Aspects of Measuring Race:
Race by Observation vs. Self-Reporting and Multiple Mentions
of Race and Ethnicity

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Introduction

Race and ethnicity are difficult variables to measure. Both are fundamentally social constructs. While linked to some extent to genetic markers related to such physical traits as skin and hair color, there is no genetic test to objectively define race or ethnicity. As social constructs the definitions of these concepts vary across cultures and across time within cultures. For example, in the US social convention and law traditionally followed the "one-drop" rule under which anyone with any known African ancestry was classified as Black and mixed race individuals were not generally recognized as a separate social or legal category. In contrast Brazilian society has long recognized as separate groups many complex mixtures of native American, African, and European ancestry and in further departure from American practice considered social class along with ancestry in defining distinct groups. In the US just a few of the changes in race and ethnicity over the last century include the following: 1) the end to the common practice of talking about the Irish, Jews, and Italians as "races," 2) classifying Mexicans in the US as first non-White, then White, and then as Hispanic of various racial backgrounds (usually White, but increasingly as also Hispanic on race), 3) the evolving terminology for Blacks (Coloreds, Negroes, Blacks, African Americans), and 4) the recent acknowledgement of individuals as multi-racial.

In addition to the complicated and changing definitions of race and ethnicity, their measurement is made difficult by people's complex ancestry. All forms of intermarriage (inter-racial, -ethnic, -religious, etc.) have been increasing and both declines in prejudice (Smith, 2001) and demographic shifts in terms of both the size and composition of immigrant populations and the high rate of natural increase of most of the newer immigrant communities indicate that rates of intermarriage will continue to rise. This both will create more off-spring with multi-ethnic and -racial ancestry as well as more with ethnic and racial identities based on culture rather than strict biological ancestry.

2000 General Social Survey

To deal with the complexity of measuring ethnicity and race, both the Census and the General Social Survey (GSS) of the National Opinion Research Center, University of Chicago, have carried numerous studies of how to collect data on these variables and have instituted, new items to measure them.[1] This paper examines a series of measurement studies on ethnicity and race conducted on the 2000 GSS. The 2000 GSS is a full-probability, in-person survey

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[1]For example, from the Census see Bennett, 2000; Hirschman; Alba, and Farley, 1998; OMB, 1997; OMB, 2000; and Osnos and Mendell, 2001. For the GSS see Smith 1980; 1982, 1985; 1995; and 1997.

of adults living in households in the United States (Davis, Smith, and Marsden, 2001).

In order to 1) improve the measurement of ethnicity and race in general, 2) make GSS measures compatible with new Census questions, and 3) calibrate new GSS items with the existing GSS items to facilitate over time analysis and comparisons, a series of new items and experiments were included in the 2000 GSS. First, to augment the measurement of ethnicity, the Census item on Hispanic origin was added to the standard GSS item on ancestry (See Appendix). Second, to also be consistent with the Census' new acceptance of multiple racial backgrounds, the GSS adopted the Census list of racial classifications and coded up to three mentions for each respondent (See Appendix). Third, to compare the new Census-based racial question with past GSS items, two standard GSS items were utilized (See Appendix). These included the standard GSS interviewer observation item (along with an interviewer assessment of the certainty of their classification of respondent's race) and a respondent racial self-identification item used in prior GSS methodological research on race (Smith, 1997).

This report examines how 1) the different racial items agree on the racial composition of the population both a) in the aggregate and b) for individuals, 2) the level of multi-racial identification as measured by the new Census and traditional GSS ancestry item compare, 3) the Census item on Hispanic origin and the standard GSS ancestry measure agree overall and for specific cases on Hispanic background, and 4) the Hispanic origin and race items correspond to one another.

Race

Table 1 shows the racial composition of the US according to the three, racial measures on the 2000 GSS. Estimates of the Black share of the population are fairly stable across measures, ranging from 13.2% for first mentions on the Census item to 14.4-14.5% on the GSS observation and self-identification measures.[2] The White figures vary more; from 79.6% by observation, to 78.7% according to the Census first mention, to 75.1% by GSS self-identification. Other racial identities similarly range from a high of 10.4% by GSS self-identification to 8.2% on Census first mention to 6.0% by observation.

Table 2A shows how these different racial measures agree for individual cases. Overall, race according to the first mention on the Census and by interviewer observation agree 95% of the time. On interviewer observation and GSS self-identification, 92% agree. Agreement is very high for Whites and Blacks (97-98%) on the Census-observation comparison, but much lower for people of Other

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[2]The Census item was asked on a half sample and the self-identification question on the other half-sample. The interviewer observation item was asked immediately before these two items on the whole sample.

races (58%). For GSS observation and self-identification agreement is highest for Whites (93.5%), somewhat lower for Blacks (90%), and again lower for Other (83%).

When the Census race item and GSS interviewer observation item disagree, it usually (56.5% of the time) involves a person who has both backgrounds. This especially includes many Hispanics (76.9% of the disagreements involving multiple backgrounds or 43.5% of all of these disagreements). In 23.2% of the cases the Census designation appears correct, in 14.5% the interviewer observation, and in 5.8% there is insufficient information to say.[3]

When the GSS self-identification item and the interviewer observation item disagree, 36.4% of the cases involve someone with multiple backgrounds, mostly Hispanics (86.1% of the multi-background disagreements or 31.3% of all disagreements). In 18.2% of the cases the interviewer observation appears correct, in 35.4% the self-ID, and for 10.1% there was too little information to be sure.

Interviewers generally felt they were able to reliably record respondents' races. 90.3% said they had "no doubt," 4.5% "some doubt, but pretty sure," 0.3% "a lot of doubt, pretty unsure," 0.4% "completely unsure," and 4.5% failed to indicate their certainty. Certainty was highest for respondents classified as White (91.8% no doubt), then Black (88.6%), and finally Other (72.9%). Among the Others the classification was considered highly certain (90%+ no doubt) for those listed as Filipino and American Indian, moderately high (75-89% no doubt) for people who were Hispanic, Spanish, and Mexican, and moderately low (less than 75% no doubt) for Other Unspecified, Asian, and Indian. (Many other racial mentions were too few to reliably list separately.)

As Table 2B shows, disagreements are much higher when interviewers have at least some doubt about their observations. When there is no doubt, agreement occurs 94-96% of the time. When there is some doubt, agreement falls to 66-78%. Agreement is also somewhat lower when interviewers did not rate their degree of certainty (85.5-92%). Controlling for degree of certainty, being Other on race still contributes to more disagreement. In comparisons to the Census measure among those with no doubt there was agreement for 97-98.5% of Whites and Blacks, but only 65% among Others. On GSS self-identification the agreement rates among the non-doubters were again 97-98% for Whites and Blacks and 48% for Others. A similar drop-off occurs across racial groups for those with some doubt.

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[3]All racial and ethnic measures were examined to try to determine respondents ethno-racial background. Besides the race and ethnicity measures analyzed in this report, this included looking at measures of household race, region/country of residence at age 16, family name, and religion. If the preponderance of evidence favored one classification, it was deemed to be correct. If the collective evidence was too incomplete or contradictory, no judgment was made as to which was correct.

Overall, the different racial measures show similar distributions and in most cases high, individual-level agreement. Agreement across measures is higher for Whites and Blacks than for Others, higher when interviewers are certain about their judgments, and higher when respondents do not have mixed backgrounds.

Multi-Race

The Census race question indicated that 5.5% of people mentioned two or more races (Table 3).[4] Mentions of three racial backgrounds are extremely rare (just a little over one in a thousand). The multi-racial level falls to 3.3% if Hispanic mentions are not counted as leading to multi-racial designations. Whites have the fewest multi-racial mentions (3.6%).[5] They mostly include American Indians. Blacks are next with 6.3% multi-racial. As with Whites, most mixes involve American Indians. Next comes Hispanics at 6.8% multi-racial. Most are mixed with Whites.[6] Asians then follow with 10.2-23.1% multi-racial. The lower figure accepts only Asian/non-Asian mixes as multi-racial, while the higher figure also counts inter-Asian mixes as multi-racial. Then, comes American Indians with 35.5% multi-racial. Almost half are mixed with Whites, followed by Hispanics and Blacks. Finally, 44.4% of Others mention two+ races. This group is mainly paired with Hispanics and many of the multiple mentions may really only represent people of Hispanic ancestry who indicated they were Other on race in the first mention and then indicated their Hispanic background in the second mention.

The multiple racial mentions are not symmetrical. For Whites and Blacks who mention a second race these two races are usually the first mention. In 83% of the White and any-other-race mixes, Whites are the first mention. In 86% of the Black and any-other-race mixes, Blacks are mentioned first. The opposite is the case for American Indians and Hispanics. In only 15% of the American Indian and any-other-race mentions are American Indians the first mention and in only 16% of the Hispanic/non-Hispanic mixes are Hispanics the first mention.

If the standard GSS item on ethnicity is coded into quasi-racial categories,[7] it indicates that 6.5% are "multi-racial". This

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[4]On multi-racial indentification and measurement see Goldstein and Morning, 2000; Hall, 2000; Harris and Sim, 2000; and Hirschman, Alba, and Farley, 1998.

[5]Race is defined by first mention in this analysis of multi-racial mentions by race.

[6]An analysis of Hispanic origin by race is presented later.

[7]Countries were coded into the following groups 1) Africa, 2) American Indian, 3) Arabic, 4) Asia, 5) Europe/US/Canada, 6) Hispanic, 7) Other, and 8) unspecified West Indies. Unspecified West Indies are those using general terms such as West Indies and

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falls to 5.9% if Hispanic origins are not counted as multi-racial. The ethnicity measure gets more multi-racial mentions than the Census question because a) the item is more encouraging of multiple mentions, b) more categories are used for the ethnicity variables, and c) more false positives probably occur because of cases in which race and geography do not match in the typical manner.

Besides disagreements in the aggregate, the ethnicity and Census race items also disagree on some individual cases. 1.8% are multiple racial on both, 89.8% are mono-racial on both, 3.6% are multi-racial on Census and mono-racial on ethnicity, 4.7% are multi-racial on ethnicity and mono-racial on Census, and 0.1% are missing. The cases of Census mono-race and ethnic multi-race mainly involve a person identifying as White or Black with American Indian as a second ethnic, but not racial, mention (70.3% of these disagreements). Likewise, the Census multi-race and the ethnic mono-race disagreements consist mostly of people European, African, or American Indian on ethnicity and American Indian and White or Black on race (54.3% of these disagreements). Different handling of Hispanic mentions accounted for another 32.6% of these disagreements. This suggests that reports of American Indian ancestry are particularly sensitive to the form and framing of racial and ethnicity items (Liebler, 2000).

Multi-Ethnicity

Since ethnicity involves more categories between more closely related groups (i.e groups with more historical, geographic, and cultural proximity), multiple, ethnic mentions greatly exceed the 5.5% found for race or the 6.5% for ethnicity itself grouped into quasi-racial categories. According to the first standard in Table 5, 38.3% of Americans in 2000 had a mixed, ethnic background, but the second method found that only 33.5% report mixed backgrounds. The loss of 4.8 percentage points is due to people who mention the same origin twice (or very rarely three times). Almost a third of these "duplicate" origin people (or 1.5% of the total) represent people from categories that covered more than one ethnic group (e.g. England and Wales; Yugoslavia; American Indian, Other) and thus probably had mixed backgrounds. The other two thirds represent people from countries that are heavily mono-ethnic (e.g. Norway, Poland, Italy, Scotland). Some undoubtedly represent some distinction (such as at least one case of Italy and Sicily being both mentioned), but many probably represent some simple duplication, perhaps an attempt to indicate that they were from one country on both sides (maternal and paternal). So the best estimate is that around 35% of Americans report multi-ethnic backgrounds.

In addition, while triple racial mentions were very rare, mentions of three+ ethnicities are relatively common (15.2%). Since people with complex ethno-racial backgrounds tend to either consciously simplify their origins or simply forget less relevant

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Caribbean who could not be classified as Hispanic/Not Hispanic.

backgrounds (Smith, 1985; Waters, 1990), it is likely that both the multi-mentions in general and the 3+ mentions in particular are under reported.

Hispanic

Figures in Table 6 indicate that the % Hispanic can be seen as ranging from 6.7% (Hispanic by both measures) to 8.9% (Hispanic by either measure). The ethnicity measure counts people as Hispanic if they mention any Spanish-speaking country among their up to three mentions. It misses those who have a Hispanic background who do not mention a Spanish-speaking country as one of their origins. These cases consist mostly of people who mention they come from some other country (but don't name that country), from those from the Philippines, and from those naming only American Indian or US origins. Too few people report they are Hispanic on ethnicity and not of Hispanic on the origins item for analysis.

Table 7 looks at the agreement between the general ethnicity and Hispanic origin items in more detail. People mentioning Mexico, Puerto Rico, Spain, or some other Spanish-speaking country overwhelmingly identify as Hispanic (89-96%).[8] A notably minority from the Philippines and Other Unspecified countries also identify as Hispanic (20-26%).[9] Then a small number (0-5.7%) identifying with other ethnicities also said they were Hispanic. The top four Hispanic ethnicities (Mexico, Puerto Rico, Spain, and all other Spanish-speaking countries) account for 77.7% of all those who identify as Hispanic. The rest come from a non-Spanish-speaking country (16.9%), do not identify with any ethnicity (2.9%), or are missing on ethnicity (2.4%).

Each of the race questions discouraged the mentioning of Hispanic (or of specific Hispanic nationalities) as racial classifications. The Census format asked Hispanic origin first and then race (an order that experiments have shown reduces Hispanics mentions on the race item) and does not list Hispanic as a racial category. The two GSS items list White, Black, and Other (SPECIFY) as responses which also does not explicitly present Hispanic as an option. However, all three race items do allow mentions of other racial identities and Hispanic mentions show up amongst these. On the Census item Hispanics are 2.9% of first mentions and 4.0% mention Hispanic as one of their racial identities. On the GSS observation item Hispanics are 2.1%.

Table 8 compares Hispanic origin and ethnicity by racial classification. Using the Census Hispanic origin and race items

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[8]Disagreements include several people who appear to identity as Black rather than Hispanic and several people of mixed Hispanic and European ancestry who chose a Spanish-speaking country as their ethnicity, but who did not select a Hispanic origin.

[9]Most of those who identify as Hispanic among the Unspecified Others probably actually came from Spanish-speaking countries.

(Table 8A) shows that 82% of non-Hispanics are White, 14% Black, 4% Other, and 0% Hispanic. Hispanics are 44% White, 2% Black, 11% American Indian or Asian, 9% Other and 34% Hispanic. Since at least some of the Others also appear to be Hispanics, this suggests that over a third and perhaps as many as two-fifths of Hispanics consider Hispanic to be their race. Using the GSS observation item shows virtually the same racial profile for non-Hispanics as the Census racial item did. But for Hispanics more are classified as White (61%) and Black (4%) and fewer as Hispanic (27%) or Other (5%). This indicates that those of Hispanic origin are somewhat less likely to be judged by others as racially Hispanic (27-31%) than so consider themselves (34-43%). Using the ethnicity measure (Table 8B) shows a similar pattern, but with less differences between the Census and GSS observation measures.

Summary

The shift to the Census race and Hispanic origin items have several impacts on analyzing ethicity and race on the GSS. First, they will have minimal impact on the GSS time series. The proportion White and Black may decline slightly and the % Other may increase by about two percentage points. More Hispanics will be picked up by the Hispanic origin measure than by the traditional ethnicity item (a gain of about one percentage point), but since the ethnicity item will still be used, it will be possible to do analysis across time using that consistent measure. Second, they will allow the study of people with multiple racial backgrounds in addition to examining multiple ethnic backgrounds as before. Of course, since only about one-in-twenty are multi-racial one will have to accumulate cases across several GSSs before people with mixed backgrounds can be meaningfully used in most analyses. Third, analysis of the relatively small number of cases disagreeing on race and Hispanic background suggests that the new items have somewhat less measurement error than the older items that they are either replacing or augmenting. Fourth, the comparison of racial and ethnic measurements across items indicates a high degree of reliability. Consistent measurement is least likely to occur when people have mixed background and involve Other races or Hispanic ethnicity. Two types of inconsistency characterize Hispanic identifications: minor differences involving the consistent classsification of people with both Hispanic and non-Hispanic backgrounds and major differences to whether Hispanic is or is not a racial category. Despite context and wording designed to minimize the reporting of Hispanic as a race, more than a third and perhaps two-fifths of all Hispanics select Hispanic as their race. If one wants to classify Hispanics by race (other than Hispanic), it is probably necessary to follow-up by asking from what regions of the world their ancestors originated (Europe, Asia, Africa, or the Americas).

Table 1

Racial Composition

	First Census Mention	GSS Observation	GSS Self ID
White	78.7	79.6	75.1
Black	13.2	14.4	14.5
Other	8.2	6.0	10.4
	1398	2817	1419

Table 2

Agreement Across Racial Classification Schemes

(% same race)

A. Overall

	All	Whites	Blacks	Others[a]
First Census Mention x GSS Observation	94.8	98.2	97.3	57.7
GSS Observation x GSS Self ID	92.4	93.5	90.4	83.3

B. By Level of Interviewer Doubt

First Census Mention x
GSS Observation

	All	Whites	Blacks	Others[a]
No Doubt	96.2	98.5	97.2	64.8
Some Doubt	78.3	93.5	(13)	39.0
A Lot or More Doubt	(6)	----	----	----
Missing on Doubt	91.7	95.6	(11)	(12)

GSS Observation x
GSS Self ID

	All	Whites	Blacks	Others[a]
No Doubt	94.0	98.2	97.4	48.2
Some Doubt	66.1	97.2	(13)	33.3
A Lot or More Doubt	(13)	----	----	----
Missing on Doubt	85.5	89.3	(3)	(11)

[a]For Census/GSS Observation comparisons GSS Observation is used to classify race in this table. In the GSS Observation/Self ID comparisons Self ID is used to classify race in this table.

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Table 3

Census Race Measure

	First Mention	Second Mention	Third Mention
White	78.7	10.7	
Black or African American	13.2	2.1	[1]
American Indian or Alaska Native	1.3	53.1	
Asian Indian	0.2	0.0	
Chinese	0.3	4.3	[1]
Filipino	1.2	5.0	
Japanese	0.1	0.7	
Korean	0.0	0.0	
Vietnamese	0.4	0.0	
Other Asian	0.6	0.0	
Native Hawaiian	0.0	0.0	
Guamanian or Chamorro	0.0	0.0	
Samoan	0.0	0.0	
Other Pacific Islander	0.1	1.4	
Some other race	4.0	22.7	
Hispanic	(2.9)	(21.3)	
Other	(1.1)	(1.4)	
	1398	77	2

Table 4

Multiple Racial Mentions by Race

Initial Racial Mention	Mentions Two+ Races	Specific Second Mentions					
		White	Black	Amer. Indian	Asian	Hisp.	Other
All	5.5	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
White	3.6	xxxx	0.0	3.0	0.0	0.5	0.0
Black	6.3	0.6	xxxx	4.2	0.9	0.6	0.0
American Indian	35.3	17.6	5.9	xxxx	0.0	11.8	0.0
Asian	23.1[a]	5.1	0.0	0.0	12.8	5.1	0.0
Hispanic	6.8	4.1	0.0	0.0	0.0	xxxx	2.7
Other	44.4	0.0	0.0	0.0	7.4	37.0	xxxx

[a]If all Asian groups are counted as one race and second mentions of Asian groups are not counted representing multiple racial mentions, then only 10.2% of those mentioning Asian as their first race mention a second, non-Asian race.

Table 5

Multiple Ethnic Mentions

Number of Ethnicities Mentioned:

None	9.1%
One	52.7
Two	23.1
Three+	15.2

Multiple, Distinct Ethnicities

None	9.1%
One	57.5
Mixed (2+)	33.5

Table 6

Hispanic Background by Ethnicity and Hispanic Origin Items

A. Hispanics Share by Items

    Ethnicity   7.1%

    Hispanic Origin   8.1%

B. Hispanic Background by Items

    Not Hispanic on Both   91.1%

    Hispanic on Both   6.7

    Hispanic Only on Org.   1.8

    Hispanic Only on Eth.   0.4

                       (1397)

Table 7

Ethnicity by Hispanic Background

Ethnicity	% Hispanic	
Mexico	96.1	(98)
Puerto Rico	95.3	(35)
Other Spanish Countries	92.9	(31)
Spain	88.9	(23)
Philippines	26.2	(35)
Other Unspecified	20.0	(30)
American Indian	5.7	(114)
America/United States	3.4	(49)
French Canada	2.9	(38)
No Ethnicity	1.4	(470)
All Other Countries	0.8	(1806)

Table 8

Race and Hispanic Ethnicity

	White	Black	Amer. Ind.	Asian	Pacific	Other	Hispanic
A. Hispanic Origin							
1. Census Race							
Not Hispanic	81.8%	14.2	1.2	2.3	0.1	0.3	0.0
Hispanic	44.4%	1.9	3.2	7.8	0.0	8.8	33.8
2. GSS Observation							
Not Hispanic	82.3%	14.4	0.7	1.7	0.0	1.0	0.0
Hispanic	61.1%	4.2	0.0	3.2	0.0	4.6	26.8
B. Ethnicity							
1. Census Race							
Not Hispanic	81.0%	14.0	1.2	2.7	0.1	0.5	0.4
Hispanic	47.8%	2.2	2.8	3.9	0.0	8.3	35.0
2. GSS Observation							
Not Hispanic	82.5%	14.3	0.7	1.5	0.0	0.9	0.1
Hispanic	54.4%	3.3	0.0	5.5	0.0	5.6	31.0

The header "Race" spans the race columns (White, Black, Amer. Ind., Asian, Pacific, Other, Hispanic).

A. Race

1. Census Version -

What is your race? Indicate one or more races that you consider yourself to be.

```
White
Black or African American
American Indian or Alaska Native
      Please name enrolled or principal tribe_____
Asian Indian
Chinese
Filipino
Japanese
Korean
Vietnamese
Other Asian
      Please name_____
Native Hawaiian
Guamanian or Chamorro
Samoan
Other Pacific Islander
      Please name_____
Some other race
      Please name_____
```

[Interviewers recorded first, second, and third mentions.]

2. GSS Interviewer Observation Version -

A. CODE WITHOUT ASKING FOR <u>ALL</u> RESPONDENTS EVEN IF UNCERTAIN.

```
WHITE
BLACK
OTHER (SPECIFY) _____
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B. FOR THE RACIAL CLASSIFICATION YOU JUST ASSIGNED IN "A", INDICATE HOW SURE YOU WERE OF RESPONDENT'S RACE.

```
NO DOUBT IN MY MIND
SOME DOUBT, PRETTY SURE
A LOT OF DOUBT, PRETTY UNSURE
COMPLETELY UNSURE
```

3.GSS Self Identification Version -

C. ASK EVERYONE:

What race of you consider yourself? RECORD VERBATIM AND CODE.

    WHITE
    BLACK
    OTHER (SPECIFY)_____

B. Hispanic Origin

IF R IS FEMALE, READ LATINA; IF MALE, READ LATINO.

Are you Spanish, Hispanic, or Latino/Latina?

            Yes (ASK A)
            No

A. Which group are you from? (SHOW CARD)

            Mexican, Mexican American, Chicano/Chicana
            Puerto Rican
            Cuban
            Other_____

C. Ethnicity

From what country or part of the world did your ancestors come?

IF MORE THAN ONE COUNTRY IS NAMED, REFER TO NATIONAL CODES BELOW,
CODE UP TO 3 RESPONSES AND THEN ASK A...

    FIRST MENTION
    SECOND MENTION
    THIRD MENTION

A. IF MORE THAN ONE COUNTRY NAMED: Which one of these countries do
you feel closer to?

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