

# Relationship Between Hedonic Capacity for Interpersonal Pleasure and Social Responsiveness in Adults With and Without ASD: The GENDAAR Study

Kulkarni, S<sup>1,2</sup>, Santhosh, M<sup>1</sup>, Pelphrey, K<sup>3</sup>, Webb, S.J<sup>1,2</sup>, and the GENDAAR Consortium

Seattle Children's Research Institute<sup>1</sup>, University of Washington<sup>2</sup>, University of Virginia<sup>3</sup>



## Background

- Autism Spectrum Disorder (ASD) is a neurodevelopmental disorder characterized by social, communicative, cognitive, and behavioral impairments, observable in over 2% of adults in the United States (CDC, 2017).
- Hedonic capacity is a concept that is defined as reward responsiveness. When faced with stimuli that are typically considered to be rewarding, one's level of hedonic capacity can be determined by his or her ability to feel pleasure in response (Novacek et al., 2016).
- Research has shown that individuals with ASD experience decreased levels of social and interpersonal pleasure when compared to typically developing (TD) individuals (Novacek et al., 2016).
- The aim of this study was to analyze the relationship between hedonic capacity for interpersonal pleasure and social responsiveness in adults with and without ASD.

We hypothesize that:

- ASD adults will tend to have lower interpersonal pleasure scores and less social responsiveness compared to TD adults.
- Individuals with decreased interpersonal pleasure will tend to have greater social responsiveness impairments, with the relationship being stronger in the ASD group.

## Methods

### Participants:

- 102 adults (ASD = 53) from the longitudinal ACE2 study, a five-site NIH-funded study on gender differences in autism, were included in the analysis. ASD diagnosis was confirmed via standardized measures. All participants had an IQ > 70.

### Measures:

- Participants completed the Anticipatory & Consummatory Interpersonal Pleasure Scale (ACIPS), a self-questionnaire which assesses an individual's ability to look forward to interactions with other people (anticipatory social pleasure), as well as to experience pleasure for social/interpersonal interactions when they occur. Higher score indicates greater interpersonal pleasure and skills.
- The Social Responsiveness Scale (SRS-2) is a self-questionnaire used to measure participant social responsiveness. Higher score indicates more autistic traits and less social responsiveness. SRS-2 includes a social motivation subscale. Higher scores for this subscale are related to increased autistic behavior with regard to motivation, such as wanting to be alone rather than with others.

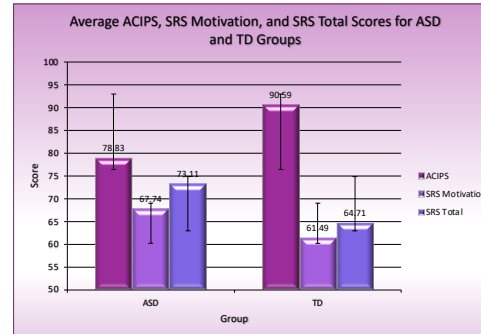
Group	N	ACIPS	SRS Motivation	SRS Total
ASD	53	M = 78.83, SD = 17.17	M = 67.74, SD = 10.63	M = 73.11, SD = 13.72
TD	49	M = 90.59, SD = 8.90	M = 61.49, SD = 11.52	M = 64.71, SD = 16.01
Total	102			

Table 1: Participant Characteristics

## Results

### H1. Differences in interpersonal pleasure (ACIPS) score and social responsiveness in ASD and TD adults

One way ANOVA was run between SRS total, SRS motivation subscale and ACIPS total score across the two groups.

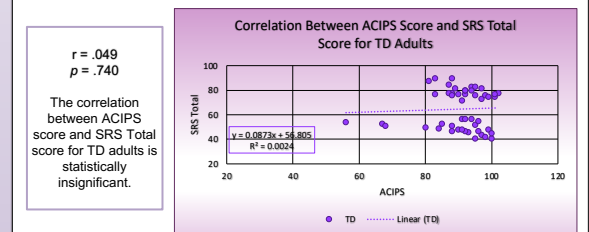
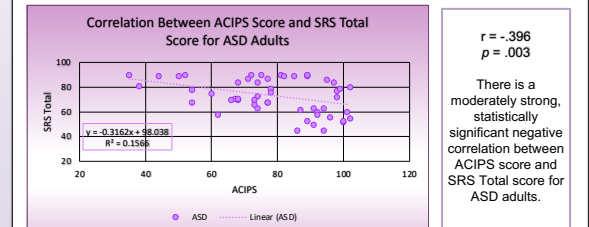
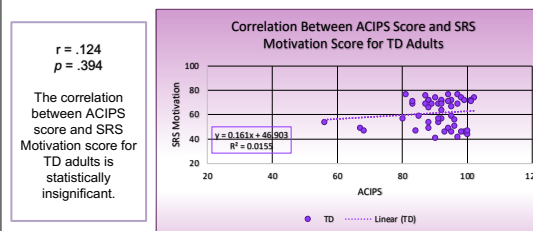
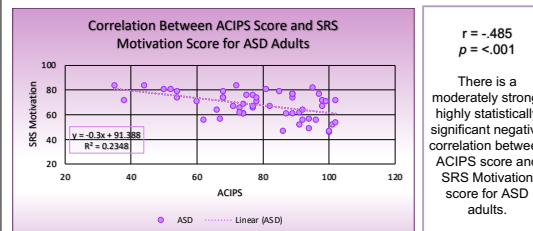


ASD adults scored lower in the interpersonal pleasure scale (ACIPS score) compared to TD adults [ $F(1, 102) = 18.407, p < .001$ ], indicating less pleasure for social interaction in the ASD group.

ASD adults scored higher in total social responsiveness score (SRS Total score) [ $F(1, 102) = 8.132, p = .005$ ] and social motivation subscale score (SRS Motivation score) [ $F(1, 102) = 8.112, p = .005$ ] compared to TD adults, indicating less social responsiveness both in general and specifically related to motivation in the ASD group.

### H2. Correlations between interpersonal score (ACIPS) and social responsiveness in ASD and TD adults

Correlations were run between SRS total, SRS motivation subscale and ACIPS total score across the two groups.



## Discussion

### Summary:

Our results indicate that ASD adults tend to have less pleasure in forming interpersonal relationships, and less social responsiveness compared to TD adults. Our results also indicate that ASD individuals with decreased interpersonal pleasure tend to have more autistic social-motivational traits and behaviors. We did not find a relationship between interpersonal pleasure and social responsiveness in the TD comparison group. This research is important because it allows us to more thoroughly understand social interest in ASD adults, and thus implement more finely tuned treatment plans down the road if such an intervention is desired.

### Limitations:

We have a fairly small sample size that is not age-matched across groups.

### Future Directions:

Future research should look at other mental health comorbidities such as depression and anxiety that could be mediating the pleasure scale.

## References and Acknowledgements

### References:

- Key findings: CDC releases first estimates of the number of adults living with autism spectrum disorder in the United States. CDC. (n.d.). Retrieved April 25, 2022, from <https://www.cdc.gov/ncbddd/autism/features/adults-living-with-autism-spectrum-disorder.html>
- Novacek, D. M., Gooding, D. C., & Plumb, M. J. (2016). Hedonic capacity in the broader autism phenotype: Should social anhedonia be considered a characteristic feature? *Frontiers in Psychology*, 7. <https://doi.org/10.3389/fpsyg.2016.00666>

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