

Analysis of methods used to test hypotheses



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Sinclair, Verosky, Richeson, and Lun examined whether or not intergroup attitudes would affect the speed at which Black or White faces appeared to be moving, focusing specifically on Blacks. The researchers viewed this question as important because motion perception can reveal information about whether or not interracial threat changes the way Whites perceive how fast or slow Blacks move.

Previous research supports the idea that Blacks may be perceived differently and in a more negative light based off of a person's expectations but there is little research on how this may affect the speed at which individuals may perceive Blacks are thought to be moving. According to literature on threat perception, objects moving rapidly towards individuals often causes fear in humans as well as some other animals. More research on perception of threatening events reveals that individuals may perceive time as moving more slowly when experiencing a threatening event. These individuals thus experience a slowing bias.

Drawing on past research suggesting a slowing bias towards threatening events, this study asked the question of the extent to which Whites considered Blacks threatening affects how fast they are perceived to be moving compared to Whites. Their hypothesis is that Whites who feel more threatened by Blacks will perceive more of a slowing bias when seeing Blacks moving towards them.

The researchers used three experiments to test their hypothesis. In Experiment 1A, 105 White U. S. citizens were recruited and told that they were participating in a study on image perception. Researchers had a variety

of Black and White faces presented in random order. After a one second delay, all faces would appear an equal number of times in place of a white fixation cross on a black screen and would then remain on the screen for either 1.5 seconds or 3 seconds. The face would then enlarge, giving off the illusion that it was moving towards the participants. The difference in 1.5 seconds and 3 seconds was so that participants would feel as if there was some distinction in how fast the faces were moving. Participants then rated how fast the face seemed to be approaching from 1 to 8. Participants also completed the Intergroup Anxiety Scale to assess how participants viewed interracial threat. The results showed that as intergroup threat increased, so too did Black targets seem to be perceived as moving more slowly compared to White targets.

In Experiment 2, the researchers sought to test whether or not intergroup threat and speed bias also affected receding targets. This is done to eliminate the hypothesis that Blacks are perceived as moving more slowly because they are lazy rather than perceived threat. Thus, if this were the case, there would be a slowing bias for both receding and approaching Blacks. Another hypothesis is that intergroup anxiety is being mixed up with social anxiety. Since Blacks are not as familiar as Whites, Whites may be perceiving Blacks as moving more quickly due to social anxiety. Thus, they measured social anxiety in order to control its effects in the experiment. This time, the experiment showed faces that either enlarged or diminished to give the effect of approaching and receding targets. Experiment 2 was consistent with the hypothesis in Experiment 1 as participants found that

Black faces moved faster when approaching but not receding. Social anxiety did not significantly contribute to the variables in the experiments.

Experiment 3 directly tested the question that people would perceive time as moving more slowly by asking participants to estimate the time that has passed while viewing the moving stimuli. The experiment was similar to Experiment 1 except that it asked participants to focus inwards in order to judge the passing of time. Experiment 3 was similar to Experiments 1 and 2 in that Blacks were again perceived as moving more slowly than approaching Whites.

In Older Maternal Age Is Associated With Depression, Anxiety, and Stress Symptoms in Young Adult Female Offspring, researchers attempted to test how parental age affects their offspring and specifically on how older paternal age affects offspring. Previous research focused on psychiatric diagnoses and older parental ages. This study focused on the relationship between older parental age and mood disorders such as depression, anxiety, and higher stress levels as “ a function of parental age in young adults.” It attempts to expand on more than just diagnoses of psychiatric disorders and focuses on a wider range of stress symptoms in young adults as caused by older parental ages. It also attempts to see if there is a sexually dimorphic effect of parental age on their offsprings’ mental health.

The researchers drew from the Western Australian Pregnancy Cohort (Raine) Study’s statistics. This study recruited 2900 pregnant women were recruited in order to provide data and follow-up on children. They assessed anxiety, depression, and stress by using the Depression Anxiety Stress Scales which

measured things such as hopelessness, devaluation of life, self-depreciation, inertia, and more. Participants rated the severity of the symptoms in the past week from 0-3.

The date of birth and the parental age, both maternal and paternal, were recorded and calculated. 25-29 years of age was set as the reference group because this was considered the peak fertility age for Australian women at the time of the Raine Study. To test only on how parental age affects offspring, they adjusted for prenatal variables established as predictors of mental health outcomes including maternal education, maternal smoking, maternal stressful life events, family income, etc. They then compared the participants' characteristics with those of nonparticipants.

The results found that the characteristics of participants who took part in the current study were more likely to have older parents with mothers more likely to finish high school and less likely to smoke. Between males and females, female scores on the DASS-21 were found to score significantly higher while maternal and paternal age were somewhat correlated with each other. The researchers found that there was a significant correlation between maternal and paternal age and offspring gender for DASS scores. Because of this, the analyses on gender were stratified.

In the final adjusted models, which were adjusted for age of other parent and confounders, mothers with an age of 30-34 years were found to be associated with increased stress scores in female offspring in comparison to the reference group. Maternal age of 35 years and over was found to have an increase in depression, anxiety, and stress in all scores in female

offspring. Paternal ages, however, were not associated with a risk for higher DASS subscale scores in female children. Keeping with the results findings, young maternal age was found to be associated with decreased DASS subscale scores in female offspring and no other maternal or paternal ages were found to be significantly associated with DASS subscale scores.

This study differed from other studies and a lot of literature that suggested that older paternal age is linked to mood disorders in offspring. The researchers noted how this study depended on self-reported symptoms rather than clinical diagnoses; thus, the risk factors might differ from risk factors for more severe, clinical diagnoses. Overall, however, researchers found that an older maternal age of 30 years and above led to increased stress, anxiety, and depression primarily in female offspring.

In *Even Einstein Struggled* by Lin-Siegler, Ahn, Chen, Fang, and Luna-Lucero, the researchers questioned how learning about great scientists could impact students' efforts to learn science. Specifically, they attempted to challenge the belief that being a scientist depends on great talent by introducing a narrative-based learning approach that chronicles how scientists achieve knowledge through their struggles and failures.

They started their study by asking 9th and 10th graders what kind of people can be scientists and found that students replied with responses that were egalitarian. However, when examining whether the students themselves believed they could be scientists, many responded negatively about the possibility of working in science. Their study was designed to challenge students' beliefs that scientific achievement was based on talent and ability

rather than effort by challenging their views with narratives on scientists' struggles and efforts.

The researchers implemented story-based instruction in order to demonstrate how struggle is necessary for success in school settings. However, the story-based instruction presented some distracting factors for students because students could choose to ignore classroom instruction while students' internal values and beliefs could also interfere with the instruction