

Stereotype Threat and Arousal

Article Review



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STEREOTYPE THREAT AND AROUSAL

I. Reference

O'Brien, L. T., & Crandall, C. S. (2003). Stereotype threat and arousal: effects on women's math performance. *Pers Soc Psychol Bull*, 782. Houston: Society for Personality and Social Psychology Inc.

II. Study Design

- a. The type of the present study is correlational.
- b. The scientists chose the correlational type of research because they intent to compare the level of students' anxiety in the situation of stereotype threat with the level of students' arousal under the habitual circumstances.
- c. The purpose of the conducted study is to identify the connection between stereotype threat and arousal. Besides, the scientists' aim is to learn how and to what extent the enhanced anxiety influences the cognitive activity of the chosen sample. In addition, the researchers' goal is to find out if the level of arousal is different or similar for males and females under the same conditions of stereotype threat.

III. Variables

- a. In order to label the variables in the present study it is relevant to implement predictor/criterion terminology.
- b. Predictor variables include steady information that cannot be changed. For example, in a given research to predictor variables belong the level of the participants' education, their gender and race. Besides, it includes the persistence as a steady personal characteristic, which functions as a control measure in the present survey. Meanwhile,



criterion variables cover the level of sample's arousal and the ratio of the stereotype threat. In addition, it includes the peculiarities of cognitive processes, connected with the above-mentioned phenomenon. In one word, to criterion variables belong a set of cognitive and emotional characteristics, which are supposed to be studied and correlated.

IV. Conceptual Definitions of Variables

a. The level of students' education is one of the main predictor variables in the chosen study and it has a critical role for the entire research. To be more specific, the age characteristics of the students presume easy arousal of mind (due to the ongoing processes of active growing of the young organism). Therefore, if the level of anxiety is connected to the stereotype threat, as the scientists expect, it would be easier to detect the chosen connection by observing young developing personalities. Besides, for the chosen group of individuals social life becomes especially important: it is the time when the students are supposed to widen their outlook and strengthen social bonds. Moreover, as is known, it is the time of active labeling, which may have a permanent impact of a certain person. Given the point, stereotype threat is expected to be especially prominent in the groups of adolescents. What is more, a given age group is old enough to be able to evaluate and reflect their feelings and emotions adequately. Finally, the procedure of performing the math tests is quite unfamiliar for a present sample since their major is psychology, which means that the initial circumstances are similar for both men and women. Another significant predictor variable is the gender of the participants. As is known, the females are expected to be more sensitive towards labeling and intent to seek the acceptance more fervently. That is why, it is important to recruit the sample of both genders in order to learn how exactly the stereotype threat affects the performance of the students. Besides, the level of students' intellect is also critical for the present research. For example, in order to test how the pupils cope with their mathematical tasks, it is imperative to exclude mentally handicapped individuals or those, who has deviances. It is an essential condition for getting the truthful and reliable criterion variables.



Apart from that, the ratio of participants' persistence is taken as invariability and serves to check the level of students' motivation to accomplish the test successfully.

b. The stereotype threat is the phenomenon that is known to affect the capacities of the individuals, seemingly, without a considerable reason. To be more specific, the operation principle of stereotype threat is that labeling or stereotype prejudices make people behave in accordance with the expectations of the other individuals. The tricky peculiarity is that the expectations can be subjective and even delusional (when the humans attempt to imagine how they are seen by the others, but fail to present a relevant picture). As it is expected a given self-scrutiny, triggered by the stereotype threat, increases the level of anxiety. Furthermore, presumably, the arousal serves as the accelerator of cognitive processes when the task is simple or moderate; and inhibits mental activity when the proposed task is difficult.

V. Participants

a. The participants of the conducted study were recruited among the students, who are the members of the introductory psychology class.

b. The number of the sample is 163, among them there are a prevailing part of men (105) and about one third of women (59). The ethnicity of the participants is quite various. For example, "7 African Americans, 6 Asian Americans, 4 Hispanics/Latinos, 2 Indians/Central Asians, 4 Native Americans, 137 Whites, and 4 people who indicated that they were of mixed ethnicity" (O'Brien, & Crandall, 2003).

VI. Procedure

a. The study takes place in the laboratory. Each of the participants is given a package with math tests with the header that informs the participants that the chosen test might show the gender differences. Notably is that the nature of gender differences is not defined, but it is presumed that the students would come to the conclusion that men are



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capable to demonstrate better results than women. In other words, the participants are supposed to decide that the given math test may prove that the males are smarter than the females. In order to check the level of anxiety, the students are asked to reflect the degree of their motivation. After the relevant questionnaire, the participants are told how much time they have to accomplish the first task. Hereafter, in a minute prior they are informed that the task should be completed within one minute. The members of the research are supposed to cope with three tests: one of them is easy, one is difficult and one is supposed to identify the level of student's persistence. The easy test includes three-digit multiplication tasks, whereas, the complex one consists of 15 tasks that cover the quantitative SAT. The test, which is meant to identify the level of math persistence presumes mental math: the students are told to make mental calculations and write down the correct answer. To complete 24 items of the mental math task they are given eight minutes. Undoubtedly, to perform the mental math test, the participants need to concentrate their attention and put considerable efforts, but in general, the tasks are pretty easy and require only subtraction and addition. Together with the motivation check, 94 pupils are asked to reveal their self-evaluation apprehension. The given item is included in order to measure the level of stereotype threat.

VII. Measures/Operational Definitions

a. To measure the level of persistence, the participants are given a mental test that is performed in a form of mental calculations and the final answers should be written in the application form. Despite being considerable easy, the test requires significant efforts and mental concentration. Consequently, the outcomes of the mental task display the participants' motivation to success with the proposed task.

b. It is expected that motivation is affected by arousal either in a positive or a negative ways depending on the level of task's complexity; and the anxiety may be triggered by stereotype threat. Given the interdependence of notions, along with the level of motivation, the scientists also hope to learn the ratio of anxiety, which in its turn may

display the possible influence of stereotype threat. Apart from that, to evaluate the level of motivation, the students are asked to measure their motivation using the scale from 0-till 100, in which 0 implies the absence of motivation, whereas, 100 means that a person is extremely motivated to excel. Besides, stereotype threat is measured with by the claims: "if I do poorly on this test, people will look down on me", also "if I don't do well on this test, others may question my ability" (O'Brien, & Crandall, 2003). The members of the research are supposed to confirm or deny the given statements.

VIII. Hypotheses (100)

Hypothesis 1 (H1):

The notion of male supremacy on mathematics generates stereotype threat only for women; and only if gender differences are implied and accentuated.

Hypothesis 2 (H2):

For women the arousal, caused by stereotype threat, reduces the quality of cognitive processes on complex tasks and, vice versa, enhances the level of intellectual activity if the proposed tasks are easy.

Hypothesis 3 (H3):

The motivation to succeed with the task is affected by the complexity of the proposed test: whereas, moderate difficulty advances the performance, complex tasks reduce one's motivation.

Hypothesis 4 (H4):

Despite the level of test's complexity, the stereotype threat manipulation does not affect male's math performance.

IX. Results (100)

a. Hypothesis 1 (H1):

As was expected, the idea of the male are able to cope with meth test



better than women begets a stereotype threat for females in a case when relevant gender differences are emphasized.

Hypothesis 2 (H2):

As is expected, arousal increases the performance on simple tasks and inhibits the performance on difficult tasks.

Hypothesis 3 (H3):

Contrary to expectations, the impact of stereotype threat affects only performance, but not the amount of efforts that are put in order to accomplish the task successfully. Simply put, it does not reduce the motivation.

Hypothesis 4 (H4):

As was expected, the stereotype threat manipulation is not related to male's math performance, regardless the complexity of the proposed task.

b. On the whole, the hypotheses of the researchers are confirmed by a given study.

X. Conclusions (100)

Stereotype threat survey reveals the importance of the situation. For instance, working on a math test in the same room males and females are put in different conditions, such as the possibility of the stereotype threat and enhanced arousal. In the circumstances stereotypes of incompetence, the individuals that belong to a negatively labeled group are more likely to experience heightened arousal. What makes the things even worse is that the given anxiety can inhibit one's ability to excel at difficult tasks. That is why it is strictly recommended to educate the individuals to cope with their arousal by implementing various relaxation techniques, and planning methods.

XI. Critique

a. The level of motivation, arousal and the stereotype threat is measured before observing the tests. It means that the complexity of the tasks is not taken in the account by the participants while reporting their inner conditions. If they have known the level of difficulty, the ratio of arousal could have been different.

b. Stereotype arousal is topical only in the society where it is born. If males and females are taught to have equal abilities for math, it means that they would not percept it as a hint that women are supposed to do worse with the test. The scientists imply, but do not state that men are supposed to overperform their female group mates. Nonetheless, the level of the development of the stereotypes for each particular person can be different, not even talking about the fact that in the given study men outnumbered the women. Besides, the gender of participants does not seem to be properly defined. For instance, if there are homosexual students among women, would they be affected by the gender stereotype in an expected way? Given the fact, either the researchers did not include the information regarding how they dealt with similar gender issues, or such peculiarities were not taken into account during the given survey.

