For years economists have paid special attention to the disparities in academic achievement among minority groups in the United States. Particularly, the White-Black achievement gap has been the focus of many studies. On average, a Black seventeen year old reads at the proficiency level of a White thirteen year old and, in 2008, about 45% of Whites ages 18 to 24 were enrolled in college compared with 30% of Blacks (National Center for Education Statistics, NEAP). Economists find these achievement differences a pertinent research question particularly because the source of this gap is likely to inform the Black-White wage gap as well. Furthermore, Public policy choices for addressing the achievement gap may depend critically on the underlying source. Similar disparities exist for Hispanic and American Indian students, although fewer studies examine these groups.

Researchers have suggested a variety of explanations for why the Black-White achievement gap exists; findings vary substantially across datasets and measures employed. A common result is that socioeconomic status and general family background characteristics explain much of the gap (Phillips et al. 1998; Fryer and Levitt 2004; Armor 1992; Brooks-Gunn and Duncan 1997; Mayer 1997). Several other studies attribute the gap to differences in school quality and resources (Cook and Evens 2000; Hanushek and Rivkin 2006). More recently economists have started to investigate how behavior driven by cultural norms may explain the Black-White achievement gap and
find evidence supporting that an ‘Acting White’ effect exists (Fryer 2002; Austen-Smith and Fryer 2005; Fryer and Torelli 2010). This paper will summarize the ‘Acting White’ literature, both theoretical and empirical, and conclude with possible directions for further research.

‘Acting White’ is a term economists use to refer to a set of social interactions in which some minorities incur social costs for investing in behaviors characteristic of Whites. For instance, getting high marks in school may be associated with White behaviors which may also be in direct conflict with Black culture behaviors - i.e. the Black identity. Long before economists developed theoretical predictions about cultural norms and achievement, other disciplines within the social sciences were incorporating central concepts of identity with education. In particular, the Oppositional Culture Theory has been developed and tested by many ethnographers including Obgu and Fordham (1986).¹

The Oppositional Culture hypothesis is the notion that involuntary minorities feel oppressed by the dominant culture from experiences such as slavery, property seizure and restricted economic opportunities, and consequently “act out” in an antagonistic way by rejecting the dominant culture’s values, i.e. school goals. Black students will develop protective devices to promote their identity while simultaneously maintaining boundaries between themselves and the White dominant culture. The main prediction from this theory is that involuntary immigrants will perform more poorly in school, both in

¹ Other ethnographic studies that find evidence for Oppositional Culture are Willis (1977), Eckert (1989), Solomon (1992), Valenzuela (1999) and Hemmings (1996). It is important to note that these studies all use non-nationally representative samples and evaluate the Oppositional Culture Hypothesis for other minority groups besides Blacks.
environments that are predominantly involuntary immigrants and those that are more integrated, than non-immigrants or voluntary immigrants.

Obgu and Fordham (1986), Obgu (2003) as well as many other ethnographers use a case study approach and find evidence in favor of the Oppositional Culture hypothesis. Obgu and Fordham (1986) draw on anecdotal evidence gathered while spending time interviewing students at a segregated Washington D.C. high school and conclude that black students do not live up to their academic potential for fear of being accused of acting white. They assert from their findings and theory that Blacks cannot pursue successful schooling or professional careers without compromising their Black identity. There are several limiting factors in Obgu and Fordham (1986) and in general with the case study approach; first, the data collected are not nationally representative so the results may not generalize; second, the study compares the social status of low achieving Blacks to high achieving Blacks but the popularity of high achieving Blacks versus high achieving Whites is a more informative comparison.²

Several political scientists and sociologists, Cook and Ludwig (1997) and Ainsworth-Darnell and Downey (1998) respectively, empirically test the Oppositional Culture hypothesis using a nationally representative dataset, the National Education Longitudinal Study (NELS), and find no supporting evidence thus refuting Obgu and Fordham’s earlier findings. The authors regress a categorical social status variable on achievement and include individual controls as well as school fixed effects. Their results suggest that Blacks exert as much effort in school, have equally positive attitudes toward

² Comparing high achieving Whites to high achieving Blacks allows one to observe how race explains popularity holding achievement constant.
school and are less likely to miss ten or more days of school in a term than their White counterparts.

One critique of this study is that the authors use a self reported achievement variable, whether one gets the letter grade “A” in math, which may cause measurement error if Black students systematically overstate their grades and effort as some research suggests. An additional issue with these studies is that their measure of social status has little variation. Data for the outcome variable comes from a student response survey question, “how popular do you think others view you?”, “popular”, “somewhat popular”, and “unpopular”; where 80 percent of the responses were in the first two categories (Fryer and Torelli 2010). Finally, black students are more likely to drop out of high school than white students which likely means the reported results overstate the true effect of the Black’s achievement.

Fewer economic studies have investigated the role of identity as a possible explanation for the White-Black test score gap. Akerlof and Kranton (2000, 2002) are the first economists to develop a theory for identity and education that hinges on incentives and rational choice rather than a theory contingent on cultural norms and psychological traits. Akerlof and Kranton (2000) introduce a theoretical model for how one’s identity or sense of self affects economic outcomes. The authors propose a model in which individuals belong to different social categories where each category has a prescription; ideal physical attributes and behaviors of its members. The more closely aligned an individual’s characteristics are with their respective social category’s prescriptions, the higher their utility. An individual’s utility is thus an increasing function of identity and is affected by own actions and others’ actions. The inclusion of self identity will likely alter
results from previous economic analysis such as women’s labor force outcomes and achievement outcomes.

Akerlof and Kranton’s contribution to the identity literature, particularly their 2002 publication, is largely driven by their desire to answer the question; why school resources do or do not (as often found) affect the returns to schooling and what are the important elements for school reform. For decades sociologists and other social scientists have employed theory based on central concepts of identity to answer such questions but economists, prior to Akerlof and Kranton, have not considered implementing this idea into their returns to schooling literature. Akerlof and Kranton (2002) introduce a model with foundations from their earlier model, Akerlof and Kranton (2000), that links identity and education providing predictions about an individual’s human capital investment. The underlying assumption is that students maximize utility by choosing the optimal social category and the optimal level of effort for that social category. Their model provides a rational explanation for why Black students may underinvest in human capital; namely that social cost is too great.

Following the work of Akerlof and Kranton, Austen-Smith and Fryer (2005) present a slightly different theoretical model that also incorporates the ideas of identity with returns to schooling. The foundations for this model are based on the Single Audience Signaling Model developed in Spence (1973) but diverge slightly when a third party is introduced. In the Single Audience Signaling model individuals are randomly endowed by nature with an ability type, high type or low type, and have the option to invest in education. Firms will observe an individual’s investment decision and offer a wage accordingly; investment signals a high type and results in a high wage offer. Firms
pay a low wage to those with no education. The separating equilibrium is that high ability
types will always invest in education because the opportunity cost of the forgone wage is
greater than the cost of investment. Alternatively, low ability types will never invest
because acquiring education is prohibitively costly.

Modifying this model slightly, Austen-Smith and Fryer (2005) introduce a Two
Audience Signaling Model in which there is a worker, firm and social group. Individuals
are endowed with an ability type, just as in the single audience framework, but are also
endowed at random with a social type, high type or low type. High social types are
individuals that have characteristics that closely align with the group prescription. Firms
behave the same as they did in the single audience model by rewarding education
investment with a high wage. Social categories reward high social types with group
acceptance and reject low social types. Both ability and social type are assumed private
information and types are assumed to be uncorrelated such that a smart individual can
also be sociable. The direct and indirect cost of education investment is inversely related
to an individual’s ability type.

The equilibria are as follows: high ability types will pool on human capital
investment and low ability types will pool on no investment for the same reasons they did
in the single audience model. Including the third party, social category, alters the
equilibrium slightly such that the middle ability types pool on no investment;
consequently some individuals under invest in education when the cost of forgone social
acceptance is greater than the forgone high wage. An individual’s decision to “under
invest” in education is thus determined by her ability and social type which allows the
model to extend to academic behavior of other minority groups beyond Blacks.
The two distinguishing predictions of the model are that the relationship between social status and achievement differs across race and this difference is exacerbated in arenas with more interracial contact and mobility. The second prediction is less intuitive but Fryer (2006) explains that minority students in environments with high concentrations of dominant culture students experience a stronger negative relationship because their group identity is at greater risk, therefore the social cost for joining the “outsiders” is higher.

Fryer and Torelli (2010) empirically test predictions from the Two Audience Signaling Model by employing data from the National Longitudinal Survey of Adolescent Health (NLS-Add Health); they estimate the relationship between social status and achievement controlling for individual characteristics and school fixed effects. They are interested in investigating if an ‘Acting White’ effect exists, that is, if there is a social penalty for high achieving black students. Data from the NLS-Add Health is unique in that it tracks in-school social networks for the same individuals over time which allows the authors to construct an improved index of social status compared to the measures used in earlier empirical studies (Cook and Ludwig 1997; and Ainsworth-Darnell and Downey 1998). The authors construct a social status index ranging from 0 to 449 by using a self reported question that asks students to list up to five of their closest friends within the school. Based on these responses, each student is assigned a value indicating their level of social status; an individual’s social status is determined by the number of times she is listed as a friend and weighted by the level of popularity of those friends. The model is as follows:

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3 The author’s measure of social status is a binary variable constructed from a self reported question asking the student how popular he thinks others view him, “popular” or “un-popular”.

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Academic achievement is measured by school reported grade point average (GPA) and the ‘Acting White’ effect for Black students is the sum of $\beta_1$ and $\beta_3$. School fixed effects, $\eta_s$, and a vector of individual characteristics, $X$, are also included in the model.\(^4\)

Contrary to the earlier nationally representative empirical studies, Fryer and Torrelli (2010) find a significant and negative relationship between academic achievement and social status for Black students; evidence in favor of the ‘Acting White’ effect. Black students with a 4.0 GPA have on average 1.5 fewer friends than their White counterparts. The authors also find no ‘Acting White’ effect for low achievers and that the effect is more salient in public schools and in predominantly white schools. The authors conclude that the findings are evidence in support of the Two Audience Signaling Model and against the Oppositional Culture Model. Although Fryer and Torelli (2010) find no relationship between social status and achievement in private schools—which is consistent with Obgu and Fordham (1986)—the authors refute the Oppositional Culture Model based on the result that the social penalty is greater in schools that are less than 20% Black compared with schools that are 80% or more Black.\(^5,6\)

In order to reconcile the substantially different findings from Cook and Ludwig (1997), Fryer and Torelli (2010) use their specification to analyze data from the NELS.\(^7\)

To match their specification, they use school reported GPA as a measure of achievement,

\(^4\) Individual controls include self reported effort, parental education level and occupation, and involvement in school activities such as student government, athletics and cheerleading.

\(^5\) Predictions for this Model are (1) the relationship between social status and achievement will differ across race and (2) these differences will be exacerbated in environments with high levels of the dominant culture.

\(^6\) The Oppositional Culture Hypothesis predicts that non-dominant students will experience the same relationship between social status and academic success regardless of how segregated the school.

\(^7\) Cook and Ludwig (1997) use NELS data.
rather than self-reported grade in Math which is the measure Cook and Ludwig (1997) use, and find a small but negative relationship between social status and achievement among Blacks; contrary findings to Cook and Ludwig (1997). Additionally, Fryer and Torelli (2010) use NSL-Add Health data and estimate the relationship using measures similar to Cook and Ludwig (1997) and find no ‘Acting White’ effect. Together, this suggests Fryer and Torelli (2010) find evidence for an ‘Acting White’ effect because they have better measures of the variables of interest than earlier studies.

Fryer and Torelli’s results are also robust to a variety of alternative specifications; including controlling for the supply of friends in each GPA category to rule out the possibility that a low supply of high achieving Black friends drives the ‘Acting White’ result. A limiting factor of this study that is not addressed is the popularity of an individual across race. The social status index only accounts for same race friends, however, it may be that high achieving Blacks are friends with high achieving Whites rather than other Blacks, in which case the social status index may suffer from measurement error which likely undermines the results.

Although this literature review focuses on the ‘Acting White’ effect, several tangential areas of research may shed light on the topic. One closely related body of literature considers factors that influence an individual’s choice of group association. Duncan and Trejo (2007) examine the children of Mexican Immigrants who have married

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8 Fryer and Torelli (2010) construct a binary social status variable from NSL-Add Health survey data, “popular” or “unpopular” and use the student’s grade in math as their achievement variable.

9 The authors check for reverse causation, do grades cause social status or does social status cause grades, by regressing grades on social status and a parsimonious set of controls. They find this relationship is significantly dampened. They also use a similar specification using physical attractiveness as an instrument for social status. The first stage indicates attractiveness is a relevant instrument and the second stage suggests there is no difference in relationship across race; evidence that reverse causality is likely not an issue.

10 The authors construct a categorical variable from the continuous distribution of student GPA to account for the non-linear relationship between social status and achievement.
non-Mexicans and find these children are less likely to identify with the Mexican ethnicity compared to children of endogamous Mexican marriages. Similarly, Duncan and Trejo (2009) investigate the issue of selective ethnic attrition among Mexican Americans which likely hinges on self-identification and the factors that influence it. They conclude that empirical results will overstate the wage gap between Mexican Americans and Whites because most the successful Mexican Americans no longer identifying with that race.

The self-signaling literature is another closely related area to the ‘Acting White’ literature. Benabou and Tirole (2006) draw on two bodies of literature to develop a self-signaling model based on beliefs that relates identity and economic outcomes. The crux of their model is that people do not completely know their own motives so they infer them from their past actions. The demand side of the model focuses on beliefs and an individual’s concern for favorable self views; the supply side of the model emphasizes the role of imperfect memory in creating beliefs. Specifically, identity investments are thought of as self signals; individuals will judge themselves by what they do and not on the emotion that led them to the action because they do not remember those emotions.

The model has three main predictions: identity investment will be higher when objective information is scarce; individuals will continue to invest in identity capital even when the marginal return is low; and identity-related behavior is most important when one’s true values are uncertain – i.e. immigrants, adolescents and converts. A main part of this study focuses on identity and dignity where individuals who exhibit deviant behavior, such as fraternizing with outsiders, send a negative signal about the value of the

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11 An individual will invest even when the return is low because he is better off if he believes the assets will yield high future returns than if he doubts how much happiness the identity he gets from the investment yields.
group. In response, the group demands investment in order to repair the damage caused. Group norm violations that come from those that closely identify with the group have a stronger impact than those violations that come from those that are more loosely affiliated; insiders are more harshly punished.

There are many natural extensions of the ‘Acting White’ literature. In 2005, only 21% of American Indians scored at the proficient level on the NAEP math exam compared with 37% of all other test takers. In 2009, American Indians in the 10th percentile scored about 30 points lower than their White counterparts and the gap appears to shrink substantially at the upper end of the distribution (NAEP). Preliminary results reported in a working paper, Stoddard and Fischer (2010), suggest a large part of the test score gap can be attributed to socioeconomic status and school and state fixed effects. At this point, little to no economic research exists on the American Indian-White achievement gap.

American Indians are unique in their education opportunities and in how they have become assimilated into the “White Man’s” world. Initially, the Bureau of Indian Affairs operated a European style boarding school system with the goal of indoctrinating American Indians into the White culture. Today most American Indian students attend Bureau of Indian Education run schools, schools under tribal control, or public schools with a high population of American Indian students. Together, these aspects indicate the American Indian social category may have prescriptions that are in direct conflict with high academic achievement; that is human capital investment may oppose investment in group identity. For this reason, self identification may play an important role in explaining many labor market outcomes among American Indians.
American Indians are likely subject to high rates of selective ethnic attrition which makes estimating the achievement gap a difficult empirical task. Eschbach (1995), using Census reported data, find American Indians have high rates of intermarriage where less than half of the children from these marriages identify as American Indian. Also, those that report being American Indian have lower achievement outcomes than those that report being only part American Indian (Snipp 1989). Selective ethnic attrition creates an empirical challenge in that any results estimating economic outcomes among American Indians may be omitting the most successful members because they no longer self identify with the race (Duncan and Trejo 2005).

There are many other possible extensions of the literature including examining behaviors of social categories other than ethnicity such as gender, sexual orientation and religious affiliation. In particular, women’s labor market outcomes have been the focus of much research among labor economists and policy makers but little attention has been paid to how the role of self-identifying with the female gender influences said outcomes.

In conclusion, many other social sciences have incorporated the concept of identity into studies of educational outcomes and have found evidence via a case study approach in favor of the Oppositional Culture Hypothesis. A few non-economic studies have employed nationally representative samples and reject the Oppositional Culture hypothesis, finding no evidence that high achieving Blacks are less popular than their White counterparts and that Blacks have a more negative attitude toward school than Whites. More recently, economists have developed theory based on rational choice that incorporates the role of identity in explaining achievement outcomes. The first model hinges on identity being a function of an individual’s utility where one chooses optimal
effort and social category (Akerlof and Kranton 2000, 2002). The second model, the two audience signaling model, is based on the Spence signaling model of human capital but includes the social group as a third party. The predictions of this model stem from the opportunity cost in comparison to the cost of social investment. Last, Benabou and Tirole (2006) suggest a self-signaling model based on beliefs and an individual’s previous actions to explain level of investment in social groups and identity. Fryer and Torelli (2010) is the only economic empirical study that examines this phenomenon and finds evidence of an ‘Acting White’ effect. The limited studies that do exist provide a foundation for other potential research questions that address the topic of self-identification and economic outcomes.
REFERENCES CITED


