# Examining differences in positively versus negatively valenced affect recognition in autistic adults and adults with schizophrenia

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## Background

- Differences in facial expression emotion recognition are well-documented in autistic adults and adults with schizophrenia.[1, 2]
- Autistic males show specific difficulty identifying emotions with a negative valence compared to neurotypical adults, suggesting that emotion identification patterns may vary by emotional valence.[3]
- Prior literature has not explored the emotion identification abilities or patterns of autistic adults and those with schizophrenia across emotional valence.
- The present study examined group differences in emotion decoding for positively and negatively valenced emotions among autistic and neurotypical adults and those with schizophrenia.

## Methods

### Participants

- Participants were 132 adults (93 males, 39 females) ages 18-35 (*M*= 25.48, *SD*= 5.70).
- There were 48 autistic adults, 38 adults with schizophrenia, and 46 neurotypical adults who participated.
- Clinical group membership was determined based on visit to specialty clinics focused on autism or schizophrenia or presenting with no psychiatric concerns.

### Clinical Measures

- Emotion identification was measured using the Reading the Mind in the Eyes Test (RMET).
- Autism symptoms were assessed using the Social Responsiveness Scale, second edition (SRS-2).
- Schizophrenia symptoms were assessed using the Positive and Negative Symptoms of Schizophrenia Scale (PANSS).
- Correct answers on the RMET were categorized by positive or negative valence, and items were summed to produce a total score for each valence.

**Figure 1.** Example RMET items and possible answer responses

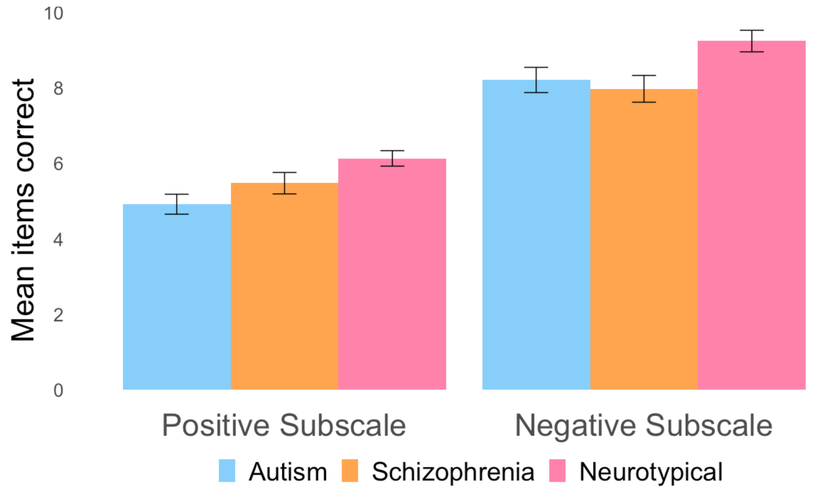

### Analyses

- A one-way ANOVA and Tukey's HSD tests examined group differences on RMET valence subscale scores.
- Pearson's correlations examined the relationship between autism and schizophrenia symptoms severity and valence subscales.

## Results

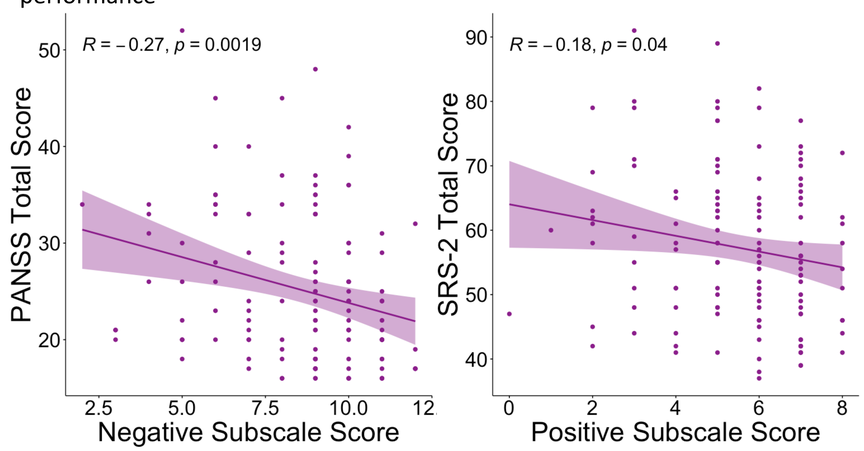
- ANOVAs revealed significant group differences on the positive valence subscale [$F_{(2,129)}$= 6.235, *p*= .003]. Post hoc Tukey's tests revealed that the autism group (*M*= 4.92, *SD*= 1.83) scored lower than neurotypical adults (*M*= 6.13, *SD*= 1.39; *p*= *.002*).
- Analyses revealed significant group differences on the negative subscale as well [$F_{(2,129)}$= 4.29, *p*= .016]. The schizophrenia group (*M*= 7.97, *SD*= 2.19) scored lower than neurotypical adults (*M*= 9.24, *SD*= 1.93, *p*= .022; Figure 2).

**Figure 2.** Mean group differences on RMET valence subscales across group membership




- Further, Pearson's correlations revealed negative associations between schizophrenia symptoms and negative subscale performance (*r*(130)= -.27, *p*= .002, see Figure 3) as well as autism symptoms and positive subscale performance (*r*(130)= -.18, *p*= .040, see Figure 4).

**Figure 3 & 4.** Correlations between clinical measures and subscale performance




## Conclusions

- In comparison to the neurotypical group, the autistic group had more difficulty identifying positive emotions, while the schizophrenia group demonstrated difficulty discerning negative emotions.
- These findings indicate differential patterns dependent on both group membership and emotional valence.
- These results may reflect differences in social processing or communication, resulting in reduced expertise in affect recognition.
- It is possible that for autistic individuals with reduced social motivation, fewer positive social interactions over time may lead to reduced experience identifying positively valenced emotions.
- In contrast, adults with schizophrenia demonstrated more significant challenges in accurately recognizing negatively valenced emotions, perhaps reflecting a misattribution of negative emotion types (e.g., perceiving fear instead of anger) when processing negatively valenced emotions.[4]
- Future studies may consider exploring patterns of incorrect answers across emotion valence categorization to identify bias towards positive or negative answer selection patterns in relation to individual attributes, such as social motivation.

## References

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