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Observing Racial Hierarchies in the Response Variability of Multiracial Persons[1]

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Racial hierarchies play an indispensable role in the stratification of modern societies, and particularly in the reproduction of racial inequality within the United States. Recent theories of race relations in America argue that racial hierarchies play a specific role in perpetuating the privileges, the advantaged position, and dominance of one group over other less powerful and less privileged groups in American society. Put another way, racial hierarchies are not arbitrary constructions. In fact, they are intentionally devised and instrumentally shaped to accomplish specific purposes. Racial hierarchies in particular are constituted to serve the economic and political interests of the most privileged groups in a society (Omi and Winant 1994; Smedley 1993; Winant 1994; Woodward 2002). They are essential for imposing and reproducing the privileges that embody racial inequality.

Although much has been written about prejudice, discrimination, and other outcomes related to racial hierarchies, less attention has been devoted to the processes and mechanisms by which racial hierarchies are imposed and maintained. Perhaps not surprisingly, most studies that focus on the creation and persistence of racial inequality rely heavily on anecdotal material and historical data. Few studies of racial hierarchy have been able to examine these processes with rigorous empirical methods. The research we report in this paper selects one aspect of racial divisions, the rules that govern the maintenance of ethnic boundaries, and examines the way that individuals assign themselves to positions in the racial hierarchy

Ethnic Boundaries and Racial Hierarchies

Barth's (1970) seminal definition of ethnicity and ethnic identity focused on the mutual self-awareness that exists between an ethnic group and an individual. That is, an individual may legitimately claim membership within an ethnic group when that claim is likely to be validated by the group itself. This basic formulation remains the foundation of most constructionist theories of race and ethnicity (Cornell and Hartmann 1998). As Nagel (1996 p. 21) writes, "Ethnic identity lies at the intersection of individual ethnic self-definition (who I am) and collective ethnic attribution (who they say I am)." While Nagel's (1996) discussion focused on ethnic identity, Cornell and Hartmann (1998) suggest that this line of thinking is equally applicable to the domain of racial identity. That is, racial identification is a function of self-definition and group ascription.

The processes related to self-definition and group ascription also are instrumental in the development of so-called "ethnic boundaries." These boundaries are abstract rules, norms, attitudes and beliefs about who legitimately belongs to a particular ethnic or racial group and what conditions may make a particular claim patently suspect. The preservation of ethnic boundaries depends on a consensus about these criteria. This consensus is an essential part of the individual calculus about self-definition as well as the basis for group ascription. A central tenet in constructionist theories of race and ethnicity focuses on the role of politics and especially the role of the state in the creation and preservation of ethnic boundaries (Cornell and Hartmann 1998; Nagel 1996; Omi and Winant 1994).

The state plays an instrumental role in the creation and reproduction of ethnic boundaries in at least two respects. One is that it constructs for public consumption sets of officially sanctioned designations of ethnicity (Nagel 1996; Olzak and Nagel 1986). In the United States, certainly the best known example is the federal Office of Management and Budget's Directive Number 15 that in 1977 instituted five official racial and ethnic groups: American Indian, Asian and Pacific Islander, Black, Hispanic, and White (Snipp 2003). Another role the state may play involves setting the criteria by which individuals may or may not be assigned to one of these officially designated categories. The state may explicitly or implicitly promulgate rules and conditions under which a person may be regarded as a member of a particular racial or ethnic group.

Although socio-political constructionist analyses of race and ethnicity do not necessarily rest on a presumption of racial and ethnic inequality, connecting these ideas to the formation and reproduction of racial hierarchies is not difficult. Ethnic group boundaries, for example, provide a convenient means for protecting group privileges and for restricting access to ethnic group resources by establishing the conditions for acknowledging some claims to group membership while denying access to others. Privileged racial and ethnic groups in particular have a stake in denying and otherwise limiting access to scarce social and economic resources. By the same token, the state has a pivotal role in legitimating and making official the privileges enjoyed by one of more groups, as well as promulgating legal and otherwise official grounds for acknowledging or denying membership.

Racial and Ethnic Boundaries and Descent Rules

Ethnic boundaries are preserved when groups share a consensus about who may fairly claim group membership. These boundaries are further solidified when the state enacts and enforces the criteria and/or conditions required for racial and ethnic group membership. Indeed, constructionist theories of race and ethnicity posit that the central government is the most powerful ascriptive force in any state (Nagel 1996, Cornell and Hartmann 1998). The power to ascribe race and ethnicity is most often manifest in state classificatory systems and the rules for their implementation. According to Cornell and Hartmann (1998 p. 190), government polices represent a key contextual factor affecting the salience of racial and ethnic identities. In the United States, government policies demarcating racial and ethnic boundaries were first set forth in the Article I, Section 2 of the Constitution:

> "Representatives and direct Taxes shall be apportioned among the several States which may be included within this Union, according to their respective Numbers, which shall be determined by adding to the whole Number of free Persons, including those bound to Service for a Term of Years, and excluding Indians not taxed, three fifths of all other Persons."

Namely, the Constitution designated by implication, three racial groups: Whites, Blacks, free and Slave, and American Indians, taxed and not taxed. As undoubtedly important as this distinction has proven in history, the Constitution was mute on the subject of whom and how to designate race and civil status. It is most likely that for the Founders of the United States, the condition of being black and white was as self-evident as the condition of being free or slave. In any event, at the time the Constitution was drafted, Enlightenment thinking about racial characteristics was rudimentary at best. Scientific racism—ethnology and eugenics—which would articulate a "scientific account" of racial hierarchy, and thus legitimize racial domination and subordination did not develop until the 19th century (Fredrickson 2002).

Beginning in the early 19th century, scientific racism played a considerable role in the debates about ethnic minority rights in the United States—whether slavery was just or unjust, whether it was possible to civilize American Indians. By the second half of the 19th century, ethnology and eugenics were well-codified doctrines of racial hierarchy, The maturity of scientific racism coincided with a period of considerable racial turmoil with the end of slavery in the South and significant military conflicts with American Indians across the West. In this same era, the racial and ethnic complexity of the United States deepened with an influx of workers from China and Japan. In recognition of this complexity, the federal government added new categories to its decennial census form and began to collect information about racial admixtures; in particular mulattos and in some instances quadroons and octoroons (Snipp 2003).

Scientific racism played an instrumental role in preserving the racial hierarchy of the United States by offering the state a set of conditions or rules that could be imposed to institute a degree of stability in an otherwise unstable social situation. In particular, a central tenet in scientific racism was the notion that racial and ethnic specific cultural characteristics were to a large degree inherited. For example, Lewis Henry Morgan, one of the founders of modern anthropology, went to great lengths to catalog the inherited cultural characteristics of American Indians (Snipp 1989). The assertion that culture, and behavior more generally, was an inherited quality led to a simple solution for instituting the conditions that would solidify ethnic and racial divisions in the United States: descent rules.

Descent rules stipulate, quite simply, that racial identity depends strictly on one's family heritage. These rules appeared for Blacks and American Indians in the late 19th century, and later and more ambiguously for Asians in the early 20th century. The development and application of these rules varied from one group to another. However, they shared in common a role in maintaining the racial hierarchy, and particularly the ethnic boundaries that had existed in the United States since its founding. To make this point more clearly, it is useful to examine how these rules were implemented for Blacks, American Indians, and Asians.[2]

[2] We omit Hispanics from this discussion because in the data we have available, they are measured as a separate "ethnic" group in which it is difficult, if not impossible to treat them as a multiracial population. We are fully aware that this is an artifact of measurement; specifically the Census Bureau's practice of

Blacks: Since the late 19th century, the question of "who is Black?" has been determined by the principle of hypodescent. Hypodescent is also known as the "one drop rule", meaning that if you have a single Black ancestor ("one-drop of Black blood") within your knowable family history, you are identifiably Black. Historically, the one-drop rule supercedes phenotype, personal affinities, and all other considerations in the determination of race.

Davis (1991) suggests that the one-drop rule was institutionalized in the 1896 Supreme Court decision of *Plessy v. Ferguson* (163 U.S. 537). Besides hardening racial divisions with the principle of "separate but equal", the *Plessy* decision also noted that "a Negro or black is any person with any black ancestry" (Davis 1991, p.8). And while the doctrine of "separate but equal" was later repudiated in the 1954 decision of *Brown v. Board of Education of Topeka, Kansas* (347 U.S. 483), the so-called "one-drop" has survived numerous legal challenges (Davis 1991). The best known case in recent years involved a woman from Louisiana, Susie Phipps, who sued in the 1980's to have her race changed from Black to White because she claimed the latter as her true identity. The courts, including the U.S. Supreme Court denied her petition (Davis 1991).

As *Plessy* illustrates, the principle of hypodescent is undeniably rooted deep within the tradition of Jim Crow legislation and public policy. And in fact, whether intentional or not, the one-drop rule clearly served the interests of Whites in the Reconstruction South where it was most fervently embraced. In particular, the one-drop rule helped solidify White privilege by creating a hereditary lower caste group that was subservient to upper caste Whites. As a matter of inheritance, this lower caste status was permanent and beyond legal challenge. Furthermore, as an inclusive rule, the one-drop rule enlarged the number of persons designated for servitude. By enlarging the pool of subservient lower caste persons, it diminished their economic value at the same time that it made them more accessible to the White population that needed their labor and desired their social acquiescence. Finally, the one-drop rule further hardened the Black-White divide by automatically assigning the offspring of inter-racial relationships to the subordinate status of the Black parent.

American Indians: As noted above, the descent rule for American Indians has its origins in the late 19th century. However, it is precisely the opposite rule that obtains for African-Americans. Namely, the descent rule for American Indians is based on a principle of hyperdescent. A hyperdescent rule establishes some minimum amount of ancestry that must be demonstrated in order to qualify for the appellation of American Indian. Unlike hypodescent, a single distantly removed American Indian ancestor is usually considered insufficient grounds for claiming an American Indian racial or ethnic identity.[3]

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designating Black, White, Asian, and AIAN Latinos, which makes it impossible to treat Hispanics as a unique racial category that may be compared with the other racial categories..

[3] Some states tried to reconcile the contradiction between hyper and hypodescent for persons with Black and American Indian ancestry. In Virginia, for example, persons with Black ancestors and sufficient

In the case of American Indians, hyperdescent usually involves demonstrating that some number of ancestors possessed a degree of Indian ancestry expressed in terms of blood quantum. Blood quantum is determined by summing the ancestry of parentage and then dividing by 2 to determine the degree of Indian "blood" than an individual possesses. For example, a man with full-blood quantum American Indian ancestry (1.0) who has children with a non-Indian woman (0.0 blood quantum) would have offspring with 0.5 or one-half blood quantum [((1.0+0.0)/2)=0.5].

Blood quantum was introduced after the Civil War when the United States took seriously the challenge of civilizing and assimilating the American Indian population. Because American Indian cultural traits were believed to be inherited, it was commonly assumed that one-half blood quantum Indian (half-breeds) were roughly twice as civilized as full-blood quantum Indians (full-bloods); and that quarter-breeds were twice as civilized as half-breeds, and so on (Snipp 1989). Blood quantum, then, provided a convenient yardstick for measuring the American Indians biological progress toward civilization.

Although the federal government assiduously monitored the blood quantum stock of the American Indian population throughout the late 19th and early 20th century, it did not set a minimum amount below which a person would cease to be an American Indian until 1933. In 1933, the federal government was in the process of developing plans that would allow American Indians re-constitute their tribal governments, most of which had been abolished in the 19th century. In anticipation of who might join these governments for the purpose of settling claims and a variety of other matters, the Board of Indian Commissioners declared in 1933 that for federal purposes, American Indians were persons who could demonstrate at least one-fourth blood quantum. Persons with less than one-fourth blood quantum (e.g. 63/256) were deemed to be non-Indians.

Needless to say, hyperdescent served a very clear purpose with respect to federal interests vis-à-vis the American Indian population. In particular, it limits the number of persons who might make claims against the federal government or may be eligible for services such as healthcare, scholarships and housing assistance. There is no question that if hypodescent applied to American Indians in the same way that it does for African Americans, the federal government would be responsible for a substantially greater expenditure of funds than it now spends for its obligations to American Indians

Asians: Compared to Blacks and American Indians, the historical position of Asians in American society has been more nebulous. Unlike Blacks, Chinese, Japanese, and Asian Indians voluntarily immigrated to the United States in a period when their labor was valued and their presence was tolerated. Although these groups were certainly the targets of discrimination and prejudice, they were never forced into involuntary servitude en masse. In the 19th century, scientific opinion assigned them a position somewhere in the middle of the racial hierarchy; like American Indians, they were perceived as superior to Blacks but inferior to Whites (Fredrickson 2002). However,

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ancestry to qualify as American Indians were considered American Indians while they remained on reservation land, and Black if they left the reservation (Davis 1991, p. 9).

unlike American Indians, they entered this country as mostly men, never presented a palpable threat to the public, and never required special attention until their numbers threatened to grow too large; precipitating the passage of the Chinese Exclusion Act of 1882 and later the "Gentlemen's Agreement" in 1907. Unlike Blacks or American Indians, there was never a clear motivation for the state to demarcate ethnic boundaries around the Asian population for the purpose of establishing servitude or limiting fiduciary obligations.

Indeed, the perimeters of the Asian community were already well-defined by citizenship and national origins. The subordinate status of Asians in the late 19th and early 20th century was insured by legislation that prevented them from becoming citizens and assigning them a permanent, second class sojourner status for the duration of their lives in the United States. These distinctions were first drawn by Congress and solidified in the courts. The two best known decisions were *Ozawa* in 1922 and *Thind* in 1923 that put to rest continued challenges to Asian immigration restrictions. The first decision (*Takao Ozawa v. United States* 260 US 178) noted a connection between Whites and Caucasians. However, one year later, another case (*United States v. Bhagat Singh Thind* 261 US 204) forced the court to make a circuitous argument allowing that while Asian Indians were "Caucasian," they were a different sort of Caucasian than Congress intended for citizenship. The upshot of these restrictions insured that the Asian population in America would remain small in number and their inability to attain citizenship meant they would remain politically powerless for most of the 20th century.

Small numbers and political marginality also meant that a large scale public policy edifice such as Jim Crow or federal Indian policy did not need to be formally erected for the Asian population in the same way that it was required for Blacks and American Indians. As a consequence, the state never articulated a fully developed theory of inferiority of the same sort that was articulated for Blacks and American Indians. One consequence of this is that the status of Asians in American society, while acknowledged to be subordinate has not had the doubtful benefit of becoming fully institutionalized beyond the narrower matters of immigration quotas and eligibility for citizenship. Thus, a descent rule for Asians never evolved and never was fully articulated in the same way that descent rules were developed for Blacks and American Indians. As a consequence, who is and is not an Asian by race or ethnicity is a more ambiguous public matter because it is a question that never has been formally codified by the state. And indeed, at least one study suggests that it is difficult to predict the ethnic identification of mixed-race children who have Asian ancestry (Xie and Goyette 1997).

Descent Rules and Racial and Ethnic Identity

A central tenet of this paper that we intend to illustrate below with empirical data, is that descent rules weigh heavily on the way that individuals choose to express their racial and ethnic identity. This is especially true for public expressions of personal identity. Race-specific descent rules play an especially important role in the identity choices of persons who may be confronted with the need to select one or another racial or ethnic options in disclosing their personal identity. Waters (1990) examined this process

in great detail for White ethnics. In particular, she focused on the ethnic options available to persons who may claim several European ethnic origins, and in her conclusion, she observed that the options available to White ethnics and the dynamics of their identity could not be readily generalized to other racial groups, such as African-Americans, for whom the choice of identity was considerably more constrained.

While we do not disagree with Waters' fundamental point that some groups, and the individuals within them, have relatively few choices with respect to their racial or ethnic heritage, we do believe that there is a segment of the American population that has considerable latitude in constructing an expression of their racial heritage. That is, persons who are of multiracial heritage not only have more choices with respect to their racial heritage, but like White ethnics they may also face a complex choice with regard to how they may choose to express their racial identity. Examining the intricate psychological and social psychological workings connected with an individual's personal racial identity is far beyond the scope of this paper. This research aims more modestly to examine the role that descent rules may play in the expression of racial identity among multiracial persons. We are especially interested in how multiracial persons may report their race differently over time and in different contexts, and how descent rules may affect this variability.

Our research rests on a growing body of evidence that indicates that the information provided by multiracial persons about their racial heritage varies a great deal and may depend heavily on a number of factors, including the social context in which the information is elicited. In the survey we report below, about 40 percent of multiracial respondents changed the information they provided about their racial heritage. Thus, multiracial persons not only have the option of changing their racial heritage, there is evidence indicating that a considerable number of them make use of this option.

We hypothesize that descent rules play an important role in the calculus that multiracial persons use when they report their racial and/or ethnic identity, and especially as they may decide to disclose it differently over time and from one context to another. For the reasons we have already described, descent rules vary from one group to another and consequently, multiracial persons must decide whether to invoke them and which ones to invoke under different sets of circumstances. For example, if a person who is of Black and American Indian ancestry decides to report only one of these ancestries, which one should be selected?

To illustrate the effects of descent rules, it will be useful to hypothesize how they shape the response variability of biracial respondents. [4] In this paper, we examine the variability of racial identification among multiracial persons belonging to two or more of the following groups: American Indian and/or Alaska Native (AIAN), Asian, Black, and

[4] . For the sake of exposition, we focus on biracial combinations because it relatively simple to follow the logic of our argument for persons who report only two races. For persons who report three or more races, we would not modify our fundamental argument about the importance of descent rules. However, detailing exactly how descent rules might operate for every tri-racial (or more) combination is a tedious exercise that adds little to our discussion.

White.[5] In particular, we offer the following hypotheses about how descent rules will impact the racial reporting of persons reporting ancestry in two or more of these groups.

> Hypothesis (1) AIAN-Black: This racial combination is shaped by hyperdescent exclusivity and hypodescent inclusivity. We predict that persons who report this combination will identify more often as Black than AIAN.
>
> Hypothesis (2) AIAN-White: This racial combination is shaped by hyperdescent exclusivity and an absence of descent rules for the White population. We predict that persons who report this combination will identify more often as White than AIAN.
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> Hypothesis (3) Asian-Black: This racial combination is shaped by the inclusivity of hypodescent and the indeterminacy of Asian descent rules. We predict that persons who report this combination will identify more often as Black than as Asian.
>
> Hypothesis (4) Asian-White: This combination is shaped by the indeterminacy of Asian descent rules and the absence of descent rules for the White population. We predict that persons who report this combination will exhibit a random pattern of change, with neither ancestry systematically selected over another.
>
> Hypothesis (5) Black-White: This combination is shaped by the inclusivity of hypodescent and the absence of descent rules for the White population. We predict that persons reporting this combination will identify more often as Black than White.

Descent Rules and Survey Mode Effects

Mode effects are a well-known phenomenon in survey research that arise from the context in which survey questions are presented and answered (Dillman 1978, Schuman and Presser 1996). For example, a questionnaire answered in the privacy of one's home may elicit a different set of responses than those elicited from a telephone or face-to-face interview with a stranger. Mode effects are important in this discussion because we predict that that there is a significant interaction between descent rules and the context in which information about race is collected; namely, that the context in which racial and ethnic identification matters with respect to the salience and impact of descent rules.

This expectation is firmly rooted within constructionist thinking about ethnic identity. The idea that ethnicity is situational and varies in terms of the context in which it is reported is a well-established idea that was first fully articulated by Yancey et al. (Yancey 1976). However, it is an idea that is frequently reiterated by more recent constructionist discussions (e.g. Nagel 1996, Cornell and Hartmann 1998, Smedley

[5] We omit the AIAN/Asian population due to a small sample size, though we would predict that this racial combination is shaped by hyperdescent exclusivity and the indeterminacy of Asian descent rules and that respondents would identify more often as Asian than AIAN.

1999). While it is impossible to measure every salient aspect of the context in which racial and ethnic identities are reported, the presence of survey mode effects represent a very important special case of contextual effects that we are able to measure and estimate their effects vis-à-vis descent rules.

For the sake of analysis, we postulate that descent rules have varying degrees of salience depending on the presence of others whose presence may be tantamount to rendering a judgment about the authenticity of a claim to ethnicity. That is, in the privacy of one's home, one may imagine and report any race or ethnicity a respondent may select. This selection may be based on empirical experience but just as easily on a fantasy about a desired race, or alternatively, a subversive answer to evade recognition. However, a person with classic White phenotypical traits may be more reluctant to provide a dishonest of disingenuous answer if the question is posed in the context of face-to-face interview.

We hypothesize that descent rules have the greatest impact in the context of face-to-face interactions where these rules are most likely to be unconsciously invoked to evaluate the authenticity of a subject's response. At the other extreme, descent rules have the least amount of force in conditions where the judgments of others are likely to have little or no influence; specifically in the privacy of one's home or other anonymous setting. In the middle of these scenarios, there are other contexts where mode effects may exert some influence but yet still moderated by a degree of anonymity, telephone interviews for instance. Thus, for our last hypothesis, we propose the following:

> Hypothesis (6) Mode effects: We predict that mode effects will interact with descent rules and will exacerbate the effects of descent rules in such a way that descent rules will be more salient in interviews and less salient for anonymously completed questionnaires.

Data and Methodology

To examine these hypotheses, we analyze data from the 2002 Census Quality Survey (CQS)—a panel study consisting of an initial and follow-up questionnaires, that were subsequently matched to the 2000 census. This survey was conducted for the purpose of determining the extent to which the racial classification used in the 2000 census is different from or similar to the racial classification originally stipulated in the document known as OMB Directive No. 15. Preliminary results revealed a high degree of stability in the responses of Black and White persons, and for persons who report only one race. However, a very high level of response variability was observed for persons who identify themselves with more than one race. We are most keenly interested in this variability.

The CQS data are obtained from a sample of 55,000 households. After attrition, approximately 50,000 households returned surveys from two points in time. These households were divided into two panels: one half of the sample would received a questionnaire using a facsimile of the race question that appeared on the 1990 Census

form. The remaining households received a questionnaire that included a race question designed resemble the race question used for the 2000 census. The initial contact of respondents occurred between June-August 2001 and the re-contact occurred between August-October 2001. In the subsequent contact, households that originally received a 1990-style questionnaire were re-surveyed with a questionnaire using the 2000 format. Conversely, households that received a 2000-style questionnaire in the initial contact were re-surveyed with an instrument that used the 1990 formatted race question. Household records were then matched with the household's records from the 2000 Census. This design yields data were collected at three points in time for each household in the sample.

Table 1 illustrates the basic design of the survey along with the different survey modes used to collect this information. The initial contact was done by mailout/mailback surveys and personal visits while the re-contact survey was administered by telephone or personal visits. Fifty-four percent of the questionnaires were administered by mail in the initial contact. The remaining 46 percent were contacted by personal visits. In the re-contact phase, seventy percent of the questionnaires were administered by telephone while the remaining thirty percent were re-contacted with personal visits.

Households with persons for whom two or more races were reported in the 2000 census were oversampled in the CQS. For this reason, the CQS is an ideal vehicle for studying response variability in the multiracial population. The CQS also sampled at a lower rate persons who were identified as "Some other Race" (SOR) . This was done to compensate for the large number of people, mostly Hispanics, who mark SOR as a second racial category.[6]

Analysis of Response Variability

Variables

This paper models the variability in the responses of multiracial persons by parameterizing the identity shifts predicted by our hypotheses about racial hierarchies in the United States. We measure response variability by comparing racial self-identification at two points in time. For our first point in time, we selected respondents for whom a multiracial identity was reported in the 2000 Census. [7] The second point in

[6] We exclude Hispanic respondents, respondents for whom there were missing data about Hispanic origins, and persons for whom race was imputed. We exclude Hispanics because the design of the the census questions about race and ethnicity do not allow us to partition Hispanics into a distinct racial group. The sample is weighted based on the inverse of the probability of selection to compensate for differential sampling rates in the survey design and to approximate a simple random sample.

[7] In this paper we use the terms "multiracial," "more than one race," "two or more races," and sometimes "bi-racial" interchangeably. It is also important to note that within a household, the person completing the questionnaire is responsible for providing information about the racial heritage of each member of the household.

time was measured by responses to the 2000 census-style race question for the same individuals on the CQS. This variable was created by combining the initial contact of Panel A and the re-contact of Panel B (see Table 1). This produces data for how respondents answered the race question on the same type of questionnaire as the 2000 Census. Each individual had the opportunity to respond exactly as they did on the 2000 Census in either the first or second panels. Thus, any variation in response was not the result of a design difference or the set of answers available. An alternative approach might have compared the consistency of multiracial responses in the CQS with the reporting of race in the 2000 Census. However the CQS is over-sampled on the basis of the 2000 Census and not vice versa. For this reason, it makes very little sense to reverse the time-ordering embedded within the data.

We also include in our analysis the survey mode used to administer the questionnaire and the order in which it was administered to assess the effect of context on the responses to the race question. The questionnaire mode is classified by whether the respondent received the CQS by mail, by telephone, or by personal visit. Order is measured by whether the respondent received the CQS questionnaire that resembled the 2000 Census in the initial or the follow-up survey.

Descriptive Analysis

Table 2 displays the distribution of non-Hispanic multiracial responses reported in the 2000 Census and the CQS. The CQS columns have been collapsed for each of the two race combinations to simplify the table for analysis. The rows in Table 2 represent the race reported by each respondent in the 2000 Census while the columns represent the race provided in the CQS.[8]

Table 2 about here

Several patterns emerge from this table. The percent of consistency reports for each group are shown in the "two or more (same)" column. These respondents reported their race in the CQS exactly as they did in the 2000 census . The low rates of consistency in racial identification indicate the extent of variability that exists within the multiracial population. . Persons who reported "Some other Race" as one of their races in the 2000 Census exhibited the lowest percentages of consistency. This group ranged from 3.0 percent for the "Asian-SOR" population to 5.4 percent for the "Black-SOR" respondents. The highest percentages of consistency were reported by "White-Black" persons: about 58 percent of this group reported the same two race combination in the CQS. The "White-Asian" and "White-AIAN" groups also displayed high levels of consistent responses.

[8] Only race combinations with a large enough sample size are included as a category in the 2000 Census column. For example, only 20 people identify themselves as AIAN-NHOPI, so we collapse this group into the "Other two race" category. The smallest group for which we report a race is the "Asian, Some other Race" category with 487 people (see Appendix A).

Table 3 shows the odds of choosing one race over another for persons who did not have same race in the CQS as they did in the 2000 census. This is calculated by dividing the odds of choosing one race by the odds of choosing another race given the distribution of responses among the other groups. For example, the odds that a person who was "White-Black" in the census would choose "White" as their only race in the CQS appear to be about half as likely as the odds that they would choose "Black" as their race in the census. "White-AIAN" respondents who inconsistently reported their race were about 3 times more likely to choose White than AIAN as their race. Other notable findings include the White-Asian group, who were only slightly less likely to choose White over Asian (.9), and the tendency for groups who chose "SOR" as one of their races in the census to strongly favor the non-SOR category they chose in the census.

Table 3 about here

Models

While these results provide useful insights into how multiracial individuals responded on the CQS, rigorous methods are more desirable for testing our hypotheses. ,We will assess these ideas with log-linear models and multinomial logit models that regress different predictors on the likelihood of selecting different responses in our sample.

The first set of models in this paper uses negative binomial regression to parameterize hypotheses about racial hierarchies in the response variability of the "two or more" race population in the 2000 Census. These parameters test the strength of such forces as hypodescent and hyperdescent in addition to situations that may condition the types of response variability we observe such as the mode in which the questionnaire was administered.[9]

Table 4 shows the goodness of fit statistics for each of the models in the log-linear analysis. We first fit the model of unconditional independence. This model provides a baseline with which to measure association and test our hypotheses. In the following models we fit terms related to expected associations in how people respond to questions

[9] Typically, contingency tables such as the one above are modeled using log-linear models that assume a Poisson distribution of the observations. However, one of the assumptions for a Poisson regression model is that the mean is equal to the variance (equidispersion). This assumption is usually not met in most models. The comparison of how people respond in the 2000 census and the CQS is no exception. Therefore, alternative models for estimating relationships among variables must be used. Negative binomial regression has been proposed as a solution to the problem of overdispersion (Cameron and Trivendi 1998). Negative binomial regression accomplishes this by estimating a coefficient for the unobserved heterogeneity among the observations. In cases where there is equidispersion the estimates from Poisson models and Negative Binomial models are equivalentl. When overdispersion is a problem an additional parameter can be added to the model to correct for overdispersion. The natural log of this parameter can be used to determine whether or not overdispersion is an issue. In our models this value is reported as alpha. We also report a likelihood ratio test of alpha=0 in which overdispersion is signified by whether or not this test is significant. In cases where it is significant, the Negative binomial regression model is a better model to use than a Poisson model.

about race. First, we add a term for the likelihood that a multiracial person will have the same response in the CQS as they did in the 2000 Census. Adding a term for this interaction provides a small improvement in the chi-square statistic but the BIC statistic indicates that the models fits poorly. This is not too surprising because most of the respondents changed their race responses and the fitted parameter does not account for much association in the data.

Table 4 about here

When we include a term for the likelihood that multiracial persons who change their race in the CQS are more likely to change to one of the races included in their census response, we obtain a better fitting model as measured by the chi-square and BIC statistics. Not surprisingly, this means that people to be somewhat consistent in the races they choose, even though they may not choose the exact combination of races as they chose in the 2000 Census and in the CQS.

The last two models focus on patterns of abbreviated racial identities by estimating terms for how racial identities shift from a multiracial form in the 2000 census to a single race in the CQS. Fitting terms for hypodescent and hyperdescent provides a better fit by the model chi-square though it does not appreciably improve the BIC. However, the amount of information provided by these terms provides considerable leverage for explaining patterns of response inconsistencies and how they relate to racial hierarchies. Similarly, in the next model we include an interaction term for the mode of interview and consistency in reporting, in addition to whether or not respondents were more likely to have had the same two races if they were not consistent. The introduction of this parameter adds very little explanatory power to the previous model.

Racial hierarchies in race reporting

Table 5 shows the parameters from our negative binomial regression models. The first terms in our model gauge the reliability of racial reports in the census and the CQS. The consistency term indicates that our respondents are about 24 times [exp(3.179)] more likely to report the same two races as opposed to selecting another race not included in their original census response. This is not surprising; we would not expect, for example, that someone identified as White/American Indian in the census would change to Asian in a follow-up questionnaire. More interesting is the interaction term associated with consistency in which those who received a personal visit from an interviewer were less likely to be consistent in their responses. This parameter is consistent with our hypothesis (6) that respondents are more likely to follow descent rules when choosing their race in the presence of another person.

Table 5 about here

"Samerace" is a more detailed parameterization of consistency for each group. It shows how likely each bi-racial group from the census is to have the same race in the CQS. It assumes they did not change to a single race from the two race combination they

disclosed in the census response. It represents the likelihood that they will not change to a completely different race in the CQS from what they reported in the census. While some groups are less likely than others to have the same race, all groups are more likely to retain one or more of the races that were originally reported in the census than they are to have a completely different identity. For example, although people who were White/American Indian in the census were about 45 times more likely to have the same race than those who were White and Some Other Race [exp(2.30-(-1.51))] the likelihood that someone who was White and Some other race would change to a race that was not included in their Census response is still greater by a factor of about 5.5 [exp (3.2-1.5)]..

The second term parameterizes the likelihood that those who did not have the same multiracial identity in the census and the CQS will change to a single race identity based on one of the races included in their 2000 census information. Not surprisingly we see that people are more likely to keep one of their race identities when changing to a single race on the CQS. The interaction with mode of interview indicates that people who were interviewed by telephone were slightly more likely to adhere to these patterns.

Hyperdescent

The last set of parameters in the model provides information about patterns of race reporting relevant to our hypotheses about racial hierarchies in America. The first group of terms measures the likelihood that someone will follow the rules of hyperdescent, given that they have not kept the same race as in the 2000 Census and have chosen a single race based on their original identity. The first term in this set of parameters is for people who were originally White-AIAN and changed their race to White only. When we compare the odds of choosing White to the odds of Choosing American Indian we see that the rule of hyperdescent is fairly strong for White/American Indians. The odds of changing to White are about 1.6 times greater than the odds of changing to American Indian and support our hypothesis about hyperdescent for this group.

We also predicted that the rules of hypodescent and hyperdescent do not apply to the White/Asian population. Table 5 confirms this prediction. The odds of choosing White or Asian do not differ significantly from the average odds of keeping one of the same races if someone changed to a single race. This is also reflected in Table 2 where the odds of changing to White and Asian are about 18.5 percent and 20.6 percent respectively.

The group with the greatest odds of changing to White compared to the other race is the White/Some Other Race (SOR) population who are about 13.5 times [exp(1.2-(-1.4)] more likely to choose White over Some Other Race (SOR). Though we did not make a specific hypotheses about the people who chose “Some Other Race,” we would suggest that descent rules are operant in this case because the failure to specify a second race in the 2000 Census probably indicates a weak identification with “other race.”

Hypodescent

The next set of parameters estimate the strength of hypodescent rules. One of our predictions stipulates the priority of hypodescent for the White/Black population. In our model we find that the odds of choosing Black in the CQS is about 1.8 times higher than the odds of choosing white [exp(-.42)-(-1.0)] for someone who was White/Black in the census. This illustrates the enduring effect of hypodescent for this population.

We also hypothesized that within the AIAN/Black population there would be a tendency to choose Black over AIAN. This too is reflected in Table 5 that shows that Black/AIAN respondents were about 3.2 times more likely [exp(1.3-.1)] to choose Black over AIAN. This group appears to experience the strongest effects from rules of hypodescent in tandem with hyperdescent. The largest effects were manifest for persons who were identified as Black/SOR in the census. They were about 5.5 times more likely to choose black over SOR. This is consistent with the relatively weak attachment that all groups display with respect to the Some Other Race category in the 2000 census. .

Another combination for which we make a hypothesis (see (3) above) is the Black/Asian population. In our model, they were about 2.7 times more likely to choose Black than Asian. This supports our hypothesis about this population and follows the persistent pattern of hypodescent for all of the groups who were identified as Black and another race in the 2000 Census.

The full model we present provides the best fitting model available. The fact that adding hypodescent and hyperdescent rules to the table significantly improves the model clearly indicates the influence of hypodescent and hyperdescent rules in the race response options of the multiracial population. We also have assessed the strength of these rules for different groups and have shown some variability in how they respond. On one hand, there are some groups, such as White/AIAN respondents who exhibit a strong effect from rules of descent on how they select their race. On the other hand, White/Asian respondents do not appear to be affected by descent rules.

Multinomial Logit Models

We next examine some of the covariates involved in how people choose one race over another. Specifically, we have regressed the likelihood that someone will change to a single race in the CQS relative to having the same "two race" response as reported in the census. These findings are presented in Table 6. We also include a measurement for changing to another race (called "Other Race" in our models) although we do not draw any conclusions based on these findings (available upon request form Author).

Table 6 about here

For the sake of simplicity, we have modeled the four largest populations of "two race" individuals: White/Black, White/AIAN, White/Asian, and Black/AIAN. The independent variables in these models are basic demographic characteristics for sex, age

of respondent, region of the country and household income.[10] We also include a measurement for how the respondent was interviewed and whether or not they received the Census 2000 format of the CQS after they had already received one based on the 1990 format of the Census. These variables allow us to further test hypotheses about the conditions under which racial identities may shift.

White/Black

In the Black/White model we see that the older the person is, the more likely they are to change to either a White or Black racial identity in the CQS. We also see an effect from different income levels on the likelihood that someone will change to Black only in the CQS. Determining the exact cause of these findings is difficult but we speculate that it is possible that older people are more likely to follow more traditional rules of descent than the younger populations. Alternatively, it is also possible that for other reasons they are simply less reliable in their responses than younger persons.

The regional variation that exists for people in the South is more relevant to our discussion. In this model we find that they are more likely to choose Black over the same two race combination compared to the Northeast by a factor of about 1.4 [exp(.31)]. The fact that there is not a corresponding significant value for White may be some indication that the hypodescent rules are stronger in the South than in other regions of the country. Although the difference between choosing Black compared to White is not statistically significant ($p<.2$) there is some indication of a small difference in identification in the South.

Finally, the effects of mode for the Black/White population indicate that those who received the CQS by a personal interview were more likely to choose black or white than they were to keep the same "two race" response. This provides support for our hypothesis that descent rules would be stronger in situations where another person is present who may influence the choice of reported racial heritage. The fact that people interviewed by telephone were less likely than those interviewed in a personal interview to change to a single race provides further support for our prediction.

White/AIAN

The next model we present is based on the White/AIAN population. Although we do not obtain a significant effect for the age of the respondent, the estimates show that younger populations are more likely to choose White over the same two races compared to the youngest age group. In contrast, the older age categories do not seem to differ significantly except for persons age 60 and over, who are more likely to choose White. The likelihood of changing to AIAN does not seem to differ significantly for most age groups although they do differ significantly when we compare the likelihood of choosing AIAN over White. In this case, people are more likely to choose White over AIAN for most of the variables, except in the case of income which has little impact on this selection. We find regional effects for those who live outside of the Northeast. Other

[10] This list nearly exhausts the limited number of characteristics available in the CQS.

factors nothwithstanding, they are more likely to choose AIAN than White . Respondents in the West were about 2.3 times more likely to choose AIAN over White.

The effect of mode does not seem to be important in this model, except in the case of choosing "other race." However, when we compare the odds of choosing White over AIAN, the effects are significantly stronger with the odds of choosing White over AIAN being about 1.3 times greater [exp(.25)]. This is another indication of how mode effects can influence race responses and further supports our hypotheses about mode effects and the rules of hyperdescent for this population.

White/Asian

The next model predicts the odds of choosing a single race for the White/Asian population. Similar to the White/Black population, we find an effect for age on race responses--older people are more likely to choose a single race compared to their census race. There is also regional variation for the White/Asian population: persons living in the West are less likely to change their race than people in the Northeast. This most likely reflects the larger population of people of White/Asian ancestry in the West, particularly California. This model also shows that the likelihood for people to choose Asian over White is greater by a factor of about 1.5 in the West than in the Northeast. Although this group may not be governed by well-defined descent rules, there is nevertheless some variation in their choices.

Mode is also a significant force in the responses of the White/Asian group. More people chose a single race than their multiracial Census response when they received a personal interview. They were also more likely to choose a single race than a multiracial response when they received a telephone call. However, a telephone call was not as influential as a personal interview . The difference between choosing White over Asian did not vary significantly by mode of questionnaire.

Black/AIAN

Our final model focuses on the Black/AIAN population. In this model, the likelihood of choosing Black over the Black/AIAN response is greater for the 20-29 age group than for those under age 20. It is also greater for those living in the Midwest. An especially significant finding is that the parameter for questionnaire mode again shows that respondents have a greater likelihood of changing races during a personal interview. This also is the only model in which the order that people received the CQS had a significant impact. Receiving the CQS in the 2000 format after they had received it in the 1990 format increased the likelihood of changing to AIAN compared to their census race. It also increased the likelihood of choosing AIAN over Black by a factor of about 2.7.

Conclusion

Racial hierarchies are an indelible fixture in the stratification of modern society. Some aspects of these hierarchies are easily visible and well-documented; that Black men earn less than White men for similar types of labor is one well-known example. However, other features of racial inequality in American society are less visible but exercise an important influence over the most intimate details of our lives. Personal identity is one such characteristic.

Descent rules are one form of racial hierarchy that clearly serves the interests of the dominant majority. Historically, these rules were once formally enacted and rigidly enforced. Although the passage of time and successful legal challenges have eroded these racial boundaries, there can be no mistaking the fact that these principles still linger in public awareness. They are factors that weigh in personal decisions about how to disclose racial heritage.

The research reported in this paper focuses on the response variability of multiracial persons for one very important reason. This population has a degree of latitude in disclosing their racial heritage that does not exist for persons who can claim only one race. A person who identifies with more than one race can at subsequent times report all or any of the racial heritages they may claim. Indeed, data from the Census Quality Survey indicates a great deal of volatility in the reporting of race by multiracial persons. However, this volatility is not purely random noise. On the contrary, this research demonstrates that it is possible to model this volatility within an acceptable margin of error. In particular, this variability is relatively orderly given the rules of hypo- and hyperdescent that we have discussed.

If we had to choose a single aphorism to summarize the significance of our research, we would simply remind readers that "our past is our present." Fifty years of public policy rooted in the twentieth century has not erased the indelible stains of 19th century race relations, and they are unlikely to do so in the near future. Before we set this history aside as a part of our distant past, we would do well to insure that we have fully erased its legacies.

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TABLE 1: CQS data collection sequence: race instruction by panel.

CQS Panel	Data Collection Contact		
	Census 2000 (April - August 2000)	CQS Initial Contact (June - August 2001)	CQS Re-contact (August - October 2001)
A	"Mark one or more races"	"Mark one or more races"	"Choose one race"
B	"Mark one or more races"	"Mark one race"	"Choose one or more races"

Source: Census Quality Survey 2003

TABLE 2: Distribution of single race responses of 2000 Census Multiracial categories

Census Race	CQS RACE								
	White	Black	AIAN	Asian	NHOPI	SOR	Two or more (same)	Two or More (different)	**TOTAL CASES**
White; Black	9.6%	20.0%	0.0%	0.0%	0.0%	6.0%	57.5%	6.9%	4,642
White; AIAN	42.1%	0.1%	13.9%	0.0%	0.0%	0.6%	42.0%	1.2%	8,787
White; Asian	18.5%	0.2%	0.0%	20.6%	0.2%	1.7%	53.5%	5.4%	6,003
White; NHOPI	31.4%	0.1%	0.1%	0.6%	22.1%	2.1%	33.9%	9.8%	685
White; SOR	80.4%	1.4%	0.1%	1.2%	0.0%	9.6%	3.5%	3.8%	2,057
Black; AIAN	1.3%	52.8%	8.3%	0.9%	0.0%	1.0%	27.2%	8.5%	1,170
Black; Asian	2.6%	27.8%	0.9%	16.5%	0.4%	3.8%	39.5%	8.5%	615
Black; SOR	4.2%	75.6%	0.2%	1.4%	1.2%	5.9%	5.4%	6.2%	698
Asian; NHOPI	1.7%	0.3%	0.0%	31.0%	22.6%	0.4%	35.1%	8.9%	913
Asian; SOR	1.5%	1.7%	0.0%	79.8%	0.0%	6.3%	3.0%	7.7%	471
Three or More	10.0%	10.9%	1.6%	4.2%	6.4%	3.0%	34.6%	29.2%	2,449
Other Two Race	3.1%	13.6%	8.5%	27.8%	15.0%	7.2%	8.5%	16.3%	498
TOTAL CASES	7,925	2,631	1,448	2,197	575	855	11,385	1,972	28,988

Table 3: Likelihood of choosing one race over the other

2000 Census Race	Single Race	Odds
White - Black	White	0.5
White - AIAN	"	3.0
White - Asian	"	0.9
White - NHOPI	"	1.4
White - SOR	"	8.4
Black - AIAN	Black	6.4
Black - Asian	"	1.7
Black - SOR	"	12.7
Asian; NHOPI	Asian	1.4
Asian; SOR	"	12.6

Table 4: Model Fit Statistics

Models	Residual df	GOF Chisquare	BIC
Marginals	307	1850	-1304.3
Marginals+Samerace	296	1818	-1223.3
Marginals+Samerace+Match	295	1668	-1363.0
Marginals+Samerace+Match+Hypo+Hyper	279	1521	-1345.6
Marginals+Samerace+Match+Hypo+Hyper+Match*Mode	**277**	**1513**	**-1333.1**

N=28,988

TABLE 5: VARIABLES OF INTEREST FROM FULL NEGATIVE BINOMIAL REGRESSION MODEL

	Log Odds Ratio	Standard Error	Odds Ratio
Consistency			
Consistent	3.179	(1.57)*	24.02
Consistent*Personal Visit	-0.132	(0.06)*	.88
Consistent*Telephone	0.044	(0.07)	1.04
Samerace			
White-Black	0.250	(0.37)	1.28
White-AIAN	2.297	(0.34)**	9.94
White-Asian	1.421	(0.33)**	4.14
White-NHOPI	0.016	(0.38)	1.02
White-SOR	-1.513	(0.47)**	.22
Black-AIAN	0.283	(0.32)	1.33
Black-SOR	-1.723	(0.50)**	.18
Asian-NHOPI	0.175	(0.31)	1.19
Asian-SOR	-2.445	(0.45)**	.09
Three or More	-0.845	(0.30)**	.43
Other Two Race	-2.059	(0.39)**	.13
Matching			
Matching	0.866	(0.14)**	2.38
Matching*Personal Visit	0.023	(0.07)	1.02
Matching*Telephone	0.179	(0.08)*	1.20
Hyperdescent			
Likelihood of choosing White			
White_AIAN	1.894	(0.20)**	6.64
White-Asian	-0.028	(0.21)	.97
White-NHOPI	-0.872	(0.26)**	.42
White-SOR	1.195	(0.23)**	3.30
Likelihood of choosing non-white			
White-AIAN	1.400	(0.28)**	4.06
White-Asian	-0.385	(0.25)	.68
White-NHOPI	-0.736	(0.25)**	.48
White-SOR	-1.398	(0.29)**	.25
Hypodescent			
Likelihood of choosing Black			
White-Black	-0.417	(0.26)	.66
Black-AIAN	1.264	(0.21)**	3.54
Black-Asian	0.029	(0.23)	1.03
Black-SOR	1.330	(0.26)**	3.78
Likelihood of choosing non-Black			
White-Black	-1.034	(0.32)**	.36
Black-AIAN	0.091	(0.28)	1.09
Black-Asian	-0.957	(0.30)**	.38
Black-SOR	-0.364	(0.34)	.69
Constant	-0.662	(1.36)	
Overdispersion Coefficient	-1.417	(0.14)**	

N= 28,988
* p<.05; ** p<.01

Table 6: Multinomial Logit Models for the likelihood of choosing a single race comapred to staying the same two-race combination

	White-Black		White-AIAN		White-Asian		Black-AIAN	
	White	**Black**	**White**	**AIAN**	**White**	**Asian**	**Black**	**AIAN**
Female	0.072	-0.208 *	-0.054	-0.052	-0.104	-0.019	-0.076	0.373
	(0.139)	(0.106)	(0.066)	(0.091)	(0.098)	(0.099)	(0.187)	(0.314)
Age								
20-29	0.150	0.644 **	0.339 *	0.132	0.317	0.392 *	1.185 **	0.642
	(0.272)	(0.174)	(0.137)	(0.180)	(0.165)	(0.162)	(0.430)	(0.578)
30-39	1.124 **	1.150 **	0.461 **	0.220	0.763 **	0.962 **	0.384	-0.861
	(0.234)	(0.198)	(0.117)	(0.152)	(0.151)	(0.148)	(0.293)	(0.563)
40-49	1.898 **	1.744 **	0.205 *	-0.035	0.753 **	1.015 **	0.313	-0.424
	(0.287)	(0.250)	(0.098)	(0.133)	(0.154)	(0.153)	(0.257)	(0.458)
50-59	2.263 **	1.988 **	0.201	-0.173	1.215 **	1.864 **	0.482	-0.305
	(0.406)	(0.404)	(0.105)	(0.151)	(0.233)	(0.209)	(0.296)	(0.529)
60+	2.249 **	1.795 **	0.260 *	-0.344 *	1.795 **	2.114 **	0.691 *	-0.074
	(0.362)	(0.348)	(0.103)	(0.147)	(0.224)	(0.234)	(0.315)	(0.538)
Region of Country								
South	0.047	0.311 *	-0.024	0.669 **	0.030	-0.066	0.300	0.034
	(0.181)	(0.139)	(0.105)	(0.188)	(0.139)	(0.143)	(0.223)	(0.366)
Midwest	-0.210	0.050	-0.182	0.507 *	-0.125	-0.170	0.753 **	0.547
	(0.192)	(0.144)	(0.113)	(0.197)	(0.150)	(0.159)	(0.271)	(0.458)
West	-0.335	0.128	-0.450 **	0.368	-0.860	-0.477 **	0.006	-0.144
	(0.215)	(0.170)	(0.112)	(0.194)	(0.136)	(0.135)	(0.302)	(0.477)
Income								
$10,000-24,999	-0.450	-0.368	-0.053	-0.252	-0.151	-0.433	-0.400	-0.338
	(0.277)	(0.211)	(0.128)	(0.186)	(0.277)	(0.281)	(0.322)	(0.603)
$25,000-34,999	-0.795 *	-0.317	0.028	0.103	-0.622 *	-0.744 **	-0.545	-0.090
	(0.319)	(0.212)	(0.133)	(0.187)	(0.265)	(0.265)	(0.345)	(0.605)
$35,000-49,999	-0.497	-0.537 **	-0.116	-0.135	-0.424	-0.542 *	-0.733 *	0.195
	(0.272)	(0.202)	(0.130)	(0.183)	(0.256)	(0.261)	(0.324)	(0.578)
$50,000-69,999	-0.219	-0.986 **	0.032	-0.073	-0.627 *	-0.932 **	-0.208	-0.420
	(0.271)	(0.214)	(0.131)	(0.194)	(0.257)	(0.257)	(0.339)	(0.666)
$70,000-99,999	-0.268	-0.595 **	0.067	-0.355	-0.616 *	-1.018 **	-0.145	-0.345
	(0.291)	(0.222)	(0.145)	(0.210)	(0.255)	(0.251)	(0.364)	(0.686)
$100,000 or more	-0.903 **	-0.943 **	0.115	-0.288	-1.181 **	-1.108 **	0.548	0.867
	(0.306)	(0.253)	(0.157)	(0.220)	(0.261)	(0.256)	(0.390)	(0.667)
Mode of Questionnaire								
Personal Interview	0.799 **	0.666 **	0.134	-0.118	1.058 **	0.888 **	1.049 **	1.188 *
	(0.202)	(0.157)	(0.097)	(0.141)	(0.157)	(0.147)	(0.256)	(0.557)
Telephone	0.621 *	0.211	-0.169	-0.182	0.320	0.471 *	0.286	0.769
	(0.302)	(0.229)	(0.145)	(0.202)	(0.225)	(0.228)	(0.399)	(0.689)
After 1990 Format	-0.384	0.063	0.107	0.214	0.206	-0.161	0.154	1.162 *
	(0.241)	(0.183)	(0.119)	(0.169)	(0.192)	(0.193)	(0.297)	(0.493)
Constant	-1.631 **	-1.077 **	-0.061	-1.560 **	-0.964 **	-0.567	-0.393	-4.459 **
	(0.431)	(0.328)	(0.225)	(0.349)	(0.364)	(0.382)	(0.573)	(1.210)
N	457	910	3,956	1,248	1,227	1,185	612	91
Log pseudo-likelihood	-4858		-9059		-6121		-1174	

Robust standard errors in parentheses

* p<.05; ** p<.01

Source: Census Quality Survey, 2003

Appendix A: Race Reported in 2000 Census	**N**
White; Black	4,658
White; AIAN	8,803
White; Asian	6,019
White; NHOPI	701
White; SOR	2,073
Black; AIAN	1,186
Black; Asian	631
Black; SOR	714
Asian; NHOPI	929
Asian; SOR	487
Three or More	2,465
Other Two Race	514