

The Effects of Looming Auditory Biases on Threat Sensitivity in Social Anxiety

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Introduction

Background

- Individuals with Social Anxiety (SA) have a distorted perception of threat.
- Looming Vulnerability Model (LVM) posits that threat is dynamic and rapidly rising as one projects themselves into the future.
- Looming Cognitive Style (LCS) is when LVM is presented as a cognitive trait pattern. When activated, ideation of social rejection is amplified.
- Auditory Looming Biases refer to the perception of threat to be closer than its actual distance. Anxiety amplifies this perception due to anxiety priming threat anticipation.

Hypothesis

- I hypothesize that auditory looming sounds will potentiate sensitivity to threatening faces, relative to white noise; and these effects will be amplified in individuals with greater levels of social anxiety.

Methods

Participants

- Undergraduate students ($N = 31$; 16 F) aged 18-24 at the University of Texas at Austin were recruited.

Facial Stimuli

- 80 sets of neutral and angry images of Caucasian men were selected from the Chicago Facial Database (Correll & Wittenbrink, 2015) and from the Pictures of Facial Affect (Ekman, 1976).
- Images were converted through Fantamorph into 3 second morphs (135 frames) going from neutral to angry (40 morphs) and from angry to neutral (40 morphs).



Auditory Stimuli

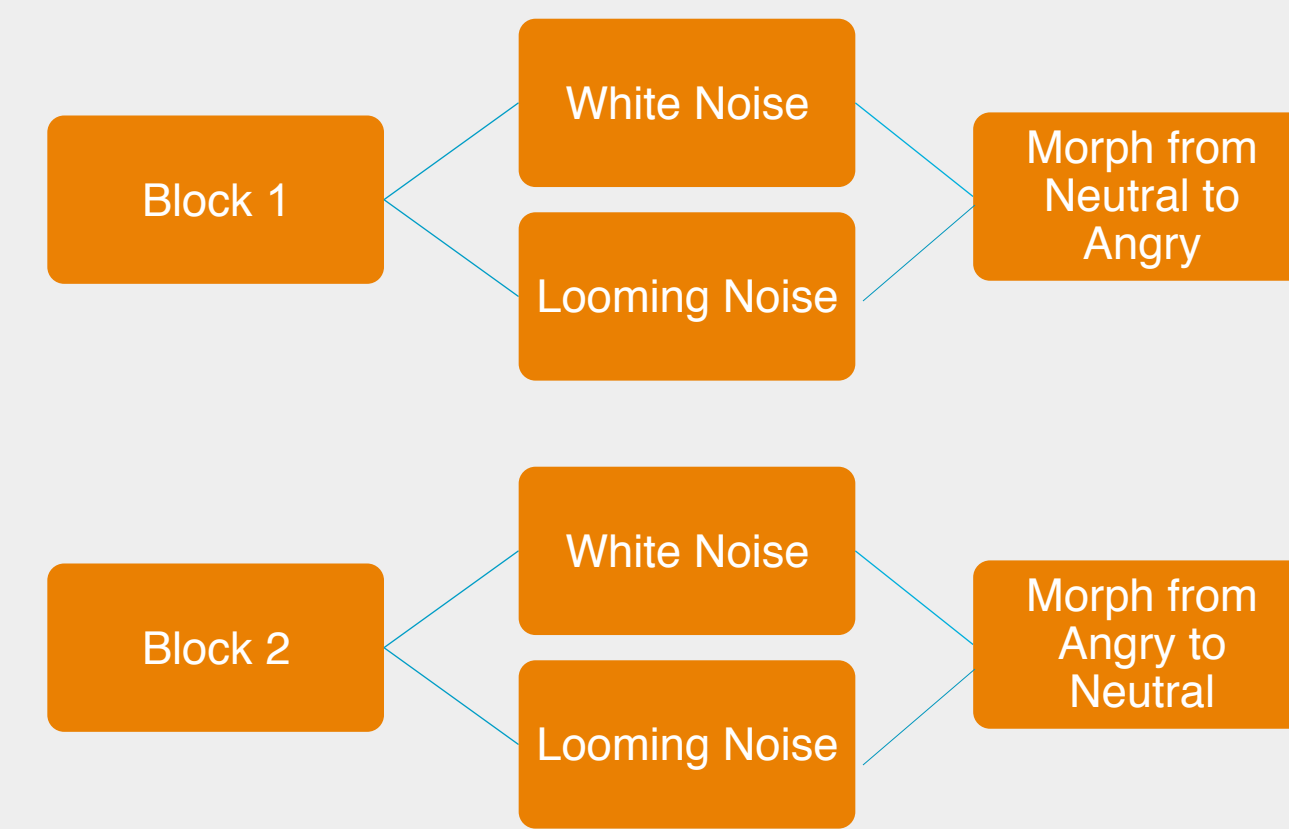
- 1s looming sound clip obtained from John Riskind (personal communication; Riskind 2013). 1s white noise generated from looming sound.

Measures

- Liebowitz Social Anxiety Scale (LSAS):** A widely used self report measure of social anxiety, with excellent internal validity and consistency (Heimberg et al., 1999). The LSAS is a 24 item measure evaluating both fear and avoidance of social and performance situations.
- Looming Maladaptive Style Questionnaire (LMSQ):** A self report measure assessing a participant's interpretation of ambiguous threats (Riskind 2000).

Methods Continued

- Facial Sensitivity Task:** Participants were presented with a series of morphs preceded by either a white or looming noise. In block 1, participants hit a spacebar when a threatening expression was detected. In block 2, participants hit the spacebar when a neutral expression was detected.



Results

Within Subjects Effects

	Sum of Squares	df	Mean Square	F	p
Face Valence	46569	1	46569	1.769	0.195
Face Valence * LSAS SCORE	147673	1	147673	5.610	0.026
Face Valence * LMSQ FINAL	62878	1	62878	2.389	0.135
Residual	658068	25	26323		
Noise	2.167e +6	1	2.167e +6	16.775	< .001
Noise * LSAS SCORE	698736	1	698736	5.410	0.028
Noise * LMSQ FINAL	267610	1	267610	2.072	0.162
Residual	3.229e +6	25	129152		
Face Valence * Noise	9941	1	9941	0.262	0.613
Face Valence * Noise * LSAS SCORE	5925	1	5925	0.156	0.696
Face Valence * Noise * LMSQ FINAL	28320	1	28320	0.745	0.396
Residual	949900	25	37996		

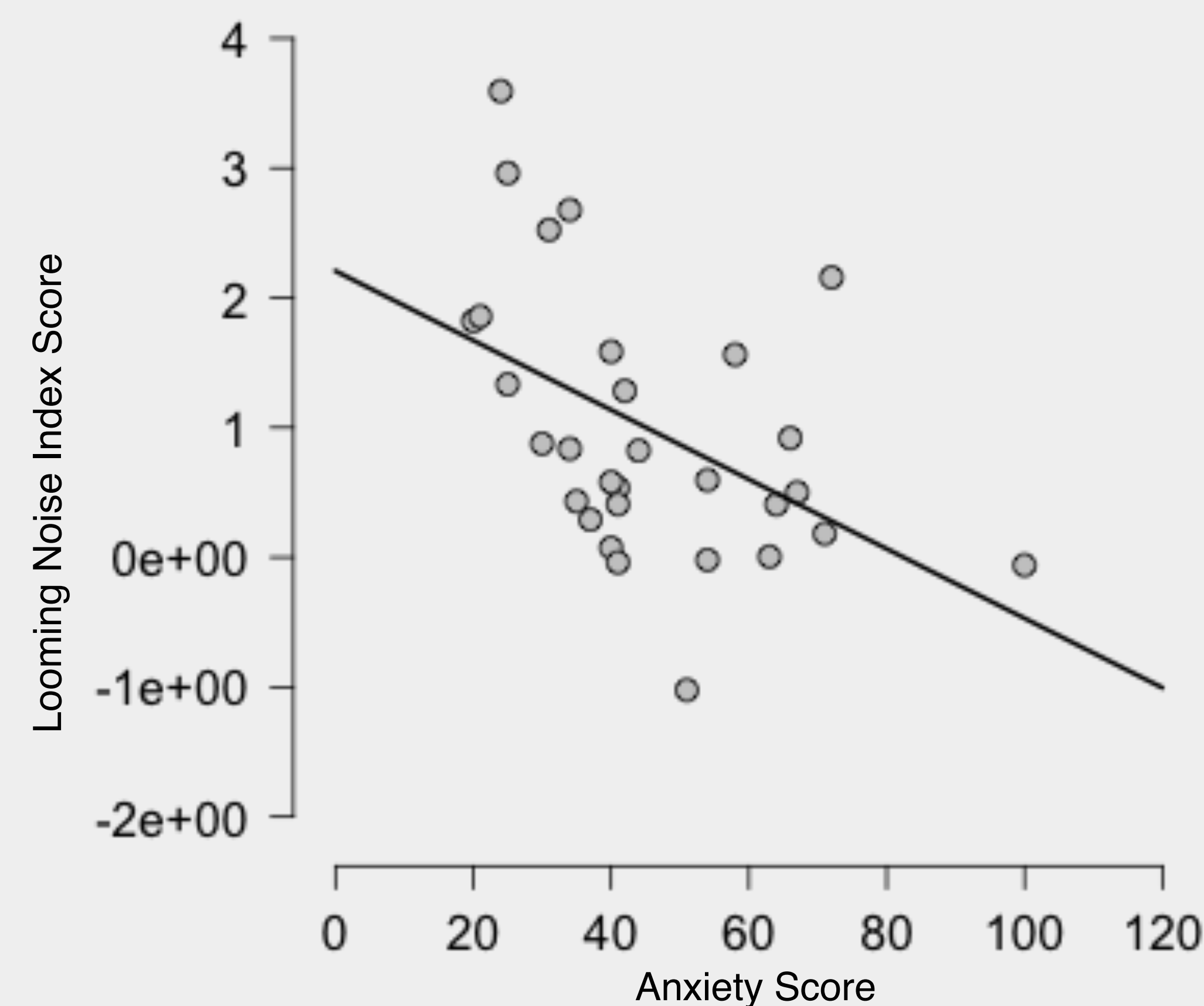


Figure 1. There was a significant relationship between LSAS scores and Looming Noise scores ($r = -.472, p = .008$), thus indicating that as anxiety levels increased, threat sensitivity increased as well when presented with a looming sound.

Results Continued

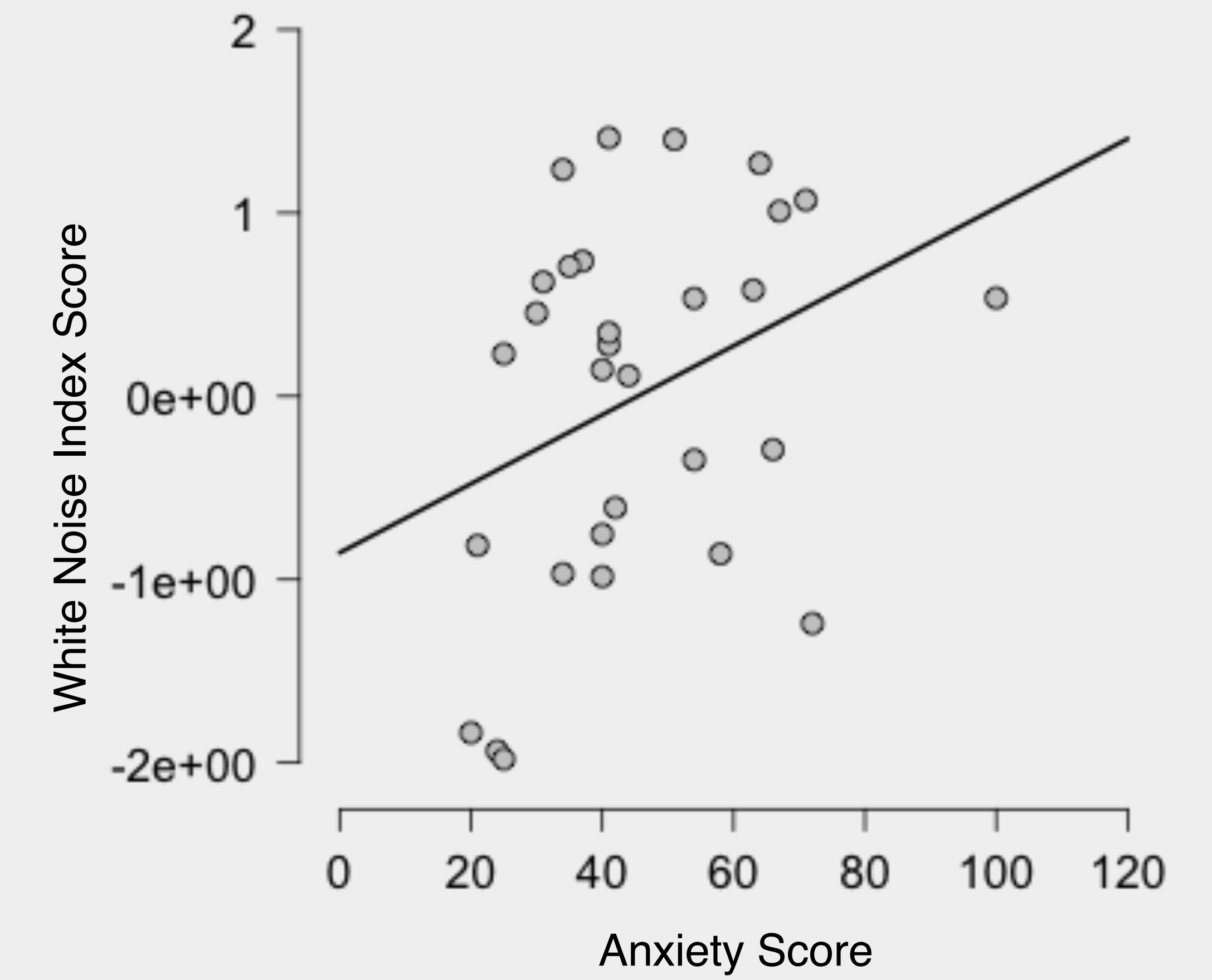


Figure 2. There was not a significant relationship between LSAS scores and Looming Noise scores ($r = .345, p = .062$), thus indicating LSAS scores had no significant relationship with threat sensitivity when presented with white noise.

Conclusion

- Social Anxiety levels influenced an individual's sensitivity to threat. As social anxiety increased, sensitivity to threat increased as well.
- Results also indicated that regardless of face valence, participant's sensitivity to threat increased when presented with a looming sound.

References

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Images of males were obtained from the Chicago Facial Database

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