# Behavioral Responses to Social Judgement Approach-Avoidance Task within Symptom Dimensions of Social Anxiety Disorder

Zoe Steelman, Lauren E. Jackson, Zhaohan Wu, Wen Li, Thomas Joiner, and Justin Riddle

## INTRODUCTION

**Importance of studying Social Anxiety Disorder (SAD)**

- During the COVID-19 pandemic, the vast majority of people were deprived of consistent social interactions for an extended period of time.
- Increase in Social Anxiety has become a pressing issue in today's post-COVID world.

**Using the Approach-Avoidance Task (AAT) to study symptoms**

- Previous research has identified AATs as a mechanism for understanding behaviors related to social fears (Kashdan et al., 2008; Bramson, 2023).
- Approach-Avoidance conflict: people are more wiling to approach positive stimuli and avoid negative ones (Kashdan et al., 2008)
- AATs ask participants to view image and approach/avoid based on the given conditions
  - Our team created a novel Social Judgement Approach Avoidance Task (SJ-AAT) designed to mimic social decision making

**Uncovering neural mechanisms enables novel interventions**

- Despite the use of AATs in existing SAD literature, previous literature is limited in its ability to analyze
  - Social Judgement in the presence of multiple people
  - Neural basis of avoidant behavior
  - Behavior changes in different symptom profiles

## HYPOTHESIS

Participants with higher social interaction anxiety will have increased approach-avoidance conflict for angry faces.

## SYMPTOM ASSESSMENT

**Participants in our study**

- 82 participants
- 74 final analysis; 8 excluded for poor task performance

**Diagnostic categories assessed using the MINI**

- Mini International Neuropsychiatric Interview (MINI; Sheehan et al., 1998)
  - SAD (N=37)
  - Healthy (N=26)
  - Other (N=19)

**Symptom assessment using LSAS-Z**

- Liebowitz Social Anxiety Scale (LSAS; Liebowitz, 1987) 24-item psychometricWidely accepted measure across SAD research
- Specific examples used were modernized to match present-day social situations and this version was presented as the "LSAS-Z".
- Provides categories for SAD symptoms:

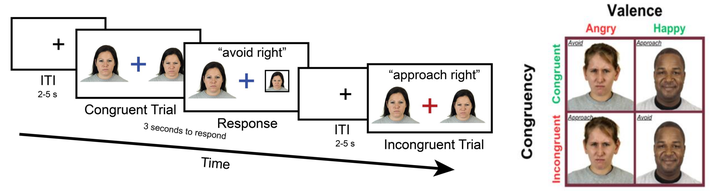

**Individual Differences Analysis**

- Ran analysis of covariance (ANCOVA) using two within-participant task factors congruency (incongruent or congruent) and valence (angry or happy) and two between-participant variables of social interaction anxiety and performance anxiety (R software)
- Post-hoc partial correlation was run for significant symptom-task relationships (MatLab)
- Analyses were run on participants with SAD only

## COGNITIVE TASK

**Social Judgement Approach Avoidance Task (SJ-AAT)**

- Motor task that requires decision to move toward or away from emotionally salient faces
  - Previous tasks used a single face (Bramson, 2023 ), but the SJ-AAT requires a social judgement between two faces
- Participants will view either a pair of happy or a pair of angry faces. They must identify which face is MORE STRONGLY expressing an emotion, then move a joystick toward or away from the stronger emoting face.
  - *Approach-Avoidance Conditions:*
    - *Congruent*
      - Move the joystick toward the happier of the two faces or away from the angrier of the two faces
    - *Incongruent*
      - Move the joystick toward the angrier of the two faces or away from the happier of the two faces




## RESULTS

### Analysis of Covariance (ANCOVA)

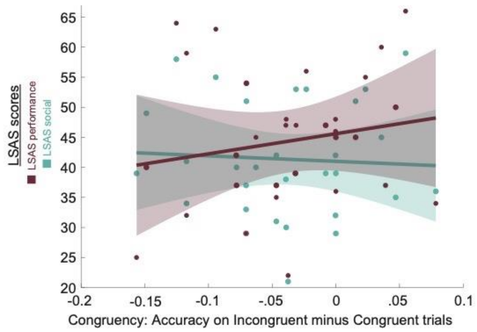
- **Congruency** (Incongruent versus Congruent)
  - LSAS social scores had no significant relationship with congruency
  - LSAS performance scores indicated a significant relationship
- **Valence** (Angry versus Happy)
  - LSAS social scores indicated a significant relationship
  - LSAS performance scores had no significant relationship with valence
- **Behavior** (Avoid versus Approach)
  - LSAS social scores had no significant relationship with behavior
  - LSAS performance scores had no significant relationship with behavior

| | f-value | p-value | | eta2 |
|---|---|---|---|---|
| Congruency LSAS social | 0.11 | 0.74 | | 0.00 |
| Congruency LSAS performance | 3.12 | 0.09 | ~ | 0.10 |
| Valence LSAS social | 6.26 | 0.02 | * | 0.18 |
| Valence LSAS performance | 2.47 | 0.13 | | 0.08 |
| Behavior LSAS social | 0.03 | 0.87 | | 0.00 |
| Behavior LSAS performance | 0.32 | 0.58 | | 0.01 |

### POST-HOC CORRELATIONS

#### Congruency to LSAS scores

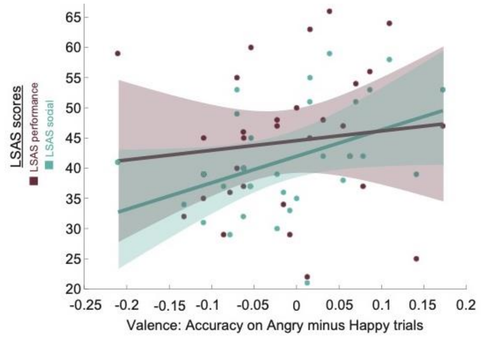
*Greater symptoms of performance anxiety were related to improved accuracy for non-intuitive social behaviors*




| | r(30) | p-value |
|---|---|---|
| LSAS Social | -0.06 | 0.75 |
| LSAS Performance | 0.18 | 0.34 |
| LSAS Social (Partial Performance) | -0.27 | 0.14 |
| LSAS Performance (Partial Social) | 0.32 | 0.08 |

#### Valence to LSAS scores

*Greater fear of social interaction was related to improved accuracy when judging angry faces*




| | r(30) | p-value | |
|---|---|---|---|
| LSAS Social | 0.41 | 0.02 | * |
| LSAS Performance | 0.12 | 0.52 | |
| LSAS Social (Partial Performance) | 0.47 | 0.008 | ** |
| LSAS Performance (Parital Social) | -0.28 | 0.13 | |

## REFERENCES

Bramson, B., Meijer, S., van Nuland, A., Toni, I., & Roelofs, K. (2023) Anxious individuals shift emotion control from lateral frontal pole to dorsolateral prefrontal cortex. Nature Communications, 14(1).

Liebowitz, M.R. (1987) Social phobia. *Modern Problems in Pharmacopsychiatry* 22: 147–173.

Kashdan, T. B., Elhai, J. D., & Breen, W. E. (2008). Social anxiety and disinhibition: An analysis of curiosity and social rank appraisals, approach-avoidance conflicts, and disruptive risk-taking behavior. Journal of Anxiety Disorders, 22(6), 925-939.

Sheehan,D. V., Lecrubier, Y., Sheehan, K. H., Amorim, P., Janavs, J., Weiller, E., Hergueta, T., Baker, R., & Dunbar, G. C. (1998). The Mini-International Neuropsychiatric Interview (M.I.N.I.): The development and validation of a structured diagnostic psychiatric interview for DSM-IV and ICD-10. The Journal of Clinical Psychiatry, 59 Suppl 20, 22-33; 34-57.