Measures of General Anxiety and Task Specific Anxiety in Relation to Resiliency

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Introduction

Resiliency & College Completion
People are outperforming their risk factors of math anxiety, poor math skills, and bad study habits in statistics and math courses.

- Scores recorded by MTSU found that 32% of students in statistics had rates of D, F and W (Middle Tennessee State University, 2019).
- The effect of cognitive and socio-emotional factors worked together to help individuals with reading disabilities cope and gain resiliency (Haft, Myers & Hoeft, 2016).
- Performance measured in statistics courses found that previous math experiences did not have a significant effect on performance (Johnson & Kuennen, 2006).

Literacy Based resiliency Model

- Participants enrolled in calculus showed that attitudes about math, a socio-emotional factor, has a greater effect on performance than GPA, a cognitive factor (Pzydrowski et al., 2013).
- Participants used breathing exercises to reduce math anxiety, this resulted in a 9% boost in accuracy performance (Brunyé et al., 2015).
- Participants in grade level school experience math anxiety, the study found that one of the components in cognitive factors showed fear and worry in math anxiety (Wigfield et al., 1998).

Current Study & Hypothesis

- Purpose of this study was to measure how general anxiety and mathematical anxiety affects different tasks and attitudes.
- We used these test battery scores to ask two research questions. First question looked at whether the relationship between anxiety and performance would replicate strong measurements. The second question looked at whether math anxiety is different than general anxiety.
- If the concepts are related there will be a strong correlation in scores on these three tests presented in the study.

Materials and Methods

Participants consisted of Undergraduate students taking Introductory Psychology.

Materials:
- Basic math skills were measured with the 15-item brief statistics and math quiz (BMSQ: Johnson & Kuennen, 2006).
- Levels of mathematical anxiety were measured with the Abbreviated Math Anxiety Scale (AMAS; Hopko, Mahadevan, Bare, & Hunt, 2003). General anxiety and moods were measured with the Generalized Anxiety Disorder Scale (GAD-7; Spitzer, Kroenke, Williams & Lowe, 2006).
- Resiliency during stressful and hard times were measured with the Brief Resiliency Scale (BRS: Smith, Dalen, Wiggins, Tooley, Christopher & Bernard, 2008).
- Persistence was measured as the reaction time to target absent trials in a visual search task (Tresiman & Gelade, 1980).

Results

- Pearson correlations were calculated to examine the relationships between the tests.
- Scores on the AMAS, Figure 1, were significantly correlated with scores on the GAD-7, Figure 2, and both were significantly correlated with BMSQ scores—this collinearity was addressed through a subsequent regression.
- A linear regression was calculated and BMSQ scores were predicted with scores on the two tests in the test battery.
- A significant regression equation was found, \( F(2,17) = 3.14, p = .069 \), with an \( r^2 \) of \(.269\).

Conclusions

In conclusion, the purpose of this study was to look at two factors—general anxiety and task specific anxiety—which relates more to performance. We found that task specific anxiety was more of a leading factor in performance than general anxiety. In future studies, the problem should be head on and work on what we can do to reduce this task specific anxiety.

References