

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

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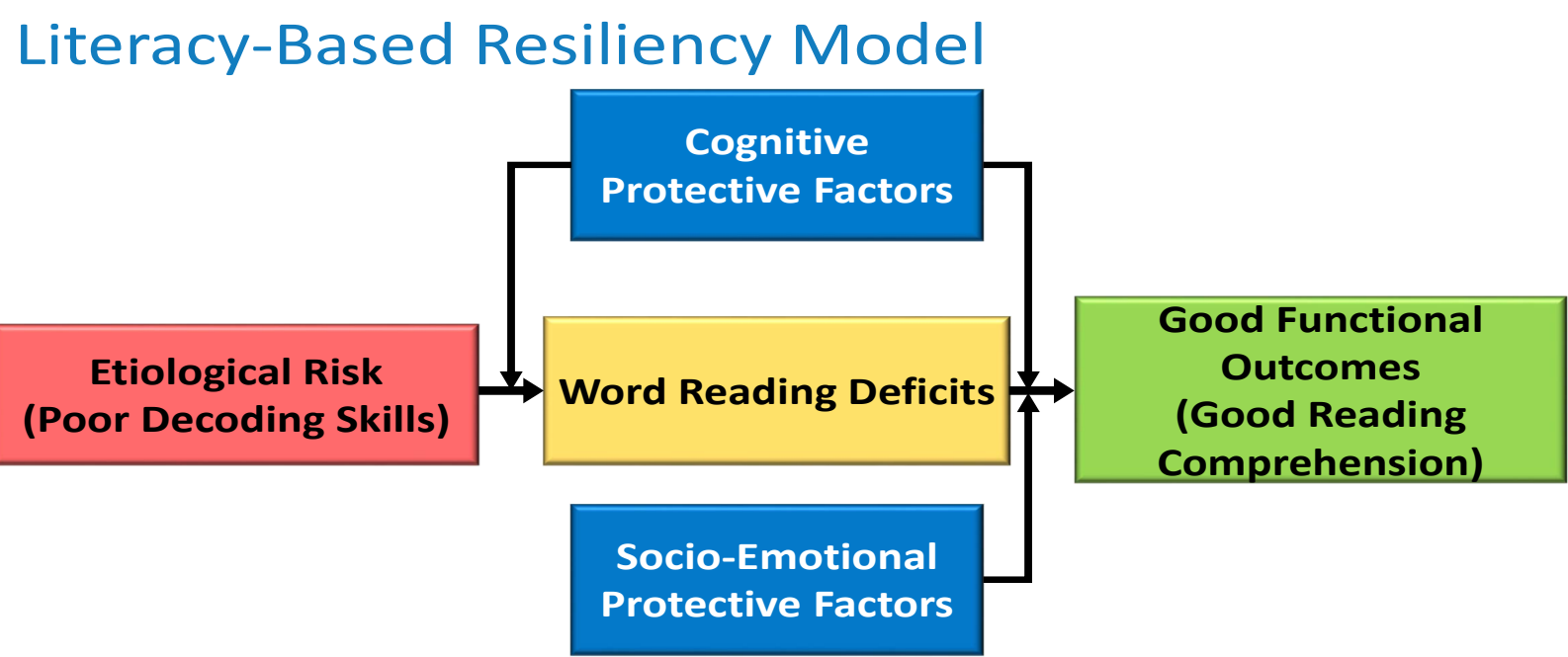
Introduction

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 (Pyzdrowski et. al., 2013).
- Participants used breathing exercises to reduce math anxiety, this resulted in a 9% boost in accuracy performance (Brunyé et. al., 2013).
- 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; Spritzer, Kroenke, Williams & Lowe, 2006).

Please rate each item below in terms of how anxious you would feel during the event specified.

Item	Low Anxiety	Some Anxiety	Moderate Anxiety	Quite a bit of Anxiety	High Anxiety
Having to use the tables in the back of a mathematics book.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thinking about an upcoming mathematics test one day before.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Watching a teacher work an algebraic equation on the blackboard.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Taking an examination in a mathematics course.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being given a homework assignment of many difficult problems which is due the next class meeting.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Listening to a lecture in mathematics class.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Listening to another student explain a mathematics formula.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being given a "pop" quiz in a mathematics class.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Starting a new chapter in a mathematics book.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Over the last 2 weeks, how often have you been bothered by the following problems?

Item	not at all	several days	more than half the days	nearly every day
Feeling nervous, anxious or on edge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Not being able to stop or control worrying	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Worrying too much about different things	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trouble relaxing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being so restless that it is hard to sit still	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Becoming easily annoyed or irritable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feeling afraid as if something awful might happen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- 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 trails in a visual search task (Treisman & 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 scores in the test battery.
- A significant regression equation was found, $F(2,17) = 3.14, p = .069$, with an r^2 of .269.

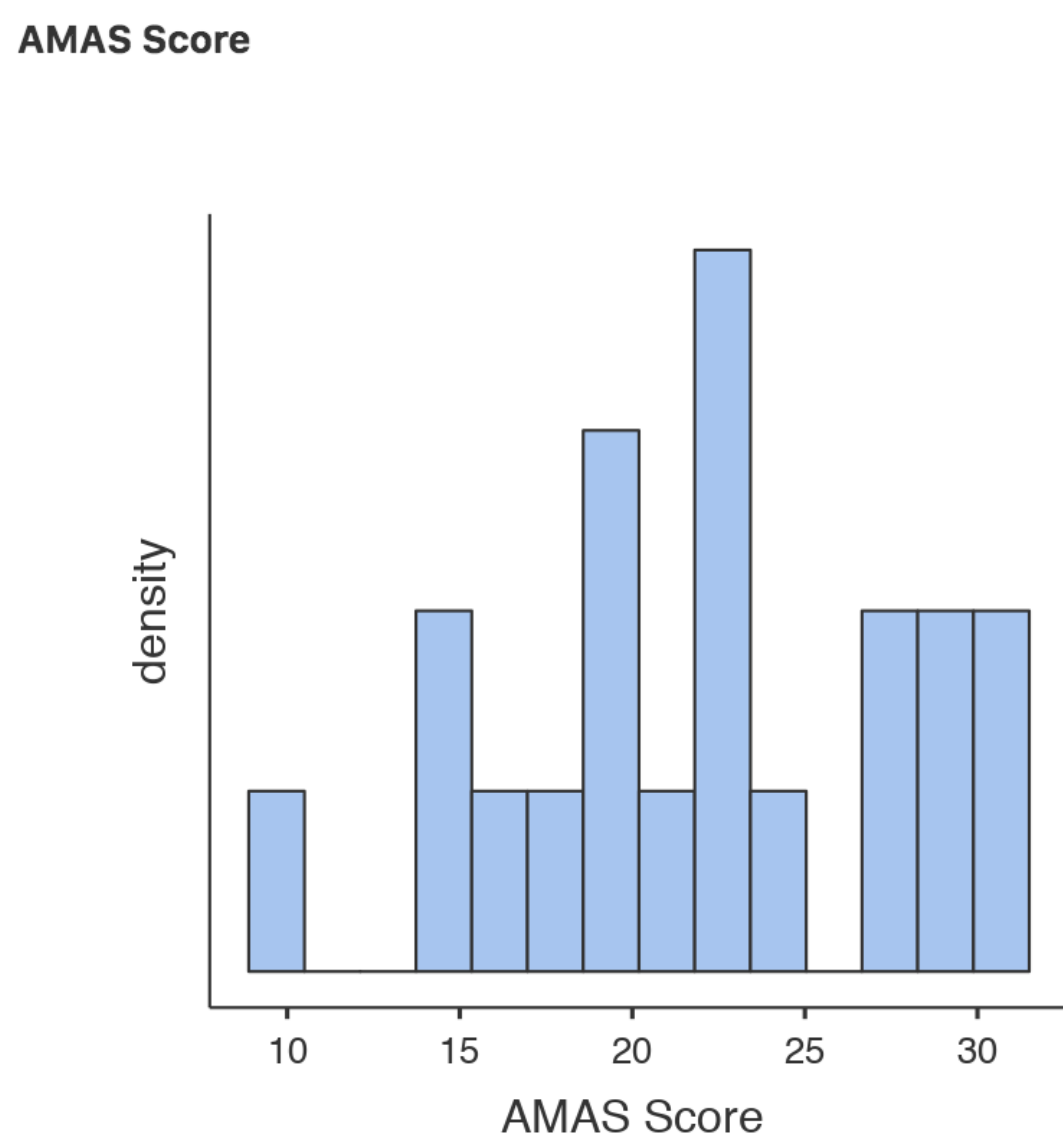


Figure 1

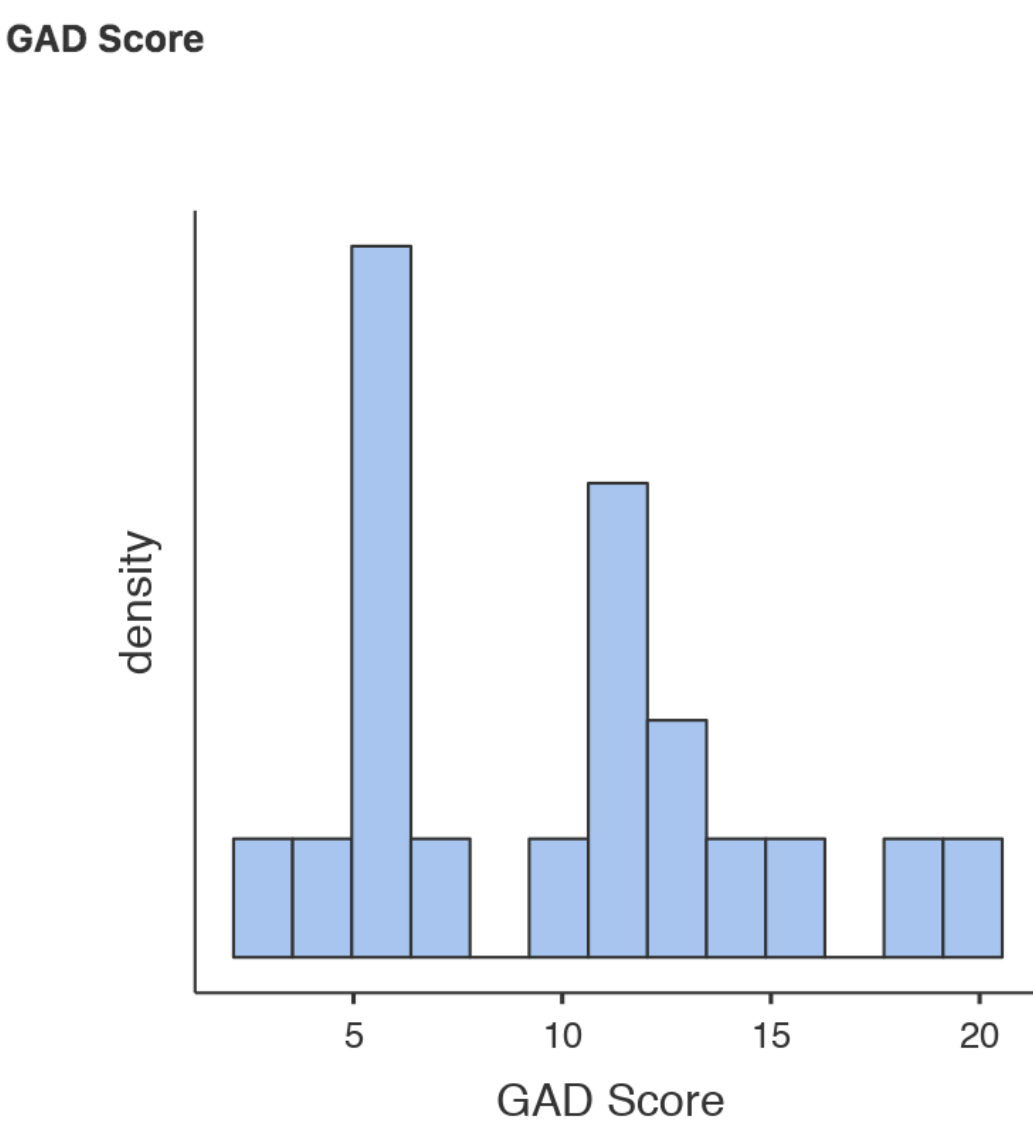


Figure 2

Conclusions

In conclusion, the purpose of this study was to look at two factors— general anxiety and task specific anxiety and 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.

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