

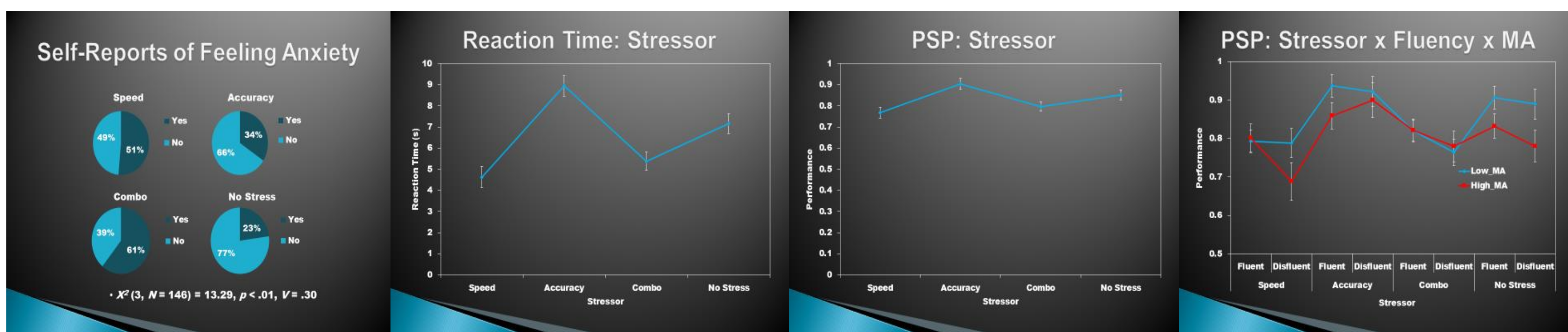
Examining the Role of Different Types of Pressure in Math Anxiety and Performance

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Overview

Math anxiety (MA) can negatively impact individuals' performance on math tasks, especially those tasks with high working memory (WM) demands. Individuals who are highly math anxious often avoid situations that involve performing math tasks (Ashcraft, 2002). The level of anxiety experienced by individuals may be affected by different pressure situations (Beilock & DeCaro, 2007). The present study examined the role of different types of pressure (speed, accuracy, or combination [speed + accuracy]) in math anxiety and math performance. We used a 2 (Trial) x 2 (Fluency) x 2 (Problem Difficulty) x 2 (True/False) x 2 (WM) x 2 (MA) x 4 (Stressor) design. We asked participants ($N = 146$) to solve modular arithmetic problems in one of the four stressor conditions. Of particular interest were participants' performance and reaction times (RTs) in each of the four conditions. Results indicated that experiencing anxiety during a math task has a negative impact on math performance. Results also indicated that speed pressure might be more detrimental to math performance than accuracy pressure. This study provides insight as to what types of pressure are more likely to produce the negative impact of math anxiety on math performance.

Key Findings



Sample Stimuli

Modular Arithmetic

	Fluent	Disfluent
Easy	9=6 (mod 3)	7=3 (mod 5)
Difficult	25=15 (mod 5)	37=16 (mod 7)

Explanation

- ❖ RTs fastest in Speed condition
- ❖ Performance did not follow same pattern as pressure experienced
- ❖ Time pressure appears to be more detrimental to math performance
- ❖ Low MA > High MA except in Combo condition.
- ❖ Low MA can also experience negative impact of math anxiety

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