

# Ethnic Matching and the Achievement Gap: Seeking a Deeper Understanding

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In recent years, policymakers have sought to close the achievement gap between black and white students in America's schools. There is strong evidence that ethnic matching strategies result in greater student achievement among African-Americans on standardized tests. However, for all the present evidence, little is known about why ethnic matching leads to higher scholastic achievement. Through surveys conducted from Black/African-American students at Xavier University in Cincinnati, OH, this study seeks a deeper understanding of what lies behind improved scholastic performance of ethnically matched students. This author hypothesizes that ethnic matching will correlate with higher levels of student confidence. The survey sought to understand how having or not having a teacher of one's ethnicity impacts one's confidence in one's ability to perform academically well in high school and in college.

The achievement gap between White and Black students has been a topic of considerable debate, especially in this age of standardized testing. Researchers have identified a number of factors that contribute to the achievement gap. These factors are poverty, lack of resources, parental education, socioeconomic status, stereotype threat among others. The literature on closing the achievement gap overwhelmingly supports ethnic matching, but there is little understanding of the mechanisms that produce these positive results. For this study, the key independent variables are whether or not one has been ethnic matched and if one was ethnically matched, then when it occurred. The key dependent variable is the participant's confidence in their academic abilities.

Through surveys conducted from Black/African-American students at Xavier University in Cincinnati, OH, this study seeks a deeper understanding of what lies behind improved scholastic performance of ethnically matched students. This author hypothesizes that ethnic matching will correlate with higher levels of student confidence. The survey asks participants about their experience in high school and at Xavier University as it relates to ethnic matching and their confidence in their academic abilities.

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### **Explanations for the Achievement Gap**

Many scholars seek to explain the achievement gap that exists between whites and blacks with regard to standardized testing. Among the explanations, the common themes of poverty, lack of resources, parental education, socioeconomic status, lack of ethnically diverse teachers, and stereotype threat are found in the literature on the subject. Nonetheless, disagreement over the extent to which each factor has an impact on student achievement varies from author to author. The disagreement in the literature accounts for the variance in approach to closing the achievement gap.

Some scholars have found a negative relationship between poverty and student achievement (Viadero, 2000; Bainbridge and Lasley, 2002). In other words, as poverty level increases, student achievement tends to decrease. Strikingly, Viadero (2000) found that schools with a significant proportion of impoverished students (i.e. 25 percent or more) correlated with lower performance of all students at the school.

Other scholars have chosen to focus on the relationship between parental educational attainment and student achievement. Bainbridge and Lasley (2002), for instance, found a positive relationship between parental education and student achievement. In this case, educational attainment was measured by how far one went in school (e.g. elementary, middle, and high school, undergraduate, graduate, doctoral, etc.). The relationship between parental educational attainment and student achievement matters because students with parents of lower educational attainment may have trouble receiving assistance from their parents in terms of help with homework (Bainbridge and Lasley, 2002). Hence, the achievement gap flows from the gap in parental educational attainment.

Other scholars have focused on the relationship between socioeconomic status and student achievement. In their research, they have found a positive relationship between socioeconomic status and student achievement. In other words, as socioeconomic status increases, student achievement tends to increase. More concretely, with higher socioeconomic status comes privileges such as access to more resources. For instance, college students are given access to professors and staff that are unavailable to those who do not attend their school. As was previously noted, differences in resources lead to differences in outcomes. Metaphorically, how can one expect to close the achievement gap when one group of students starts closer to the finish line than others? Due to factors beyond their control, students are finding themselves at varying positions along the path.

Another explanation for the achievement gap is "stereotype threat." Steele and Aronson (1995; Steele, 1997) contend that one of the reasons that African Americans underperform on standardized testing is due to the stereotype that African Americans are not intellectually capable. African American students internalize the stereotype and it hampers their ability to perform academically. To test this hypothesis, Steele and Aronson performed four studies which tested the effects of stereotype threat on African Americans. The studies found that in cases where the test was a diagnostic of their intellectual ability, the African Americans underperformed because they felt the pressure of stereotype threat. However, when the diagnostic component was removed, African Americans performed on the same level as Caucasian Americans. As young black males look at the statistical data about their demographic in relation to standardized testing, the pressure swells for them to overcome the trend.

Astonishingly, the notion of awareness of stereotypes of one's group having a relationship on student achievement calls into question many of the approaches targeted at closing the achievement gap. However, one approach has gained particular attention and garnered much support, namely ethnic matching.

One of the ways to reduce stereotype threat is to present positive examples of similar individuals who have overcome the stereotype. For instance, there are studies that examine the effect of introducing female role models to women threatened by the stereotype that women perform poorly on mathematic tasks in comparison to men (Jones, 2005; Marx and Ko, 2012). Variations of the studies on stereotype threat and women's mathematical performance utilize strategies such as presenting "gender fair" information to female participants in order to decrease threat (Boucher et al, 2011; Marx and Ko, 2012). In these studies, gender fair information claims that women perform equally as well as men on math tasks (Jones, 2005). One study found that women participants exposed to the "gender fair" information showed no gender difference in results (Jones, 2005). These studies provide a basis on which to test the question of whether or not these same results can be mirrored for racially or ethnically stereotype threatened groups.

### **Ethnic Matching and Achievement Gap**

Ethnic matching strategies counteract the effects of stereotype threat by providing students with teachers who are ethnically and culturally similar to them. Researchers (Eddy and Easton-Brooks, 2011; Dee, 2004; Zirkel, 2002) propose that ethnic matching of students and teachers as a viable option to close the achievement gap. As one observes, ethnic matching is not a concern for White students because the likelihood of having multiple White teachers is high. Nonetheless, for ethnically diverse students, having teachers who share the same ethnicity has been shown to have a positive impact on scholastic performance (Eddy and Easton Brooks, 2011).

Eddy and Easton-Brooks explored the implications of ethnic matching and school placement on the mathematics achievement of African American students from Kindergarten through Fifth grade. The authors compared data of 1,200 African Americans students' mathematics scores over time during their K-5 schooling. The study found that African American students that had at least one African American teacher "had a significant impact on mathematics achievement" (1280). Cases like Eddy and Easton-Brooks illustrate the importance of having teacher who relate to oneself. In politics, there is a concept called descriptive representation. Descriptive representation posits that constituents should have someone who looks like and has the same interests as themselves. As in descriptive representation in politics, there must be descriptive representation amongst the individuals who educate America's children.

Since ethnic matching requires more teachers of color, Thomas Dee (2004) provides further evidence to support the "aggressive recruitment of minority [ethnically diverse] teachers." Accordingly, Dee wishes to push pass what he calls the "hypothesized role-model effects for minority students." His research sought to determine if sufficient evidence exists to claim that ethnic matching helps to improve the scholastic achievement of African American males. Dee provides evidence to not only support this claim, but contends that both black and white students would benefit from the recruitment and pairing of ethnically diverse teachers. Along

the same lines as Eddy, Easton-Brooks, and Dee, Sabrina Zirkel (2002) performed a longitudinal study of 80 adolescents to explore the impacts of race- and gender-matched role models on students. In her research, she found evidence of the positive relationship between having at least one “race- and gender-matched role model” and higher academic achievement. Consistently, throughout the literature on ethnic matching, the notion of a student having at least one ethnically similar teacher and higher achievement recurs (Dee, 2004; Eddy and Easton-Brooks, 2011; Zirkel, 2002).

### **Research Question and Design**

Although several studies provide evidence for the positive relationship between ethnic matching and student achievement, there is a gap in the literature about what could explain the relationship. If ethnic matching works, the explanation of why it works remains unclear. There are several possible explanations for why one finds a positive relationship between ethnic matching and student achievement. One possible explanation is an improved student confidence in their abilities to achieve academically. Other possible explanations are the role model effect, teacher support, and greater student satisfaction. Hence, the question that will drive my research: *does ethnic matching correlate with higher levels of student confidence in their abilities to academically achieve?*

There are several confounding variables such as grade level, grade point average, and type of high school which are accounted for in the survey (see Appendix). These variables might explain the variance in the responses to the survey which were expected by the researcher. This correlational study measured the relationship between ethnic matching and student’s confidence in their ability to perform academically. The key independent variable is whether or not a student has been ethnically matched with a teacher of the same ethnicity. The key dependent variable is the level of the student’s confidence in the student’s academic ability.

My hypothesis is that ethnic matching will correlate with higher levels of student confidence in their academic ability. To seek a deeper understanding of the relationship between ethnic matching and student confidence, survey data collection was the best method because it allowed the researcher to account for multiple variables. The researcher conducted surveys of Black/African-American students at Xavier University. In the survey, students were asked to respond to questions about their high school and Xavier University experience (see Appendix).

### **Implications (Pre-Survey)**

The implications of ethnic matching matter tremendously if they can be shown to have a significantly positive impact on students who have traditionally underperformed. To the point of greater efforts to recruit ethnically diverse teachers, research in this field of study would further provide evidence that descriptive representation extends beyond political life to other areas such as education. At the state level, this research could translate into initiatives to have greater ethnic representation in public schools. At the federal level, challenges could be made to funding cuts in the Department of Education that are used to attract ethnically diverse talented individuals to consider becoming teacher.

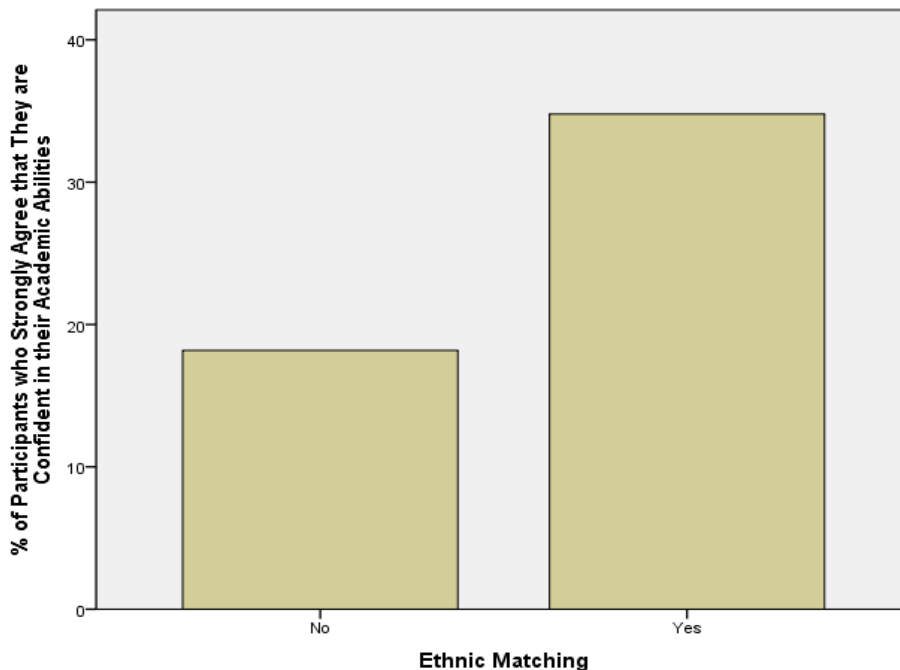
### Results and Analysis

My analysis indicates that 34.8% of participants who were ethnically matched at Xavier University (XU) strongly agreed that they were confident in their ability to perform academically at XU compared to 18.2% who were not ethnically matched at XU (See Figure 1 and Table 1). Although the percentage for those who were ethnically matched at XU remained the same, the percentage of those who were not ethnically matched rose to 63. 6%.

The relationship between ethnic matching at XU and student confidence was not significant because the p-value is .541 meaning that there is not statistically significant evidence that ethnic matching correlates to one's level of confidence in their academic ability (Table 2). Furthermore, the adjusted R square is -.019 meaning that -1.9% of the variance in the confidence of the participants can be explained by ethnic matching (Table 2).

One must note that for this sample, 81.8% of those who were not ethnically matched somewhat to strongly agreed that they were confident in their ability to perform well academically at XU. In addition, 73.5% of those who were ethnically matched somewhat to strongly agreed that they were confident in their ability to perform well academically at XU. Therefore, the overwhelming majority of both groups somewhat to strongly agreed that they were confident in their ability to perform academically well at XU.

**Figure 1: Ethnic Matching and Student Confidence in Academic Ability for Strongly Agreed Participants**



**Table 1: Crosstabulation for Relationship between Ethnic Matching and Student Confidence in Academic Ability**

			Ethnic Matching		Total
			No	Yes	
I feel confident in my ability to perform well academically	Strongly Disagree	Count	0	2	2
		% within Ethnic Matching	0.0%	8.7%	5.9%
	Disagree	Count	0	3	3
		% within Ethnic Matching	0.0%	13.0%	8.8%
	Neither Agree nor Disagree	Count	2	2	4
		% within Ethnic Matching	18.2%	8.7%	11.8%
	Agree	Count	7	8	15
		% within Ethnic Matching	63.6%	34.8%	44.1%
	Strongly Agree	Count	2	8	10
		% within Ethnic Matching	18.2%	34.8%	29.4%
	Total	Count	11	23	34
		% within Ethnic Matching	100.0%	100.0%	100.0%

**Table 2: Model for Relationship between Ethnic Matching and Student Confidence**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.109 <sup>a</sup>	.012	-.019	1.152

**Table 3: Model for Relationship between Ethnic Matching and Student Confidence**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.506	1	.506	.382	.541 <sup>b</sup>
	Residual	42.435	32	1.326		
	Total	42.941	33			

a. Dependent Variable: I feel confident in my ability to perform well academically

b. Predictors: (Constant), Ethnic Matching

c. N=33

### **Discussion and Additional Considerations**

Due to the low number of respondents at this time, the results are still inconclusive. Furthermore, GPA and Year at Xavier (controls) were the only variables found to be significant in the model. Also, although the respondents showed a high level of confidence in their academic ability, approximately half of the respondents' GPAs fell below a 3.0. Moreover, there does not seem to be much of a difference in the participants' experience with ethnic matching from high school to college. Since their experience between high school and Xavier was the same with regard to ethnic matching in most cases, ethnic matching seems to have no effect on the students' confidence at this time. Due to the inconclusiveness of the data, I can neither reject nor accept the null hypothesis at this time.

It is the hope of the researcher that further studies about the relationship between ethnic matching and student confidence will happen in the future. Although the black Xavier University students who participated in this study appear to have high levels of confidence in their ability to perform well at their institution regardless of ethnic matching, research at the K-12 level and at other institutions of higher learning may yield statistically significantly different results. This researcher is not willing to abandon his hypothesis that ethnic matching correlates to higher levels of student confidence in the broader population.

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## **Appendix: Survey Questions**

Thank you for participating in the survey.

1. Are you a transfer student?
  - a. Yes
  - b. No – THANK YOU FOR PARTICIPATING. NO FURTHER QUESTIONS.
  
2. Are you a full-time undergraduate student?
  - a. Yes
  - b. No – THANK YOU FOR PARTICIPATING. NO FURTHER QUESTIONS.
  
3. What is your race?
  - a. Black/African American
  - b. Hispanic, Latino or Spanish Origin
  - c. American Indian or Alaska Native
  - d. Other: please describe \_\_\_\_\_
  
4. What is your gender?
  - a. Male
  - b. Female
  
5. What type of high school did you attend?
  - a. Public
  - b. Private
  - c. Home
  - d. Montessori
  - e. Other (please explain):
  
6. How many years have you attended Xavier University?
  - a. This is my first semester at Xavier University.
  - b. One year, I am a first year student
  - c. Two years, I am a second year student
  - d. Three years, I am a third year student
  - e. Four years, I am a fourth year student
  - f. More than four years.
  
7. What is your approximate grade point average at Xavier University?
  - a. Less than 2.0
  - b. Higher than 2.0, but lower than 2.5
  - c. Higher than 2.5 but lower than 3.0
  - d. Higher than 3.0, but lower than 3.5
  - e. Higher than 3.5
  - f. I have not yet completed a semester.
  
8. What is your primary major (list):

9. List any secondary majors here:

For the following questions, indicate your level of agreement with the following statements:

10. I feel confident in my ability to perform well academically at Xavier.

- Strongly disagree
- Disagree
- Neither Disagree nor Agree
- Agree
- Strongly Agree

11. If I ever run into problems, I feel confident that I can access the resources and help that I need to succeed academically at Xavier.

- Strongly disagree
- Disagree
- Neither Disagree nor Agree
- Agree
- Strongly Agree

12. I am confident in my ability to achieve my future academic goals.

- Strongly disagree
- Disagree
- Neither Disagree nor Agree
- Agree
- Strongly Agree

13. I am confident in my ability to achieve my future professional goals.

- Strongly disagree
- Disagree
- Neither Disagree nor Agree
- Agree
- Strongly Agree

14. I feel comfortable asking questions in class.

- Strongly disagree
- Disagree
- Neither Disagree nor Agree
- Agree
- Strongly Agree

15. I feel comfortable talking with faculty members.

- Strongly disagree
- Disagree
- Neither Disagree nor Agree
- Agree
- Strongly Agree

16. Which best describes the racial composition of the student body in the high school from which you graduated?
- The student body was almost entirely nonwhite
  - The student body was mostly nonwhite, but there was a sizeable white population
  - The student body was fairly evenly balanced between nonwhite and white students
  - The student body was mostly white, but there was a sizeable nonwhite population
  - The student body was almost entirely white
17. Which best describes the racial composition of your *teachers* in the high school from which you graduated?
- The teaching staff was almost entirely nonwhite
  - The teaching staff was mostly nonwhite, but there was a sizeable white population
  - The teaching staff was fairly evenly balanced between nonwhite and white students
  - The teaching staff was mostly white, but there was a sizeable nonwhite population
  - The teaching staff was almost entirely white
18. During your high school experience, how often did you have a teacher who shared your racial or ethnic background?
- Never
  - Rarely
  - Sometimes
  - Frequently
  - Always
19. During your time at Xavier University, approximately how many faculty outside of your major have you taken courses with who have shared your racial or ethnic background? (NOTE: This is an estimate of the number of faculty, not the number of courses. Please provide a numeric response.)
20. During your time at Xavier University, approximately how many faculty within your major have you taken courses with who have shared your racial or ethnic background? (NOTE: This is an estimate of the number of faculty, not the number of courses. Please provide a numeric response)
21. Does your academic advisor share your racial or ethnic background?
- Yes
  - No

