

LATINOS AND EDUCATION: A CRITICAL READER

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The Structure of Inequality and the Status of Puerto Rican Youth in the United States

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YOUTH OF COLOR IN THE 1990s

In a recent broadcast on ABC News Nightline (May 3, 1993) hosted by Ted Koppel on location from the Woods, a ghettoized housing complex in Jersey City, we learn the story of Hassan. Hassan's tale is similar to that of many young Puerto Ricans, African Americans, and Chicanos in the inner city. The program is filled with the images that have come to acutely characterize the inner city during the Reagan-Bush years: drugs, gangs, and violence on the streets. Hassan's mother is a single woman on public assistance. She is currently going to school. His father is in and out of jail. Hassan's older sister has a nine month old baby. Hassan is fourteen and has two younger brothers, one ten and one seven.

The story weaves together all the images with a single theme: "What will Hassan choose?" He does well in school and has what appears to be a remarkable capacity to repair and re-assemble electronic equipment. He also has a very protective mother. In fact so strong and protective that she assures the camera, without hesitation, that if any drug dealer ever approaches Hassan she will personally kill the pusher. She, like the vast majority of parents, wants Hassan to do well but is aware of what surrounds him. "What will Hassan choose?" This is the world of fast money, fast sneakers, fast clothing, and fast drugs: "What will Hassan choose?"

While watching the program, I could not keep myself from thinking about all of the statistics and probabilities that capture the factors that directly affect the type of life that Hassan will lead but none of which he selected. The point, I thought, is not so much what Hassan will choose but, rather, what kinds of choices will we, as a society, allow Hassan to make. I asked myself: will we, as a society, learn from his experience? Will we, as a society, appreciate his skill and develop his talent? Or will we, as a society, condemn Hassan for the collective crime of systematic prejudice? For being on the "wrong" side of a structure of inequality that systematically denies Hassan, and many other African-American, Chicano and Puerto Rican youth, equal access to opportunity in education and in the labor market?

This essay is an attempt to search for some of those answers. In order to do that I will discuss, and illustrate with relevant statistics, some of the systemic obstacles that our youth, particularly African Americans and Latinos, confront throughout their life course and that hinder their capacity to realize their full human potential. My goal is to have the reader ask him or herself, critically, whether a society that systematically limits the opportunities it makes available for youth on the basis of color, gender, and class can demand that those who are being excluded "choose to do for themselves" what in fact only a privileged few have the resources and the opportunity to do.

PUERTO RICAN YOUTH IN PERSPECTIVE

The last two decades have seen the continuation and, in important respects, the accentuation of troublesome trends in the socio-economic status of Latino and African-American youth. The available data show that over time the proportion of youth of color who have attended high school and received a high school diploma increased and the differences between them and whites decreased. At the same time differences in rates of participation in the labor market and unemployment between whites and other youth showed an increase. For example, the proportion of white, African-American, and Puerto Rican males 23 to 25 years of age who had completed high school or more was, respectively, 67.5%, 36.3% and 24.1%, in 1960; 80.4%, 58.8%, and 38.8% in 1970; and 86.7%, 73.3%, and 57.8% in 1980. This suggests that there still are significant differences in the levels of completed education but that these have stabilized for whites and have converged over time with those of African Americans and Puerto Ricans. In contrast, the unemployment figures show a fluctuating trend towards racial divergence. If we consider again young men 23 to 25 years of age we find that the unemployment rates for whites, African-Americans, and Puerto Ricans, respectively, were 5.7%, 11.2%, and 8.8% in 1960; 4.6%, 8.2%, and 6.0% in 1970; and 9.1%, 16.4%, and 12.3% in 1980.

The troubling nature of these trends led to a proliferation of research on the patterns, causes, and consequences of youth employment, in general, and African-American and Latino youth un- and under-employment in particular. In their path-breaking work in *The Black Youth Employment Crisis*, Freeman and Holzer summarize the major findings of the National Bureau of Economic Research conference as follows:

A variety of social and economic factors have contributed to the crisis. On the demand side of the market, we find evidence of several determinants, including local labor market conditions and demographics, discriminatory employer behavior, and the unattractive characteristics of the job held. On the supply side of the market, we find aspirations and churchgoing, opportunities for crime, the family's employment and welfare status, education, and the willingness to accept low wage jobs all to be important factors.

The findings from these studies, prepared by a prestigious group of economic researchers, though important for certain specialized audiences, mainly served to cor-

robortate what thousands of members of the African-American, Chicano, and Puerto Rican communities already knew. In our community, it has been well known that throughout their lives youth of color confront different sets of resources and socially constructed circumstances. This means that we face a different mode of integration into the school system, into institutions of higher education, and into the primary sector of the labor market.

Today, it is quite clear to researchers, policy makers, community activists, and parents, though admittedly in different ways, that any effort launched at integrating youth of color into the educational system, into the labor market, and into other social institutions must be predicated on a methodical analysis of the individual, structural, and institutional features that characterize the current forms of socioeconomic inclusion and exclusion. These processes must be analyzed and understood as experienced and felt by *all* social actors rather than as rudimentary features in simplistic and de-contextualized abstractions of an idealized social formation. In other words, individual outcomes can not and will not change without concurrent changes in the institutional forces that propel youth of color in one direction by blocking systematic access to others. This means, fundamentally, that the prevailing assumption that opportunities are widely and uniformly available for all youth and that youth of color, in particular, would succeed only if they developed the right attitude, imitated the correct role models, persevered in whatever type of school they are placed, and availed themselves of the necessary connections that lead on to "make it" in the world of work must be challenged. However, we must make clear that we are not arguing that our youth do not have any choices, but rather that they are embedded within a system of social production that places systematic, concrete, and cumulative limits on the types of opportunities and on the level and quality of resources that are vested in them and thus on the choices that they can and do make.

THE DEMOGRAPHICS OF YOUTH AND FAMILY POVERTY

One of the main problems in determining the socio-economic status of Puerto Rican youth is that statistics are often not gathered by group, or that when they are gathered they are usually not broken down by national origin but are presented in combination with those of the total Hispanic population. Recent efforts, like the Resource Guide prepared by Angela L. Carrasquillo, provide important discussions of key debates on the status of Latino youth, and present statistics that are helpful to researchers, policy makers, and members of the community. In this article I have drawn, among others, from Carrasquillo's work, the Children's Defense Fund report (Miranda) on Latino youth, and our work at the Centro in order to provide an alternative interpretation of the causes and consequences of the current socio-economic trends among Puerto Rican youth.

The Latino population is relatively young. In 1988 almost one out of every three Latinos in the country was under 15 years of age. The median age for Latinos of Puerto Rican origin in 1990 was 27.0 years of age whereas for Mexican-Americans it was 24.1 compared to 33.5 years for the rest of the population. The proportion of Puerto Ricans below 18 years of age was 36.7%, while it was 37.4% among Mexican-Americans and 26.2% for the rest of the population.

In terms of household income and poverty there has been a well documented change in composition and a decline in the socio-economic status of Puerto Rican families relative to other families. This means that Puerto Rican youth are being reared in families that have different resources with which to support and supply their multiple needs. The economic figures for 1991 show that median household income was \$16,169 for Puerto Ricans, \$22,439 for Mexican Americans and \$29,943 for the rest of the population. Simply put, Puerto Rican households in 1991 averaged a little more than half the income of that of the total population.

The poverty rate for children shows similar trends. A recent report by the Children's Defense Fund provides concrete population figures. In 1989, there were 2.603 million poor Latino children in the U.S. out of a population of 7.186 million Latino children or 36.2 percent. The bulk of Latino children in the U.S., 5.028 million, are Mexican-American and 1.867 million of them are poor (37.1%). Puerto Rican children totaled 750,000 with 48.4% or 364,000 living below the poverty line. If one adds the number of children slightly (between 100% and 200%) above the poverty line, the number for Puerto Ricans slightly above or below poverty climbs to 73.1%. Similarly, the proportion of children who live below half the poverty line is 22.2%. Essentially, these numbers mean that out of every four Puerto Rican children one lives well below the poverty line, one lives below the

Percent of Children In Married-Couple Families Who Are Poor or Near Poor - 1989

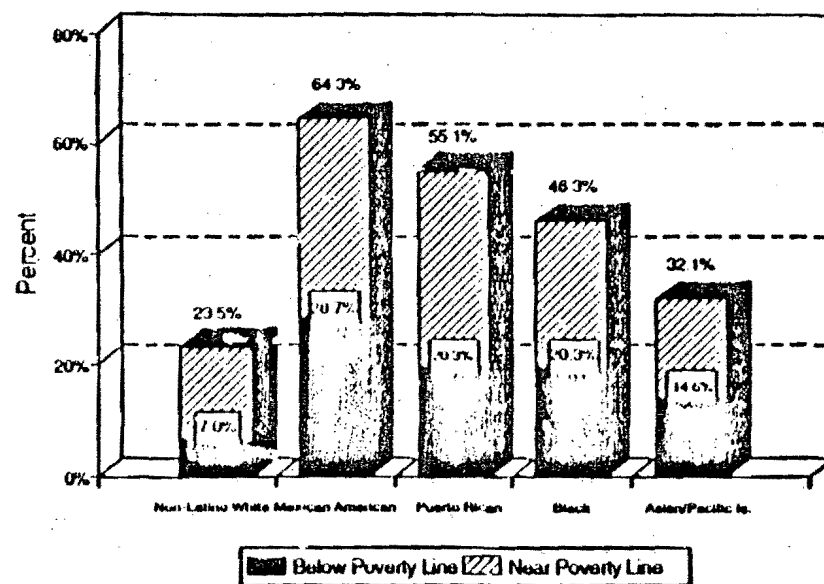


Figure 3.1.

Source: Miranda 1991, Graphs 16 and 19, pp. 23, 24.

line, one lives slightly above, and the fourth one lives clearly above the poverty threshold.

Family structure is consistently correlated to poverty rates. Gary Sandefur and Marta Tienda find that 43.2% of Puerto Rican households were headed by females. This proportion is almost identical to that of African Americans (43.7%) and substantially higher than that of whites (12%). This difference is important because female-headed households have much higher poverty rates than married-couple families. For Puerto Rican female-headed households the poverty rate was 74.4% while the poverty rate for similar white households was 36.2%, or almost half that of Puerto Ricans. However, one still finds that Latino children are quite likely to be poor in married-couple households. One out of every five Puerto Rican children (20.3%) living in a married-couple family was poor. This figure is higher than the 7.0% figure for the white population but lower than the 28.7% level for Mexican Americans. In other words, Puerto Rican children in married-couple families are three times more likely to be poor than white children in similarly structured families, while children in single headed families have a poverty rate that is two times higher (see Tables).

The socio-economic status of families and individuals in the Island of Puerto

Percent of Children Who Are
Poor or Near Poor - 1989

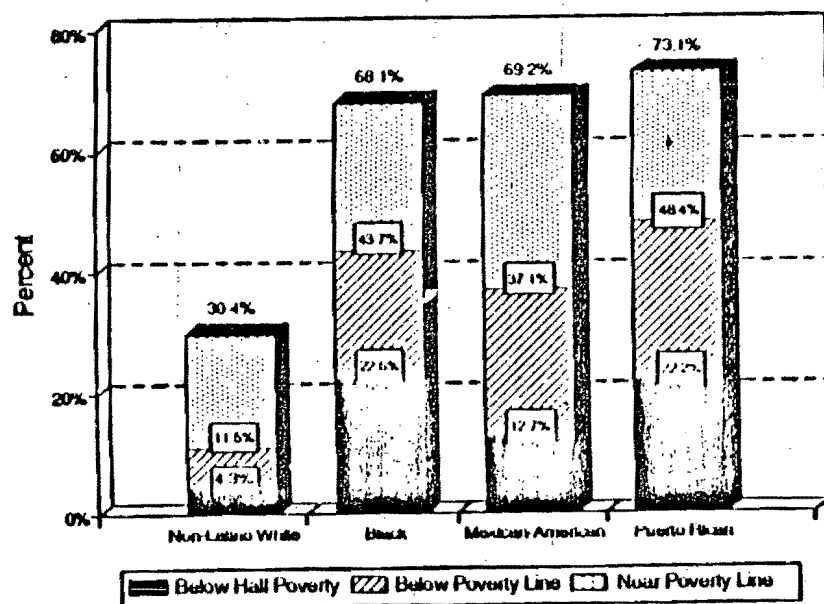


Figure 3.2.

Source: Miranda 1991, Graphs 18 and 20, pp. 24, 26.

Rico is connected to that of Puerto Rican families in the United States through migration, trade, and the operation of labor markets. In a recent report using figures from the 1990 Census, the National Council of La Raza reported that 58% of the population residing in Puerto Rico lived below the poverty line. The numbers also showed that the poverty rate for youth in Puerto Rico was 66.7%. The report added that 22.3% of youth aged 16 to 19 had dropped out of high school meaning, presumably, that they were not enrolled in school at the time of the census. Of this group 87.2% were either unemployed or out of the labor force. In other words, about 20% of Puerto Rican youth 16 to 19 years of age were neither in school or at work.

A brief overview of the statistics on Puerto Rican families and youth shows that they are relatively young and much poorer than the rest of the population which means that, clearly, these families have fewer material resources at their disposal. This is true for families located either in Puerto Rico or in the United States.

HOUSING CONDITIONS AND THE HEALTH STATUS OF PUERTO RICAN YOUTH

Housing and health issues are intimately related to the educational and economic outcomes for youth. In a paper prepared in 1988, Dolbear and Canales found that in 1983 Latinos had the highest incidence of housing problems. For Puerto Ricans the problems were especially acute. Puerto Ricans were the least likely to own their own dwellings, 21.5% compared to 50% for other Latinos. Housing costs for Puerto Ricans were the highest when compared to other Latino groups, and the conditions of the dwellings were the worst. Let me illustrate this with some figures from the study. Roughly 5% of Puerto Rican dwellings did not have adequate plumbing. In addition, 18% of the dwellings had rodent infestation; 12% had open cracks or holes; 10% had broken plaster, had the paint peeling, or had at least one room without electricity; while 10% of the houses had roof leaks. Fully 17% of all Mexican and 23% of all Puerto Rican households did not have a telephone.

The material conditions of the dwellings reflects the economic conditions of the community and are centrally related to both the physical and mental health status of the population. Puerto Ricans have the highest rates of infant mortality and the highest incidence of low birth weight among Latinos. In addition, the cumulative incidence of AIDS is 2.7 times higher among hispanics than among non-hispanic white youth. Another epidemic that has received less academic attention is the question of homicides among Puerto Rican youth both in the Island and in the mainland. A recent paper by Donna Shai (1992) from Villanova found that in the 1989-1990 period the homicide rate for Puerto Rican, white, and African-American males 15-19 years of age in New York City was, respectively, 84.71, 25.02 and 208.67 per 100,000. The comparable figures for males and females in the country in 1985, respectively, were 7.3 and 2.7 for whites, 46.4 and 10.3 for African Americans, and 32.4 and 3.0 in the Island of Puerto Rico. Essentially, the figures show that Puerto Rican and African-American youth, particularly young males, are much more likely to die violently than white youth. The issue, of course, is not just that youth of color are more likely to be murdered than white youth, but that in absolute

Poverty Rates of Children In Female-Headed Families - 1989

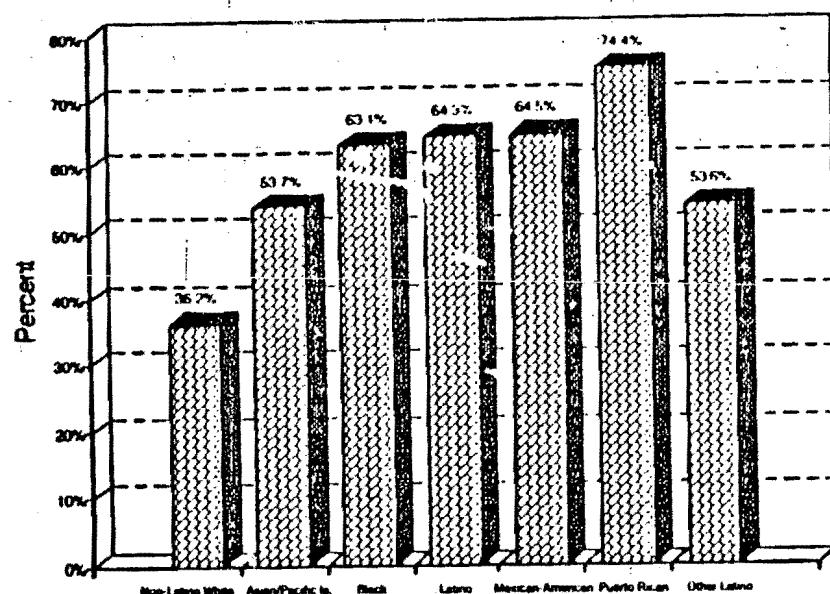


Figure 3.3.
Source: Miranda 1991, Graph 21, p. 27.

terms the quality of life has deteriorated to the point that they are dying violent deaths in high numbers at very young ages.

THE SCHOOL SYSTEM AND PUERTO RICAN YOUTH

According to the *Atlas of the 1990 Census*, the two largest school districts in the country are the New York City school system with 930,440 students and the Puerto Rico Department of Education with 650,720 students. The third and fourth largest districts are in Los Angeles with 609,746 and in Chicago with 408,201 students. This means that most Puerto Rican youth are being educated in systems that are quite large and that have extensive bureaucracies.

The main issues in the debates over elementary and secondary education evolve around two seemingly contradictory issues: a) theories that put emphasis on the functional role of the educational system either in perpetuating social inequalities or in democratizing opportunities for social mobility; and, b) research and advocacy around the question of whether the school system is properly addressing the multiple needs of students from diverse backgrounds and whether it is properly preparing them for higher education and for integration into the formal labor market. In their

book on schooling and work, Carnoy and Levin argue that as "a product and shaper of social discord, the school is necessarily caught up in the larger conflicts inherent in a capitalist economy and a liberal capitalist state." For them, then, schools are arenas in which the narrow needs of employers for a qualified workforce and conflicts over redistribution and democratization are played out.

Let me elaborate briefly on some of the contemporary debates on the school system. The first key issue is access to quality schools. Gary Orfield has shown that Latino children are increasingly attending schools that are mostly segregated. Segregation is an important factor because, as Massey and Denton have illustrated, it is also related, among other things, to the quality of schools. In commenting on the educational process of Latino youth, Angela Carrasquillo from Fordham University says:

Unfortunately, too many low-income Hispanic families are not becoming productive contributing members of society due to disproportionately high academic failure. One of the reasons for this failure is that Hispanic students are not attending the most successful schools. They are often in segregated schools, made up of mostly Hispanic and African American students, in which educational resources and physical facilities are mediocre. At times Hispanic students are placed in programs not suited for their needs. Equality becomes a responsibility of the school rather than the student. Quality programs as well as financial programs are not offered in most of the schools that Hispanic children and youth attend.

Despite the reservations one might have over defining the process of educational attainment mainly in terms of "success" or "failure," the central point is that students of color are attending institutions that seem, clearly, not to be responding to their needs. The question in this sense is not so much whether students as individuals "fail" or "succeed" but rather whether the structure of the school, the community, and the society in which schools are embedded is adequately addressing and fulfilling the needs of students of color. Arguably, if only a few students were not completing their high school education and going on to college one might want to focus primarily on the individual factors that determine the specific outcome. However, when between one third and one half of the population is not completing their high school education, particularly in the inner cities, this seems to be evidence that there are more systematic exclusionary forces at work. In this sense "push-out" is a more accurate concept than "drop-out" to describe the totality of the process.

Access to quality schools is intimately tied to retention. Measures of retention are inherently difficult to compute but there is consensus that the drop-out, or more accurately, the push-out rate for Latino youth is the highest in the country. Carrasquillo, for example, cites a study by The National Commission on Secondary Schooling for Hispanics that found that 45% of Mexican American and Puerto Rican students who enter high school never finish. This compares to a figure of 17% for white youth. According to Carrasquillo, some of the factors that have been identified as affecting Latino retention in school are: "(a) Poorly equipped and overcrowded schools; (b) Lower per pupil expenditures; (c) Segregated schools; (d) Schools at times understaffed and with limited basic resources; (e) High rate of grade

repetition; (f) Lower expectations by the school system; (g) High enrollment in vocational and general education programs."

These factors operate in conjunction with other school characteristics to disproportionately exclude Latino youth. In his research on schools, Orum identified features such as attendance, discipline and promotion policies, language used for instruction, availability of special instruction to meet special needs, and provisions to ensure parental involvement as critical school-level variables influencing Latino retention. As Carrasquillo notes, Latino children are at a disadvantage from the earliest of grades and these disadvantages increase over the life course as more and more obstacles are placed in the students' path.

Tracking, special education, language, and curriculum development are other central components that need to be carefully analyzed in order to understand the position of Puerto Rican youth in the school system. The evidence shows that Puerto Rican children are more likely to be placed in the low ability groups and more likely to be assigned to special education programs. These programs were not originally developed to address the specific needs of the students that they currently serve, and their stigmatizing role has repercussions throughout the students' academic life. Placement in low ability tracks and in special education programs is intimately tied to bilingual education and to curriculum development. Most Puerto Rican educators agree that Puerto Rican pupils need not only instruction in their native language (Spanish or English) and a mechanism that allows them to become literate and proficient in both Spanish and English, but also that the curriculum, or what is actually taught in the schools, needs to be tied to the students' life experiences and to the broader experience of other marginalized and non-marginalized groups in society.

PUERTO RICAN YOUTH AND THE LABOR MARKET

In recent years there has been an increasing amount of research on the labor market status of Latinos. In their recent book, *Latinos in a Changing Economy*, Rebecca Morales, Frank Bonilla, and their collaborators show how, particularly after 1970, the process of industrial restructuring and a change to a services dominant economy, in conjunction with a re-organization in the international division of labor and increases in migration, have led to increases in social stratification and inequality. It is within this macro-economic context, combined with the changing dynamics of racial and ethnic discrimination and segregation, that we must place the changing status of youth of color.

The figures that I will discuss in this section pertain mainly to young males. Unfortunately, the research literature has not focused on the status of young Puerto Rican women in the labor market. What we know about the labor market status of Puerto Rican women, in general, is that over the last three decades there has been a precipitous decline in their participation in the formal paid labor market. In 1950, Puerto Rican women had among the highest rates of labor force participation at 38.9%. By 1970 these rates had declined around 10% in absolute terms and had also declined relative to the rates of white and Other Hispanic women.

The proportion of young Puerto Rican males enrolled in school in 1980 continued its secular increase from the 1960 and 1970 level, but still there continued to be a large gap between Puerto Ricans and whites with a 10 to 15 percentage point difference for those between 17 and 22 years of age. It is important to note that the gap between Puerto Ricans and whites in the proportion of young males enrolled in school showed a substantial decrease between 1960 and 1980. For those between the ages of 20 and 22 years, 34.0% of whites were enrolled in school but only 18.9% of Puerto Ricans. The rates of participation in the labor force, however, decreased in absolute terms from their 1970 level for most age groups. The gap between Puerto Rican and white youth in labor force participation rates decreases with age to about a 14 percentage point difference between ages 20 to 25. Essentially, young Puerto Ricans males are going to school at a higher rate but participating less in the formal labor market.

In 1980 about 80% of whites were in the labor force while the comparable figure for Puerto Ricans was 67%. Between 1970 and 1980 there were also increases in Puerto Rican youth unemployment particularly at ages 17 to 19, and the difference in level between them and whites aged 20 to 25 continued to be about 1.33 times higher. For those enrolled in school, Puerto Rican rates of labor force participation were almost half what they were for whites at the younger ages, and they decreased with age while unemployment was almost double particularly for the group 17 to 22 years of age. For those not enrolled in school, the gap in participation rates was largest at the earliest ages (about 22 percentage points) and so was the gap in unemployment. The unemployment rate for Puerto Rican young males not enrolled in school was around 16% while it was around 11% for whites. In essence, gaps in participation and employment between Puerto Rican and white youth remain large across the range of ages from 17 to 25 years old and are somewhat independent of whether the person is enrolled in school or not.

In sum, the pattern that emerges when we look at labor force participation and unemployment clearly shows changes over time characterized by marked increases in non-participation and unemployment among young Puerto Rican males relative to whites. Trends in school enrollment show a modest increase for those 17 to 19 between 1960 and 1970 and larger increases between 1970 and 1980 for all age groups. However, the relative gap between Puerto Ricans and whites 20 to 22 years of age continues to be large, indicating that a smaller share of the Puerto Rican youth population is going on to college.

An analysis of demographic, educational, and labor force data clearly shows that gaps in Puerto Rican young male employment relative to those of whites have changed from slightly higher levels of Puerto Rican participation in the formal labor market in 1960 to relatively low levels in 1980. These trends coincide with a narrowing of the gap between whites and Puerto Ricans in levels of school enrollment; the number of years of completed education; and a reduction in the proportion of the young Puerto Rican male population that is island born, resident in a central-city location, and concentrated in New York state.

Quite clearly the role of youth in the labor market must be tied to an analysis of the institutional changes that have occurred in the U.S. economy during the last three decades. In their introduction to the special issue of the *Hispanic Journal of Be-*

Behavioral Sciences on Puerto Rican poverty and labor markets Clara Rodriguez and Edwin Meléndez suggest that,

Among the most important factors [explaining Puerto Rican poverty] are: the concentration of Puerto Ricans in cities and regions (e.g. New York and Chicago) that have undergone a rapid transition from a goods-producing economy to a service-oriented one; limited opportunities in housing markets that, in turn, limit the kinds and numbers of job opportunities that are available; quality of schools, and the quality of public services; and the persistence of racial and gender discrimination.

The role of discrimination in the labor market has been debated and contested both inside and outside of academia. A recent Urban Institute/GAO hiring audit can be a useful instrument in making some preliminary assertions about the extent and nature of discrimination against Latino youth in the labor market. The audit was conducted as follows: eight Latino men between 19 and 24 years of age were paired with eight Anglo men of the same age. Resumes were prepared and standardized so as not to reflect any significant differences in prior training or experience among the candidates. Every Sunday, a sample of jobs was selected from the newspaper and the applicants were made to follow the instructions in the ad. The beginning of the audits was alternated so that Anglos and Latinos within each of the eight pairs got to start the same number of audits (that is Anglos would go first in audit one and Latinos would go first in audit two and so on). The jobs selected were mostly entry level positions. There were 360 audits completed in Chicago and San Diego and, of these, 302 went all the way to the job offer stage. The outcomes were divided into three stages: application, interview, and job offer.

The results were quite revealing. Looking at the total number of times that testers reached each stage, we notice that 95% of Anglos got to fill out applications whereas 91% of Latinos did likewise. This indicates that during the initial contact Latino testers were less favored than Anglo testers, due either to heavier screening or just to a refusal to deal on the part of the employers. The biggest difference occurred between the application and the interview stages. The study found that 64% of Anglos were invited for an interview while only 48% of Latinos were. Essentially, 31% of Anglos and 43% of Latinos were eliminated even before the employer got a chance to interview them in person, and either test or otherwise assess their qualifications. After the interview the rejection rate for Anglos and Latinos was the same, 21% for Anglos and 20% for Latinos. All in all, 43% of Anglos and 28% of Latinos got job offers.

The Urban Institute Report also offers examples of qualitative differences in treatment between similarly qualified job seekers. These were instances in which both Anglo and Latino testers filled the application, but the Anglo got the job offer and the Latino did not. At face value this might seem random, but a closer examination of the context might reveal otherwise:

The setting is a restaurant and the position advertised entailed greeting customers, sitting them at the tables and giving them the menus. The Latino went in, filled the application and received a five minute interview. He was then told that they were going to look into other candidates and that he would be notified once they

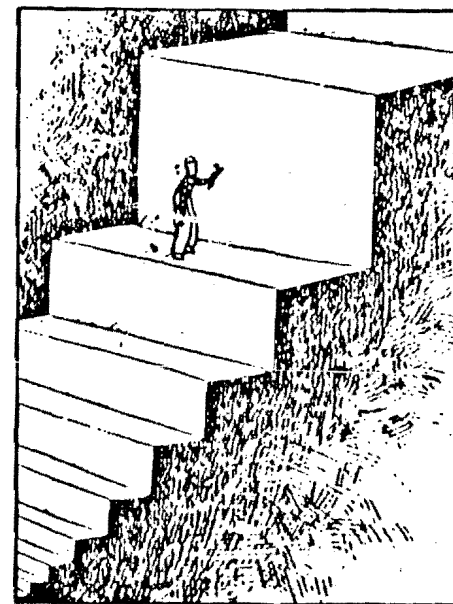


Figure 3.4.
Sergio Arau, *La Metafisica*. Editorial Planeta Mexicana S.A. de C. V.

made the decision. The Anglo partner went in about ten minutes after that. He emerged thirty minutes later and notified the Latino that he had gotten the job. That evening the Anglo called the place to turn the job down which meant that the position was open again. The Latino called the next morning to inquire about the status of his application and was told that the position had been filled.

On several occasions both the Anglo and the Latino filled the application, got the interview and the job offer, but were directed to different jobs within the firm. This instance is quoted in the GAO report: "The Latino tester filled out an application for a busboy job and had a short interview. The interviewer described the basics of the job and the pay. The Anglo tester filled out the application and had a longer interview during which he was told that he could soon move up to a higher paying bartender position or even a position as a host if he worked well." At another job, both the Anglo and the Latino got the offer, but the Anglo was told by the interviewer: "the minute you walked in the door I could see that you were of management quality." He was provided an explanation of how he could make it up the firm's occupational ladder.

In some cases, there was not even an effort made to screen the Latino tester over the phone. This example is also quoted in the GAO report:

A pair of testers applied for a position with a manufacturer that was listed under "shipping" in the Sunday *Chicago Tribune*. The advertisement spec-

ified that the company wanted a "dependable, hardworking person" and that the applicants should contact "Bill." The Latino tester called the specified number and, after inquiring about the job, was told by Bill that the position was filled. The Anglo tester called in 15 minutes later and "Bill" invited him for an interview later that day. After a 15 minute interview, the Anglo tester was offered the position.

The authors of the Urban Institute Report (Cross et al., 1989) argue that the figures from the audit are an underestimate of discrimination. This is due, they suggest, to the fact that employers who advertise in newspapers are less likely to discriminate than employers who hire by word-of-mouth or other informal methods. However, the fact remains that overall Latinos received unfavorable treatment in 31% of the audits.

CONCLUSION

In a recent report by state senator Franz S. Leichter of New York entitled "Access, Excellence and the Economic Future of New York: The Forgotten Promise," the Senator makes a case for linking the substantial decline in the state's higher education budget with the increases in funding for correctional facilities. This is a point that has been made before most visibly by the Reverend Jesse Jackson in his speech to the 1992 democratic convention. The report shows that in 1982 New York spent \$330 million managing a prison population of 28,000. A decade after the figures changed to \$1.3 billion to manage 69,763 inmates. State spending in education has been declining drastically since 1986-1987 to a level of \$2.7 billion in 1992-1993. Commenting on these trends, Senator Leichter says: "Just last month, SUNY Chancellor D. Bruce Johnstone warned that SUNY may be forced to start closing campuses if state budget cuts persist, because it cannot accommodate the number of students it currently has. And what about the nearly 60,000 more who will be applying by 1996? Perhaps they should apply to the prison system, where, no doubt, their incarceration would be lavishly funded."

The question, of course, is not just rhetorical given the available evidence showing that entry into higher education is intimately related to youth's access not only to further education but to a position in the labor market that would ensure a modicum of economic mobility and independence.

Researchers, policy analysts, community groups, and families all need to insist that definitions of the problem, and thus the search for solutions, reflect the lived experiences of youth. This lived experience must be tied, both theoretically and practically, to the systematic development of programs aimed at incorporating African-American, Puerto Rican, Chicano, and other youth of color into the fabric of society. But in order for this to occur we must demand that the current fabric of society also change. Our communities cannot pretend to find answers from those who neither understand the problem (because they can, are, and want to be distanced from its manifestations) nor seek to transform the ways in which the social structures operate to produce and reproduce systematic inequality in this society.

While it is true, in principle, that youth have choices, it is also true that these

choices are more restricted for African-American and Latino youth. Once some access is obtained, this does not mean that institutions work in the same way and invest the same resources in majority and minority youth. In other words, not only is the range of choices for our youth restricted, but their systematic under-valuation affects their capacity and propensity to choose among the alternatives they do have and to succeed in gaining entry to key social institutions. This is a point that must not be set aside, for it permeates the way in which researchers, policy makers and advocates ask questions, and it clearly affects the ways and places in which they seek answers to the plight of our youth. Again, I ask, what will we, as a society, allow and encourage Hassan, Maria, and many other of our youth to choose?

REFERENCES

- Bean, Frank D. and Marta Tienda. *The Hispanic Population of the United States*. (New York: Russell Sage, 1987).
- Bonilla, Frank and Rebecca Morales. "National and Regional Policy Agendas in an Era of Ethnic Diversity and Growing Inequality," in Rebecca Morales and Frank Bonilla (eds.) *Latinos in a Changing U.S. Economy*. (Newbury Park, CA: Sage Series on Race and Ethnic Relations, 1993).
- Bowles, S. and H. Gintis. *Schooling in Capitalist America*. (New York: Basic Books, 1976).
- Carnoy, Martin and Henry M. Levin. *Schooling and the Democratic State*. (Palo Alto: Stanford University Press, 1985).
- Carrasquillo, Angela L. *Hispanic Children and Youth in the United States*. (New York: Garland Publishing, Inc., 1985).
- Cordero Guzmán, Héctor R. "The Socio-Economic and Demographic Determinants of Differences in the Wages of Puerto Rican and White Youth: 1959-1980." Paper presented at the Social Science Research Council's Workshop on the Causes and Consequences of Puerto Rican Poverty. (New York: Centro de Estudios Puertorriqueños, Hunter College/CUNY, 1993).
- Cross, Harry, et. al. *Employer Hiring Policies: Differential Treatment of Hispanic and Anglo Job Seekers*. (Washington, D.C.: The Urban Institute, 1990).
- De Freitas, Gregory. *Inequality at Work: Hispanics in the U.S. Labor Force*. (Oxford: Oxford University Press, 1991).
- Dolbeate, C. N. and J. A. Canales. *Hispanic Housing Crisis*. (Washington, D.C.: National Council for La Raza, 1988).
- Fernández, Roberto. "Structural Factors in Hispanic Youth Achievement." Unpublished Manuscript, Center for Urban Affairs and Policy Research, Northwestern University, 1992.
- Freeman, Richard B. and Harry Holzer. "The Black Youth Employment Crisis: Summary of Findings" in Richard B. Freeman and Harry Holzer (eds.), *The Black Youth Employment Crisis*. (Chicago: The University of Chicago Press, 1986).
- General Accounting Office (GAO). *Report to Congress: Immigration Reform, Employer Sanctions and the Question of Discrimination*. (Washington, D.C.: General Accounting Office, 1990).
- Hernández, José. *Puerto Rican Youth Employment*. (Maplewood, N.J.: Waterfront Press, 1983).
- Hinojosa-Ojeda, Raul, Martin Carnoy, and Hugh Daley. "An Even Greater 'U-Turn': Latinos and the New Inequality," in Edwin Meléndez, Clara Rodríguez, and Janis Barry Figueroa (eds.) *Hispanics in the Labor Force: Issues and Policies*. (New York: Plenum Press, 1991).
- Kirschennan, Julie and Kathryn Neckerman. "We'd Love to Hire Them, But . . . : The

- Meaning of Race for Employers," in Christopher Jenks and Paul Petersen (eds.) *The Urban Underclass*. (Washington, D.C.: The Brookings Institution, 1991).
- Leichter, Franz, S. "Access, Excellence and the Economic Future of New York: The Forgotten Promise." Unpublished Report, 1993.
- Massey, Douglas S. and Nancy Denton. *American Apartheid: Segregation and the Making of the Underclass*. (Cambridge: Harvard University Press, 1993).
- Mattson, Mark T. *Atlas of the 1990 Census*. (New York: Macmillan, 1992).
- Miranda, Leticia C. *Latino Child Poverty in the United States*. (Washington, D.C.: Children's Defense Fund, 1991).
- National Council of La Raza. *Poverty Project Newsletter*. Vol. 4 no 2. (Washington, D.C.: NCLR, 1992).
- National Council of La Raza. *Poverty Project Newsletter*. Vol. 4 no 4. (Washington, D.C.: NCLR, 1993).
- Orfield, Gary. *Public School Desegregation in the United States*. (Washington, D.C.: Center for Political Studies, 1983).
- Orum, L. *Making Education Work for Hispanic Americans: Some Promising Community-Based Practices*. (Washington, D.C.: National Council of La Raza, 1986).
- Rodriguez, Clara and Edwin Meléndez. "Puerto Rican Poverty and Labor Markets: An Introduction." *Hispanic Journal of Behavioral Sciences*. 14, 1 (1992):52-75.
- Rosenbaum, James E. et. al. "Market and Network Theories of the Transition from High School to Work: Their Application to Industrialized Societies" *Annual Review of Sociology*. 16 (1990):263-99.
- Sandefur, Gary and Marta Tienda. "Introduction: Social Policy and the Minority Experience," in Gary Sandefur and Marta Tienda (eds.) *Divided Opportunities: Minorities, Poverty, and Social Policy*. (New York: Plenum Press, 1988).
- Shai, Donna. "Child Mortality and Poverty among Puerto Ricans in New York City and in Puerto Rico, 1980-1990." Paper presented at the Social Science Research Council's Workshop on the Causes and Consequences of Puerto Rican Poverty. (New York: Centro de Estudios Puertorriqueños, Hunter College/CUNY, 1992).
- Tienda, Marta, Katharine Donato and Héctor Cordero Guzmán. "Schooling, Color, and the Labor Force Activity of Women," *Social Forces*. 71, 2 (1992):365-395.
- Tienda, Marta and Leif Jensen. "Poverty and Minorities: A Quarter-Century Profile of Color and Socioeconomic Disadvantage," in Gary Sandefur and Marta Tienda (eds.) *Divided Opportunities: Minorities, Poverty, and Social Policy*. (New York: Plenum Press, 1988).
- Torres, Andrés and Clara E. Rodriguez. "Latino Research and Policy: The Puerto Rican Case," in Edwin Meléndez, Clara Rodriguez, and Janis Barry Figueroa (eds.) *Hispanics in the Labor Force: Issues and Policies*. (New York: Plenum Press, 1991).
- Torres, Andrés and Frank Bonilla. "Decline Within Decline: The New York Perspective," in Rebecca Morales and Frank Bonilla (eds.) *Latinos in a Changing U.S. Economy*. (Newbury Park, CA: Sage Series on Race and Ethnic Relations, 1993).
- Wilson, W. J. *The Truly Disadvantaged*. (Chicago: University of Chicago Press, 1987).

4

Latinos, Class, and the U.S. Political Economy Income Inequality and Policy Alternatives

Rodolfo D. Torres and Adela de la Torre

INTRODUCTION

Few studies analyze the mechanisms that cause inequality in earnings, employment, and occupational achievement between Latino and non-Latino populations. Compared to analyses of income for blacks, relatively little attention has been devoted to the study of income determination among Latino populations. Previous studies consider income inequalities from the perspective of human capital theory. In this chapter, we will consider two dominant theoretical perspectives for explaining income inequality: the human capital model and the class/structural model. Then we will review related empirical studies of Latino populations. After critiquing the human capital and class/structural perspectives, we will discuss policy initiatives emerging from these two competing models on income inequality. Lastly, we will consider future research directions for the analysis of income determination and employment among Latinos in the United States and conclude with some thoughts on the challenges we face in the post-Reagan era in constructing policy alternatives and initiating a movement that secures economic and political justice.

Dramatic changes are expected in the racial and ethnic composition of new entrants into the labor force in southern California. Between 1980 and 1990, non-Latino whites are projected to compose only one out of five new workers; blacks will make up one out of six, and other non-Latino groups one in nine. About one-half of the expected expansion of the labor force will come from Latino residents, and most of these will be of Mexican origin (Muller & Espenshade, 1985, p. 166). Ethnic changes in southern California's labor force in the 1990s will be even greater. The number of non-Latino whites (female and male) will decline, and new workers of Mexican origin will account for three out of four new workers in the region. According to a recent study sponsored by the Urban Institute (Muller & Espenshade, 1985), even without further immigration or internal migration, the majority of workers added to the labor force in southern California over the next twenty years would be Latino, primarily of Mexican origin.

Cognitive Skills, Test Scores, and Social Stratification: The Role of Family and School Level Resources on Racial/Ethnic Differences in Scores on Standardized Tests (AFQT).*

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Cognitive Skills, Test Scores, and Social Stratification: The Role of Family and School Level Resources on Racial\Ethnic Differences in Scores on Standardized Tests (AFQT).

Abstract

This paper uses data from the National Longitudinal Survey of Youth (NLSY79) to examine the effects of family and school level resources on racial\ethnic\national origin differences in scores on standardized tests (the AFQT). The first section discusses the literature on educational attainment, skill acquisition, and youth employment and argues that the debate over skill acquisition and race has focused mostly on individual level differences at the expense of a systematic analysis of the role of social structures, differences in material resources available in the family, the school, and in the community, and discriminatory differences in the production, evaluation, and compensation of "skills." The second section of the paper discusses the data from the National Longitudinal Survey of Youth (NLSY), defines the specific variables used in the empirical analysis and estimates a multivariate model where scores on the AFQT are examined as a function of individual, family, and school level resources. The main finding of the paper is that the family and school level variables included in the model explain a significant amount (at least forty percent) of the variation in scores on the AFQT. This suggests that sociological theories and empirical research on attainment needs to incorporate the role of social structures and differences in material resources on individual and group level stratification processes and that attempts should be made to collect more detailed school and community level data in order to incorporate contextual\structural variables in empirical models of socio-economic attainment and mobility.

Cognitive Skills, Test Scores, and Social Stratification: The Role of Family and School Level Resources on Racial/Ethnic Differences in Scores on Standardized Tests (AFQT)

1. INTRODUCTION

Research on racial and ethnic stratification in the contemporary United States suggests that discrimination has three interrelated components. First, there are *differences in the acquisition of "quality skills"* caused by differences in material resources, barriers to access, and differences in treatment within educational and training institutions. This means that Whites, when compared to racial and ethnic minority groups, have the privilege of better access to the kinds of resources that are conducive to higher levels of educational attainment and to the development of certain job related skills (Betts 1995; Fisher, Hout, et. al. 1996). Second, there are *differences in how skills for particular jobs are evaluated* at any level of the distribution. This means that when compared to minorities with similar skills Whites have the advantage of being able to work in better jobs and move slightly faster through the occupational distribution. This is confirmed by research based on interviews with employers (Moss, and Tilly 1995, 1996) and by audit research which shows that individuals of different ethnicities (Anglo-Hispanic and White-Black) who were matched on a variety of job-related skills and experiences had significantly different probabilities of receiving job interviews and employment offers (Cross, et. al. 1990; Fix and Struyk 1993; Turner, Fix, and Struyk 1991). Third, there are racial and ethnic *differences in levels of compensation* for individuals with similar levels of education and skill (Cancio, Evans, and Maume 1996; Mason, 1997a, 1997b; Rodgers and Spriggs 1996). This

means that minority individuals who manage to attain similar levels of education and experience in particular occupations and industries do not get compensated at the same rate as their White counterparts (Mason 1997a).

Most of the recent research on race and labor markets has focused on the last two dimensions of discrimination: a) how the "skills" of majority and minority workers are differentially evaluated by employers, and b) how individuals of different race\ethnicity who have similar levels of education and experience receive different (lower for minorities) wages and earnings. In this paper I focus on the first question: What is the role of differences in material resources on the acquisition of quality skills in educational institutions and training programs? I answer the question through an empirical analysis of the effects of family, school, and, to a lesser extent, community level resources on levels and racial\ethnic\national origin differences in scores on standardized tests (the AFQT) using data from the National Longitudinal Survey of Youth (NLSY).

The Armed Forces Qualification Test (AFQT) has received substantial attention in both the academic and non-academic literatures and there is considerable controversy over the meaning, validity, and reliability of the test for civilian employment decisions. Some authors (Cameron and Heckman 1992; Herrnstein and Murray 1994; Hotz and Tienda 1994; Neal and Johnson 1996) argue that the AFQT is a measure of "scholastic and/or job-related aptitudes." Other researchers (Fisher, Hout, et. al. 1996; Maume, Cancio, and Evans 1996; Mason 1997a; Rodgers and Spriggs 1996) have been able to show that the AFQT contains many of the socio-economic and cultural biases inherent in standardized tests and is not a valid and reliable measure of job related skills, aptitude, or performance. In this paper I discuss two questions

related to the AFQT: a) What does the AFQT measure? And b) What is the role of family, school, and community level resources on differences in scores on the AFQT?

The next section of the paper discusses the literature on educational attainment, youth employment, and skill acquisition. I show how the debate over skill acquisition and race/ethnicity has focused mostly on individual level differences at the expense of a systematic analysis of the role of social structures, the role of material resources available in the family, the school, and in the community, and discriminatory differences in the production, evaluation, and compensation of skills. Educational attainment and scores on standardized tests are important independent variables in models of wage determination but the reasons why they are important and the mechanisms that connect educational attainment, scores on standardized tests, and labor market outcomes are not well understood. In this section, I argue that educational attainment (years of schooling) and scores on standardized tests are the result of social processes and differences in family, school, and community level material resources. The AFQT is related to employment outcomes because it captures the effects of cumulative differences in material resources, differences in social investments and, as suggested by Maume, Cancio and Evans (1996:561) because it measures "exposure to the values and experiences of the White middle class."

The third section of the paper discusses the data from the National Longitudinal Survey of Youth (NLSY) and defines the specific variables that will be used in the study. I then present an empirical model where scores on the AFQT are examined as a function of individual, family, school, and community level resources. I also explore racial/ethnic differences in the determinants of scores on the AFQT by estimating separate models for each major racial and

ethnic group (Non-Hispanic Whites, African-Americans and Latinos). The fourth section of the paper discusses the empirical results of the study. The main finding is that the variables included in our models explain between one-third and one-half of the variation in scores on the AFQT. This is evidence that the test score is not only a function of individual level attributes and characteristics but is also largely related to material differences in contextual\environmental characteristics and socially distributed resources. Section six discusses the role of material resources on differences in test scores and the role of standardized tests as measures of skill and "ability", their relation to other socio-economic outcomes, and their role in helping researchers understand an important dimension of racial\ethnic discrimination. The paper concludes with a discussion of the implications of our empirical findings for social science research and for public policies bearing on racial\ethnic\national origin differences in educational attainment, employment, and earnings.

2. THE LITERATURE ON EDUCATION, ABILITY, AND SOCIO-ECONOMIC OUTCOMES

Research on racial and ethnic differences in "ability" or "skills" has well documented eugenic origins (see Jacoby and Glauberman 1995; Gould 1994). The general argument is that human beings belong to different races which can be ranked along a genetically determined "ability" continuum. Racial differences in socio-economic outcomes such as education, employment, and earnings merely reflect genetic differences in "ability" between groups (Herrnstein and Murray 1994). Though many reject the role of genetic differences in "ability" the concepts of "ability", aptitude, and skill continue to have a central role in the literature on human

capital (Becker and Chiswick 1966; Griliches and Mason 1972; Murphy and Welch 1993b) and are still invoked to explain racial differences in employment and earnings (Cameron and Heckman 1992; Hotz and Tienda 1994; Neal and Johnson 1996; O'Neil 1990).

Theoretical Debates on the Interaction between Ability, Test Scores, and Socio-economic Outcomes

The human capital approach to earnings suggests that "innate" ability and family background influence schooling and educational achievement which, in turn, influence further skill development. Skills are then linked to employment and occupational status and these are said to determine wages and earnings. The sociological status attainment model has a slightly different origin but proposes a similar explanation. Family "background" (socio-economic status), decisions, and the values inculcated through the socialization processes are central in shaping individual aspirations and individual potential to realize those aspirations ("ability"). In his paper on the role of "ability" on earnings differentials Hause (1972) argues that not taking differences in "ability" into account leads researchers to overstate the gross contribution of schooling (processes that take place in school) on earnings and to understate the opportunity costs of foregone earnings to high "ability" persons who attain high levels of schooling. Hause (1972: S109) defines "ability" in the following way: "In common usage, ability means the power to perform something. In [Gary S.] Becker's definition, this power is the capacity to increase future earnings by current investments in oneself. This definition has the appealing feature of not committing one to explain the higher schedule of the individual of greater ability. Such a capacity could be due to a combination of genetic factors, previous investment,

experience (including schooling), and other elements that might be difficult to unravel theoretically (or statistically)." Hause (1972) finds that for persons with low educational attainment differences in ability are not related to differences in earnings while for persons in the higher educational categories differences in "measured ability" explain 10 to 15% of the variation in earnings. He concludes that "ability" is significantly related to schooling and that both impact earnings.

In a paper published around the same time entitled "Education, Income and Ability" Griliches and Mason (1972) use scores on the AFQT to explore the relationship between "ability" and individual earnings. The authors use the AFQT "in lieu of standard civilian mental ability (IQ) tests (1972: S77)" and find that years of schooling (education) is significantly more important than scores on the AFQT in explaining differences in income. The results presented in Griliches and Mason (1972) suggest that an additional year of schooling increases income by 4.6 percent while a 10 percent improvement in the AFQT only increases income by 1 percent. This finding leads the authors to conclude that: "Our results also throw doubt on the asserted role of genetic forces in the determination of income. If AFQT is a good measure of IQ and if IQ is largely inherited, then the direct contribution of heredity to current income is minute. Its indirect effect also is not very large. Of course, the AFQT scores may be full of error and heredity may be important, but then previous conclusions about the importance of heredity are also in doubt since they were drawn on the basis of similar data (1972: S99)."

Subsequent work with the AFQT has continued to use the test as a measure of "innate ability" (Herrnstein and Murray 1994) or "cognitive skills" (Cameron and Heckman 1992; Hotz and Tienda 1994; Neal and Johnson 1996) but has not defined these terms explicitly and clearly.

"Ability" is defined very broadly and no attempt is made to unpack the concept and empirically link specific competencies or sets of competencies to employee performance in particular jobs.

The unreflexive use of the concepts of "skill" and "ability" in this literature is consistent with a theoretical emphasis on individual and family deficits (lack of intelligence, low achievement orientation towards education and work, insufficient motivation, breakdown in the family structure, and the absence of role models) at the expense of a detailed analysis of the role of differences in social environments, material resources in the school and in the community, discriminatory differences in treatment within educational institutions, differences in access to training programs, and differences in the allocation of social resources.

What does the AFQT Measure?

The use of the AFQT as a measure of "innate ability" and inherited intelligence has been advanced by Herrnstein and Murray in their controversial book The Bell Curve (1994). They argue that the AFQT is a measure of intelligence (or IQ)¹. Other researchers have not posited a genetic explanation but have argued that the AFQT is a measure of "ability" (Cameron and Heckman 1992; Hotz and Tienda 1994). Tienda and Hotz (1994:14), for example, state that: "Social Scientists have used the AFQT as a general "ability" indicator, arguing that it performs

¹See also Appendix 3 of The Bell Curve entitled "Technical Issues Regarding the Armed Forces Qualification Test as a Measure of IQ."

like a scholastic aptitude test (see Cameron and Heckman, 1991; O'Neil, 1990).² Both O'Neil (1990) and Neal and Johnson (1996) argue that controlling for differences in "ability" significantly reduces wage differences between racial groups which they take to mean that discrimination "within" the labor market is small and that differences in compensation are due to a combination of differences in "ability", differences in family investments in education, and other "pre-labor market" discrimination. Farkas and Vicknair (1996) claim that the AFQT is a measure of "cognitive skills"

Recent research has questioned the narrow interpretation of "the AFQT as ability" and has advanced a more material/structural explanation of differences in standardized test scores like the AFQT (Fisher, Hout, et. al. 1996; Maume, Cancio, and Evans 1996; Mason 1997a; Rodgers and Spriggs 1996). One group of researchers argues that the AFQT is a measure of schooling (Maxwell 1995), school quality (Betts 1995), and "the formal and informal instruction that someone has received and absorbed" (Fisher, Hout, et. al. 1996: 68). Others have argued that the AFQT is a measure of family, school, and psychological background variables (Rodgers and Spriggs 1996) while others suggest that the AFQT is in part a measure of "exposure to the values and experiences of the white middle class (Maume, Cancio, and Evans 1996:561)." Even those that use the AFQT as a measure of "ability" (Neal and Johnson 1996; O'Neil 1990) argue that the AFQT "reflects the quality of schooling received as well as the effects of parental background

²The reference to Cameron and Heckman is "The Role of Family, Labor Markets and Public Policy in Accounting for Minority Schooling Attainment." Department of Economics, The University of Chicago: Unpublished Manuscript.

(O'Neil 1990:32)" and that "part of the racial difference in AFQT scores can be attributed to racial differences in parental education and income (Neal and Johnson 1996:26)."

What are the Factors Associated with Scores on the AFQT?

The factors that different researchers associate with scores on the AFQT depend on what the authors think the AFQT measures. Those that see the AFQT as a measure of "innate ability" posit that the AFQT comes from inherited differences in "ability" (Herrnstein and Murray 1994). Others like O'Neil (1990) and Neal and Johnson (1996) see the AFQT as a measure of individual "ability" but also as a function of differences in family and (to a lesser extent) school level characteristics. Neal and Johnson (1996), for example, present a model of the determinants of scores on the AFQT with independent variables that include parental education and SES, availability of reading resources in the home, and some school characteristics and they find that these variables explain close to 40% of the variation in AFQT scores. Rodgers and Spriggs (1996) model the AFQT as a function of family background (number of siblings, parental education, access to reading materials, southern residence at age 14, and family income), school quality (books per pupil, percent of students classified as disadvantaged, and teacher salaries) and psychological background variables (locus of control variables) and explain close to 35% of the variance in AFQT scores. Maume, Cancio, and Evans (1996) estimate a model of scores on the AFQT using a combination of family background (parental education, access to reading materials in the household, and southern residence at age 14) and school quality (number of books in library, percent of students disadvantaged, percent of students that drop-out, and percent

of black faculty in the school) and they explain close to 20% of the variation in African-American AFQT scores and 28% of the variation in White scores on the AFQT. It is interesting to note that even though Rodgers and Spriggs (1996) agree with Maume, Cancio, and Evans (1996) and disagree with Neal and Johnson (1996) about the meanings of the AFQT and the implications of controlling for AFQT scores in models of earnings (particularly when making comparisons of earnings differences between racial/ethnic groups) the specification of the empirical models that each set of authors estimates with the AFQT as a dependent variables are very similar to each other. The results from these three models are also quite similar and consistent with the findings presented in this paper.

There is considerable debate in the literature over the role of schools in educational attainment. Some researchers argue that traditional measures of school resources (such as teacher-student ratios, teacher education, teacher experience, and school expenditures) do not have a significant impact on student outcomes but family background (income and education) has a significant effect on educational attainment (Hanushek 1986; O'Neil 1990). Other researchers find that measures of school quality have an impact on educational outcomes (Betts 1995; Maxwell 1995) but not in terms of traditional variables.

In his review of the literature on the economics of schooling Hanushek (1986) argues that: "The output of the educational process--that is, the achievement of individual students--is directly related to a series of inputs. Some of these inputs--the characteristics of school, teachers, curricula and so forth-- are directly controlled by policy makers. Other inputs--those of families and friends plus the innate endowments or learning capacities of the students--are generally not controlled (1986:1150)." After reviewing a large number of empirical studies Hanushek (1986)

finds that the evidence is mixed on the relationship between traditional school characteristics such as teacher pupil ratios, teacher education, teacher experience, teacher salary, and expenditures per pupil and student performance. Hanushek argues that family background and to a lesser extent "teacher skill" has been found to have a consistently strong effect on "achievement" (1986: 1163) while the influence of peers and other students is ambiguous.

Hanushek concludes by offering "a simple recommendation: Stop requiring and paying for things that do not matter (1986: 1167)." His preferences are for a merit pay system, changes in state certification for teachers, vouchers and preventing changes in school financing (because they promote inefficiency and do not change student outcomes). Following Hanushek (1986), O'Neill (1990) finds that while there has been some racial convergence in school enrollment patterns and in school conditions (see also Allen and Jewell 1995; Card and Krueger 1992) the racial earnings gap increased during the 1980s. O'Neil (1990) explains the increase wage gap as a function of the increasing importance of skills in the labor market (see also Ferguson 1995; Levy and Murnane 1996; Murnane, Willett, and Levy 1995) and barriers to the acquisition of human capital. However, these barriers are not linked to a systematic process of racial and ethnic stratification that is the result of (and could be changed by) policy intervention but are seen as the result of racial differences in school quality and family socio-economic background. O'Neil (1990) unraveling of the process focuses on the presence (or absence) of "capacities" and not on the presence (or absence) of material resources. Says O'Neil: "The problem [of declining earnings ratios] seems more to do with the increasing premium in the market to high levels of skill of the sort learned in school. As a result, differences in school quality or family and socio-economic background that lead to differences in the acquisition of human capital are highlighted

and now have even greater impact on economic outcomes than they did in the past (1990: 42)." In her research O'Neil (1990) finds that school characteristics have little to no effect on the wages of young males and in footnote 14 she also claims that these variables do not predict within group differences on the AFQT. If school characteristics do not matter (and social resources are not considered) the implication is that minority young males enter the labor market as damaged goods (low achievers)--due to family "problems" and impersonal "pre-labor market" barriers to the formation of human capital--and are compensated accordingly in the labor market.

Hanushek's (1986) research has been quite influential in the field of educational finance and his finding that "school expenditures do not matter" has been used, *inter alia*, to argue against school finance reform. Other research, however, has questioned Hanushek's findings and has shown that school characteristics do impact student outcomes and are related to racial differences in educational attainment. Maxwell (1994) for example finds that two thirds of the racial difference in wages is due to differences in the AFQT which she defines as a more direct measure of school quality than other school characteristics (faculty teacher ratios and expenditures per pupil). Maxwell (1995: 261) concludes that: "[i]mproving educational quality for blacks--which will entail not only changes in schools, but also changes in other aspects of the socio-economic environment--is perhaps the most direct way to give them a chance to improve their basic skills and increase their earnings." Using data from the NLSY, Betts (1995) finds that teacher pupil ratios, relative teacher salaries and the percent of teachers with masters degree do not have an effect on earnings. He also investigates the effect of library books per student, vocational curricula available in the school, proportion of student body that is black, and the percentage of teachers who left the school during the year and finds that none of these variables

reaches statistical significance in earnings models. Betts (1995) however, finds significant effects for number of students at the school (positive), proportion of disadvantaged students (negative) and proportion of grade 10 students who drop out (negative) on young male earnings.

School effects are difficult to find with the NSLY and other datasets for a number of reasons (Petts 1995). First, contextual variables are inherently more difficult to define and measure than individual level variables. This means that there is a non-trivial amount of measurement error and imprecision in the school level data. Second, the NLSY school survey (and most other school level data) does not collect information on how resources are used within schools. Third, the NLSY school survey did not collect data on the existence and potential effect of external (non-governmental) resources on student attainment. It is quite possible that schools in more affluent districts and neighborhoods might receive grants or in-kind services that supplement funds from government sources. Fourth, it is quite possible that a similar amount of funding can affect districts with different demographics quite differently. Some schools have positive externalities while others have negative externalities. This means that an equal amount of funds might produce different outcomes depending on the number and type of problems present in the social environment of the students attending the school. Lastly, recent research (Allen and Jewell 1995; Card and Krueger 1992) has shown that over the last several decades there has been some convergence in levels of educational attainment and in the characteristics of the schools attended by Whites and African-Americans (the story for Latinos is mixed, see Cordero-Guzman, 1997). Card and Krueger (1992), for example, examine various measures of school quality and show that their convergence accounts for a 20 percent narrowing of the black-white earnings gap. Allen and Jewell (1995) present statistics that show increased convergence

between Whites and African-Americans in years of schooling completed. The authors argue that numeric parity in educational attainment levels (particularly high school graduation rates) has brought about a number of dilemmas like the accentuation of differences in resources and treatment within schools; issues and conflicts related to access, curriculum development and the retention of minority students in college and has led to the appearance of more complex forms of sorting, differentiation and stratification within "integrated" institutions. Students of different races are increasingly attending similar schools but the question that remains is: do minority students have equal access to material resources and opportunities for development within the school?

A Re-interpretation of the AFQT

Differences in scores on standardized tests are largely a function of differences in the access to family, school, and community level material resources. My perspective is material/structural in its emphasis and is consistent with recent research that has questioned the interpretation of the AFQT as a measure of "ability" or skill (Fisher, Hout, et. al. 1996; Maume, Cancio, and Evans 1996; Mason 1997a; Rodgers and Spriggs 1996). First, family material resources (family income and other learning resources) impact scores on the AFQT by providing children with physical health, learning tools, and a material environment conducive to learning. My argument does not focus so much on what families do, their cultural traits, or their aspirations for their children but on whether they have the material resources needed to promote youth development. In addition to family material resources, AFQT scores are affected by

school level characteristics, practices and resources. Consistent with the research of Maxwell (1995) and Betts (1995) I argue that the AFQT captures differences in school resources, school quality, and "the formal and informal instruction that someone has received and absorbed" (Fisher, Hout, et. al. 1996: 68). Schools are environments that under specific circumstances can accelerate or retard learning and individual development. Third, skills can never be defined apart from the specific context in which they are going to be evaluated and used. In a racially stratified society what is meant by skill can be translated into "capacity to understand, manage, and maneuver" through processes, institutions, and spaces defined by the majority group. This is partly why Maume, Cancio, and Evans (1996:561) suggest that the AFQT is in part a measure of "exposure to the values and experiences of the white middle class." I would modify the statement to "white upper-middle class" but the main point is still that the AFQT has a class-race bias (Rodgers and Spriggs 1996).

In sum, I argue that the AFQT is a measure of the effects of family, school, and community levels material resources on individual academic attainment and exposure to white upper middle class values. It is not a measure of cognitive skills, general ability, potential, effort, or achievement but rather a measure of the cumulative effects of social investments on individual development combined with exposure to white upper-middle class values. High scores on the AFQT indicate the availability of family, school, and community level material resources and exposure to white upper-middle class values while low scores on the AFQT indicate low levels of material resources and low exposure to white upper-middle class values. Low scores on the AFQT do not suggest that a particular family, school or community is more or less interested, or cares less, or does less about the education and development of its children. My argument is

simply that the AFQT measures the role of family, school and community level material resources and social investments on individual development and exposure to the values and networks of the majority group.

3. DATA AND METHODS

The National Longitudinal Survey of Youth (NLSY)

The data for this study comes from the National Longitudinal Survey of Youth (NLSY). The NLSY is a nationally representative stratified, multi-stage random sample that includes 12,686 young men and women and, subsequently, a sample of their children. The collection of data is sponsored by the Bureau of Labor Statistics of the U.S. Department of Labor, fielded by the National Opinion Research Center [NORC] at the University of Chicago, and administered by the Center for Human Resource Research at Ohio State University [CHRR]. The survey constitutes a representative sample of individuals born between January 1, 1957 and December 31, 1964. The respondents were between 14 and 22 years of age in 1979, the first full year of the survey.

Three independent probability samples were drawn for the NLSY : a) a **cross-sectional sample** designed to represent the non-institutionalized civilian segment of the population born between January 1, 1957 and December 31, 1964 residing in the United States on January 1, 1979; b) a **supplemental sample** designed to oversample civilian Hispanic, African-American, and economically disadvantaged non-Hispanic, non-African-American youth; and c) a **military**

sample, which I subsequently dropped from the analyses, designed to represent the population born January 1, 1957 and December 31, 1964 and serving in the military as of September 30, 1978 (CHRR, 1993:11).

The screening procedures, sampling process, and interview methods are described in detail in the CHRR manual on the NLSY and in various technical appendices (CHRR 1993). In this research project, I eliminated the small military subsample and the female population and focus my inquiry on young males in the civilian non-institutionalized population. The resulting male sample of 5579 cases includes both the "cross-sectional sample designed to be representative of young people living in the United States in 1979 and born January 1, 1957 through December 31, 1964" (3003 cases) and the supplemental sample (2576 cases) "which over-samples civilian Hispanic, black, and economically disadvantaged non-Hispanic, non-black youth (CHRR, 1993:7)."

The ethnic categories that I use in this study are white (non-Hispanic), black or African-American (non-Hispanic), and Hispanic (subdivided into Mexican-American, Puerto Rican, and Other Hispanics) (CHRR, 1993:287). The information in the "screener" variable [R2147] was combined with the question asking each respondent his racial\ethnic\national origin [R96] to yield the five mutually exclusive groups used in the final analysis (Non-Hispanic Whites, African-Americans, Mexican-Americans, Puerto Ricans, and Other Hispanics).

The NLSY has collected information on individuals (the respondents), their families, the schools they attended, the labor market where they live, and some characteristics of the Standard Metropolitan Statistical Area (SMSA) and County where they reside. The many variables that are included in this survey include information at different levels of analysis. The individual level

variables include information on various attributes, attitudes, aspirations, school enrollment, employment status, weeks and hours worked, occupation, industry, years of schooling and training, work experience, academic achievements, marital status, financial assets, income, and region of residence, among others. The **family level** variables include information on family structure, household composition, household income, various household resources, and some attributes of the father and the mother of each respondent. The **school level** characteristics include type of school attended, the degrees of teachers, demographic and socio-economic characteristics of the faculty and the student body, and information on various curriculum offerings. The **geographic level** information is measured at the level of the county and it includes total population in the county by broad age group and ethnicity, educational attainment, employment level, median family income, proportion of poor families, and industrial composition.

The individual, family, and school level variables were extracted from the main NLSY data files. The labor market and community level variables were taken from a special GEOCODE file that was created by the CHRR and merged with the main NLSY file. This file includes information obtained from the latest County and City Data Book on various demographic and labor market indicators for the county where the respondent lives on a given year.

The school level variables used in the study come from information compiled in a specialized survey of the schools attended by the NLSY respondents. The number and proportion of cases with valid school data by group is: African-American 1309 cases (74%), whites 2720 cases (81%), Puerto Ricans 67 cases (48%), Mexican-Americans 367 cases (68%) and Other

Hispanic 119 cases (70%). The percentages that refer to the ethnic composition of the faculty and the student body in the school were readjusted to a scale with a minimum of 0 (up to 9%) and a maximum of 10 (from 91 to 100%). In spite of the usefulness of this information, my analysis of the role of structural level factors on individual outcomes is limited by an operationalization of "structure" at the level of the County and not at the level of the neighborhood. Most of the arguments in the urban inequality literature that center on structural effects focus on more localized "neighborhood effects" (Wilson, 1987; Massey and Denton, 1993). In this study, I can test arguments about the effects of **county** level characteristics on scores on the AFQT but I can not examine the role of within county neighborhood differences and within county levels of inequality on these outcomes.

The Armed Forces Qualification Test (AFQT)

The Armed Forces Qualification Test (AFQT) is computed from the scores in four sections of the Armed Services Vocational Aptitude Test (ASVAB). The ASVAB has ten sections: 1) general science, 2) arithmetic reasoning, 3) word knowledge, 4) paragraph comprehension, 5) numerical operations, 6) coding speed, 7) auto and shop information, 8) mathematics knowledge, 9) mechanical comprehension, 10) electronics information (CHRR: 1993:122). The AFQT includes the scores for arithmetic reasoning (section 2), word knowledge (section 3), paragraph comprehension (section 4) and one half of the score in numerical operations (section 5). The AFQT was administered to the NLSY sample in 1980. The scores by racial\ethnic\national origin group indicate that compared to the white population members of

minority racial\ethnic groups had significantly lower scores. Out of a possible raw score of 105 the mean AFQT score for the total sample was 63.3. For whites young males the mean was 71.56, for African-Americans it was 48.44 and for the total Hispanics the average score was 55.38 (50.33 for Puerto Ricans, 54.65 for Mexican-Americans and 61.92 for Other Hispanics).

Empirical Estimation of the Determinants of Scores on the AFQT

In order to analyze the factors that determine percentile scores on the AFQT for the young males in the sample I estimated two Ordinary Least Squares (OLS) regression models the first one for the total sample and the second separately for each of the major racial\ethnic\national groups under study (Non-Hispanic Whites, African-Americans, Mexican-Americans, Puerto Ricans, and Other Hispanics). The regression for the total sample (reported in Table 3) takes the standard form of a regression equation:

$$[\text{Equation 1}] \quad Y_i = \alpha + \beta_1 X_{i1} + \beta_2 X_{i2} + \beta_3 X_{i3} + \beta_4 X_{i4} + \beta_5 X_{i5} + \beta_6 X_{i6} + \beta_7 X_{i7} + \epsilon$$

Where,

Y_i is the percentile score on the AFQT

α is the regression constant

X_i 's represent a vector of explanatory variables

β_i 's represent the partial regression coefficient for variables in each vector

ϵ is the error term

The β 's in this model (See tables 2 to 7 for results) represent vectors of **individual level factors** (age, highest grade of schooling completed in 1979, foreign language spoken at home at

age 14), **residence controls** (central city residence and residence in or outside the south at age 14), **parental education** (highest grade completed by the father and highest grade completed by the mother), **family level resources** (access to magazines, newspapers, and to library card at age 14, experience of problems with transportation, English as a foreign language, and total net family income in 1979), **school level indicators** (percent poor in school, percent drop-out in school, ethnic composition of the students and teachers at the school), and a series of **race/ethnicity/national origin variables** for African-Americans, Puerto Ricans, Mexican-American, and Other Hispanics. In table 3, I exclude the variable for the highest grade completed in order to test the stability of the estimates. In addition, I computed regression models to explore the role of these factors in explaining differences in years of schooling completed (table 4). The separate AFQT regressions for each group are reported in table 5 for whites, table 6 for African-Americans and table 7 for Latinos (Puerto Ricans and Mexican-Americans and Other Hispanics).

4. EMPIRICAL RESULTS

Descriptive Results

Table 1 presents the descriptive characteristics (sample size, minimum value, maximum value, mean and standard deviation) for the NLSY civilian young male sample. The total sample size is 5579 but only 1614 cases have valid data on all of the variables. In terms of the **individual level factors** we note that the average age of the sample is 17.53 years, the mean

highest grade of schooling completed in 1979 was 10.18 and 22 percent of the sample report that a foreign language spoken at home at age fourteen). The **residence controls** indicate that 20% of the sample lived in central cities and 36% lived in the south at age fourteen. The **parental education** variables indicated that the average for highest grade completed by the father was 10.92 years while the highest grade completed by the mother was 10.84 years. The **family level resources** indicate that 56% of the sample had access to magazines, 75% to newspapers, and 68% had access to a library card at age fourteen. Close to 5% of the sample indicated that they had problems with English as a foreign language while 33% of the sample said that they experienced problems with transportation. The average net family income in 1979 for the sample was \$16,097. The **school level indicators** indicate that the average percent of students classified as poor in the school and the percent of tenth graders that drop-out of the school was 30% and 22% respectively. The race/ethnicity variables indicate that 26% of the sample is African-Americans, 2.45% is Puerto Ricans, 9.6% is Mexican-Americans, and 4.9% are Other Hispanics.

[Table 1 about here]

Table 2 includes descriptive information on AFQT scores, percent below poverty, Region of residence, proportion urban and residence within an SMSA, family income in 1979, 1980, 1985 and 1990, percent receiving public assistance in 1979 and 1984 and information of the percent poor in the school and the percent of 10th graders that drop-out of the school. The descriptive data indicates that African-American, Puerto Rican and Mexican-American young

males have characteristics that are quite different from those of White young males (the Other Hispanic category is similar to Whites in a number of indicators). In terms of poverty, for example, in 1990 only 7.4% of White young males lived in a household below the poverty line. The percent below poverty for African-Americans was 22.9%, 19.3% for Puerto Ricans, 17.2 for Mexican-Americans and 11.5% for Other Hispanics. This suggests that the poverty rate for African-American young males was three times the rate of White young males. The data for family income in 1990 indicates that while 42% of Whites and 45% of Other Hispanics had incomes over \$35,000 only 27% of African-Americans, 27% of Puerto Ricans and 24.3% of Mexican-Americans had incomes over \$35,000. On the other extreme 8.3% of Whites had incomes below \$9999 while 11.7% of Other Hispanics, 11.9% of Mexican-Americans, 19.1% of Whites and 26.2% of Puerto Rican young males had incomes below \$9,999. In terms of school characteristics there are some racial ethnic differences in terms of the percent of students below poverty in the school and the percent of 10th graders that drop-out of the school. The data on the percent of students below poverty indicates that while 87% of whites go to school with less than a 40% poverty rate only 57% of African-American, 41.4% of Puerto Rican, and 59.7% of Mexican-American young males go to school with a poverty rate below 40%. Close to 43% of African-American and 58% of Puerto Rican young males attend school with a poverty rate higher than 40%. The data on school drop-out rates has considerable less variation with African-Americans relatively close to whites and Latinos lagging behind. Approximately 5.8% of whites and 8.3% percent of African-American young males attended schools with a drop-out rate higher than 40% while the percent for Puerto Ricans was 29.1%, 11% for Mexican-Americans and 16.3% for Other Hispanics. The descriptive data suggests significant differences in family

income and school characteristics. In the next section I examine the influence of these factors on scores on the AFQT.

[Table 2 about here]

Multivariate Results

In general terms, our results lend support to our argument that scores on the AFQT are the result of the operation of a number of family, and school level resources. The results for the total sample (Table 3) indicate that at the individual level, AFQT scores are negatively related to age, and positively related to the number of years of schooling completed by the individual. These effects are quite large. An additional year of schooling, for example, increases the percentile score on the AFQT by close to 9 points (almost a 10% increase). The results for our measures of family resources indicate that parental education and family resources (access to newspapers, magazines, and library card; family income) have a significant positive effect on scores on the AFQT. In terms of school level characteristics the results indicate that percent of students below poverty in the school and the percent of 10th graders that drop-out are both negatively related to AFQT scores but the drop-out variable does not reach statistical significance. It is interesting to note that the proportion of black students and faculty in the school (perhaps a proxy for school resources) are not statistically related to AFQT scores. This last finding contradicts the results presented by Ferguson (1995) which suggests that lower teacher quality explains why he found a negative coefficient for the proportion of black teachers

in the school. One possible interpretation could be that African-American faculty are concentrated in schools with fewer resources and this has a negative impact on test scores. Another explanation could be that this coefficient indicates a certain degree of cultural bias in the test. Students who are exposed to black faculty members are also exposed to a culturally specific worldview that might not be reflected in the test. A third possible explanation (Ferguson, 1995) could be that this coefficient simply reflects the lack of preparation and lower quality of black teachers. The proportion of Hispanic students in the school is negatively related while the proportion of Hispanic faculty is positively related to AFQT scores. The variables for central city residence and residence in the south at age 14 did not reach statistical significance.

The race/ethnicity variables included in the model suggest that there is still a 16 percentile point disadvantage associated with being African-American that is not accounted for after controlling for a number of individual, family, and school level factors included in our model. The results for the Latino groups suggest that the difference between Puerto Ricans and whites disappears after taking into account the effects of the other independent variables while for Mexican-Americans and Other Hispanics there is a close to 5 point difference. These "race/ethnicity effects" are difficult to interpret. On the one hand, they can be capturing unmeasured differences in resources, or differences in the way individuals are treated by the school system, which are correlated both to group membership and to scores on the AFQT. Ethnicity effects can also be the result of significant cultural bias in the what the test measures and could be attributed to differences in exposure to white upper-middle class values³.

³ A third possibility is that these coefficients reflect "innate differences in ability" that remain

[Table 3 about here]

In general, the results presented in table 3 indicate that close to one half of the variation in AFQT percentile scores (R -squared of .514) is explained by the effects of the family and school level factors that were included in our models. Family resources, as measured by family income, access to magazines, access to newspapers and access to library cards at the age of fourteen have significant positive effects on AFQT scores. While attending a school with a high number of disadvantaged students reduces AFQT scores.

[Table 4 about here]

Table 4 has the regression coefficients for percentile scores on the AFQT without the education (years of schooling completed) variable. As can be expected the overall model has less explanatory power than the model in table 3 with years of schooling completed included in the equation. The R -square for the model drops to .411 indicating that the variables included in the model explain 41% of the variation in AFQT cores. As can be expected, excluding the variable for years of schooling completed increases the impact of the family resource coefficients. The variables for the proportion of black students and faculty in the school continue to be

after controlling for socio-economic background (Herrnstein and Murray, 1994: Chapter 13).

insignificant and the variable for the proportion of Hispanic students changes from insignificant to significant. The variables for school level characteristics change slightly with that percent of students below poverty in the school losing some of its effects while the percent of 10th graders that drop-out reaches statistical significance. Both variables are negatively related to scores on the AFQT. The variables for central city residence and residence in the south at age 14 also failed to reach statistical significance in this specification. Interestingly, the coefficient for the race\ethnicity variable included in the model for African-Americans decreases slightly while the variables for Puerto Ricans, Mexican-Americans and other Hispanics fail to reach statistical significance at the .05 level.

As has been in the literature and in the preceding discussion, years of schooling completed is correlated to scores on the AFQT. In order to examine the relation between the independent variables included in our AFQT models and years of schooling completed **Table 5** presents the regression coefficients for an equation with years of schooling completed as the dependent variable regressed on the same independent variables used to examine the determinants of scores on the AFQT. The results are quite interesting and suggest that material resources are more important in explaining scores on the AFQT than years of schooling completed. As could be expected the coefficient for age on years of schooling completed is quite large. Other statistically significant effects include problems with transportation, access to magazines, access to newspapers and access to library cards at the age of fourteen, parental education and the proportion of 10th grade students that drop-out of the school. Family income, area of residence and the demographic characteristics of the school do not have any effect on years of schooling completed. Notice also that the coefficients for the race\ethnicity variables fail

to reach statistical significance suggesting minimal differences in years of schooling completed after accounting for the effects of the other independent variables in the model. The variables that we have included in the AFQT models (excluding years of schooling completed) explain close to 40% of the variation in AFQT scores (see table 3) and in separate models excluding age I estimate that these variables explain close to 10% of the variation in years of schooling completed in 1979 and close to 25% of the variation in years of schooling completed in 1989 (after most of the sample has had a chance to complete their education). The results from table 4 indicate that the relationship between years of schooling completed and scores on the AFQT is partly a function of the impact of family and school level resources on both outcomes. Our results also suggest that the impact of family and school level resources is larger on AFQT scores than on years of schooling completed.

[Table 5 about here]

The empirical models in table 3, table 4, and table 5 were estimated using a listwise deletion of missing cases which means that only cases with valid values on all variables were included in the regression. In appendix 1 and appendix 2, I estimate two regression models for the total sample with percentile score on the AFQT as a dependent variable and the same list of independent variables but in these two equations all of the cases are used in the computations and the mean of the variable is substituted for any missing observations. The results indicate that if we substitute missing data with the sample mean of the particular variable most of the variables

achieve statistical significance at the .001 level. The model that includes the variable for highest year of schooling completed (Appendix 1) has an R-square of .476 and indicates that AFQT scores are negatively related to age, and positively related to the number of years of schooling completed by the individual. These effects are still quite large. The results for our measures of family resources indicate that parental education and family resources (access to newspapers, magazines, and library card and family income) have a significant positive effect on scores on the AFQT. The variables for central city residence and residence in the south at age 14 did not reach statistical significance. In terms of school level characteristics the results indicate that percent of students below poverty in the school and the percent of 10th graders that drop-out are both negatively related to AFQT scores. The dummy variables for race and ethnic group all reach statistical significance and indicate that there are still significant disadvantages associated with group membership and not explained by the variables included in the model.

[Table 6 about here]

The table in appendix two includes the same model with mean substitution of missing data but with the variable for number of years of schooling completed deleted from the equation. The model (Appendix 2) has an R-square of .413 and all of the variables (except for percent of students black and central city resident) reach statistical significance at the .10, .05, and .001 levels. These results lend strong support for the hypothesis that number of family and school level resources are significantly related to scores on the AFQT. The results also indicate that including years of schooling completed in the equation does not change substantially the relation

between our independent variables and scores on the AFQT.

[Table 7 about here]

Tables 5, 6 and 7 present our estimates of the impact of family and school level resources on differences in scores on the AFQT separately for Whites, African-American and Latino young males. **Table 6** has the regression coefficients for percentile score on the AFQT for white males and it indicates that family educational background (highest grade completed by the father) and family resources are the most important variables in accounting for the variation in White AFQT scores ($R\text{-square}=.431$). The variables for school characteristics and region of residence failed to reach statistical significance. **Table 7** has the regression coefficients for percentile score on the AFQT for African-American young males. The $R\text{-square}$ for the African-American equation is slightly lower (.413) but the results are similar. Family educational background and family resources are the most important variables in accounting for the variation in African-American AFQT scores but, in addition, family income and highest grade completed by the mother are also important determinants.

[Table 8 about here]

Table 8 presents the regression coefficients for percentile scores on the AFQT for Hispanic/Latino males. The $R\text{-square}$ for the model is .479 but unlike the models for Whites and African-Americans very few variables reach statistically significant effects. Age and highest

grade of schooling complete are significant variables but family level resources (other than highest grade completed by the father) and school characteristics fail to reach statistical significance. It is interesting to note that in the Latino equation foreign language spoken at home at age 14 has a significant negative effect on AFQT scores while the proportion of the faculty in the school that is Hispanic has a significant positive effect on Latino scores on the AFQT.

5. DISCUSSION: SOCIAL INVESTMENTS, MATERIAL RESOURCES, TEST SCORES AND ABILITY

Material Resources and Differences in Test Scores

Our results lend support for the hypothesis that social investments and material resources in the family and in the school are significantly related to scores on the AFQT. Scores on the AFQT are related to access to reading resources, family income, and parental education. In terms of school effects, the percent of students classified as disadvantaged and the percent of tenth graders that drop-out are also significantly related to scores on the AFQT. These variables measure direct effects but also serve as proxies for other resources available in the household and in the school. Unfortunately we were unable to test the hypothesis that community level resources are also related to scores on the AFQT⁴.

⁴ The NLSY collected some data at the SMSA and County level. I included a number of geographic level variables such as income levels, poverty rates, proportion high school graduate, proportion college graduate, ethnic composition of the area in some of the equations but these

Standardized Tests as Measures of Skill and Ability

The first question that needs to be asked about any particular standardized tests is: what does the test measure? This is always an empirical question. Just because a particular test or instrument claims to measure "ability" or "skill" it does not mean that it does (Fisher, Hout, et. al. 1996). Tests of "ability" or "skill" have to be applied and adapted to specific situations and have to be validated for particular purposes. A test like the AFQT can measure exposure to the experiences of the white upper middle class but it does not say anything about the skills and capabilities that are developed by young men to deal with the environments where they actually live. The skills that are necessary to survive in one community are not necessarily the same skills that are required or encouraged in other communities.

Differences in access to material resources and persisting racial and ethnic segregation (Massey and Denton 1992) increase the likelihood that the test will have an racial, ethnic, social class, and cultural bias. Standardized tests are social/cultural products themselves and measure different subsets of the population with varying degrees of accuracy and reliability. The more "general" the test the more likely it is to measure social resources and to reflect discrimination. The more specific the test and the more job related the less likely it is to contain racial biases and to arbitrarily screen out good candidates. In their paper Hotz and Tienda state that,

Our findings showing that race and ethnic variation in the

variables (with the exception of proportion of college graduates in some models) never reached statistical significance.

transition to employment can be reversed or eliminated after adjusting for differences in AFQT scores and family background is both provocative and problematic. If the AFQT measure is truly an index of scholastic and/or job-related aptitudes, then prior studies that failed to consider this influence on school departures and employment transitions may have misrepresented the significance of race. If, on the other hand, the AFQT index is capturing racial biases in the test itself, then our interpretation about its success in tapping ability differences among groups is inappropriate. Until we can answer these questions satisfactorily, our findings about racial and ethnic differences must be regarded as tentative. However, our results underscore the urgency of scrutinizing the AFQT index and investigating how the use of this performance measure might be adapted to employment decisions in the civilian sector (1994:31).

Our results indicating that the AFQT is a measure of family, school and community level material resources and social investments on individual development and exposure to the values and networks of the majority group caution strongly against using the AFQT for any specific employment decisions. The AFQT is a general knowledge test which makes it quite useless for evaluating potential performance in a large number of jobs. Moreover, given that there are differences in the AFQT within educational categories using the AFQT as a screening device will have the effect of disproportionately excluding minorities for consideration for specific positions.

The fact that there is a strong social presumption that the AFQT measures "ability" should call for extra caution when using that or any other standardized test without the appropriate tests of reliability and validity and without appropriate controls against social class, racial, ethnic or cultural bias not related to performance on the job.

Standardized Tests and Their Relation to Other Outcomes

Standardized tests such as the AFQT have been put to many uses and misuses. Herrnstein and Murray (1994), for example, related scores on the AFQT (what they consider to be intelligence) to a large number of socio-economic outcomes such as teenage marriage, having children out of wedlock, and crime. Their basic contention is that "low ability" individuals, as determined by the AFQT, are associated with the worst values, behaviors, and outcomes. The most common use of the AFQT is as an "ability" control in models of earnings determination (Cameron and Heckman 1992; Farkas and Vicknair 1996; Neal and Johnson 1996; O'Neil, 1990) or employment (Hotz and Tienda 1994). The results from this paper suggest that this is a very problematic interpretation since the AFQT is in large part a measure of access to material resources, social investments and exposure to the values, experiences and networks of the white upper middle class.

Other researchers use the AFQT as a measure of schooling (Maxwell 1995), school quality (Betts 1995), "the formal and informal instruction that someone has received and

absorbed" (Fisher, Hout, et. al. 1996: 68), family, school, and psychological background variables (Rodgers and Spriggs 1996), and "exposure to the values and experiences of the white middle class (Maume, Cancio, and Evans 1996:561)". Our results are consistent with these interpretations of the AFQT as a culturally biased measure of access to material resources, social investments, and exposure to the culture of the majority group. The test can be used as an independent variable provided that the researcher is clear on what the test measures and the factors that are associated with scores on the test. Many independent variables are actually quite complex dependent variables and should be carefully and systematically analyzed before they are unreflexively used in further analysis.

Standardized Tests and Racial/Ethnic Discrimination

The recent controversy over The Bell Curve (Herrnstein and Murray 1994; Jacoby and Glauberman 1995; Fisher, Hout, et. al. 1996) suggests the need for social scientists to be very careful when using standardized tests and when encouraging others to use them. Standardized tests reflect the cumulative effects of discrimination and are often used as a justification for further differentiation and stratification. The AFQT is a general test that measures access to resources and social investments and its use as a measure of "ability" or "job potential" is quite problematic. The AFQT is also related to exposure to the values, experiences, and networks of the white upper middle class and therefore has a racial, ethnic, social class, and cultural bias. If

the test is used to make distinctions within years of schooling the result will be to increase discrimination and decrease minority access to good jobs since within any grade African-Americans, Puerto Ricans, and Mexican-Americans have lower AFQT scores than Whites. There is no objective basis to use the AFQT as a general test in employment decisions since the validity and reliability of the AFQT has not been assessed for the vast majority of civilian occupations and there is substantial research that questions the meaning, validity, reliability, and use of the test (Fisher, Hout, et. al. 1996; Maume, Cancio, and Evans 1996; Mason 1997a; Rodgers and Spriggs 1996).

6. CONCLUSION

In this paper I have shown that scores on the AFQT are a function of family and school level material resources and investments on individual development. The AFQT is not a measure of "intelligence (IQ)", "ability", or "cognitive skills". The AFQT is in large part a measure of access to material resources, social investments, and exposure to the values, experiences, and networks of the white upper middle class.

The results presented in this paper indicate that the individual, family and school level variables included in our models explain at least 40% of the variation in scores on the AFQT. There is substantial variation left to "explain." I argue that a large part of the unexplained variation is due to unmeasured differences in family, school, and community level resources.

This research suggests that a fruitful avenue of inquiry is to investigate with other methods the mechanisms whereby discriminatory distribution of material and other resources in families and in school lead to lower scores on standardized tests. Our research also suggest that social science data on the role of social structures and organizational characteristics and processes on socio-economic outcomes should be collected more systematically. Theoretical work on how social structures, context, and public policies impact the distribution of social assets and material resources should lead to more rigorous data collection and to the development of testable empirical propositions and models.

Recent research has pointed to the growing importance of "skill" for labor market outcomes (Ferguson 1995; Levy and Murnane 1996; Murnane, Willett, and Levy 1995). While the fact that "skills matter" is repeated as a mantra this research has not addressed *differences in the acquisition of "quality skills"* caused by differences in material resources, barriers to access, and differences in treatment within educational and training institutions; *differences in how skills for particular jobs are evaluated* at any level of the distribution; and racial and ethnic *differences in levels of compensation* for individuals with similar levels of education and skill.

The AFQT is in large part a measure of the influence of material resources and social investments on the capacity of individuals to solve particular reading, writing, and arithmetic problems (and exposure to white upper-middle class values). This suggests that both the distribution of raw scores and racial disparities in the part of the test that measures the capacity to

solve particular reading, writing, and arithmetic problems can be changed by increased access to social investments and material resources in families, school, and communities.

[Appendix 1 about here]

[Appendix 2 about here]

REFERENCES

- Acs, Gregory and Sheldon Danziger. 1994. "Educational Attainment, Industrial Structure and Male Earnings Through the 1980s." Journal of Human Resources 29:617-648.
- Ahituv, Tienda, Linxin Xu, and V. Joseph Hotz. 1994. "Initial Labor Market Experiences of Black, Hispanic, and White Men." University of Chicago, Population Research Center, Working Paper 95-4.
- Allen, Walter and Alan Jewell. 1995. "African-American Education Since An American Dilemma." Daedalus (Winter).
- Becker Gary and Barry Chiswick. 1966. "Education and the Distribution of Earnings" American Economic Review 67(June): 358-369.
- Berts, Julian R. 1995. "Does School Quality Matter? Evidence from the National Longitudinal Survey." Review of Economics and Statistics (May): 231-250.
- Bound, John and Richard B. Freeman. 1992. "What Went Wrong? The Erosion of Relative Earnings and Employment among Young Black Men in the 1980s," Quarterly Journal of Economics, 107(1):201-232.
- Cameron, Steven and James J. Heckman. 1993. "The Nonequivalence of High School Equivalents." Journal of Labor Economics 11(1): 1-47 (also NBER Working Paper no. 3804).
- Cancio, A. Silvia, T. David Evans and David J. Maume. 1996. "Reconsidering the Declining Significance of Race: Racial Differences in Early Career Wages." American Sociological Review 61(August): 541-556.
- Card, David and Alan Krueger. 1992. "School Quality and Black-White Relative Earnings: A Direct Assessment." Quarterly Journal of Economics 107(February).
- Center for Human Resource Research (CHRR). 1993. NLS Users' Guide, 1993. Columbus, Ohio: Center for Human Resource Research, Ohio State University.
- Center for Human Resource Research (CHRR). 1993. NLS Handbook, 1993. Columbus, Ohio: Center for Human Resource Research, Ohio State University.

- Coleman, James S. 1994. "Social Capital, Human Capital and Investment in Youth." in A. Petersen and J. Mortimer Youth Unemployment and Society. Cambridge: Cambridge University Press.
- Cordero-Guzman, Hector R. 1997. "The Structure of Inequality and the Status of Puerto Rican Youth in the U.S." Latinos and Education: A Critical Reader, edited by Antonia Darder, Rodolfo D. Torres and Henry Gutierrez, New York: Routledge Press, 1997.
- Cross, Harry, et. al. 1990. Employer Hiring Policies: Differential Treatment of Hispanic and Anglo Job Seekers. Washington, D.C.: The Urban Institute.
- Duster, Troy. 1995. "Review of the Bell Curve." Contemporary Sociology 24 (March): 158-161.
- D'Souza, Dinesh. 1995. The End of Racism. New York: Free Press.
- Entwisle, Doris R. and Karl L. Alexander. 1992. "Summer Setback: Race, Poverty, School Composition, and Math Achievement in the First Two Years of School." American Sociological Review 57:72-84.
- Farkas, George and Keven Vicknair. 1996. "Appropriate Tests of Racial Wage Discrimination Require Controls for Cognitive Skill: Comment on Cancio, Evans and Maume." American Sociological Review 61(August): 557-560.
- Ferguson, Ronald. 1995. "Shifting Challenges: Fifty Years of Economic Change Toward Black-White Earnings Inequality." Daedalus. (Winter): 37-76.
- Fisher, Claude S, Michael Hout, Martin Sanchez Jankowski, et. al. 1996. Inequality by Design: Cracking the Bell Curve Myth. Princeton; Princeton University Press.
- Fix, Michael and Raymond J. Struyk. 1993. Clear and Convincing Evidence: Measurement of Discrimination in America Washington, D.C.: Urban Institute Press.
- Furnham, Adrian. 1994. "The Psychosocial Consequences of Youth Unemployment." in A. Petersen and J. Mortimer (eds.) Youth Unemployment and Society. Cambridge: Cambridge University Press.

- Garner, Catherine L. and Stephen W. Raudenbush. 1991. "Neighborhood Effects on Educational Attainment: A Multilevel Analysis." Sociology of Education 64: 251-262.
- Goldberger, Arthur and Charles F. Manski. 1995. "Review of the Bell Curve" Journal of Economic Literature, 33(June): 762-776.
- Gould, Stephen J. 1994. "Curveball" New Yorker (November).
- Griliches, Zvi and William M. Mason. 1972. "Education, Income and Ability." Journal of Political Economy 80(May/June): s75-s103.
- Hanusheck, Eric A. 1986. "The Economics of Schooling: Production and Efficiency in Public Schools." Journal of Economic Literature, 24 (Sept): 1141-1177.
- Hause, John C. 1972. "Earnings Profile: Ability and Schooling." Journal of Political Economy 80(May/June): S108-S138.
- Hauser, Robert M. 1995. "Review of the Bell Curve." Contemporary Sociology 24 (March): 149-153.
- Heckman, James, Anne Layne-Farrar and Petra Todd. 1995. "Does Measured School Quality Really Matter? An Examination of the Earnings-Quality Relationship." NBER Working Paper #5274.
- Heinz, Walter A. 1994. "Conclusion: Social Structure and Psychosocial Dimensions of Youth Unemployment." in A. Petersen and J. Mortimer (eds.) Youth Unemployment and Society. Cambridge: Cambridge University Press.
- Herrnstein, Richard and Charles Murray. 1994. The Bell Curve: Intelligence and Class Structure in American Life. New York: Free Press.
- Hotz, V.J. and Marta Tienda. 1994. "Education and Employment in a Diverse Society: Generating Inequality through the School-to-Work Transition." Paper presented at the conference on American Diversity: A Demographic Challenge for the Twenty-First Century. State University of New York at Albany.
- Jacoby, Russell and Naomi Glauber. 1995. The Bell Curve Debate: History, Documents, and Opinion. New York: Times Books/Random House.

- Katz, Lawrence and Kevin Murphy. 1992. "Changes in Relative Wages, 1963-1987: Supply and Demand Factors." Quarterly Journal of Economics 107(1): 35-78.
- Levy, Frank and Richard J. Murnane. 1992. "U.S. Earnings Levels and Earnings Inequality: A Review of Recent Trends and Proposed Explanations." Journal of Economic Literature 30:1333-1381.
- Levy, Frank and Richard J. Murnane, 1996. Teaching the New Basic Skills. New York: Basic Books.
- Massey, Douglas S. and Nancy Denton. 1993. American Apartheid: Segregation and the Making of the Underclass. Cambridge: Harvard University Press.
- Mason, Patrick. 1997a. "Competing Explanations of Male Interracial Wage Differentials: Missing Variable Models versus Job Competition." Forthcoming in Cambridge Journal of Economics
- Mason, Patrick. 1997b. "Race, Culture and Skill: Interracial Wage Differences Among African-Americans, Latinos and Whites." Forthcoming in Review of Black Political Economy
- Mason, Patrick. 1997c. "Racial Discrimination and the Rate of Return to Cognitive Ability." Unpublished Manuscript.
- Maxwell, Nan. 1995. "The Effect on Black-White Wage Differences of Differences in the Quantity and Quality of Education." Industrial and Labor Relations Review. 47(2): 248-264.
- Maume, David J., A. Silvia Cancio, and T. David Evans. 1996. "Cognitive Skills and Racial Wage Inequality: Reply to Farkas and Vicknair." American Sociological Review 61(August): 561-564.
- Mortimer, Jeyland T. 1994. "Individual Differences as Precursors of Youth Unemployment." in A. Petersen and J. Mortimer (eds.) Youth Unemployment and Society. Cambridge: Cambridge University Press.
- Moss, Philip and Chris Tilly. 1991. Why Black Men are Doing Worse in the Labor Market: A Review of Supply-Side and Demand Side Explanations. New York: Social Science Research Council.

- Moss, Philip and Chris Tilly. 1995. "Raised Hurdles for Black Men: Evidence from Interviews with Employers." New York: Russell Sage Foundation.
- Moss, Philip and Chris Tilly. 1996. "'Soft' Skills and Race: An Investigation of Black Men's Employment Problems" New York: Russell Sage Foundation.
- Murnane, Willett and Levy. 1995. "The Growing Importance of Cognitive Skills in Wage Determination." Review of Economic and Statistics p.251 (NBER Paper #5076).
- Murphy, Kevin M. and Finis Welch. 1993a. "Inequality and Relative Wages." American Economic Review. 83(2):105-109.
- Murphy, Kevin and Finis Welch. 1993b. "Occupational Change and the Demand for Skill." American Economic Review. 83(2):122-126.
- National Center for Education Statistics (NCES). 1995. Youth Indicators: Trends in the Well-Being of American Youth. 1995. Washington, DC: U.S. Department of Education.
- Neal, Derek and William R. Johnson. 1996. "The Role of Pre-Market Factors in Black-White Wage Differences." Journal of Political Economy 104(5):869-895.
- O'Neil, June. 1990. "The Role of Human Capital in Earnings Differences Between Black and White Men." Journal of Economic Perspectives 4(4):47-65.
- Reed, Adolph. 1994. "Looking Backward." The Nation Nov 28, 1994.
- Rivera-Batiz, Francisco L. 1991. "The Effects of Literacy on the Earnings of Hispanics in the United States." in Edwin Melendez, Clara Rodriguez, and Janis Barry Figueroa (eds.) Hispanics in the Labor Force: Issues and Policies. New York: Plenum Press.
- Rivera-Batiz, Francisco. 1992. "Quantitative Literacy and the Likelihood of Employment Among Young Adults in the United States." Journal of Human Resources 27 (2): 312-328.
- Rodgers, William M. and William E. Spriggs. 1996. "What Does the AFQT Really Measure? Race, Wages, Schooling, and the AFQT Score." Review of Black Political Economy 24(4):13-46.

Rushton, J Philippe. 1995. "Race and Crime: An International Dilemma." Society Jan/Feb.

Taylor, Howard F. 1995. "Review of Bell Curve" Contemporary Sociology 24 (March): 153-157.

Turner, Margery Austin, Michael Fix, and Raymond J. Struyk. 1991. Opportunities Denied. Opportunities Diminished: Racial Discrimination in Hiring. Washington, D.C.: Urban Institute Report 91-9.

Weakliem, David, Julia McQuillan, and Tracy Schauer. 1995. "Toward Meritocracy? Changing Social Class Differences in Intellectual Ability." Sociology of Education 68(4):271-286.

Welch, Finis. 1966. "Measurement of the Quality of Schooling." American Economic Review 56(May):379-392.

Welch, Finis. 1990. "The Employment of Black Men." Journal of Labor Economics. 8(1):S26-S74.

Wilson, William J. 1987. The Truly Disadvantaged. Chicago: The University of Chicago Press.

Table 1 Descriptive Statistics for the Variables Included in the Analysis

	N	Minimum	Maximum	Mean	Std. Deviation
PROFILES, AFQT PERCENTILE 1989 (REV) 81	5951	1	99	41.53	29.79
AGE OF R AT INTERVIEW DATE 79	6403	14	22	17.88	2.33
HIGHEST GRADE COMPLETED AS OF 05/01/79	6399	0	18	10.39	2.04
PROB - TRANSPORTATION 79	5043	0	1	.33	.47
PROB - ENGLISH FOREIGN LANGUAGE 79	5041	0	1	5.10E-02	.22
@ AGE 14 - ANY HH MEMBER RECEIVE MAG 79	6355	0	1	.57	.49
@ AGE 14 - ANY HH MEM RECEIVE PAPERS 79	6382	0	1	.77	.42
@ AGE 14 - ANY HH MEM HAVE A LIBCARD 79	6379	0	1	.69	.46
TOTAL NET FAMILY INCOME IN C_YR 79	5253	0	75001	14880.32	12644.30
FORLANG SPK @ HOME R'S CHILDHOOD - 79 INT	6402	0	1	.22	.41
HGC BY R'S MOTHER 79	5934	0	20	10.94	3.18
HGC BY R'S FATHER 79	5494	0	20	11.00	3.93
%STUDENTS BLACK RC/ETH 79	3969	0	100	18.32	26.19
%FACULTY BLACK RC/ETH 79	3960	0	99	10.83	18.30
%STUDENTS HISPANIC RC/ETH 79	3965	0	100	9.24	19.11
%FACULTY HISPANIC RC/ETH 79	3967	0	70	2.58	6.93
%STUDENTS WHITE RC/ETH 79	3965	0	100	70.14	31.26
%FACULTY WHITE RC/ETH 79	3948	0	100	94.22	21.93
%STUDENTS CLASSIFIED DISADVANTAGED 79	3441	0	10	3.04	2.45
%10TH GRADE STUDENTS WHO DROP OUT 79	3844	0	10	2.24	2.12
central city resident	5586	.00	1.00	.2030	.4023
SMS RESID IN U.S. AT AGE 14 79 INT	6161	0	1	.36	.48
African-American	6403	.00	1.00	.2519	.4341
Puerto Rican	6403	.00	1.00	2.421E-02	.1537
Mexican-American	6403	.00	1.00	8.605E-02	.2805
Other Hispanic	6403	.00	1.00	4.582E-02	.2093
Valid N (listwise)	1614				

Table 2 Selected Descriptives Characteristics of the NLSY Young Male Sample by Race/Ethnicity

	AFQT Quantiles			
	Low thru 24	25 thru 49	50 thru 74	75 thru hi
White	22.9	24.9	24.9	27.4
African-American	86.2	23	7	3.8
Puerto Rican	64.7	18.4	11	5.9
Mexican-American	55.5	25.9	13.8	4.8
Other Hispanic	37.8	31.1	17.2	13.9

	Percent below Poverty		
	1979	1989	1990
White	20.3	7.8	7.4
African-American	41.4	18.6	22.9
Puerto Rican	51.5	25	19.3
Mexican-American	36.8	17.7	17.2
Other Hispanic	25.1	10.7	11.5

	Region of Residence in 1979			
	North East	North Central	South	West
White	18.2	34.2	29.7	17.9
African-American	18.4	18	55.9	8.6
Puerto Rican	71.2	6.3	13.5	9
Mexican-American	0.8	6.9	26.5	65.7
Other Hispanic	23.2	4.7	37.3	34.8

	Residence in an SMSA				
	% Urban	Not in SMSA	SMSA-NCC	SMSA-n/a	Central City
White	71.7	35.6	34.2	18.1	12.2
African-American	82.4	28.2	14.3	24.8	32.7
Puerto Rican	99.3	3.7	9.6	19.9	66.9
Mexican-American	82.5	25.4	24.5	31.1	19
Other Hispanic	94.5	11.3	24.5	35.8	28.5

	Income by Broad Category			
	Income in 1979			
	Low to \$9,999	\$10-19,999	\$20-34,999	Over \$35,000
White	33.4	25.4	28.3	12.8
African-American	50.3	32.5	13.5	3.6
Puerto Rican	71	18.4	5.6	4
Mexican-American	44.5	33.3	18.5	3.7
Other Hispanic	40.1	27.3	24.7	7.9

	Income in 1980			
	Low to \$9,999	\$10-19,999	\$20-34,999	Over \$35,000
White	28.6	26.6	28.7	18
African-American	45.7	30	17.3	7.1
Puerto Rican	53.8	30.1	8.6	7.5
Mexican-American	32.3	37.9	24.5	5.3
Other Hispanic	30.7	28.1	32.2	11.1

	Income in 1985			
	Low to \$9,999	\$10-19,999	\$20-34,999	Over \$35,000
White	21.6	27.8	26.8	23.8
African-American	33.4	29	24.5	13.1
Puerto Rican	33.3	37.4	15.2	14.1
Mexican-American	23.6	30.3	28.5	17.6
Other Hispanic	17.1	29.8	24.9	28.3

	Income in 1990			
	Low to \$9,999	\$10-19,999	\$20-34,999	Over \$35,000
White	8.2	17.8	31.8	42.2
African-American	19.1	28.3	27	27.6
Puerto Rican	28.1	20.7	28.1	27.2
Mexican-American	11.9	32.6	31.2	24.3
Other Hispanic	11.7	18.3	24.1	45.7

	Percent Receiving Public Assistance	
	% in 1979	% in 1984
White	8.3	6.7
African-American	25	24.2
Puerto Rican	58.7	41
Mexican-American	15.4	7.9
Other Hispanic	12.3	12.8

	School Characteristics					
	Percent Poor in the School			Percent Drop-out in the School		
	Less than 39%	40% to 69%	More than 70%	Less than 39%	40% to 69%	More than 70%
White	87.2	9.5	3.3	84.2	1	4.8
African-American	57	27.9	15.1	90.7	4.2	5.1
Puerto Rican	41.4	29.3	29.3	70.9	12.7	16.4
Mexican-American	59.7	28.3	12	89.4	5.1	5.4
Other Hispanic	73.8	18.5	8.8	83.7	5.8	10.5

Source: National Longitudinal Survey of Youth (NLSY) Civilian Male Sample, 1979-1991

Table 3 Regression Coefficients for Percentile Score on the AFQT (R-Square=.514)^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error				Tolerance	VIF
1	(Constant)	-7.848	6.361		-1.234	.218		
	AGE OF R AT INTERVIEW DATE 79	-3.807	.434	-.225	-8.771	.000 ***	.463	2.161
	HIGHEST GRADE COMPLETED AS OF 05/01/79	9.089	.495	.496	18.349	.000 ***	.417	2.400
	PROB - TRANSPORTATION 79	-2.318	1.174	-.036	-1.974	.049 *	.936	1.068
	PROB - ENGLISH FOREIGN LANGUAGE 79	-13.535	3.215	-.076	-4.210	.000 ***	.940	1.064
	@ AGE 14 - ANY HH MEMBER RECEIVE MAG 79	6.863	1.212	.111	5.662	.000 ***	.794	1.259
	@ AGE 14 - ANY HH MEM RECEIVE PAPERS 79	3.190	1.542	.040	2.069	.039 *	.808	1.238
	@ AGE 14 - ANY HH MEM HAVE A LICARD 79	3.463	1.257	.051	2.755	.006 **	.877	1.141
	TOTAL NET FAMILY INCOME IN C_YR 79	7.700E-05	.000	.036	1.869	.062	.802	1.247
	FORLANG SPK @ HOME R'S CHILDHOOD - 79 INT	1.439	2.041	.018	.705	.481	.457	2.187
	HGC BY R'S MOTHER 79	.810	.253	.079	3.204	.001 *	.505	1.981
	HGC BY R'S FATHER 79	1.140	.190	.145	6.007	.000 ***	.522	1.916
	%STUDENTS BLACK RC/ETH 79	-2.072E-02	.049	-.017	-.423	.672	.188	5.317
	%FACULTY BLACK RC/ETH 79	-.114	.071	-.060	-1.596	.111	.212	4.711
	%STUDENTS HISPANIC RC/ETH 79	-.120	.059	-.073	-2.045	.041 *	.240	4.161
	%FACULTY HISPANIC RC/ETH 79	.448	.147	.095	3.046	.002 **	.312	3.204
	%STUDENTS CLASSIFIED DISADVANTAGED 79	-.605	.291	-.047	-2.081	.038 *	.610	1.640
	%10TH GRADE STUDENTS WHO DROP OUT 79	-.270	.328	-.016	-.822	.411	.809	1.237
	central city resident	2.111	1.544	.026	1.367	.172	.857	1.166
	SNS RESID IN U.S. AT AGE 14 79 INT	.195	1.290	.003	.151	.880	.753	1.323
	African-American	-16.175	1.787	-.218	-9.049	.000 ***	.527	1.887
	Puerto Rican	-.451	4.786	-.002	-.094	.925	.729	1.372
	Mexican-American	-4.732	3.127	-.042	-1.513	.130	.390	2.563
	Other Hispanic	-6.700	3.441	-.040	-1.947	.052	.717	1.394

a. Dependent Variable: PROFILES, AFQT PERCENTILE 1989 (REV) 81

Table 4 Regression Coefficients for Percentile Score on AFQT
(R-Square=.411)^a

Model		Unstandardized Coefficients		Standardized Coefficients		t	Sig.
		B	Std. Error	Beta			
1	(Constant)	-24.652	6.919			-3.563	.000
	AGE OF R AT INTERVIEW DATE 79	1.950	.330	.115		5.903	.000 ***
	PROB - TRANSPORTATION 79	-4.020	1.287	-.062		-3.123	.002 **
	PROB - ENGLISH FOREIGN LANGUAGE 79	-14.962	3.535	-.084		-4.232	.000 ***
	@ AGE 14 - ANY HH MEMBER RECEIVE MAG 79	8.983	1.327	.145		6.769	.000 ***
	@ AGE 14 - ANY HH MEM RECEIVE PAPERS 79	4.111	1.694	.052		2.427	.015 *
	@ AGE 14 - ANY HH MEM HAVE A LIBCARD 79	5.759	1.376	.085		4.186	.000 ***
	TOTAL NET FAMILY INCOME IN C_YR 79	1.065E-04	.000	.050		2.352	.019 *
	FORLANG SPK @ HOME R'S CHILDHOOD - 79 INT	2.242	2.244	.028		.999	.318
	HGC BY R'S MOTHER 79	1.053	.278	.102		3.796	.000 ***
	HGC BY R'S FATHER 79	1.708	.206	.217		8.290	.000 ***
	%STUDENTS BLACK RC/ETH 79	-2.306E-02	.054	-.019		-.428	.668
	%FACULTY BLACK RC/ETH 79	-.122	.078	-.065		-1.555	.120
	%STUDENTS HISPANIC RC/ETH 79	-8.531E-02	.065	-.052		-1.318	.188
	%FACULTY HISPANIC RC/ETH 79	.450	.162	.096		2.782	.005 **
	%STUDENTS CLASSIFIED DISADVANTAGED 79	-.533	.320	-.041		-1.668	.095
	%10TH GRADE STUDENTS WHO DROP OUT 79	-.873	.359	-.052		-2.433	.015 *
	central city resident	1.770	1.698	.022		1.042	.297
	S/NS RESID IN U.S. AT AGE 14 79 INT	1.020	1.418	.016		.719	.472
	African-American	-15.679	1.965	-.211		-7.977	.000 ***
	Puerto Rican	-1.240	5.265	-.005		-.236	.814
	Mexican-American	-5.036	3.440	-.045		-1.484	.143
	Other Hispanic	-6.619	3.785	-.040		-1.749	.081

a. Dependent Variable: PROFILES, AFQT PERCENTILE 1989 (REV) 81

Table 6 Regression Coefficients for Percentile Score on the AFQT (White Males,
R-Square=.413)^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error				Tolerance	VIF
1	(Constant)	-15.465	8.130		-1.902	.057		
	AGE OF R AT INTERVIEW DATE 79	-3.715	.562	-.236	-6.615	.000***	.420	2.380
	HIGHEST GRADE COMPLETED AS OF 05/01/79	9.449	.636	.563	14.848	.000***	.373	2.681
	PROB - TRANSPORTATION 79	-2.987	1.543	-.047	-1.936	.053	.918	1.090
	PROB - ENGLISH FOREIGN LANGUAGE 79	-21.642	5.310	-.096	-4.076	.000***	.973	1.027
	@ AGE 14 - ANY HH MEMBER RECEIVE MAG 79	6.709	1.572	.107	4.269	.000***	.848	1.180
	@ AGE 14 - ANY HH MEM RECEIVE PAPERS 79	5.929	2.271	.066	2.610	.009**	.847	1.181
	@ AGE 14 - ANY HH MEM HAVE A LBCARD 79	2.597	1.617	.040	1.606	.109	.885	1.130
	TOTAL NET FAMILY INCOME IN C_YR 9	5.562E-05	.000	.030	1.179	.239	.833	1.200
	FORLANG SPK @ HOME R'S CHILDHOOD - 79 INT	2.560	2.448	.025	1.046	.296	.968	1.033
	HGC BY R'S MOTHER 79	.598	.343	.051	1.744	.081	.634	1.578
	HGC BY R'S FATHER 79	1.418	.246	.173	5.762	.000***	.596	1.679
	%STUDENTS BLACK RC/ETH 79	1.917E-02	.094	.009	.204	.839	.256	3.910
	%FACULTY BLACK RC/ETH 79	-.108	.146	-.035	-.738	.460	.240	4.159
	%STUDENTS HISPANIC RC/ETH 79	-.101	.117	-.027	-.860	.390	.562	1.778
	%FACULTY HISPANIC RC/ETH 79	-.319	.363	-.027	-.878	.380	.580	1.724
	%STUDENTS CLASSIFIED DISADVANTAGED 79	-.630	.414	-.041	-1.523	.128	.727	1.375
	%10TH GRADE STUDENTS WHO DROP OUT 79	-.154	.413	-.010	-.373	.709	.800	1.250
	central city resident	2.224	2.166	.025	1.027	.305	.932	1.073
	S/NS RESID IN U.S. AT AGE 14 79 INT	.380	1.736	.006	.219	.827	.727	1.376

a. Dependent Variable: PROFILES, AFQT PERCENTILE 1989 (REV) 81

Table 5 Regression Coefficients for Years of Schooling Completed (R-Square=.574)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-1.617	.311		-5.206	.000		
	AGE OF R AT INTERVIEW DATE 79	.622	.015	.679	42.138	.000 ***	.965	1.036
	PROB - TRANSPORTATION 79	-.185	.058	-.052	-3.214	.001 ***	.940	1.064
	PROB - ENGLISH FOREIGN LANGUAGE 79	-.143	.159	-.015	-.900	.368	.947	1.055
	@ AGE 14 - ANY HH MEMBER RECEIVE MAG 79	.232	.059	.069	3.910	.000 ***	.799	1.252
	@ AGE 14 - ANY HH MEM RECEIVE PAPERS 79	.131	.076	.031	1.729	.084	.804	1.244
	@ AGE 14 - ANY HH MEM HAVE A LIBCARD 79	.252	.061	.069	4.121	.000 ***	.889	1.125
	TOTAL NET FAMILY INCOME IN C_YR 79	2.063E-06	.000	.018	1.032	.302	.807	1.240
	FORLANG SPK @ HOME R'S CHILDHOOD - 79 INT	5.344E-02	.097	.013	.550	.582	.473	2.116
	HGC BY R'S MOTHER 79	2.125E-02	.012	.038	1.722	.085	.502	1.994
	HGC BY R'S FATHER 79	6.553E-02	.009	.155	7.129	.000 ***	.528	1.893
	%STUDENTS BLACK RC/ETH 79	-5.641E-04	.002	-.009	-.240	.810	.193	5.183
	%FACULTY BLACK RC/ETH 79	-2.883E-04	.003	-.003	-.085	.932	.222	4.512
	%STUDENTS HISPANIC RC/ETH 79	2.230E-03	.003	.025	.787	.432	.250	4.001
	%FACULTY HISPANIC RC/ETH 79	2.810E-03	.007	.011	.409	.683	.330	3.028
	%STUDENTS CLASSIFIED DISADVANTAGED 79	6.193E-03	.014	.009	.433	.665	.607	1.647
	%10TH GRADE STUDENTS WHO DROP OUT 79	-6.581E-02	.016	-.073	-4.156	.000 ***	.816	1.225
	central city resident	-9.394E-02	.075	-.021	-1.247	.212	.848	1.179
	S/NS RESID IN U.S. AT AGE 14 79 INT	6.480E-02	.063	.027	1.501	.134	.761	1.314
	African-American	6.557E-02	.089	.016	.735	.463	.512	1.955
	Puerto Rican	-9.407E-02	.232	-.007	-.405	.686	.741	1.349
	Mexican-American	5.168E-02	.152	.009	.339	.734	.392	2.548
	Other Hispanic	4.072E-02	.167	.005	.243	.808	.727	1.375

a. Dependent Variable: HIGHEST GRADE COMPLETED AS OF 05/01/79

Table 7 Regression Coefficients for Percentile Score on the AFQT (African-American Males,
R-Square=.413)^a

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Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-4.916	12.945		-.380	.704		
	AGE OF R AT INTERVIEW DATE 79	-3.725	.794	-.276	-4.690	.000 ***	.546	1.831
	HIGHEST GRADE COMPLETED AS OF 05/01/79	6.605	.935	.419	6.706	.000 ***	.483	2.070
	PROB - TRANSPORTATION 79	1.379	2.159	.029	.639	.523	.941	1.062
	PROB - ENGLISH FOREIGN LANGUAGE 79	-14.292	5.738	-.112	-2.491	.013 *	.930	1.076
	@ AGE 14 - ANY HH MEMBER RECEIVE MAG 79	7.565	2.300	.158	3.288	.001 ***	.815	1.226
	@ AGE 14 - ANY HH MEM RECEIVE PAPERS 79	-.221	2.528	-.004	-.087	.930	.823	1.215
	@ AGE 14 - ANY HH MEM HAVE A LIBCARD 79	4.593	2.430	.092	1.890	.060	.802	1.247
	TOTAL NET FAMILY INCOME IN C_YR 79	2.790E-04	.000	.117	2.377	.018 *	.784	1.276
	FORLANG SPK @ HOME R'S CHILDHOOD - 79 INT	9.653	5.660	.076	1.706	.089	.955	1.047
	HGC BY R'S MOTHER 79	1.919	.590	.194	3.253	.001 ***	.528	1.893
	HGC BY R'S FATHER 79	.279	.398	.040	.703	.483	.574	1.742
	%STUDENTS BLACK RC/ETH 79	-1.701E-03	.062	-.002	-.027	.978	.286	3.502
	%FACULTY BLACK RC/ETH 79	-.144	.085	-.138	-1.696	.091	.283	3.527
	%STUDENTS HISPANIC RC/ETH 79	-6.244E-02	.118	-.033	-.531	.596	.502	1.991
	%FACULTY HISPANIC RC/ETH 79	-3.001E-02	.502	-.004	-.060	.952	.464	2.156
	%STUDENTS CLASSIFIED DISADVANTAGED 79	-.580	.496	-.063	-1.170	.243	.643	1.555
	%10TH GRADE STUDENTS WHO DROP OUT 79	-.210	.722	-.015	-.290	.772	.689	1.451
	central city resident	3.164	2.634	.059	1.201	.231	.779	1.285
	S/NS RESID IN U.S. AT AGE 14 79 INT	-.674	2.665	-.014	-.253	.800	.610	1.639

a. Dependent Variable: PROFILES, AFQT PERCENTILE 1989 (REV) 81

Table 8 Regression Coefficients for Percentile Score on the AFQT (Hispanic Males,
R-Square=.478)^a

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Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error				Tolerance	VIF
1	(Constant)	7.644	20.300		.377	.707		
	AGE OF R AT INTERVIEW DATE 79	-5.004	1.308	-.302	-3.826	.000 ***	.450	2.221
	HIGHEST GRADE COMPLETED AS OF 05/01/79	10.777	1.483	.595	7.265	.000 ***	.419	2.385
	PROB - TRANSPORTATION 79	-1.167	3.254	-.020	-.359	.720	.907	1.103
	PROB - ENGLISH FOREIGN LANGUAGE 79	-2.090	5.806	-.021	-.360	.719	.803	1.245
	@ AGE 14 - ANY HH MEMBER RECEIVE MAG 79	3.645	3.328	.065	1.095	.275	.805	1.242
	@ AGE 14 - ANY HH MEM RECEIVE PAPERS 79	4.636	3.575	.078	1.297	.196	.768	1.302
	@ AGE 14 - ANY HH MEM HAVE A LIBCARD 79	6.105	3.572	.102	1.709	.089	.796	1.257
	TOTAL NET FAMILY INCOME IN C_YR 79	-7.850E-05	.000	-.034	-.542	.589	.729	1.372
	FORLANG SPK @ HOME R'S CHILDHOOD - 79 INT	-13.573	5.259	-.154	-2.581	.011 *	.787	1.271
	HGC BY R'S MOTHER 79	.528	.512	.080	1.033	.303	.464	2.156
	HGC BY R'S FATHER 79	.911	.464	.154	1.964	.051 *	.455	2.197
	%STUDENTS BLACK RC/ETH 79	-.212	.144	-.136	-1.470	.143	.328	3.051
	%FACULTY BLACK RC/ETH 79	1.507E-02	.264	.005	.057	.954	.402	2.489
	%STUDENTS HISPANIC RC/ETH 79	-7.707E-02	.090	-.082	-.854	.394	.302	3.314
	%FACULTY HISPANIC RC/ETH 79	.544	.198	.260	2.744	.007 **	.313	3.190
	%STUDENTS CLASSIFIED DISADVANTAGED 79	-.675	.734	-.068	-.919	.360	.519	1.927
	%10TH GRADE STUDENTS WHO DROP OUT 79	-.845	.970	-.055	-.871	.385	.700	1.428
	central city resident	3.141	4.481	.049	.701	.484	.584	1.711
	SNS RESID IN U.S. AT AGE 14 79 INT	-3.021	4.280	-.046	-.706	.481	.649	1.540
	Puerto Rican	9.013	6.259	.110	1.440	.152	.484	2.067
	Mexican-American	.402	4.115	.007	.098	.922	.533	1.877

a. Dependent Variable: PROFILES, AFQT PERCENTILE 1989 (REV) 81

Appendix 1 Regression Coefficients for Percentile Score on the AFQT (R-Square=.475)(Missing Value Substituted by the Mean and Years of Schooling Completed Included)^a

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Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-9.045	2.829		-3.197	.001		
	AGE OF R AT INTERVIEW DATE 79	-1.784	.196	-.138	-9.100	.000 ***	.411	2.432
	HIGHEST GRADE COMPLETED AS OF 05/01/79	-5.806	.227	-.414	25.575	.000 ***	.361	2.770
	PROB - TRANSPORTATION 79	-3.017	.711	-.042	-4.241	.000 ***	.952	1.051
	PROB - ENGLISH FOREIGN LANGUAGE 79	-2.089	1.535	-.014	-1.361	.174	.880	1.136
	@ AGE 14 - ANY HH MEMBER RECEIVE MAG 79	7.063	.658	.120	10.737	.000 ***	.761	1.315
	@ AGE 14 - ANY HH MEM RECEIVE PAPERS 79	1.388	.751	.021	1.848	.065	.761	1.314
	@ AGE 14 - ANY HH MEM HAVE A LBCARD 79	3.355	.670	.054	5.008	.000 ***	.825	1.213
	TOTAL NET FAMILY INCOME IN C_YR 79	1.606E-04	.000	.065	6.068	.000 ***	.832	1.202
	FORLANG SPK @ HOME R'S CHILDHOOD - 79 INT	.889	1.046	.013	.851	.395	.427	2.341
	HGC BY R'S MOTHER 79	.946	.125	.102	7.544	.000 ***	.517	1.933
	HGC BY R'S FATHER 79	1.035	.101	.132	10.254	.000 ***	.574	1.742
	%STUDENTS BLACK RC/ETH 79	-4.583E-03	.023	-.003	-.199	.842	.310	3.228
	%FACULTY BLACK RC/ETH 79	-7.480E-02	.032	-.039	-2.344	.019 *	.333	3.004
	%STUDENTS HISPANIC RC/ETH 79	-3.785E-02	.026	-.022	-1.446	.148	.394	2.538
	%FACULTY HISPANIC RC/ETH 79	.140	.074	.028	1.887	.059	.427	2.340
	%STUDENTS CLASSIFIED DISADVANTAGED 79	-.532	.177	-.035	-3.007	.003 **	.694	1.441
	%10TH GRADE STUDENTS WHO DROP OUT 79	-.463	.172	-.028	-2.683	.007 **	.876	1.142
	central city resident	1.006	.765	.014	1.315	.189	.856	1.168
	S/NS RESID IN U.S. AT AGE 14 79 INT	-1.043	.672	-.017	-1.551	.121	.801	1.249
	African-American	-17.593	.846	-.264	-20.791	.000 ***	.585	1.710
	Puerto Rican	-6.875	2.132	-.036	-3.225	.001 ***	.740	1.351
	Mexican-American	-3.574	1.469	-.038	-2.433	.015 *	.431	2.322
	Other Hispanic	-5.597	1.530	-.041	-3.658	.000 ***	.734	1.352

a. Dependent Variable: PROFILES, AFQT PERCENTILE 1989 (REV) 81

Appendix 2 Regression Coefficients for Percentile Score on the AFQT (R-Square=.413)(Missing Value Substituted by the Mean)^a

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Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error				Tolerance	VIF
1	(Constant)	-25.860	2.909		-8.890	.000		
	AGE OF R AT INTERVIEW DATE 79	2.028	.135	.157	15.056	.000 ***	.874	1.027
	PROB - TRANSPORTATION 79	-4.363	.750	-.061	-5.817	.000 ***	.957	1.045
	PROB - ENGLISH FOREIGN LANGUAGE 79	-9.485	1.594	-.064	-5.951	.000 ***	.913	1.093
	@ AGE 14 - ANY HH MEMBER RECEIVE MAG 79	8.547	.893	.145	12.339	.000 ***	.767	1.304
	@ AGE 14 - ANY HH MEM RECEIVE PAPERS 79	2.592	.792	.038	3.273	.001 ***	.764	1.309
	@ AGE 14 - ANY HH MEM HAVE A LIBCARD 79	5.453	.703	.087	7.757	.000 ***	.837	1.195
	TOTAL NET FAMILY INCOME IN C_YR 79	1.851E-04	.000	.075	6.619	.000 ***	.833	1.200
	FORLANG SPK @ HOME R'S CHILDHOOD - 79 INT	2.032	1.104	.029	1.840	.066	.428	2.336
	HGC BY R'S MOTHER 79	1.299	.132	.140	9.855	.000 ***	.524	1.909
	HGC BY R'S FATHER 79	1.300	.106	.165	12.247	.000 ***	.580	1.723
	%STUDENTS BLACK RC/ETH 79	7.823E-04	.024	.001	.033	.974	.310	3.228
	%FACULTY BLACK RC/ETH 79	-8.121E-02	.034	-.043	-2.407	.016 *	.333	3.004
	%STUDENTS HISPANIC RC/ETH 79	-1.001E-02	.028	-.006	-.362	.717	.395	2.533
	%FACULTY HISPANIC RC/ETH 79	.187	.079	.037	2.377	.018 *	.428	2.338
	%STUDENTS CLASSIFIED DISADVANTAGED 79	-.471	.187	-.031	-2.517	.012 *	.694	1.441
	%10TH GRADE STUDENTS WHO DROP OUT 79	-.878	.181	-.053	-4.848	.000 ***	.864	1.132
	central city resident	.515	.809	.007	.637	.524	.856	1.168
	SNS RESID IN U.S. AT AGE 14 79 INT	-1.344	.711	-.022	-1.890	.059	.801	1.248
	African-American	-17.007	.894	-.255	-19.019	.000 ***	.585	1.709
	Puerto Rican	-6.205	2.253	-.033	-2.754	.006 **	.740	1.351
	Mexican-American	-5.576	1.550	-.056	-3.586	.000 ***	.432	2.315
	Other Hispanic	-5.699	1.618	-.042	-3.523	.000 ***	.734	1.362

a. Dependent Variable: PROFILES, AFQT PERCENTILE 1989 (REV) 81