Effects of State Anxiety on Self-Estimates of Intelligence

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INTRODUCTION or ABSTACT

The purpose of our experiment was to determine if higher levels of state anxiety would lead to lower self-estimates of intelligence among undergraduate students. Through use of the State-Trait Anxiety Inventory (STAI) and the Self-Estimates of Intelligence questionnaire (SEI), we were able to obtain data that supported our hypothesis. After the experimental group experienced induced anxiety, there was a significant increase in scores on the State-Trait Anxiety Inventory compared to before the anxiety was induced. In relation, scores on the Self-Estimates of Intelligence questionnaire were significantly lower in the delivery group who had experienced induced anxiety.

OBJECTIVES or SHORT REVIEW OF LITERATURE

Research Question:

- Does state anxiety have an effect on self-estimated of intelligence?

Hypothesis:

- Higher levels of state anxiety will lead to lower self-estimates of intelligence.
  - survey ruled that 21.9% of students stated that their anxiety directly affected their performance in the classroom and during tests. (Brown, 2016).
  - Physiological symptoms have been found to result in poor test performance and effect previous study habits (Furnham & Chamorro-Permuzic, 2004)
- No state anxiety present will result in no changes in self-estimates of intelligence.
  - "Self-beliefs affect cognitive performance either as impediments (anxiety) or facilitators (good calibration of self-efficacy and confidence)" (Stankov, 2017).
    - Study: there is a correlation between achievement and self-estimates of intelligence. (Stankov, 2017)

Literature Review

- The students who had test anxiety, and were placed under conditions to provoke it without priming, did worse performance wise. (Lang, 2010)
  - students who felt prepared had less anxiety about the tests
- Neuroticism (in terms of anxiety) has been found to relate to negative self estimates of intelligence. (Furnham & Chamorro-Permuzic, 2004)
- A study done by Moutafi, Furnham, and Tsaousis (2006) showed that a high-anxiety group scored lower on the intelligence test than the subsequent low-anxiety group.
- Studies on the self-defeating consequences of subjective cognitions suggest that poorer self-beliefs are a major cause of test anxiety (Chamorro-Premuzic, et. al., 2008)

METHODS

Participants:

- **40 University at Buffalo students**
  - 23 female, 17 males
  - Age range: 18-30 (M=20.8, SD=2.46)
- **Experimental group (20) and control group (20)**

Materials:

- **State-Trait Anxiety Inventory (STAI)**
- **Self-Estimates of Intelligence test (SEI)**

Procedure:

- **Participants instructed to take the State-Trait Anxiety Inventory**
  - After completion, they are given a small speech to read, only giving them fifteen minutes to do so. (induce anxious state)
- **Experimental group are told they will now have to give the speech from memory in front of a group of unknowing people.**
  - From here, they are given the State-Trait Anxiety Inventory again, followed by the Self-Estimates of Intelligence test.
- **Participants assigned to the control group were told to engage in an activity that was not anxiety inducing; specifically taking a walk in a calming, designated area previously located.**
  - They were then required to take the state-trait anxiety test once more, followed by SEI test.

ANALYSIS & RESULTS

State-Trait Anxiety Before Inducing Anxious State:

- No significant difference between control group and experimental group
  - $t(38)= 1.01$, $p > .05$

State-Trait Anxiety After Inducing Anxiety (Experimental) or Not (Control)

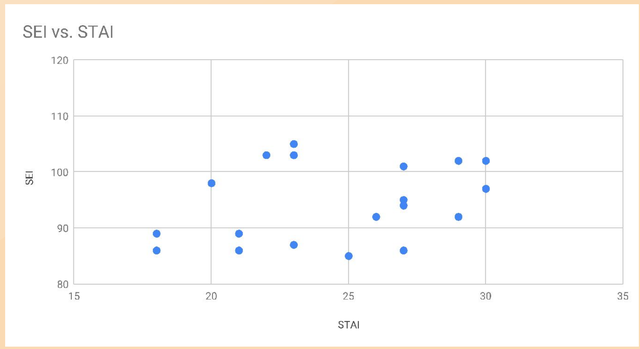
- Significant Increase seen in experimental group versus those in control group
  - $t(38)= 5.25$, $p < 0.01$

Self-Estimates of Intelligence (Post-Inducing Anxiety)

- Control group (no anxiety) had significantly higher scores than experimental group (anxiety)
  - $t(38)= 5.25$, $p < 0.01$

Verbal Intelligence Scores

- Experimental group (anxiety) significantly lower scores than control (no anxiety)
  - $t(38)= 2.71$, $p < 0.05$



DISCUSSION & CONCLUSION

- **Original hypothesis** "higher levels of state anxiety will lead to lower self-estimates of intelligence among undergraduate students" **supported** by results
- **Inverse relationship** between State-Trait Anxiety Inventory scores and Self-Estimates of Intelligence questionnaire scores
  - Higher scores on the State-Trait Anxiety Inventory = Lower scores on Self-Estimates of Intelligence questionnaire
- **Verbal scores** - Anxiety group had lower scores, they are rating their ability as lower prior to the test starting which caused lower verbal scores.

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