# Research paper on stereotype threat

Stereotype Threat in a High Stakes TestingEnvironmentJennifer J. Krebs Wilkes University

Abstract Given the rapidly changing demographics of today's classrooms combined with the high-stakes testing environment created by the passage of No Child Left Behind, it is important to understand potential explanations for the persistence of achievement gaps. Explanations for the achievement gap have included high populations of English Language Learners (ELLs), socioeconomic issues, lack of resources at the school, teacher, and student levels, and even inherent differences in the intellectual abilities of stereotyped and non-stereotyped groups.

A theory developed by Steele and Aronson, called stereotype threat, provided a radical view into how knowledge of stereotypes affects performance (McKown & Strambler, 2009). Stereotype threat is the experience ofanxietyor concern in a situation where a person has the potential to confirm a negative stereotype about their social group. The purpose of this research was to determine how and when children begin to develop knowledge of stereotypes and how stereotype threat affectsacademicperformance. Introduction

The diversity of student demographics increases every day. Therefore, teachers must be increasingly more aware of the cultural differences and challenges that students from diverse backgrounds bring to school. Not only are these students likely to learn differently based on their cultural expectations, but these students are also likely to possess knowledge of commonly held social stereotypes which can negatively impact their performance (McKown & Strambler, 2009). The current emphasis on high-stakes testing makes the achievement of all students extremely important.

Experimental research into performance gaps was limited prior to a groundbreaking study that focused on the possibility of stereotype threat. First described by social psychologist Claude Steele and his colleagues, stereotype threat (ST) has been shown to reduce the performance of individuals who belong to negatively stereotyped groups (McKown & Strambler, 2009). Since its introduction into the academic literature in 1995, stereotype threat has become one of the most widely studied topics in the field ofpsychology.

However, a major assumption of this theory was that children possess knowledge of commonly held social stereotypes. In order to address this assumption, the following qualitative studies were implemented to determine how and when children begin to develop knowledge of stereotypes. This research is combined with quantitative studies to determine how ST affects academic performance. Method Schaffer and Skinner (2009) examined student interactions within four fourth grade classrooms at a diverse public school in the southeastern United States.

Upon observing student interactions and conducting interviews, the researchers discovered several patterns. First, white children were less likely to engage in explicit race talk, while black students frequently engaged in openly racial discussions and often used commonly held stereotypes to identify themselves. Second, most minority students who performed at the high end of the class and participated in challenging academic programs relied heavily on racial stereotypes to bridge the social gap between themselves and their racial peers.

These students sought to distance themselves from the white students with whom they took advanced classes. Third, white students were more likely to describe students of other races as " loud" or " troublemaking" (Schaffer & Skinner, 2009). These observations suggest that students were not only aware of commonly held stereotypes, but strategically used them to organize their social world and dictate social functions. Another study, which examinedhigh school students, suggested that these trends continue as students mature rather than diminish. Lisa M.

Nunn (2011) observed six classrooms across three different high schools, and conducted 57 interviews with students to determine the ways in which students' classroom interactions reflected ideas about commonly held stereotypes. In one school, nearly half of the students interviewed said that race matters for school success. At another school, students expressed frustration with being racial targets and felt they had done nothing to provoke degrading views from their classmates. Furthermore, in a remedial English classroom consisting of eight students, the researcher noticed a ommon occurrence. Five of the students in this classroom were Latino, and three were white. The white students all had learning disabilities which hindered their language usage, while the Latino students' only handicap was that English was not their native language (Nunn, 2011). Combining ELLs with students with disabilities effectively treats the native language of ELLs as a learning disability. Between the racial views of the students and the systematic reinforcement of prejudices, it is easy to understand why students tend to hold views that race matters for success.

The question that remains is how does this knowledge of stereotypes affect student academic performance? McKown and Strambler (2009) conducted a study of 124 students ranging in age from grades K-4 in a suburban Chicago area. The students were given a series of vignettes to determine their ability to identify stereotypes and then placed indiagnosticor non-diagnostic groups to complete performance tasks. Consistent with prior research, minority participants in the diagnostic group performed worse than in the non-diagnostic group; and majority participants performed equally well in both groups (McKown & Strambler, 2009).

Desert, Preaux, and Jund (2009) administered Raven's APM to 153 children within first and third grades. In the diagnostic group, students were given the standard administration instructions as provided in the Raven's APM Administration Manual. In the non-diagnostic group, students were given instructions explaining that the test was actually a series of games that the researchers developed and were testing to determine their appropriateness for the students' age groups.

Researchers stratified the results based on socioeconomic status, arguing that negative stereotypes about the performance of low-SES students could result in ST. The results of the study showed that low-SES students in the diagnostic group performed significantly worse than those in the non-diagnostic group. The performance of high SES students did not differ significantly among the two groups (Desert, Preaux, & Jund, 2009). These results suggested that children in the early elementary years are not immune to ST, even on a test that is supposed to beculturefree. While all of these experiments support he theory of ST, one of the strongest arguments

to date relies heavily on developing technologies. Derks, Inzlicht, and Kang (2008) offered an overview of breakthroughs in social neuroscience research that highlighted biological factors underlying conditions of stereotype threat. The researchers discussed several experiments that used functional magnetic resonance imagining (fMRI), electroencephalography (EEG), and event-related potentials (ERP) to measure the neurological activities of participants when asked to perform tasks under diagnostic and non-diagnostic conditions.

One study tested women under mathematical performance stereotypes and found that the conflict monitoring systems of the brain showed a mis-regulation of neural responses. This information supported the hypothesis that emotions aroused by ST conditions lead to a decrease in cognitive ability. The decrease in ability occurred because emotion-regulation centers of the brain experienced increased activity while areas of the brain associated with academic performance and cognition experienced decreased activity. The researchers cautioned that neuroscience experiments in the area are too new to allow for generalizations and definitive findings.

However, they argued that development of this area is crucial to the study and understanding of stereotype threat (Derks, Inzlicht, & Kang, 2008). Results The assumption that the performance gap between stereotyped and non-stereotyped groups is solely rooted in cultural differences and limitations of students' background is restrictive. Research has shown that there is also a factor of social psychological threat related to knowledge and perceptions of stereotypes, which can depress test scores of stereotyped individuals.

The use of high-stakes testing in an overall environment of racial inequality perpetuates that inequality through the emotional and psychological power of the tests over the test-takers. While researchers have begun to delve into the intricacies as to how stereotype threat causes decreases in performance and other negative effects, there is still much research that needs to be conducted in order to completely understand the mechanisms that underlie the performance deficits that occur as a result of stereotype threat. Conclusion

In conclusion, stereotype threat is a pervasive phenomenon that has the ability to impact a variety of individuals in a number of ways. Current research offers us insight as to what stereotype threat is, how it impacts individuals, what mechanisms drive the relationship between stereotype threat and performance, and how we can begin to remediate some of the damaging impacts of this threat. Since the current emphasis on high-stakes testing does not appear to be diminishing, teachers and mentors should at a minimum equip students with knowledge about the possible effects of stereotype threat.

In this way, proactive strategies might transform a powerless situation into one where students are actively participating in discussions that illuminate the complexities and strengths of their educational futures. Teachereducationprograms should review their course curriculum and address any gaps in the discussion of standardized testing and methods to improve test scores. Changing test directions from diagnostic to non-diagnostic, educating students in malleable intelligence theories, and

reducing the generalstressof the testing environment are all methods which could be implemented.

References Derks, B. , Inzlicht, M. , & Kang, S. (2008). The neuroscience of stigma and stereotype threat. Group Processes & Intergroup Relations, 11(2), 163-181. Desert, M. , Preaux, M. , & Jund, R. (2009). So young and already victims of stereotype threat: Socio-economic status and performance of 6 to 9 years old children on Raven's progressive matrices. European Journal of Psychology of Education, 24, 207-218. McKown, C. & Strambler, M. J. (2009).

Developmental antecedents and social academic consequences of stereotype-consciousness in middlechildhood. Child Development, 80, 1643-1659. Nunn, L. (2011). Classrooms as racialized spaces: Dynamics of collaboration, tension, and student attitudes in urban and suburban high schools. Urban Education, 46, 1226-1255. Schaffer, R. & Skinner, D. G. (2009). Performing race in four culturally diverse fourth grade classrooms: Silence, race talk, and the negotiation of social boundaries. Anthropology & Education Quarterly, 40, 277-296.