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Individual Personality Differences
in Relationship to Memory for Trivia Questions

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Skidmore College
Individual Personality Differences

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The purpose of this study was to demonstrate the relationship between individual differences in personality and one’s memory for trivia. Different personality traits (such as self-monitoring tendencies and self-esteem levels) were compared to one’s accuracy of memory (number of trivia questions thought to be correct, actually correct, and incorrect) to see what, if any, associations existed among all the variables. Several researchers in psychology have already studied memory errors and noted some prominent findings that have proven influential in the field. For instance, Hasher, Attig, and Alba (1981) explored and contributed the “knew-it-all-along effect”. This effect was reported as the tendency of individuals with outcome knowledge to claim that they previously were correct when, in fact, they were incorrect. Thus, if an effect such as this exists in this study, participants should report having correctly answered trivia questions that they had actually answered incorrectly.

Method

Participants

Thirty-six students at a small liberal arts institution participated in this study. However, some variables (namely “Overestimation Errors” and “Self-Monitoring”) could not be computed for all participants and thus the total count for the correlations involving these variables may be slightly less. All participants were enrolled in upper level psychology courses and were required to participate in this study as part of their laboratory requirement for the course.

Materials
Sixty trivia questions from the game “Trivia Pursuit” were transformed into multiple-choice questions and were titled as “Trivia Questions” in this study (see Appendix). These questions tested for knowledge of geography, history, etc.

Three self-evaluation questionnaires were also used. The “Self-Monitoring Scale” (Snyder & Haugen, 1994) was used to evaluate the participants’ self-monitoring tendencies. Participants responded “true” or “false” to 18 questions such as, “In a group of people I am rarely the center of attention.” Responses were tabulated such that 0 was the lowest possible self-monitoring score and 18 was the highest possible self-monitoring score.

Another self-evaluation questionnaire was based on Ross and Wilson’s (2003) “Temporal Self-Appraisal Theory”. This self-evaluation rated present and former selves at five different times (1st grade, 6th grade, first year of high school, senior year of high school, and current time) on a one (Much worse than average) to five (Much better than average) scale.

The “Rosenberg Self-Esteem Scale” (Rosenberg, 1989) consisted of 10 statements such as “On the whole I am satisfied with myself.” Participants responded on a 4-point scale (“Disagree Strongly” to “Agree Strongly”). This questionnaire was used to evaluate participants’ self-esteem levels with scores ranging from a minimum self-esteem score of 10 to a maximum self-esteem score of 40.

**Procedure**

First, each participant read and signed the “Informed Consent Form” that described the purpose of the laboratory, the procedure, and the rights they had as participants to withdraw from the lab at any time. After signing and handing in the consent forms, each participant was given the “Trivia Questions.” Participants were then instructed to answer the trivia questions and turn over their packets as a sign that they were finished. When all packets were turned over,
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Participants were given the three self-evaluation questionnaires and were directed to complete all self-evaluation questions. These questionnaires were arranged together as a packet in the following order: the “Self-Monitoring Scale” first, the self-evaluation based on the “Temporal Self-Appraisal Theory” second, and “Rosenberg’s Self-Esteem Scale” last (Rosenberg, 1989; Ross & Wilson, 2003; Snyder & Haugen, 1994). However, the participants did not know what each scale was testing because each scale was labeled with the following generic title: Self-Evaluation 1, Self-Evaluation 2, and Self-Evaluation 3.

After completing all the questionnaires, the experimenter read out loud the trivia questions and correct answers. The participants recorded whether or not they thought that they answered each question correctly or incorrectly. Their responses were based solely on what they remembered when hearing the answer of each question read out loud, not from looking back at their answers to these questions.

Before being dismissed, the participants took part in a short debriefing about the study during which they were further notified as to what it was actually examining and were able to contribute any of their thoughts, questions, or concerns about the study.

Results

Four correlations were analyzed for this study. The variables that were used in these correlations included: “Trivia Correct” (the actual number of trivia questions that the participants answered correctly), “Self-Esteem” (the participants’ score on the Rosenberg Self-Esteem Scale), “Trivia Thought Correct” (the number of trivia questions that the participants thought were answered correctly, but could have actually been right or wrong), “Overestimation Errors” (the number of trivia questions that participants thought were answered correctly when the answers were actually incorrect), and “Self-Monitoring” (the participants’ evaluation of their self-
monitoring tendencies). When calculating the statistics for these correlations, simple regression equations were used with a significant p-value level of ≤ .05.

A simple correlation analysis was applied to the variables “Trivia Thought Correct” and “Self-Esteem” to see if a relationship existed between the two. There was no significant linear relationship between the number of trivia questions that participants thought were answered correctly and self-esteem, \( r(34) = -.045, p = .796 \). To determine if participants were sensitive to their ability to answer the trivia questions correctly, we computed the correlation between “Trivia Correct” and “Trivia Thought Correct.” There was a significant positive linear relationship between the actual number of trivia questions answered correctly and the number of trivia questions that the participants thought were answered correctly, \( r(34) = .851, p < .001 \).

Two correlations assessed the extent to which personality variables were related to a participants’ exaggeration of their performance on the trivia test (the “knew-it-all-along” effect). In the first analyses, there was a marginally significant negative linear relationship between the number of questions participants thought had been answered correctly when the answers were actually incorrect (“Overestimation Errors”) and self-esteem, \( r(26) = -.368, p = .054 \). In the second analysis, there was no significant linear relationship between the number of questions participants thought had been answered correctly when the answers were actually incorrect (“Overestimation Errors”) and self-monitoring tendencies, \( r(26) = .062, p = .404 \).

Discussion

In analyzing the four correlations, there does not appear to be a strong or significant relationship between the various facets of personality and an individual’s memory of trivia questions. Furthermore, it is evident that the findings of this study are inconsistent with the “knew-it-all-along effect” as proposed by Hasher et al. (1981). In fact, within the “Trivia
Thought Correct” and “Trivia Correct” correlation, participants who thought they answered more questions correctly (when their actual answers could have either been correct or incorrect) actually answered more questions correctly. The significant positive relationship that exists between these two variables shows that participants were not affected by “outcome feedback,” which is inconsistent with their prediction. Furthermore, based on the “knew-it-all-long effect,” one would assume that high self-monitors would tend to think that they got more questions right when the answers were actually incorrect. However, in the “Overestimation Errors” and “Self-Monitoring” correlation, the opposite was true. No significant linear relationship was apparent between participants’ self-monitoring tendencies and amount of questions they thought had been answered correctly. Thus, this correlation reinforces the lack of the “knew-it-all-along effect” in this study. Yet, one of the reasons why this theory was not evident in this study may have been partially due to the operation of other variables. Because trivia is not something that is highly valued in American culture (and more specifically in the participants’ generation), the participants with high self-monitoring tendencies may not have felt the need to regulate their behavior as much in this social situation and say that they answered more questions right than they actually did. This third variable could have also been a factor in the correlation between “Overestimation Errors” and “Self-Esteem” where people with low self-esteem levels seemed to think they answered more questions correctly when the answers were actually incorrect. This marginally significant negative relationship is evidence that the participants’ self-esteem levels might not have been influenced by the trivia questions because the questions might not have held any personal significance or value. The lack of a correlation between “Overestimation Errors” and “Self-Esteem” could also be due to this extraneous third variable. If the trivia questions were on pop culture or were labeled as an “IQ Test,” the participants might have felt that these
questions were more pertinent to their lives, therefore thinking that they answered more questions correctly, and consequently experiencing an increase in self-esteem.

In future studies related to individual personality differences and memory, the questions that are used to test memory might have a greater influence on personality traits (specifically self-monitoring tendencies and self-esteem levels) if they are on a topic more valuable to the participants included in the study. In addition, the study could be more powerful if a larger sample size is used. As a result, this relationship seems to have potential for great significance and is worthy of further investigation with more valuable assessment materials and a larger sample.
References


Appendix

Trivia Questions

1. What is the only country crossed by both the equator and Tropic of Capricorn?
   a. Australia
   b. Brazil
   c. Chile
   d. Zaire

2. Who was the first U.S. President born in the 20th Century?
   a. Ronald Reagan
   b. William J. Clinton
   c. John F. Kennedy
   d. Richard M. Nixon

3. What island is home to statues called Mauis?
   a. Maui
   b. Guam
   c. Easter Island
   d. Borneo

4. What group did the Wilson brothers form in 1961?
   a. The Yardbirds
   b. The Kinks
   c. The Turtles
   d. The Beach Boys

5. Who won Oscars for her roles in Gone with the Wind and A Streetcar Named Desire?
   a. Vivien Leigh
   b. Elizabeth Taylor
   c. Dorothy Lamour
   d. Veronica Lake

6. What did Sherlock Holmes keep in the toe of a Persian slipper?
   a. coins
   b. pipe tobacco
   c. locker combination
   d. photograph of Watson

7. What capital city lies at the junction of the Sava and Danube rivers?
   a. Vienna
   b. Zagreb
   c. Belgrade
   d. Bucharest

8. Who said: “The victor will never be asked if he told the truth”?
   a. George W. Bush
   b. Adolf Hitler
   c. Napoleon
   d. George Patton

9. What foreign city is visited most by Americans?
   a. Paris, France
   b. London, England
10. What were the dolls in Jacqueline Susann’s *Valley of the Dolls*?
   a. Barbies  
   b. models  
   c. actresses  
   d. pills  

11. What body of water does the Colorado River empty into?
   a. The Gulf of California  
   b. The Gulf of Mexico  
   c. Pacific Ocean  
   d. The Mississippi River  

12. What George M. Cohan song was written to boost morale in World War I?
   a. *It’s a Grand Old Flag*  
   b. *The Red, White, and Blue*  
   c. *Battle Hymn of the Republic*  
   d. *Over There*  

13. How many U.S. states border California?
   a. two  
   b. three  
   c. four  
   d. five  

14. What Shakespearean play featured Shylock?
   a. *The Tempest*  
   b. *Hamlet*  
   c. *The Merchant of Venice*  
   d. *Othello*  

15. What’s the captain of a curling foursome called?
   a. the coxswain  
   b. the header  
   c. the skip  
   d. the boot  

16. How many deeds did Hercules perform to free himself from bondage?
   a. three  
   b. six  
   c. nine  
   d. twelve  

17. How many U.S. presidents were assassinated during Queen Victoria’s reign?
   a. none  
   b. one  
   c. two  
   d. three  

18. What nationality was Aladdin?
   a. Chinese  
   b. Arabian  
   c. Turkish  
   d. Egyptian
19. What are love apples?
   a. Macintosh apples
   b. pomegranates
   c. tomatoes
   d. Cortland apples

20. How much did a McDonald’s hamburger cost in 1963?
   a. ten cents
   b. fifteen cents
   c. a quarter
   d. fifty cents

21. Who wrote *The Night of the Iguana*?
   a. Ernest Hemingway
   b. Lillian Hellman
   c. Jimmy Buffett
   d. Tennessee Williams

22. What was originally called the Pluto Platter?
   a. The Frisbee
   b. McDonald’s Kid’s Meal
   c. The Dish antenna
   d. The Jetson’s house

23. How many points are there on a Backgammon board?
   a. twenty
   b. twenty-four
   c. twenty-eight
   d. thirty-two

24. What state did Bobby Kennedy represent as a U. S. senator?
   a. Massachusetts
   b. Delaware
   c. New York
   d. Pennsylvania

25. What’s the world’s warmest sea?
   a. Black Sea
   b. North Sea
   c. Baltic Sea
   d. Red Sea

26. How many Olympic games were cancelled because of World War II?
   a. none
   b. two
   c. three
   d. four

27. How many transatlantic trips did the Titanic make before sinking?
   a. none
   b. one
   c. two
   d. three
28. How many compartments does a cow’s stomach have?
   a. one  
   b. two  
   c. three  
   d. four  

29. How many points are there on the Statue of Liberty’s crown?
   a. five  
   b. seven  
   c. eight  
   d. ten  

30. What comedian was born Allen Stewart Konigsberg?
   a. John Stewart  
   b. Jay Mohr  
   c. Woody Allen  
   d. Henny Youngman  

31. What European capital celebrated its 2,000th anniversary in 1951?
   a. Brussels, Belgium  
   b. Madrid, Spain  
   c. Rome, Italy  
   d. Paris, France  

32. How many stripes are there on Israel’s flag?
   a. two  
   b. three  
   c. four  
   d. six  

33. What country contains the Waterloo battlefield?
   a. Germany  
   b. France  
   c. England  
   d. Belgium  

34. What was Paul Bunyan’s ox’s name?
   a. Blue  
   b. Babe  
   c. Buster  
   d. Brute  

35. What’s the largest lake in the world?
   a. Black Sea  
   b. Lake Superior  
   c. Caspian Sea  
   d. Great Salt Lake  

36. What country offered Albert Einstein its presidency in 1952?
   a. Germany  
   b. Israel  
   c. Brazil  
   d. Lithuania
37. Who composed *Twinkle, Twinkle, Little Star* at the age of five?
   a. Beethoven
   b. Mahler
   c. Vivaldi
   d. Mozart

38. What river tumbles over Victoria Falls?
   a. Nile
   b. Lualaba
   c. Cubango
   d. Zambesi

39. What’s the southernmost state in the U.S.?
   a. Texas
   b. Florida
   c. California
   d. Hawaii

40. What’s the largest museum in the world?
   a. The Smithsonian
   b. The Museum of Natural History
   c. The Louvre
   d. The Royal Museum

41. How many Gutenberg Bibles are there?
   a. 1
   b. 21
   c. 46
   d. 104

42. What amendment to the U.S. Constitution ended Prohibition?
   a. The Nineteenth
   b. The Twenty-First
   c. The Twenty-Third
   d. The Twenty-Fifth

43. What country has the most coastline?
   a. Canada
   b. The United States
   c. Australia
   d. China

44. How many U.S. state capitals are named for presidents?
   a. two
   b. three
   c. four
   d. five

45. Who said: “Soldiers win the battles and generals get the credit”?
   a. Dwight Eisenhower
   b. Omar Bradley
   c. Ulysses Grant
   d. Napoleon
46. What Indian tribe defeated Custer at the Battle of Little Big Horn?
   a. Sioux
   b. Kiowa
   c. Apache
   d. Navajo

47. In what city is Karl Marx buried?
   a. Moscow
   b. Leningrad
   c. London
   d. Berlin

48. What country is Timbuktu in?
   a. India
   b. Burma
   c. Algeria
   d. Mali

49. What’s a banger in London?
   a. a drummer
   b. a sausage
   c. a fire alarm
   d. a bad driver

50. How many bails are there in a cricket wicket?
   a. two
   b. three
   c. four
   d. eight

51. Who wrote The Red Badge of Courage?
   a. Ernest Hemingway
   b. Mark Twain
   c. Stephen Crane
   d. Thomas Melville

52. What organ contains the islands of Langerhans?
   a. the liver
   b. the pancreas
   c. the heart
   d. the thyroid

53. What city’s old quarter is called the Plaka?
   a. Berlin
   b. Istanbul
   c. Athens
   d. Madrid

54. What’s the name of the archipelago at the southern tip of South America?
   a. Cape Horn
   b. Strait of Magellan
   c. Archipelago de los Chonos
   d. Tierra del Feugo
55. What ocean surrounds the Sargasso Sea?
   a. Indian Ocean
   b. Arctic Ocean
   c. Atlantic Ocean
   d. Pacific Ocean

56. What country contains the easternmost point in South America?
   a. Argentina
   b. Brazil
   c. Colombia
   d. Uruguay

57. What fraction pure is 18-carat gold?
   a. one-third
   b. one-half
   c. three-quarters
   d. two-thirds

58. What war did Florence Nightingale tend the troops in?
   a. Crimean War
   b. Spanish-American War
   c. World War I
   d. World War II

59. How many U.S. states border on the Great Lakes?
   a. six
   b. eight
   c. nine
   d. ten

60. What U. S. city had the first subway?
   a. New York
   b. Chicago
   c. Baltimore
   d. Boston