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The Persistence of Racial Disadvantage: The Socioeconomic Attainments of Single-Race and Multi-Race Native Americans

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Abstract Using data from the 2000 U.S. Census, we investigate the schooling and earnings of single-race and multi-race Native Americans. Our analysis distinguishes between Single-Race Native Americans, biracial White Native Americans, biracial Hispanic-White Native Americans, and biracial Black Native Americans. Further differentiating by gender, the results indicate significant variation in socioeconomic attainments across these different Native American groups although almost all of them are in some way disadvantaged relative to non-Hispanic, non-Native American whites. The most disadvantaged group tends to be Single-Race Native Americans who have the lowest levels of schooling as well as lower earnings relative to non-Hispanic, non-Native American whites who are comparable in terms of schooling, age, and other basic demographic characteristics. The results demonstrate notable differentials by the racial/ethnic type of Native American group as well as by gender. In the case of men, all of the Native American groups have clear socioeconomic disadvantages. One contrast is that migration slightly increases the earnings of men but it slightly decreases the earnings of women. We interpret these findings as underscoring how measured socioeconomic differentials between demographic groups are significantly affected by the categorization of race/ethnicity in surveys and by how persons choose to be enumerated in terms of those categories.

Keywords Native Americans · American Indians · Minorities · Income inequality · Wage inequality · Census

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Introduction

Native Americans are America's oldest racial minority. They were present in what is now U.S. territory at the time of the arrival of whites in 1492. American Indians have a unique history that is deeply intertwined with the initial founding and development of American society.[1] For example, Native Americans are the only racial/ethnic minority that is explicitly mentioned in the U.S. Constitution, and they play a significant role in American folklore. Every child that is schooled in this country learns about American Indians at least as they are portrayed in U.S. history lessons.

In part reflecting this historical legacy, American Indians are unlike any other racial/ethnic minority in that most American Indian tribes are officially recognized as demographic groups in legal statutes stipulating prescribed rights and entitlements that were negotiated in treaties with U.S. federal and state governments. For this reason, tribal and reservation lands often continue to represent legal jurisdictions as well as the tangible, territorial symbols of the surviving racial/ethnic identity embodied in Native American communities. Despite being variously influenced by the presence of whites for dozens of generations spanning a time period of about half of a millennium, a large number of American Indians today continue to maintain a high sense of racial/ethnic identity. The continued official enumeration of American Indians over such a long time period as a distinguishable demographic group—despite being dwarfed in size by an overpoweringly dominant, majority population of whites that at various times promoted genocide, economic annihilation or total assimilation—is testimony to the enduring strength of the racial/ethnic identity of American Indians.

Although Native Americans continue to be enumerated as a distinct demographic group, recent research has tended to neglect them. The last major monograph on contemporary American Indians is by Snipp (1989) using data that are by now over a quarter-century old (i.e., the 1980 U.S. Census). In order to provide more update information, we analyze data on Native Americans using the 2000 U.S. Census. In this paper, our focus is on the socioeconomic attainments of Native Americans including their schooling and earnings. These aspects of social stratification are increasingly significant for understanding differentials in well-being as well as fundamental demographic outcomes (Palloni 2006; Saenz and Morales 2005).

Socioeconomic Attainments

In general, American Indians tend to have lower levels of socioeconomic status in terms of education, incomes, poverty, unemployment, and higher rates of female-headed households as compared to non-Hispanic whites (Farley 1996; Sandefur and Sakamoto 1988; Snipp 1989, 1992). Lower socioeconomic status among Native Americans is associated with a higher propensity of speaking a Native American

[1] We use the terms "Native American" and "American Indian" interchangeably [although "American Indian" may be slightly more preferred among persons who identify with this racial category (Farley 1996, p. 212)].

language and of not speaking English fluently (Snipp 1989, pp. 181–184) compared to Native Americans with higher socioeconomic status. Native Americans married to other Native Americans tend to have lower incomes and higher poverty rates (Snipp 1989, p. 164) compared to Native Americans who are intermarried with whites. American Indians living in counties that include tribal lands tend to have lower educational attainment (Snipp 1989, pp. 198–201), higher poverty rates (Snipp 1989, p. 252), lower household incomes (Snipp 1989, p. 252), lower occupational attainment (Snipp 1989, p. 237), a greater prevalence of female-headed households (Snipp 1989, p. 136), and higher fertility (Snipp 1989, p. 150) compared to American Indians who live in metropolitan areas or in counties where there are no tribal lands.

In terms of labor market processes, Sandefur and Scott (1983) investigated wages among men in the 1976 Survey of Income and Education and concluded that African Americans faced a significant level of discrimination due to minority status but that Native Americans were disadvantaged mainly due to having lower values on human capital and other class-related characteristics (i.e., health, geographic location, occupation, industry). Sandefur and Scott (1983, p. 66) state that "blacks experience more discrimination than Indians" because the net disadvantage of being African American is substantively and statistically significant in their regression of wages whereas the coefficient for Native Americans is very close to zero as well as not statistically significant (Sandefur and Scott 1983, p. 57). The authors conclude that "blacks must overcome both the consequences of past discrimination as well as the consequences of present discrimination in order to succeed in U.S. society, whereas American Indians must 'only' be concerned with overcoming low education levels and poor health status due to past discrimination" (Sandefur and Scott 1983, p. 66).

A different conclusion is reached, however, by Sakamoto et al. (2000) in their investigation of wages among men in the 1990 Census data. Their analysis finds that Native Americans had the highest estimated minority disadvantage net of age, education, region of residence, metropolitan residence, and military experience. The estimated net disadvantage for American Indians is 15% which is close to the estimated net disadvantage for African Americans.[2] Very similar results are obtained by Farley (1996, p. 250) using the same data set (i.e., the 1990 Census) and a similar regression model. These findings reported by Farley and by Sakamoto et al. suggest the persistence of a significant net disadvantage for Native Americans in contrast to the earlier conclusion of Sandefur and Scott (1983) which attributed the lower wages of Native Americans entirely to class disparities.

While it is beyond the concerns of our study to reconcile the different conclusions of the aforementioned papers, we note that Sandefur and Scott's statistical model controlled for occupation and industry. Thus, Sandefur and Scott's estimate of a nearly zero net minority disadvantage could be understood as the "direct effect" of being American Indian given identical employment as whites in

[2] Given the higher unemployment rates of American Indians (Farley 1996, pp. 245–246), their estimated net racial disadvantage would have undoubtedly been even larger had Farley (1996) and Sakamoto et al. (2000) used annual earnings rather than the hourly wage as the dependent variable.

terms of occupation and industry. Sandefur and Scott's (1983, p. 56) bivariate results also show, however, that Native Americans are in fact more likely than whites to be employed in lower-paying occupations and industries in the first place. The estimates of Farley and of Sakamoto et al. are therefore closer to representing the "total effect" of being Native American because those analyses do not control for occupation and industry, and part of the minority disadvantage for Native Americans derives from lower employment in higher status jobs that are especially scarce in the areas surrounding traditional Native American communities.

Intermarriage

Centuries of continued interaction with the much larger and dominant demographic group of whites has inevitably led to extensive intermarriage. Given that American Indians had already become a tiny proportion of the U.S. population by the end of the nineteenth century (Snipp 1989; Thornton 1987), the chances of intermarrying with whites (as well as, to some extent, with other racial/ethnic groups) had become substantial simply due to differential population sizes. By the time of the 1980 Census, Sandefur and McKinnell (1986) find that Native Americans have low levels of marital endogamy and high levels of intermarriage with whites. Eschbach (1995) finds that the rate of Native American intermarriage with whites is lower in the historically Indian regions of the country [i.e., in those states that are sometimes known as the "Indian States" (Passel and Berman 1986) because they contain a significant number of Native Americans living on tribal lands and territories]. Nagel (1995) further points out that various governmental policies toward American Indians have influenced both their migration and intermarriage patterns.

In terms of intermarriage and socioeconomic attainment, Sandefur and McKinnell's (1986) findings indicate lower family incomes when both spouses identified as Native American. Indeed, their results show that American Indian families have incomes that are even lower on average than African Americans. Native Americans married to other Native Americans also tend to have lower levels of schooling than African Americans. By contrast, Native Americans married to whites tend to have higher levels of schooling and incomes. These findings are consistent with similar results reported by Snipp (1989) mentioned above, and they suggest that Native Americans who intermarry with whites will tend to have children who will have higher socioeconomic origins which are then well known to affect later adult socioeconomic attainments (Featherman and Hauser 1978; Neckerman 2004). This process might lead to higher socioeconomic attainments across generations of marital assimilation with whites as predicted by classical assimilation theory (Gordon 1964; Saenz and Morales 2005; Duncan and Trejo 2005).

Racial Identification

As discussed by Snipp (1989) and Eschbach et al. (1998), the demographic profile of Native Americans is necessarily dependent upon who identifies as being a member of that racial group, but as discussed above, Native American racial identity is complicated by many generations of racial intermarriage. The

significance of changing patterns of racial identity in affecting the demographic profile and population growth of American Indians is demonstrated by Eschbach (1993), Eschbach et al. (1998), and Passel (1997). These studies find that the growth of the Native American population during the 1960s through the 1990s substantially exceeded growth based on statistics regarding their natural increase. A major portion of the increase in the Native American population since 1960 was instead due to persons changing their racial identification to Native American (since the immigration of Native Americans from other countries is tiny). Consistent with that explanation, Thornton (1997) investigates the differing enumerations of the Native American population based on the Census versus tribal enrollment data and finds that a large proportion of those identifying as Native American in the Census are not included in the official enrollment records maintained by Native American tribes. These findings again demonstrate the significance of racial identity and of the definition of the American Indian population in affecting its demographic profile.

There is a growing literature on multi-race individuals and the construction of their racial/ethnic identities (Chew et al. 1989; Ferrante and Brown 1999; Perlmann and Waters 2002; Riche 2000; Root 1992, 1996; Saenz et al. 1995; Saenz and Morales 2005; Spickard 1989, 1992). Some previous studies find several significant factors that affect the choice of racial identification among the children of intermarried couples including such variables as generational status, nativity, bilingualism, and proximity to a non-white community (Lee and Bean 2004; Saenz et al. 1995; Xie and Goyette 1997; Choi et al. 2008). In general, however, there is currently no theoretical perspective that focuses explicitly on multi-race identification and its relation to socioeconomic attainment.

Shifts in Racial Identification and Classification

Nevertheless, multi-race identification often relates to intermarriage and may be thereby connected to traditional assimilation theory (Gordon 1964; Park 1950; Hwang et al. 1997). As discussed by Gordon (1964), this theory posits several subprocesses including cultural, secondary, primary, marital, identificational, attitudinal, behavioral and civic. According to the assimilation perspective, the cultural differences between groups are incompletely passed on across the generations and eventually become so diluted that they ultimately disappear.

In general, however, the prediction of traditional assimilation theory seems to be that socioeconomic attainment will tend to increase with greater levels of assimilation. As stated by Zhou (1997, p. 977), "from a classical assimilationist standpoint, distinctive ethnic traits such as old cultural ways, native languages, or ethnic enclaves are sources of disadvantage…." The more assimilated members of the minority group will typically obtain higher levels of education and will be more competitive in the labor market due to being more compatible and identical in terms of the skills and abilities of majority workers. Furthermore, prejudice and discrimination will often decline with greater social interaction (in either primary or secondary groups). The hypothesis of increasing socioeconomic attainments with increasing assimilation is the source of the common reference to traditional assimilation theory as representing "straight line assimilation" (Warner and Srole 1945).

In regard to applying the assimilation perspective more explicitly to Native Americans, Sandefur and Scott (1983, p. 49) make the following relevant comments:

> Anthropological and sociological research indicate that *traditional* Indians who are employed in the U.S. labor force often are "target workers," i.e., they work only as long as necessary to obtain a predetermined, fixed sum of wages. Some authors associate this pattern with the desire to work at one's own pace or to be one's own boss (Deloria 1969; Steiner 1968). Others attribute it to the centrality of community and kinship in Indian societies (Levine and Lurie 1968; Wax 1971). Traditional Indians think of themselves first as members of families and communities. As a result, an occupational role in the labor force is less central to a traditional Indian's self-concept that it is for most whites. Whatever its etiology, the pattern is said to mediate against successful competition by Indians in the labor force. [italics in original]

Apart from the issue of to what extent the above observations are actually relevant to the main sources of earnings disadvantage among contemporary Native Americans, the quotation above does at least provide a hypothesized link between the labor market rewards of this group and the classical assimilation perspective.

Assimilation is not the only aspect of an individual that may contribute to his/her racial identity. Lieberson (1985) points out that change in racial or ethnic identity can occur over a respondent's life span or intergenerationally and lays out seven causes for the change of racial or ethnic identity. Of the seven causes, Lieberson points out two causes that are particularly salient to American Indian identification. The first is that over time the government and other major institutions change the degree of attention paid to the racial and ethnic category and may provide advantages to some categories and disadvantages to other categories. In the case of Native Americans, some tribal memberships provide potential rewards and give incentive for individuals to identify with a tribe. The second cause of racial or ethnic identification change is intergroup conflicts that have consequences for labeling and identification. This cause is notable in that the racial and ethnic group of American Indian did not exist prior to European contact rather American Indians identified as tribal members than as a racial group.

Generally speaking, we extrapolate from these perspectives to derive the hypothesis that multi-race minority persons will tend to have higher socioeconomic attainments than single-race minority persons at least when the multi-race persons partly identify with the dominant majority group. In this case, multi-race persons should be arguably more assimilated and acculturated than single-race minorities (at least on average) and according Lieberson (1985) the societal forces the individual inhabits will influence their chosen racial and ethnic identity (Yancey et al. 1976). Multi-race persons typically have racially intermarried parents, and as stated by Hwang et al. (1997, p. 758), "intermarriage has been widely accepted as a key indication of assimilation." Their empirical analysis of intermarriage patterns leads these authors to conclude that "our evidence provides overwhelming support to the claim that high acculturation leads to more intermarriage" (Hwang et al. 1997,

p. 770).[3] Thus, when compared to the foreign born and foreign educated minority persons, multi-race minorities who identify partly with the majority group are likely to be more highly assimilated and should accordingly fare better in the educational system and labor market at least according to traditional assimilation theory. Multi-race persons can also be expected to have higher socioeconomic attainments than the native-born single-race members of their minority group who may retain more cultural vestiges of their ethnic heritage and may be viewed with some suspicion or at least uncertainty by the majority group.

In the case of American Indians, those in endogamous marriages are more likely to be residing (along with their single-race children) near or on traditional reservation areas (Snipp 1989) and in a social arena in which an ethnic identity could be fostered. That is, Native Americans who are married to another Native American are more likely to reside (or to have resided) near or on tribal lands where the population of Native Americans is substantially larger (Snipp 1989, p. 160). Because employment opportunities and the general level of economic development are often very low in and around reservation areas (Snipp 1989, pp. 84–85; Snipp and Sandefur 1988), the socioeconomic attainments of single-race American Indians may be hypothesized to be lower than for multi-race American Indians who have greater interactions, closer geographic propinquity, and more developed social networks with mainstream white society. This hypothesis is consistent with findings on intermarriage and socioeconomic attainments of Native Americans [as discussed above in regard to Sandefur and McKinnell (1986) and Snipp (1989)] as well as with the general perspective of traditional assimilation theory.

Methods

Given the significance of racial identity in being associated with the demographic characteristics of Native Americans, the 2000 U.S. Census data are critically important because they permit multi-race identification. In contrast to previous decades of Census data, the 2000 Census includes information on whether persons identify as only Native American (i.e., Single-Race Native American) or as Native Americans who also recognize some other additional racial identity (whom we refer to as multi-race Native Americans).[4] The 2000 Census data therefore permit a detailed description of the Native American population in terms of a more precise delineation of Native American racial identity. These data furthermore permit the direct assessment of the hypothesis discussed above that the socioeconomic attainments of single-race American Indians are lower than those for multi-race American Indians. Unfortunately, the Census data does not offer generational data, which does not provide a perfect test of classical assimilation theory or racial and ethnic group identity shifts.

[3] See also Alba and Nee (2003) and Lamont and Molnar (2002) for additional statements about the role of intermarriage in fostering acculturation and assimilation.

[4] For convenience, we use the term "multi-race persons" to refer to those who identify with two or more racial categories as officially designated in the 2000 Census.

Prior research on Native Americans has been limited to the use of Census data that stipulated only single-race identification, and has sought to indirectly account for multi-race issues aspects of Native American demography by investigating whatever available data that could be obtained to partially address these considerations. One approach, as illustrated by that Sandefur and McKinnell (1986) discussed earlier, has been to investigate household level socioeconomic outcomes and to classify households on the basis of both spouses being Native American versus those in which a Native American was married to someone of another race. A second approach, as illustrated by Passel and Berman (1986), was to distinguish between American Indians residing in the traditional "Indian States" versus those residing in other states (see also Sandefur and Scott 1983; Sandefur and Sakamoto 1988). The implicit rationale for this second approach was that Native Americans in "Indian States" were more likely to be single-race due to greater proximity to tribal lands and a larger local population of Native Americans. A third approach, utilized by Snipp (1989), has been to include as a separate category of the Native American population those persons who identify as white (in a single-race classification system) but state that they have some Native American "ancestry."

Although each of these approaches has been useful to some degree, none of them can provide as precise a delineation of the Native American population as the 2000 Census that explicitly records multi-race identity according to an individual's own self-reported assessment. Due to the latter information provided by these data, we can more directly test the hypothesis discussed earlier that single-race American Indians have lower socioeconomic attainments than multi-race American Indians.

Data and Target Populations

The particular data files that we use are the 5% Public Use Microdata Sample (PUMS) of the 2000 Census. This data set is the most recently available that provides an adequate sample size for Native Americans as well as reliable information on demographic and socioeconomic characteristics.[5] As discussed above, the 2000 PUMS is also appropriate for our concerns because it includes information on multi-race identification. We extend previous research on the socioeconomic attainments of Native Americans by investigating both men and women. Because in this paper our primary theoretical concern is with racial/ethnic differentials, our statistical analyses are done separately by gender.

Using the 2000 PUMS, we define and investigate the following racial/ethnic groups: (1) persons who identify as Single-Race Native Americans ("Single-Race Native Americans"); (2) persons who identify as being both non-Hispanic white and Native American in terms of race ("White Native Americans"); (3) persons who identify as being both Hispanic white and Native American in terms of race ("Hispanic Native Americans"); (4) persons who identify as being both African

[5] Other data sets typically do not have a large enough sample size to study Native Americans especially when they are broken down into multi-race groups.

American and Native American in terms of race ("Black Native Americans"); and (5) persons who identify as non-Hispanic single-race whites without any Native American ancestry serve as the reference category ("Whites"). Although other groups of Native-American-origin persons do of course exist, their sample sizes were too small in these data for multivariate statistical analysis.

We hasten to note that we make no claims about the foregoing categorization of race/ethnicity being inherently "better" for the study of Native Americans.[6] These groups were defined primarily with an interest in preserving as much information as is available in our data concerning the racial/ethnic identifications of persons who acknowledge some sort of American Indian origins. Due to the lack of prior research on Native Americans—especially that recognizing their frequently multi-race identities—our primary objective here is simply to empirically explore these different groups in order to assess whether notable demographic and socioeconomic differentials exist. We recognize that our categories are based on data in which racial/ethnic identity is based purely on subjective assessments.

We limit the sample to U.S.-born, non-institutionalized individuals between the ages of 25 and 64 as is commonly done in labor force studies. Persons in this age range were selected for the sample if they were not enrolled in school, were not members of the military, and worked at least 1 hour in the labor force during 1999. Due to the high level of unemployment among Native Americans, limiting the analysis to full-time workers would underestimate the total level of disadvantage faced by this racial minority.

Variables and Regression Models

The first dependent variable that we analyze is years of schooling completed. This outcome is increasing in its significance in affecting the labor market rewards (Farley 1996). Using OLS regression, the independent variables include age, the square of age, a dichotomous variable to indicate the presence of a disability (of any sort), a dichotomous variable to indicate having had any military experience, and a series of 50 dichotomous variables to indicate state of birth. Four dichotomous variables for each of the Native American groups identified above are also included in the model in order to estimate their net differentials relative to whites (i.e., the reference group for the racial categorization used in this model).

The second socioeconomic outcome that we analyze is the log-earnings. We chose to use earnings because annual earnings is sensitive to the higher unemployment rates that have traditionally characterized American Indians. In order to adjust for the highly positive skew in the distribution of earnings, the log transformation is applied so that the actual dependent variable that is used in the OLS regression model is log-earnings (Petersen 1989). For the regression analysis of this dependent variable, several specifications are estimated. The first (i.e., Model 1) is the bivariate model that includes only the four dummy variables for each of the Native American groups (i.e., Single-Race Native Americans, White Native

[6] In this analysis, space limitations prohibit us from distinguishing between the different tribal affiliations of Native Americans.

Americans, Hispanic Native Americans, and Black Native Americans). Model 2 then adds basic measures of human-capital-related demographic variables (age, age-squared, a dummy variable for disability status, a dummy variable for military experience). Model 3 next includes dummy variables to indicate metropolitan residence as well as region of birth (i.e., based on the standard nine U.S. Census regions). Model 4 then adds dummy variables to indicate region of current residence, mover-stayer or migrant status (i.e., whether region of birth differs from region of current residence), and interactions between migrant status and racial/ethnic category. Finally, the last specification (i.e., Model 5) adds dummy variables to indicate two-digit occupation and two-digit industry (cf. Sandefur and Scott 1983). These models thus move from the simplest bivariate specification to ones including standard human capital and demographic variables, and then to the model that includes the most proximate determinants (i.e., intervening variables) of earnings (i.e., occupation and industry).

Empirical Results

Descriptive Statistics

The descriptive statistics for men by racial category are shown in Table 1. The relative sample sizes for the racial categories are representative of their proportions in the broader work force. Specifically, whites are by far the largest group (i.e., 2,051,957). By contrast, the groups that identify at least partly as Native American in terms of race are considerably smaller. Among these, Single-Race Native Americans are the largest (i.e., 20,951) followed by White Native Americans (i.e., 4,837). The groups representing intermarried minorities are extremely small (i.e., 372 Hispanic Native Americans and 893 Black Native Americans).

Although clearly speculative, one possible interpretation of these relative group sizes is that there might be some transitioning in Native American identity by generational relatedness to Single-Race Native Americans. The latter group has the closest affiliation with traditional Native American communities, but after some of its members intermarry with whites, the next generation may include some persons who might identify as White Native Americans (i.e., not in terms of our linguistic label but in terms of the substantive categorization of having one parent of predominantly European ancestry and another parent of predominantly Native American ancestry). This group is relatively small, however, because it is probably likely to continue intermarriage with whites (Qian and Lichter 2007, p. 89). Continued intermarriage with whites would eventually result in the dropping of any identification or awareness of Native American ancestry across successive generations since people are usually unaware of the older portions of their genealogical lines and are less likely to racially/ethnically identify with them (Alba 1990). The foregoing does not in any way deny the importance of more sociological factors in racial/ethnic identity (e.g., Lee and Bean 2004; Saenz et al. 1995; Xie and

Table 1 Descriptive statistics for men

Variable	Whites		Single-Race Native American		White and Native American		Hispanic-White and Native American		Black and Native American	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Age	43.25	10.19	41.04	10.05	43.41	10.16	39.76	9.85	41.68	9.80
Age-squared	1,974.35	897.24	1,785.01	861.33	1,987.82	894.31	1,677.68	826.86	1,832.73	842.22
Disability status	0.14	0.35	0.24	0.42	0.24	0.43	0.23	0.42	0.24	0.43
Military experience	0.24	0.42	0.25	0.43	0.30	0.46	0.27	0.45	0.27	0.45
Educational attainment										
Years of schooling	13.79	2.67	12.56	2.36	13.25	2.57	13.16	2.46	13.30	2.47
(Less than high school)	0.10	0.29	0.21	0.41	0.15	0.35	0.13	0.34	0.14	0.34
High school	0.31	0.46	0.36	0.48	0.30	0.46	0.28	0.45	0.26	0.44
Some college	0.01	0.10	0.01	0.08	0.01	0.08	0.01	0.07	0.02	0.14
Associate degree	0.07	0.26	0.06	0.24	0.07	0.26	0.09	0.29	0.09	0.29
College degree	0.19	0.39	0.08	0.26	0.12	0.33	0.12	0.33	0.12	0.32
More than college	0.11	0.31	0.04	0.19	0.08	0.27	0.06	0.23	0.07	0.25
Metropolitan area	0.66	0.47	0.45	0.50	0.64	0.48	0.86	0.35	0.86	0.35
Region of birth										
New England	0.06	0.25	0.02	0.13	0.05	0.22	0.01	0.07	0.04	0.21
Middle Atlantic	0.19	0.39	0.05	0.21	0.08	0.28	0.04	0.20	0.18	0.39
East North Central	0.23	0.42	0.09	0.29	0.17	0.38	0.06	0.25	0.16	0.37
West North Central	0.11	0.31	0.09	0.28	0.10	0.29	0.01	0.12	0.05	0.21
South Atlantic	0.13	0.33	0.08	0.27	0.11	0.31	0.02	0.15	0.22	0.42
East South Central	0.06	0.25	0.03	0.16	0.06	0.23	0.00	0.05	0.08	0.27
West South Central	0.08	0.28	0.19	0.39	0.19	0.39	0.20	0.40	0.12	0.33
Mountain	0.04	0.20	0.22	0.42	0.05	0.22	0.18	0.38	0.02	0.14

Table 1 continued

Variable	Whites		Single-Race Native American		White and Native American		Hispanic-White and Native American		Black and Native American	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Pacific	0.09	0.29	0.23	0.42	0.19	0.39	0.48	0.50	0.12	0.33
Region of current residence										
New England	0.06	0.24	0.02	0.13	0.04	0.20	0.01	0.09	0.05	0.22
Middle Atlantic	0.15	0.35	0.04	0.20	0.07	0.25	0.05	0.21	0.15	0.36
East North Central	0.19	0.39	0.09	0.28	0.15	0.36	0.07	0.26	0.13	0.34
West North Central	0.09	0.29	0.08	0.27	0.07	0.26	0.01	0.12	0.03	0.18
South Atlantic	0.17	0.38	0.10	0.29	0.13	0.34	0.05	0.21	0.24	0.43
East South Central	0.06	0.24	0.02	0.15	0.05	0.22	0.02	0.14	0.04	0.21
West South Central	0.09	0.29	0.19	0.39	0.18	0.38	0.12	0.32	0.10	0.31
Mountain	0.07	0.25	0.24	0.42	0.07	0.26	0.17	0.38	0.05	0.21
Pacific	0.12	0.32	0.23	0.42	0.23	0.42	0.51	0.50	0.19	0.39
Region of residence same as region of birth	0.72	0.45	0.76	0.43	0.66	0.47	0.73	0.45	0.57	0.49
Earning	49,634.64	52,642.48	29,954.00	30,989.12	37,699.44	37,890.63	37,993.40	42,813.24	33,929.54	34,575.45
Log-earning	10.43	1.10	9.89	1.15	10.12	1.24	10.02	1.47	10.03	1.17
Sample size	2,051,957		20,951		4,837		372		893	

Source: 2000 5% PUMS

Note: Variables with parentheses are omitted categories in regression models

Goyette 1997; Choi et al. 2008) but only that these generational aspects may also play some role.[7]

As for the other results in Table 1, Single-Race Native Americans to some extent stand out from the other groups. Single-Race Native American men are the only group to have mean annual earnings of less than $30,000. They have the lowest mean years of schooling, the lowest mean earnings, and the highest proportion of residence in the Mountain region or of being born in that region. Single-Race Native American men are also the only group that is more likely to be residing in a non-metropolitan area than in a metropolitan area. Although they do not stand out in terms of disability status, the latter is defined broadly in the U.S. Census and is not limited to having a work limitation (Andresen et al. 2000).

The results in Table 1 also indicate that whites clearly have the highest levels of socioeconomic attainment. The socioeconomic attainments of Hispanic Native Americans and Black Native Americans are broadly similar to those of White Native Americans in that their mean levels are somewhere in between those of Single-Race Native Americans and whites. Because Hispanic Native Americans and Black Native Americans are tiny and presumably selective groups, they are somewhat difficult to associate with any major generalizations. In terms of residence, Hispanic Native Americans are the group with the largest proportion residing in the Pacific region (which includes California) whereas Black Native Americans have a high proportion residing in the South Atlantic region.

The descriptive statistics for women by racial category are shown in Table 2. In general, the racial/ethnic differentials noted above in regard to men apply nearly equally to women. Single-Race Native American women have the lowest socioeconomic attainments while those of white women are the highest. White Native American women are intermediate in their socioeconomic attainments. White Native American, Hispanic Native American, Black Native American and white women all tend to have higher levels of education and be more likely to reside in urban areas then Single-Race Native American women.

The decidedly lower socioeconomic characteristics of Single-Race Native Americans (Tables 1, 2) as well as their concentration in the Mountain region (all of which is included in the traditional "Indian States" that contain a large number of tribal lands) may be interpreted as being consistent with previous studies discussed above that found (using single-race data) that Native Americans were particularly disadvantaged when they were married to other Native Americans, resided in an "Indian State," or lived in a county that included tribal lands. To the extent that Native Americans with any of these latter characteristics are more likely to as identify as single-race in the 2000 Census, their lower socioeconomic attainments as reported in prior research are consistent with our results in Tables 1 and 2 for Single-Race Native Americans.

[7] As noted earlier, we recognize that our racial/ethnic categories are based on self-reported assessments of subjective identity. Our interpretation of the transitioning of Native American identity across generations is therefore necessarily speculative though nonetheless broadly consistent with the observed sample sizes in Tables 1 and 2.

Table 2 Descriptive statistics for women

Variable	Whites		Single-Race Native American		White and Native American		Hispanic-White and Native American		Black and Native American	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Age	43.04	10.12	41.08	9.79	43.62	10.12	39.41	9.83	42.29	9.71
Age-squared	1,954.98	886.76	1,783.57	837.37	2,004.96	894.33	1,649.83	815.15	1,882.85	838.52
Disability status	0.13	0.33	0.23	0.42	0.25	0.43	0.19	0.39	0.27	0.44
Military experience	0.01	0.12	0.02	0.15	0.03	0.17	0.02	0.14	0.04	0.19
Educational attainment										
Years of schooling	13.84	2.41	12.86	2.26	13.38	2.40	13.28	2.59	13.68	2.48
(Less than high school)	0.07	0.25	0.16	0.37	0.10	0.30	0.13	0.34	0.08	0.28
High school	0.30	0.46	0.33	0.47	0.31	0.46	0.26	0.44	0.23	0.42
Some college	0.01	0.10	0.01	0.08	0.01	0.09	0.00	0.00	0.03	0.16
Associate degree	0.09	0.29	0.09	0.28	0.09	0.28	0.06	0.23	0.09	0.29
College degree	0.19	0.39	0.09	0.28	0.13	0.34	0.13	0.33	0.15	0.36
More than college	0.11	0.31	0.04	0.20	0.07	0.26	0.07	0.26	0.08	0.28
Metropolitan area	0.67	0.47	0.45	0.50	0.64	0.48	0.83	0.38	0.88	0.32
Region of birth										
New England	0.07	0.25	0.02	0.13	0.05	0.21	0.01	0.07	0.05	0.21
Middle Atlantic	0.19	0.39	0.04	0.20	0.09	0.29	0.05	0.22	0.21	0.41
East North Central	0.23	0.42	0.09	0.29	0.17	0.37	0.08	0.27	0.13	0.34
West North Central	0.11	0.31	0.09	0.29	0.10	0.30	0.03	0.16	0.05	0.21
South Atlantic	0.13	0.33	0.08	0.27	0.10	0.30	0.03	0.18	0.23	0.42
East South Central	0.06	0.24	0.02	0.15	0.06	0.24	0.01	0.07	0.07	0.25
West South Central	0.08	0.27	0.18	0.39	0.18	0.38	0.13	0.34	0.13	0.34
Mountain	0.04	0.20	0.24	0.43	0.05	0.21	0.18	0.38	0.02	0.15

Table 2 continued

Variable	Whites		Single-Race Native American		White and Native American		Hispanic-White and Native American		Black and Native American	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Pacific	0.10	0.29	0.23	0.42	0.21	0.40	0.49	0.50	0.11	0.31
Region of current residence										
New England	0.06	0.24	0.02	0.13	0.04	0.19	0.01	0.12	0.05	0.22
Middle Atlantic	0.15	0.35	0.04	0.19	0.07	0.26	0.04	0.18	0.20	0.40
East North Central	0.19	0.39	0.08	0.28	0.14	0.35	0.07	0.26	0.13	0.34
West North Central	0.09	0.29	0.08	0.28	0.08	0.28	0.02	0.15	0.03	0.16
South Atlantic	0.17	0.38	0.09	0.29	0.13	0.33	0.06	0.23	0.24	0.43
East South Central	0.06	0.24	0.02	0.15	0.05	0.22	0.01	0.07	0.04	0.19
West South Central	0.09	0.29	0.18	0.38	0.18	0.38	0.10	0.30	0.11	0.31
Mountain	0.06	0.24	0.24	0.43	0.07	0.26	0.19	0.39	0.04	0.20
Pacific	0.12	0.32	0.24	0.43	0.23	0.42	0.51	0.50	0.16	0.37
Region of residence same as region of birth	0.72	0.45	0.76	0.43	0.66	0.47	0.71	0.45	0.61	0.49
Earning	27,749.31	28,395.82	21,103.96	21,731.11	23,416.40	26,119.77	24,803.92	24,613.44	26,119.79	26,678.29
Log-earning	9.81	1.16	9.52	1.16	9.56	1.31	9.57	1.53	9.76	1.09
Sample size	1,791,788		20,021		4,225		368		1,031	

Source: 2000 5% PUMS

Note: Variables with parentheses are omitted categories in regression models

Regression Results for Years of Schooling

Table 3 shows the estimates of the regressions of years of schooling separately by gender and in the age range of 25 years old and 64 years old. The bivariate model for men is shown in column 1 of Table 3 and these results indicate that the racial/ethnic differentials are statistically significant relative to whites for each of the groups. Single-Race Native Americans have 1.23 lower mean years of schooling than whites while Hispanic Native American have 0.63 lower mean years of schooling than whites. These are fairly substantial disadvantages given that the standard deviation for years of schooling is slightly greater than 2 (see Table 1). The schooling disadvantage for Black Native Americans is smaller (i.e., 0.49) in column 1 of Table 3 but slightly larger for White Native Americans (i.e., 0.54). These differentials are moderated for most of the groups in the results for the multivariate regression that also controls for age, disability, military experience and state of birth (i.e., column 2 of Table 3) but only slightly (e.g., the net disadvantage for Single-Race Native Americans declines from 1.23 to 1.12).

Most of these patterns are also evident in the regressions of years of schooling for women as shown in Table 3 although their racial/ethnic differentials are a little less pronounced. The largest disadvantage among the women is for Single-Race Native Americans (0.99 as shown in column 3 of Table 3). The disadvantage for White Native Americans is smaller (i.e., 0.46) but slightly larger for Hispanic Native

Table 3 Estimates of OLS regression of years of schooling

	Men		Women	
Single-Race Native American	−1.2267***	−1.1164***	−0.9860***	−0.9117***
White and Native American	−0.5389***	−0.4045***	−0.4604***	−0.3335***
Hispanic-White and Native American	−0.6284***	−0.5796***	−0.5659***	−0.5977***
Black and Native American	−0.4926***	−0.3176***	−0.1631*	−0.0440
Age		0.0840***		0.0556***
Age-squared		−0.0007***		−0.0008***
Disability status		−1.0578***		−0.8436***
Military experience		−0.2664***		0.2095***
Region of birth				
Middle Atlantic		0.1298***		0.0493***
East North Central		−0.2863***		−0.3609***
West North Central		−0.2836***		−0.2933***
South Atlantic		−0.5223***		−0.4486***
East South Central		−0.8274***		−0.6717***
West South Central		−0.3716***		−0.3838***
Mountain		−0.0554***		−0.2658***
Pacific		0.0396***		−0.1140***
Intercept	13.7910***	12.0482***	13.8445***	13.3066***
R^2	0.0022	0.0386	0.0019	0.0278

* $p < 0.05$; *** $p < 0.001$ (two-tailed tests)

Americans (0.57). In the case of women, Black Native Americans have the smallest disadvantage at −0.16 which is statistically significant. The net disadvantages for Single-Race Native Americans, Native American whites, and White Native Americans are slightly (but not greatly) reduced in the multivariate model shown in column 4 of Table 3 that controls for age, disability, military experience and state of birth but the disadvantage for Black Native Americans is no longer statistically significant.

Regression Results for Log-Earnings for Men

Table 4 presents the estimates of the regressions of log-earnings for men in the age of 25–64. Most of the patterns discussed above—regarding racial/ethnic differentials—are also evident with earnings as the dependent variable. The main difference is that for most of the Native American groups, the net disadvantages are much larger in terms of earnings suggesting lower levels of employment relative to whites. The disadvantage for Single-Race Native Americans is consistently high across all of the models in Table 4. For example, Model 3 indicates that this group has 31% lower (i.e., $e^{-0.3718} - 1$) earnings than whites after controlling for age, education, disability, military experience, metropolitan residence, and region of birth. As is evident in Table 4, the net disadvantages in terms of earnings are also quite large for Hispanic Native Americans and Black Native Americans (especially in Model 4). The net disadvantage for White Native Americans is notably smaller than for Single-Race Native Americans, Hispanic Native Americans, and Black Native Americans.

One difference that is evident in Table 4 is that Single-Race Native American stayers have lower earnings compared to Single-Race Native American migrants. Specifically, Model 4 in Table 4 indicates that migrant Single-Race Native Americans have earnings that are about 25% lower (i.e., $e^{-0.2926} - 1$) than comparable whites. For Single-Race Native Americans stayers, adding in the interaction coefficient yields a net effect of 29% lower (i.e., $e^{-0.2926-0.0471} - 1$) earnings compared to whites who are stayers. The results thus show that Single-Race Native Americans who migrate away from their region of birth tend to receive slightly higher earnings.

Regression Results for Log-Earnings for Women

Table 5 presents the estimates of the regressions of log-earnings for women who are between the ages of 25 and 64. The disadvantages in terms of earnings tend to be large (though not nearly as large as was observed among Native American men) and overall the women's earnings are lower than the men's earnings. White Native Americans stand out as having the largest disadvantage (except in the models that do not control for schooling or metropolitan residence). The earnings disadvantage for Single-Race Native Americans is smaller than for White Native Americans after controlling for schooling and metropolitan residence. None of the coefficients for Black Native Americans is statistically significant in any of the multivariate models

Table 4 Estimates of OLS regression of log-earnings for men

	Model 1	Model 2	Model 3	Model 4	Model 5
Single-Race Native American	−0.5380***	−0.3935***	−0.3718***	−0.2926***	−0.2364***
White and Native American	−0.3056***	−0.2267***	−0.2179***	−0.2080***	−0.1774***
Hispanic-White and Native American	−0.4117***	−0.3045**	−0.2960***	−0.3521**	−0.3082**
Black and Native American	−0.3988***	−0.3156***	−0.3184***	−0.3208***	−0.2537***
Age		0.1122***	0.1115***	0.1112***	0.0997***
Age-squared		−0.0013***	−0.0012***	−0.0012***	−0.0011***
Disability status		−0.2631***	−0.2617***	−0.2573***	−0.2233***
Military experience		0.0126***	0.0123***	0.0066**	−0.0165***
Educational attainment					
High school		−0.0444***	−0.0472***	−0.0290***	0.0016
Some college		−0.0263**	−0.0156*	0.0035	−0.0034
Associate degree		0.1708***	0.1656***	0.1572***	0.0984***
College degree		0.4711***	0.4649***	0.4283***	0.3035***
More than college degree		0.7170***	0.7063***	0.6613***	0.4991***
Region of birth					
Middle Atlantic			0.0088**	0.0419***	0.0293***
East North Central			−0.0292***	0.0216***	0.0121*
West North Central			−0.1540***	0.0169**	0.0160**
South Atlantic			−0.0630***	0.0290***	0.0149**
East South Central			−0.1050***	0.0334***	0.0202**
West South Central			−0.0860***	0.0119*	0.0078
Mountain			−0.1137***	0.0173**	0.0115
Pacific			−0.0391***	0.0013	0.0040
Metropolitan area				0.2496***	0.1943***
Region of current residence					
Middle Atlantic				−0.0991***	−0.0796***
East North Central				−0.0669***	−0.0585***
West North Central				−0.1904***	−0.1533***
South Atlantic				−0.1235***	−0.1152***
East South Central				−0.1482***	−0.1494***
West South Central				−0.1089***	−0.1147***
Mountain				−0.1670***	−0.1400***
Pacific				−0.0897	−0.0699***
Region of residence same as region of birth				−0.0256***	−0.0154***
Stayer*Single-Race Native American				−0.0471**	−0.0560**
Stayer*White and Native American				−0.0220	−0.0332
Stayer*Hispanic-White and Native American				0.0095	−0.0170

Table 4 continued

	Model 1	Model 2	Model 3	Model 4	Model 5
Stayer*Black and Native American				−0.0983	−0.0789
Management					−0.1168***
Business and financial operations					−0.2791***
Computer and mathematical science					−0.1897***
Architecture and engineering					−0.3320***
Life, physical and social science					−0.0988***
Community and social service					−0.5845***
Legal					−0.0170
Education, training, and library					−0.5474***
Arts, design, entertainment, sports and media					−0.6465***
Healthcare practitioner and technical					−0.8007***
Healthcare support					−0.4093***
Protective service					−0.3979***
Food preparation and serving related					−0.8230***
Building and ground cleaning and maintenance					−0.8566***
Personal care and service					−0.6737***
Sales and related					−0.3393***
Office and administrative support					−0.6070***
Construction and extraction					−0.6464***
Installation, maintenance and repair					−0.4213***
Production					−0.5115***
Transportation and material moving					−0.6208***
Mining					1.3366***
Construction and manufacturing					1.1051***
Wholesale trade and retail trade					0.9262***
Transportation, warehousing, utilities, and information					1.1773***
Finance, insurance, real estate, rental and leasing					1.1115***
Professional, scientific and technical services					0.9544***
Educational, health and social services					0.9079***
Arts, entertainment, recreation, accommodation, and services					0.7273***
Public administration					1.0581***
Intercept	10.4277***	7.9138***	7.9816***	7.8741***	7.6109***
R^2	0.0026	0.0923	0.0944	0.1063	0.162

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$ (two-tailed tests)

shown in Table 5 and none for Hispanic Native Americans upon controlling for metropolitan area and region of current residence.

The negative penalty for being a migrant is slightly larger in terms of women's earnings and the strongest is among White Native American women. The coefficient for stayers (region of residence same as region of birth) in Model 4 of Table 5 indicates that migrant white women have 3% lower earnings than white women who reside in the region of their birth (net of the other variables in the regression). None of the interactions are statistically significant except for White Native Americans whose earnings are penalized by about 7% by migration. The negative migrant effect for women may reflect the influence of family relations (e.g., relocating due to the job change of one's husband) that may lead women to move to areas despite reduced job opportunities given their own work experiences (McKinnish 2008).

Discussion and Conclusions

General Summary of Major Findings

Due to a lack of recent research on this topic, we have analyzed the socioeconomic attainments of American Indians. The results have demonstrated notable differentials by the racial/ethnic type of Native American group as well as by gender. In the case of men, all of the Native American groups have clear socioeconomic disadvantages. With the exception of Black Native Americans, all of the Native American male groups have lower levels of schooling. The earnings of Hispanic Native American men and Black Native American men are substantially lower than comparable white men. However, Single-Race Native American men are even more disadvantaged in the sense that, in addition to having much lower labor market rewards than comparable whites, Single-Race Native American men also have the lowest level of education. Single-Race Native American men furthermore stand out as the most rural (even more than white men) which further reduces their earnings (see also Snipp and Sandefur 1988). By contrast, Hispanic Native American men and Black Native American men are highly urban. White Native American men are relatively similar to white men in terms of schooling. The former group also has earnings that are not quite as disadvantaged as Single-Race Native American, Hispanic Native American, or Black Native American men.

The patterns for women are similar to men in that Single-Race Native American women stand out as having the lowest levels of schooling. In contrast to the differentials between Native American and white men, however, earnings among Native American women are not so greatly disadvantaged relative to white women. Another contrast is that migration slightly increases the earnings of men but it slightly decreases the earnings of women. It is important to note that none of the models control for marital status which may have particular influence on migration status. In general, for most Native American male and female groups, two-digit occupation and industry explain only a small part of their wage and earnings gaps relative to comparable whites.

Table 5 Estimates of OLS regression of log-earnings for women

	Model 1	Model 2	Model 3	Model 4	Model 5
Single-Race Native American	−0.2880***	−0.1673***	−0.1319***	−0.0752***	−0.0476**
White and Native American	−0.2460***	−0.1733***	−0.1644***	−0.2140***	−0.1899***
Hispanic-White and Native American	−0.2400***	−0.1500*	−0.1338*	−0.0270	0.0141
Black and Native American	−0.0526	0.0005	−0.0071	−0.0212	−0.0072
Age		0.0732***	0.0728***	0.0734***	0.0615***
Age-squared		−0.0008***	−0.0008***	−0.0008***	−0.0007***
Disability status		−0.1882***	−0.1884***	−0.1852***	−0.1414***
Military experience		0.0659***	0.0657***	0.0651***	0.0120***
Educational attainment					
High school		−0.0815***	−0.0852***	−0.0705***	−0.0248***
Some college		0.0254**	−0.0073	0.0038	−0.0013
Associate degree		0.2460***	0.2386***	0.2364***	0.1072***
College degree		0.4598***	0.4539***	0.4250***	0.3235***
More than college degree		0.7414***	0.7293***	0.6983***	0.6036***
Region of birth					
Middle Atlantic			−0.0262***	−0.0112*	−0.0137**
East North Central			−0.0928***	−0.0149**	−0.0172**
West North Central			−0.1428***	−0.0099	−0.0150*
South Atlantic			−0.0483***	−0.0075	−0.0106
East South Central			−0.1297***	0.0040	0.0023
West South Central			−0.1274***	−0.0402***	−0.0372***
Mountain			−0.2084***	−0.1101***	−0.0970***
Pacific			−0.0596***	−0.0840***	−0.0644***
Metropolitan area				0.2523***	0.1988***
Region of current residence					
Middle Atlantic				−0.0710***	−0.0541***
East North Central				−0.1034***	−0.0888***
West North Central				−0.1255***	−0.1047***
South Atlantic				−0.0485***	−0.0482***
East South Central				−0.1329***	−0.1345***
West South Central				−0.0932***	−0.0947***
Mountain				−0.1218***	−0.0985***
Pacific				0.0076	0.0144*
Region of residence same as region of birth				0.0264***	0.0237***
Stayer*Single-Race Native American				−0.0147	−0.0031
Stayer*White and Native American				0.0769*	0.0916**
Stayer*Hispanic-White and Native American				−0.2118	−0.2083

Table 5 continued

	Model 1	Model 2	Model 3	Model 4	Model 5
Stayer*Black and Native American				−0.0708	−0.0531
Management					0.4438***
Business and financial operations					0.2927***
Computer and mathematical science					0.5411***
Architecture and engineering					0.2376**
Life, physical and social science					0.3246***
Community and social service					0.0441*
Legal					0.3921***
Education, training, and library					−0.1340***
Arts, design, entertainment, sports and media					−0.2935***
Healthcare practitioner and technical					0.3731***
Healthcare support					−0.1136***
Protective service					0.0946***
Food preparation and serving related					−0.4097***
Building and ground cleaning and maintenance					−0.5778***
Personal care and service					−0.5031***
Sales and related					−0.1007***
Office and administrative support					0.0295
Construction and extraction					−0.3080***
Installation, maintenance and repair					0.2623***
Production					−0.1305***
Transportation and material moving					−0.2258***
Mining					1.1988***
Construction and manufacturing					1.1014***
Wholesale trade and retail trade					0.7069***
Transportation, warehousing, utilities, and information					1.0876***
Finance, insurance, real estate, rental and leasing					1.0575***
Professional, scientific and technical services					0.8172***
Educational, health and social services					0.8161***
Arts, entertainment, recreation, accommodation, and services					0.6445***
Public administration					0.0000***
Intercept	9.8108***	8.0972***	8.1907***	8.0136***	7.4467***
R^2	0.0008	0.0715	0.0734	0.0847	0.1679

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$ (two-tailed tests)

Implications for Understanding the Processes Associated with the Socioeconomic Attainments of Native Americans

At the beginning of the 21st century, the American Indian population is characterized by significant variation in racial/ethnic identity. According to the sample sizes shown in Tables 1 and 2 about three-fourths of the Native American population would be comprised of Single-Race Native Americans (though slightly less if our tables had included Native Americans who have multi-race identities associated with Asians, Pacific Islanders or "some other race" in the 2000 Census).[8]

With the possible exception of Black Native American women, all groups of Native American men and women have some sort of disadvantage in terms of schooling or earnings. Nonetheless, the substantial variation in the foregoing results underscores the conclusion that the precise socioeconomic profile of Native Americans will depend critically upon how Native Americans are identified or defined due to the major differentials that exist between the different Native American groups. Generally speaking, Single-Race Native Americans tend to be the most disadvantaged in terms of schooling and labor market rewards (though the latter disadvantage applies more to men). This latter finding has been implicitly anticipated in prior studies (based on single-race data) that differentiated Native Americans in terms of those living in counties near tribal lands, residing in "Indian States" or being in an endogamous marriage.[9]

The results regarding regional migration did not demonstrate that it plays as important a role as one might expect. Although migration to another region does increase earnings among men, the effects are relatively modest and do not contribute much to explaining the gap between whites versus Native American earnings. Some of the results do suggest, as might be expected, that regional migration plays a slightly more significant role for Single-Race Native American men in terms increasing their earnings (i.e., Table 4). However, even those findings seem to be somewhat diminutive. Croy et al. (2009) did find some evidence that tribally enrolled American Indians with higher socioeconomic ambitions and goals were more likely to move away from the reservation, but our results are unable to specifically identify residence on tribal lands per se. In any event, the effects of other types and models of migration might be more thoroughly investigated in future research.[10]

Other sources underlying at least part of the earnings gap between Native Americans and whites (especially for men among whom these differentials are large) may derive from omitted human capital variables associated with health status which is not fully controlled for in our models. Although a dummy variable for disability is included in our statistical analyses, this approach cannot fully account for the all of the complexities of health conditions. Native Americans,

[8] Though not analyzed here, an additional ethnic complexity is tribal affiliation which can further complicate identity among all Native American groups including Single-Race Native Americans.

[9] Eschbach et al. (1998) explicitly reached this general conclusion studying cohort changes in rates of Native American identification across Census data based on single-race information.

[10] Snipp and Sandefur (1988) similarly argued than non-metropolitan to metropolitan migration per se did not have a major net effect on earnings among Native American men using the 1980 PUMS.

especially those who are low-income or residing on tribal lands, are more likely to have poor health and inferior health care (Snipp 1992). Compared to whites and regardless of gender, Native Americans are also more likely to have been homeless, to have alcohol or drug addictions, to have been exposed to trauma, to have been a victim of violent crime, to have been incarcerated, or to have been in foster care (U.S. Department of Health and Human Services 2001; Fixico 2006; Snipp 1992, 1997). These variables relate to mental and physical health that are further associated with educational outcomes, cognitive development, and later socioeconomic attainments (Palloni 2006). Not surprisingly, other studies indicate that the average SAT and related test scores for Native Americans are significantly lower than for whites (Freeman and Fox 2005; Rampey et al. 2006).

Employer discrimination against Native Americans may be an additional process that is not mutually exclusive with respect to the effects of omitted variables relating to human capital (Alba 1990). Indeed, the two may be mutually reinforcing through "statistical discrimination" (Aigner and Cain 1972). This occurs when, due to highly imperfect information about the potential productivities of workers, employers use their understandings of the mean differences between groups in order to rank them to form a labor queue based on their ascribed or other easily perceived characteristics (Reskin and Roos 1990; Lim 2002; Weppner 1971). As American Indians are generally known to have more socioeconomic disadvantages relative to other minority groups, prospective employers may perhaps have lower preferences for hiring American Indians which may to some extent become a self-perpetuating process (Thurow 1975).

Above we cited Sandefur and Scott's (1983) summary of traditional, stereotypical images of Native Americans in the labor force as being less committed to socioeconomic and occupational achievement. However, the extent to which employers may still harbor such attitudes towards contemporary Native Americans is unclear as there is no hard evidence about this issue. Because Native Americans represent a comparatively tiny proportion of the labor force, employers may have little experience or awareness of hiring Native Americans.[11] Thus, employers may not have developed well defined attitudes towards hiring Native Americans when it is a highly uncommon occurrence because employers may simply have not thought much about the issue. Although the impact of employers' attitudes on the employment of minorities has been argued both theoretically (Aigner and Cain 1972; Reskin and Roos 1990; Thurow 1975) and empirically for some racial/ethnic groups (Kirschenman and Neckerman 1991; Moss and Tilly 2001; Lim 2002), Native Americans have not been considered in this recent literature.

We speculate that negative employer attitudes towards Native Americans might be somewhat more formulated in local areas that are adjacent to traditional Native American communities and tribal lands. Employers in these places might have more experience with and awareness of Native American workers. If negative employer attitudes towards Native Americans depress their labor market rewards, then regional migration would tend to be helpful in providing improved opportunities.

[11] A recent survey of employers regarding their attitudes toward hiring members of different racial/ethnic groups does not even ask about Native Americans (Lim 2002).

This explanation would seem consistent with the larger positive gain in earnings for migration among Single-Race Native American men (i.e., Table 4). Nevertheless, Native Americans are disadvantaged throughout the U.S. and not only in the "Indian States" or in rural areas.

Theoretical Implications for Racial/Ethnic Relations

As a test case for classical assimilation theory, some results that tend to support that view are the socioeconomic attainments of White Native American men. This group is not as disadvantaged as Single-Race Native American men. The higher levels of schooling and the lower levels of wage and earnings disadvantages among White Native American men relative to Single-Race Native American men is consistent with the argument that socioeconomic attainments improve with intermarriage and acculturation towards the dominant majority group.

Several other results, however, are more difficult to explain in terms of classical assimilation theory. The socioeconomic attainments of Hispanic Native American men and Black Native American men are in some respects similar to White Native American men even though the former two groups do not represent intermarriage towards the dominant white majority. Furthermore, among women, White Native Americans (rather than Single-Race Native Americans) tend to have the largest labor market disadvantages.

Our results furthermore suggest the importance of the complex processes affecting how individuals choose to be enumerated in terms of a given set of racial/ethnic categories (e.g., Choi et al. 2008)[12] and our results underscore how racial/ethnic socioeconomic differentials are influenced by how racial/ethnic categories are defined. The socioeconomic differentials which are evident across our definitions of different Native American groups would generally not be discernable in a single-race classification scheme. For example, the extensive disadvantages of Single-Race Native American men contrast with the higher socioeconomic attainments of White Native American men. Similarly, collapsing Native American whites into the white category would essentially render the former group invisible. Future trends in racial/ethnic differentials will surely be influenced by how racial/ethnic categories will be defined.

In conclusion, we have provided a fairly detailed study of the socioeconomic attainments of Native Americans that has recognized multi-race identity and has sought to account for a variety of relevant factors such as age, gender, schooling, disability status, military experience, region of birth, metropolitan residence, region of residence, migration, occupation, and industry. Our analysis has extended previous research and has yielded new findings, but ultimately our results do not coalesce around any one simple explanation or point to any specific theory that can adequately account for the continuing socioeconomic disadvantages of American Indians. Additional future research is clearly needed in order develop a better

[12] Intergenerational advances in the socioeconomic attainments of Mexican-origin Americans may be understated if second and third generation Mexican-origin persons who are highly educated are less likely to identify as Mexican American compared to second and third generation Mexican-origin persons who are less educated (Duncan and Trejo 2005).

understanding of the complex sociological circumstances of contemporary Native Americans.

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