The Effect of Prior Knowledge on Verbal Task Performance
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Background

- Prior knowledge is knowledge one already has of events, situations, and activities.
- Verbal Task Performance is one’s performance on passage-based questions and sentence-based questions. These types of questions can be seen in the SAT’s critical reading section. Verbal Task Performance is supposed to measure a student’s critical reading abilities.
- Research has shown that having prior knowledge, learned from our experiences in the world, improves memory performance (Steyvers & Hemmer, 2012). We can recall that we saw a desk in an office because there are usually desks in offices.
- There are possible disparities in the SAT. African American students usually score lower on the SAT than Caucasian students (Davis & Temp, 1971) and students in a lower SES score lower than students in a higher SES (Crouse & Trusheim, 1988).

Objectives

- To understand how prior knowledge plays a role in verbal task performance.
- To understand if the SAT really does measure critical thinking. If a student cannot answer a question that requires an amount of non-academic knowledge using critical thinking, then this may not measure critical thinking abilities.
- To understand how prior knowledge not learned in the classroom, or non-academic knowledge, (e.g., ballet) contributes to performance on the SAT.

Stimuli/Experimental Design

1. What is your GPA?
   - A. <2.0
   - B. 2.0-2.5
   - C. 2.5-3.0
   - D. 3.0-3.5
   - E. >3.5

2. What languages do you speak? You may circle more than one.
   - A. English
   - B. Spanish
   - C. Form of Chinese dialect
   - D. Form of Indian dialect
   - E. Other

1. How much knowledge do you have of ballet? Please circle your response.
   - 1. Ballet
   - 2. Some knowledge
   - 3. Moderate knowledge
   - 4. Expert knowledge
   - 5. Don’t know

2. How much knowledge do you have of India/Indian culture? Please circle your response.
   - 1. Ballet
   - 2. Some knowledge
   - 3. Moderate knowledge
   - 4. Expert knowledge
   - 5. Don’t know

1. Although the rigor of ballet dancing are primarily _____, this art is also emotionally and spiritually _______.
   - (A) Illusory... taxing
   - (B) Exaggerated... balanced
   - (C) Physical... demanding
   - (D) Appealing... indulgent
   - (E) Strenuous... dubious

2. In India, a wealthy person may travel in a ____ borne by means of poles resting on men’s soldiers.
   - (A) Palanquin
   - (B) Gondref
   - (C) Bibelen
   - (D) Lampoon

We expect to find that the more prior knowledge a participant possesses, the better their performance on the exam will be. This will be due to an increased familiarity with different exam topics.

In condition 1, participants will have more prior knowledge of the questions. In condition 2, participants will have no prior knowledge of the questions, making them more difficult to answer correctly.

This research is important because if a group with more non-academic knowledge on topics performs better on the exam than groups with less non-academic knowledge, then this is unfair to use in a college entrance exam.

Future Directions

- Examine how prior knowledge plays a role in passage-based performance
- Examine how prior knowledge plays a role in other exams like the ACT and the GRE.
- To understand how students from different races, cultures, and ethnicities perform on the exam w and w/o non-academic knowledge.

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