



Laboratory Study of Anxiety and Threat

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Introduction

-Gun violence is a prevalent issue in the U.S. There are certain factors that contribute to an increased likelihood of gun violence. In this study, we aim to focus on three in particular: racial bias, interpretation bias, and threat sensitivity.

-Consistent with a larger body of literature on officer-involved shootings, a study on racial bias noted that 80.5% of all victims of officer involved shootings in Philadelphia from 2007-2013 were Black (Fachner & Carter, 2015).

-Additionally, individuals who tend to interpret ambiguous stimuli in their environment as threatening rather than benign may be more likely to use firearms.

-Finally, research has shown that individuals experiencing high levels of anxious anticipation or physiological arousal are more likely to be threat-sensitive and to engage in aggressive behaviors (Tyson, 1998).

Methods

Participants

-FSU students recruited through SONA subject pool
-Adults from the greater Tallahassee area, with a focus on lower income communities and/or Black/Latinx populations

Materials/Procedure

-Participants provide written consent
-Participants fill out a self-report questionnaire
-Participants are randomized to Study 1, 2, or 3

-Study 1: Racial bias priming task: Randomization to receive a story about either a Black or white “hero”

-Study 2: Electric shock device: Randomization to either receive shocks or no shocks

-Study 3: Threat bias modification task: Randomization to take part in an active interpretation bias modification (IBM) program or a sham IBM program

-Participants engage in eight stressful virtual reality scenarios in VirTra V-100: shooting simulator with Glock replica handgun

-Research assistant observes participant behavior and notes latency (time in seconds) to touch, point, and fire the firearm

Hypothesis I

Participants who receive a story about a heroic Black individual will be less likely/slower to use the VR firearm against Black “perpetrators” in the VR scenarios, as compared to individuals who receive a story about a heroic white individual

Hypothesis II

Participants receiving an active interpretation bias modification (IBM) program will be slower or less likely to use the gun, as compared to individuals who receive a sham IBM program

Hypothesis III

Participants who receive electric shocks will be faster or more likely to use the gun than participants who do not receive electric shocks

Results

Table 1

R-Values of Significance Between Experimental Conditions and Firearm-related Behaviors

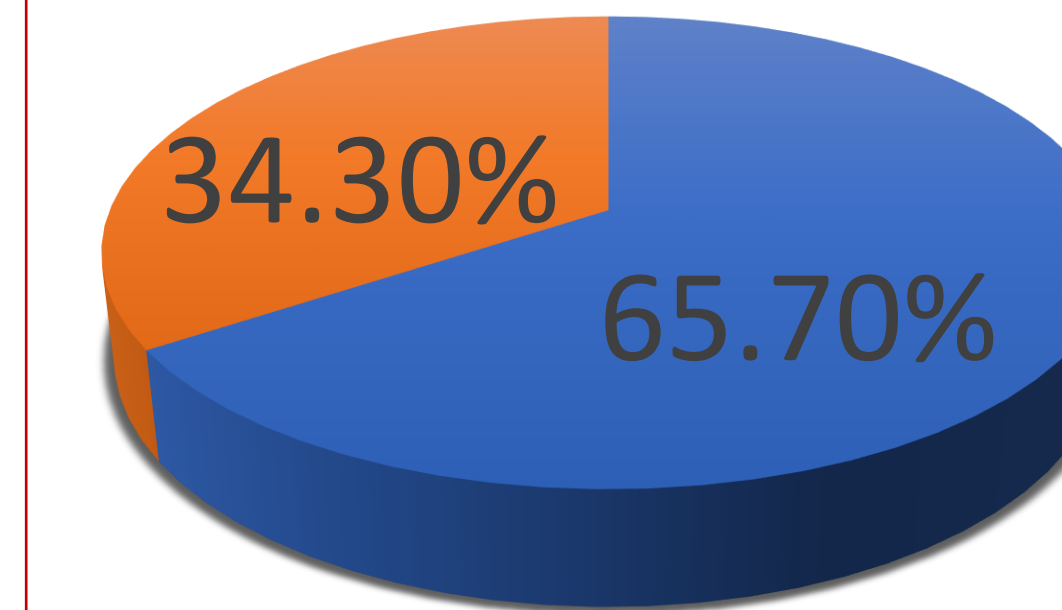
Conditions	Touch gun	Point gun	Fire gun
Racial Priming	-0.56	-0.56	-0.57
IBM	-0.26	-0.31	-0.21
Shocks	0.04	-0.46	-0.69*

Note: * = where $p < 0.05$

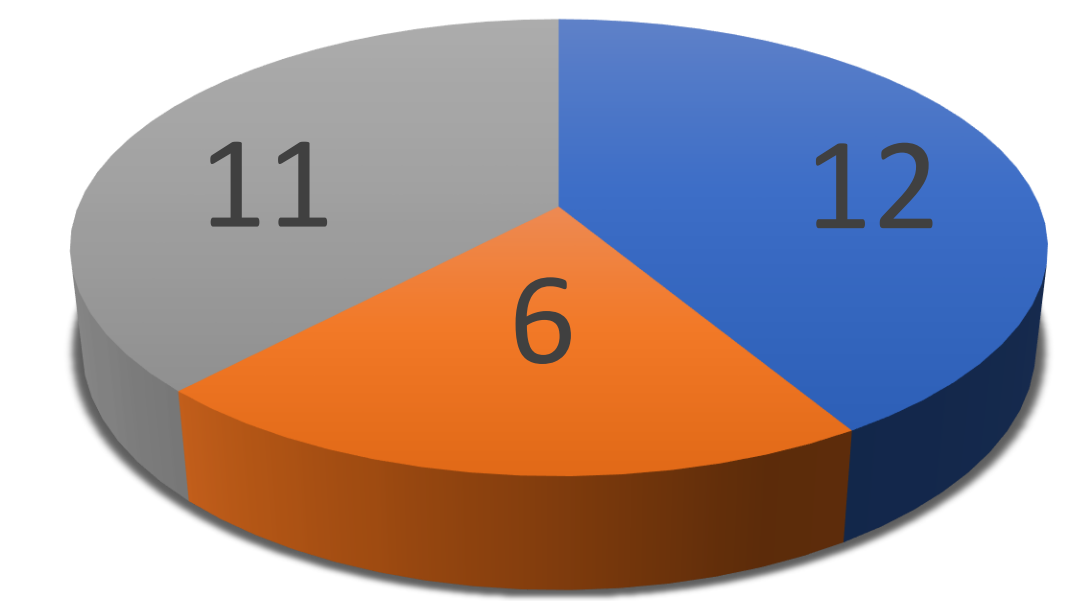
Pearson product-moment correlations were used to examine the relationship between the three experimental conditions and the participants’ firearm-related behaviors.

- Racial priming: Trending towards significance for opposite of anticipated results (Individuals randomized to White condition were slower to touch, point, and fire gun at Black “perpetrators,” compared to individuals randomized to Black condition)
- IBM: Not significant (Individuals randomized to active/control conditions did not differ in speed to touch, point, fire gun)
- Shocks (anxious anticipation): Latency to touch and point gun was not significant. But individuals randomized to shock condition was significantly slower to fire gun.

Participant Gender Demographic



Number of Participants in Each Condition



■ Female ■ Male ■ Racial Priming ■ IBM ■ Shocks

Discussion

Preliminary results suggest:

- Hypothesis for racial priming was starting to be not supported, becoming the opposite of what we hypothesized
- Hypothesis for IBM was not supported
- Hypothesis for shocks was not supported, and was the opposite of what we hypothesized

Limitations of study:

- Small sample size: Ongoing study, results include 35 participants
- Lacking generalizability of study population: Participants are mostly white, female FSU psychology students

Future of research:

- More data must be collected to get significant findings
- Recruiting more diverse participants

Our study aims to provide insight into future research on threat sensitivity regarding gun violence and informing policy change

References

- Fachner, G., & Carter, S. (2015). *Collaborative Reform Initiative An Assessment of Deadly Force in the Philadelphia Police Department*. CNA Corporation.
- Tyson, P.D. (1998). Physiological arousal, reactive aggression, and the induction of an incompatible relaxation response. *Aggression and Violent Behavior*, 3, 143-158.

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