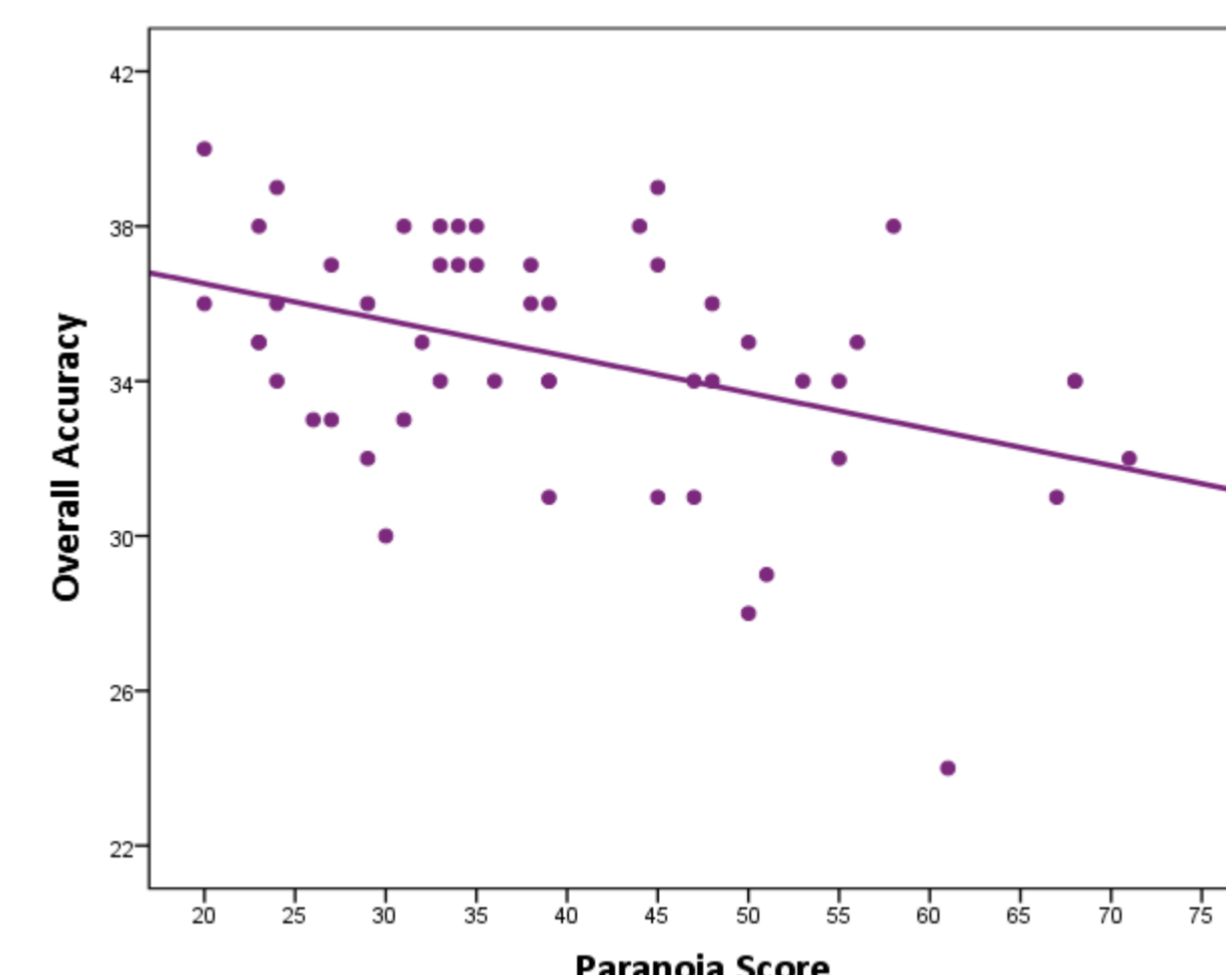
Correlation between Paranoia and Anxiety



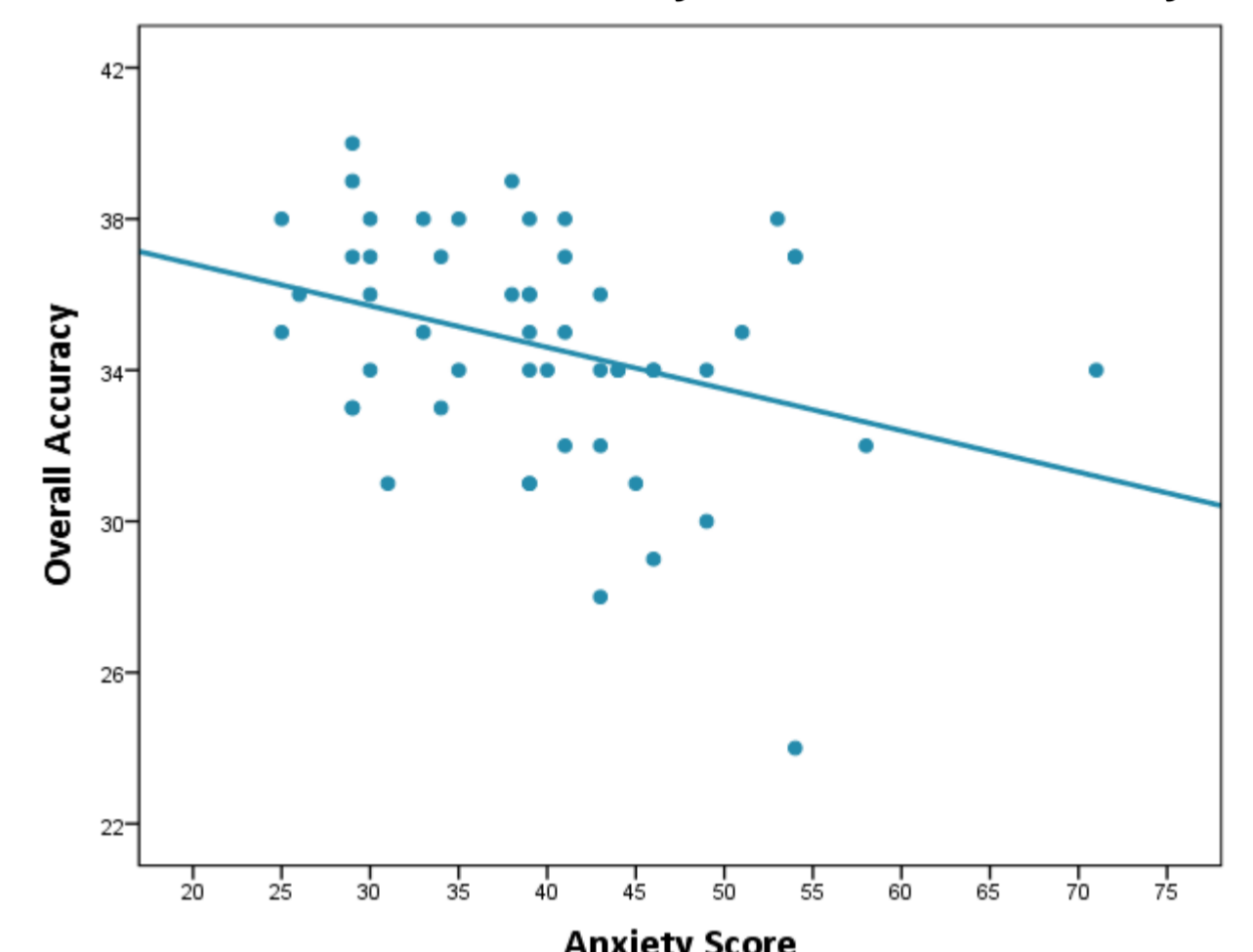
Correlation between Paranoia and AQ scores



Correlation between Paranoia and Overall Accuracy



Correlation between Anxiety and Overall Accuracy



SUMMARY OF FINDINGS

- AQ is significantly correlated with Paranoia scores ($r=.39, p<.01$) so individuals with more autistic traits also had higher Paranoia ratings. But AQ was not correlated with Anxiety scores, Overall Accuracy ratings or accuracy for any specific traits ($p>.01$).
- It was also found that higher Paranoia scores are significantly positively correlated with higher Anxiety scores ($r=.54, p<.001$).
- Higher anxiety scores are significantly correlated with poorer overall accuracy ($r=.33, p<.05$).
- Higher Paranoia was associated with lower Overall Accuracy ratings ($r=.41, p<.01$). A significant negative correlation was found between Paranoia and facial evaluations of Trust but not for the evaluation of other attributes, therefore individuals with higher Paranoia were less accurate at evaluating trust but not competence, extraversion or threat.

WHAT NEXT? SOME QUESTIONS...

- Our study did not find that autistic traits in typical adults of normal IQ contributed to the variability in making social evaluations from unfamiliar faces.
- Previous studies have found that tasks, which individuals with autism typically fail on, are performed worse by typically developed adults with normal IQ's who score highly on the Autism Quotient. Yet although individuals with autism typically find face evaluations difficult we were unable to replicate this trend in our sample.
- This may be due to limitations of our study, or a result of how social evaluations specifically relate to and interact with the disorder.
- However, it is interesting that in this sample of 52 typical non-clinical adults those with higher Paranoia scores were specifically less accurate at evaluating faces on the dimension of trust. This surprising result warrants further investigation as it could provide valuable insight into clinical populations where paranoia is a debilitating feature or underlying cause of the disorder.