WORKING TITLE: RACIAL CATEGORIZATION AND IMPLICATIONS FOR MULTIRACIAL HEALTH RESEARCH

Abstract

Multiracial (two or more races) American health related to racial stability over the life course is a pressing issue in a burgeoning multiethnic and multicultural global society. Most studies on multiracial groups are cross-sectional and thus focus on a single time point, so it is difficult to establish how health indicators change for multiracial groups over time. This paper employs epidemiological methods to investigate a central research question: "How is consistency in racial categories over time related to self-rated health for multiracial young adults in the United States?" I used data from the National Longitudinal Study of Adolescent Health (N = 20,774). Using multivariate logistic regression I found that there are differences in report of self-rated health when comparing monoracial adults with multiracial adults who switch racial categories over time. These results demonstrate the importance of critically examining changes in racial categories as related to health status over time.

Introduction

In health research, race is often treated as a static characteristic much like gender. Gender in health research, assumed as stable, is associated with health beliefs and health practices. Theoretically gender can change over the life course and affect health outcomes and health behaviors (Courtenay, 2000). Despite the tendency to treat race as stable, several studies show that self-reports of race can differ by context or over time (Harris & Sim, 2002; Hitlin, Brown, & Elder, 2006). In particular, reports of race vary tremendously for multiracial (two or more races) persons in the United States. There is some evidence that the multiracial population is the most likely to change racial categories over the life course. When self-reports about race

were examined in longitudinal studies, some researchers found that multiracial persons are more likely than monoracial persons to switch their categorization of race (Doyle & Kao, 2007; Hitlin, et al., 2006). This change in self-reported race, however, is not often captured in cross-sectional studies or in population health research. The purpose of this paper is to link the differences in racial categorization over time to health in a nationally representative sample of American young adults, investigating whether changes in self-reports of race are associated with differences in self-rated health. Although several studies have examined the correlates of switching race from one time point to another, this is one of the few to examine changes in race over time and health for multiracial young adults in the United States.

Literature Review

Race and Health

For well over 100 years social scientists have documented racial inequalities in health. Racial disparities continue to be documented at the population and include reports on difference in hypertension (Ong, Cheung, Man, Lau, & Lam, 2007) diabetes (Heisler, Smith, Hayward, Krein, & Kerr, 2003) and breast cancer (Carey et al., 2006) to name a few. Past studies have found that race is a significant mechanism in understanding mental health and health disparities, but research is now at a crossroads. One understudied phenomenon is the measurement of changes in racial categorization over time and related health outcomes, though some investigators have found significant health differences when comparing changes in survey interview reports of race over time and mismatch between respondent self-report and interviewer report of observed race (Saperstein, 2012).

Many studies, especially those that rely on surveys, collect self-reported reported data on race. Self-reports on race are usually based on people's perception of their racial identity. For

the overwhelming majority of Americans the act of self-identification is a consistent process; for these individuals, stable racial categorization corresponds to self-reports of race and is fixed by late adolescence (Doyle and Kao, 2007; Nishina, Bellmore, Witkow, & Nylund-Gibson, 2010) However, a small subset of the population does not report consistent race on surveys. Researchers have examined some of the factors related to differences in self-report of race and life experiences such as changes in self-reported race after incarceration (Saperstein & Penner, 2010). Still, connections to health outcomes are yet to be fully established. Scholars of multiracial identity and categorization find multiracials may self-report different races depending on the region or social and political context (Good, Chavez, & Sanchez, 2010; Harris & Sim, 2002; Rockquemore, 2002; Root, 1992). Because race is a social construct and a marker of self-categorization that can change by context and political definition, an individual's race might change over time. Policy changes regarding the use of multiple categories to report race allow individuals to claim membership in more than one racial group. This change in racial categorization presents a complex challenge to health disparities research. In this chapter, I explore whether self-reported race compared with changes in racial self-categorization over time may explain patterns in the racial differences in self-reported health for a birth cohort of young adults.

Racial Categorization over Time

Most surveys that examine race and health use cross-sectional designs. Although these studies have produced useful insights, their underlying assumption is that race is a stable, static characteristic. This may not be correct. Some studies have found that people do change their reports of race, especially those who define themselves as multiracial during the life course. Longitudinal data provide insight about possible changes in self-categorization in race. Several

studies use the National Longitudinal Study of Adolescent Health (Add Health) racial categories over time to learn more about the racial formation process, the discordance between parent- and self-reported race (Harris & Sim, 2002; Ruebeck, Averett, & Bodenhorn, 2008), and the stability of race over multiple time points (Doyle & Kao, 2007; Hitlin et al., 2006). These seminal studies found that two of the salient correlates to switching from or remaining in a racial category over time are mothers' education and nativity. Those whose self-reported race remains stable over time are more likely to come from homes where the mothers have more than a high school education, which is used as a proxy for socioeconomic status. Other correlates include the psychosocial well-being of respondents. These factors are all related to health and health outcomes over time, which led me to question the relationship between racial categorization and health outcomes. Using longitudinal data can provide unique insight into the switch in race over time.

Does this switch in self-reports of race matter? Two hypotheses that address this question are evident from the literature. First, people who have a stable racial identity, regardless of race, will have better health outcomes. Along this line, the change or shift in racial categories is uniquely related to health and health outcomes. Past literature identified issues with multiracial identity formation, mental health treatment, and mental health service use (Dalmage, 2004; Rockquemore & Brunsma, 2004). Hitlin et al. (2006) suggested that multiracial adolescents who do not switch racial categories exhibit more positive psychological antecedents than those who switch or report inconsistent racial identities. The switch in racial categories is associated with childhood socioeconomic status. Hitlin et al. found that with every increase in mothers' educational attainment, multiracial individuals were less likely to switch racial categories over time. The study also found stable multiracial individuals come from higher

socioeconomic status and from census tract areas that are predominately White. Similarly, Sanchez, Shih, and Garcia (2009) investigated the change in race referred to as *malleable racial identities* and psychosocial well-being for multiracial Americans. Malleable racial identification (i.e., changes in racial categorization) is associated with adverse health outcomes for some multiracials. One of the findings is an increase in depressive symptoms reported by multiracial respondents who switch racial categories compared with multiracial respondents with a stable racial identity (Sanchez et al., 2009). In sum, past findings suggest that stable racial categorization is associated with stronger psychosocial antecedents.

Second, multiracial individuals who change their racial category to monoracial have poor health outcomes. There exists a body of literature on biracial and multiracial identity formation and related mental health outcomes. Throughout the 1980s and 1990s social work researchers sought to identify clinical approaches that were relevant to multiracial individuals (Bowles, 1993; McRoy & Freeman, 1986). The view of this body of cross-sectional research was that failure to achieve a healthy/stable multiracial identity would lead to interpersonal conflict and shame or depression. Contemporary studies found that self-report of race is a source of tension for multiracial respondents, and individuals who consolidate race from a multiracial to a single category have lower self-esteem and perform worse on some academic measures (Herman, 2004; Townsend, Markus, & Bergsieker, 2009). Bonam and Shih (2009) found that people who self-report two or more races perceive more discrimination andare viewed as competitive by monoracial peers in higher education settings. Accordingly, the act of self-reporting a single racial category is a way to increase group cohesion and align with a single group. Townsend and colleagues (2009) stressed that when multiracial individuals are forced to choose a single race they feel worse about themselves. Study participants who consolidated to a single race category

rated lower on measures of self-esteem and possible self-efficacy (Townsend et al., 2009). Thus, I expect that multiracial young adults who consolidate from many races to a single race will report worse health than young adults who consistently identify as monoracial. The relationship between changing racial categories and health has been described in several qualitative studies. Participants in these studies stated that the need to change from multiple races to a single race was often based upon experiences with how they were perceived or health behaviors that aligned with group stereotypes (Korgen, 2010; Rockquemore & Brunsma, 2004). In this same vein, longitudinal research found that multiracial individuals who switch racial categories report lower self-esteem than their nonswitching counterparts (Hitlin et al., 2006). Unfortunately, there are a limited number of studies that provide quantitative evidence to support the change in race over time and implications for mental health. Given the potential health/mental health implications regarding changes in racial categorization, additional research is warranted.

Research Question and Hypotheses

Based on previous research, racial categorization is not stable over time. The research question for this study is "How is consistency in racial categories over time related to self-rated health for multiracial young adults in the United States?" To address this research question I will test two related hypotheses:

H1: Respondents with a stable racial identity, regardless of race, will report better self-rated health as young adults.

H2: Multiracial respondents who change their racial category will be more likely to report fair/poor self-rated health compared with consistent self-categorized monoracial majority and consistent self-categorized minority counterparts.

Methods

Sample

This study makes use of a standard set of questions of young adult respondents from the United States and includes comprehensive demographic measures in addition to health behaviors, biological measures, and social factors. The data used in this study are from the National Longitudinal Study of Adolescent Health (Add Health), a nationally representative school-based probability sample of Americans. Add Health is a study of youth; researchers began collecting data in 1994 on social and behavioral factors. The details of the sample design have been described elsewhere (Harris, 2011). The original stratified probability sample included of 132 schools in the United States. The original sample included more than 90,118 students, and some respondents were selected for in-home interviews with youth and their parents. A total of 20,774 respondents were included in the in-home interview. The response rate was 79%. Data for the present study were drawn from Waves 1 (1994-1995), 3 (2001-2002), and 4 (2008) of the Add Health in-home administrative survey. Wave 1 (n = 20,745) was collected in 1994, Wave 3 (n = 15,197) was collected in 2002, and Wave 4 (n = 15,701) was collected in 2008. Data were also taken from the Wave 1 (1994-1995) in-home parent questionnaire. Adult caregivers provided responses to a battery of survey questions. I used responses from female caregivers (mothers, stepmothers, grandmothers, female legal guardians) coded as mother. For this study, I used a subset of Wave 4 non-Hispanic respondents who participated in all three waves. I excluded respondents whose Wave 4 sampling weights were unavailable, as well as those with missing data for any of the independent and control variables; this left a remaining sample of 7,957 when weights were applied.

Dependent Variable Measure

The dependent variable in this study is self-rated health in early adulthood. All respondents were asked to rate their health in every wave on a 5-point scale from poor to excellent. In this analysis I used self-rated health from Wave 4 when the majority of respondents entered early adulthood. The survey item reads "*In general, how is your health*?" with possible response categories of excellent, very good, good, fair, and poor. I recoded this to a dichotomous measure: poor health (1 = poor or fair) to good health (0 = good, very good, or excellent). This dichotomous measure is an important distinction because past studies have found that poor self-rated health is an evident predictor of mortality and morbidity (Idler & Benyamini, 1997).

Independent Variable Measures

The main independent variable is a composite variable of race taken from Waves 1 and 3. Since 1994, respondents have had the option of selecting one or more racial groups (*What is your race? You may give more than one answer.).* Those reporting more than one race were asked to additionally select a single-best race category (*Which one category best describes your racial background?*). Respondents who self-categorized more than one race were considered multiracial. The races used to prepare the categories over time include White (reference), Black, American Indian, Asian, Other Race, and Multiracial. After the six race categories were established I captured the changes in categorization over time. The categories used in this analysis were consistent monoracial, switching monoracial, consistent multiracial, and switching multiracial including diversifiers (from one to many races) and consolidators (from many to one race).

Consistent monoracial is used to describe respondents who reported the same monoracial (single race) categories in both Waves 1 and 3. *Switching monoracial* is used to capture

respondents who selected a different monoracial (single race) category in either Wave 1 or in Wave 3. In past studies, researchers have argued that the individuals who switch monoracial categories over time are possibly multiracial. For the purpose of this paper I left switching monoracial as a stand-alone group. *Consistent multiracial* is used to describe respondents that selected the same race categories (two or more) in both Waves 1 and 3. Multiracial individuals were labeled distinctly as switching multiracial if they changed racial categories in either Wave 1 or 3. *Diversifying switching multiracial* is used to describe respondents who selected a single race category in Wave 1 and selected more than one race categories in Wave 3. *Consolidating switching multiracial* is used to describe respondents who selected two or more race categories in Wave 1 and selected only one race category in Wave 3. In sum there are five groups used in the analysis: consistent monoracial, switching monoracial, consistent multiracial, diversifying switching multiracial, and consolidating switching multiracial.

Covariates

Early Life Socioeconomic Status

Mother's education is the proxy that I used for early life socioeconomic status. The question was originally ordered into seven categories: none, less than 8th grade, 8th-12th grades, high school or general equivalency diploma (GED), some post-high school, college graduate, professional/graduate training. I collapsed this measure to three distinct categories: (a) less than high school, (b) high school, which includes GED and post-high school, and (c) college degree, which includes 4-year degree and beyond. This measure is a valid proxy for socioeconomic status in early life. Past studies found differences in switching racial categories by mother's education (Doyle Kao& Koa, 2007; Hitlin et al.& Elder, 2006).

Nativity

Nativity is included in this analysis and captured in the first wave of data. Past studies showed foreign-born respondents were less likely to self-categorize as multiracial (Campbell, 2010).

Gender

Gender was captured in the first wave of data. Gender is included in the model due to possible differences in self-report of health by gender. Past studies showed that adolescent women were more likely to report fair to poor self-rated health (Goodman, 1999).

Age

Age was captured in the third wave of data. Age is included in the analysis in accordance with past research. Past studies found that age is associated with a lower likelihood to self-report fair/poor self-rated health and that individuals who change from many to one race are younger (Hitlin et al.& , 2006)). Additionally, theories from social psychology state that the self-categorization process is complete near the end of adolescence; thus, age is included as a factor (Doyle & Kao, 2007).

Ethics Approval

Add Health study procedures were approved by the Human Subjects Review Committee at the University of North Carolina, Chapel Hill. The present study was approved by the Center for Studies in Demography and Ecology at the University of Washington under contractual agreement from the Carolina Population Center at the University of North Carolina, Chapel Hill.

Analysis

All analyses were conducted using STATA software version SE 12 (Stata Corp., College Station, TX). Given the sampling framework, I used Wave 4 grand sampling weights (accessed via the STATA software's "svy" command) to account for the non-Hispanic general population in 2008. This weighting technique accounts for the sampling technique (oversampling) and inconsistencies in response across four waves of data. Univariate analyses were used to describe the sample characteristics and differences across time points. Differences in self-rated health were tested using multivariate logistic regression analysis.

Results

Descriptive Statistics

Table 4.1 presents the sample proportions by race. In both Wave 1 and Wave 3, White Americans make up the majority of the weighted samples. Nearly 17% of respondents self-categorized as Black. Less than 1% self-categorized as American Indian, although I noticed there is a slight increase in the proportion in Wave 3. Nearly 4% categorized as Asian American in both Wave 1 and Wave 3. Less than 1% self-categorized as non-Hispanic monoracial Other in Wave 1. This distinction is important because in the full Add Health sample the majority of respondents who categorized themselves as Other also selected Hispanic ethnicity. In Wave 3 the Other category was not presented as an option. In each wave multiracial respondents constitute nearly 4% of the sample. Unfortunately, Table 4.1 is unable to provide the information on the changes in categorization over time. If I were to use either Wave 1 or Wave 3 in a cross-sectional design the proportions would be similar across the two; thus, I might not observe the change across categories. In fact, not all respondents answered the same in all waves. There are changes

across Waves 1 and 3, and these changes in racial category are presented in a cross-tabulation of race by wave in Table 4.2.

Table 4.2 presents an unweighted cross-tabulation of self-categorized race. The table presents the inconsistencies between the two waves of data. Among the study respondents 4,987 self-categorized as White in Wave 1 and Wave 3. Among those who self-categorized as Black, 1,751 self-categorized consistently in those two waves. Among those who self-categorized as American Indian, 32 self-categorized the same in Waves 1 and 3. Among those who categorized themselves as Asian, 499 selected the same category across Wave 1 and Wave 3. Last, among Multiracial individuals, 135 self-categorized into the same Multiracial group in Waves 1 and 3.

Table 4.3 shows the unweighted sample sizes and the weighted proportions for inconsistencies in categorization over time in an effort to display these changes. Between the two collection points, the overwhelming majority (92%) of the sample reported a consistent single racial category referred to as *consistent monoracial*. A much smaller proportion (2%) of respondents switched from one category to an entirely different category. This group is referred to as *switching monoracial*. In total 6% of the sample identified as multiracial at some point in the study. One percent of the sample categorized into the same two or more racial categories between Wave 1 and Wave 3. In contrast, 5% of the sample switched into or out of the multiracial category. In this group of switching multiracial there are diversifiers, individuals who switched from one race in Wave 1 to many races in Wave 3. There are also consolidators who switched from many races in Wave 1 to a single racial category in Wave 3.

Multivariate Statistics

Table 4.4 presents results from the multivariate logistic regression analysis of the association between self-rated health and self-reported race controlling for a number of

covariates. Model 1 reports the results of the bivariate association between fair/poor self-rated health and racial categorization over time. The effects are not significant for any particular group. Model 2 adds the socioeconomic status measure and the odds ratio (*OR*) for switching multiracial adults is significant. In Model 2, diversifying multiracial young adults are significantly less likely (*OR* = 0.29; 95% CI [.10-.85]) to report fair/poor self-rated health compared with consistent monoracial young adults. Model 3 adds nativity to the analysis; the odds ratios are no different from those of Model 2. The last model, Model 4, adds two social characteristics, gender and age. Model 4 presents the same findings: There are no statistically significant differences in fair/poor self-rated health, neither between switching monoracial and consistent monoracial young adults nor between consistent multiracial and consistent monoracial young adults. There are statistically significant differences between diversifying multiracial young adults and consistent monoracial young adults (*OR* = .30; 95% CI [.10-.85]). In all adjusted models, mother's level of education is associated with fair/poor self-rated health.

Table 4.5 presents results of a multivariate logistic regression of four models to predict self-rated health for young adults who self-categorize race at two time points. Model 1 reports the odds ratios and confidence intervals for four groups of respondents with both monoracial majority and monoracial minority respondents who self-categorized consistent race data. In Model 1 there were no significant differences in fair/poor self-rated health between consistent monoracial majority respondents and switching monoracial, consistent multiracial, or consolidating multiracial respondents. In Model 1 I found that multiracial respondents who diversify from one racial category in Wave 1 to many racial categories in Wave 3 are less likely to report fair or poor self-rated health compared with monoracial consistent minority respondents (OR = 0.31; 95% CI [0.12-0.77]). The trend in association between diversifying multiracial self-

categorization and less likelihood to report fair/poor self-rated health compared with monoracial respondents remained in all adjusted models. In Model 4 the significant difference in self-rated health between consistent monoracial minority respondents and diversifying multiracial respondents remain. Diversifying multiracial respondents are less likely to report fair/poor self-rated health in the fully adjusted model (OR = 0.20; 95% CI [0.06-0.60]).

Discussion

The central aim of this study was to learn whether changes in racial categorization over time were associated with a measure of self-reported health. This study sought to test two hypotheses related to racial categorization and adverse implications for health. My first hypothesis was that people with a stable racial identity would have better health outcomes. I found that the self-categorization process over time did explain some of the effect of the differences in self-rated health among young adults. Contrary to my hypothesis I found switching multiracial respondents were less likely to report fair/poor self-rated health compared with consistent monoracial respondents. This finding is surprising given the past literature which found that those who switch racial categories over time are more likely to report lower self-esteem than those who did not switch. This finding is curious and future studies are needed that examine other self-report measures such as self-rated mental health to learn the potential patterns by group. Within this hypothesis I also expected to find that multiracial Americans who switch race to a single race category would have worse health outcomes. Contrary to my hypothesis, I did not find significant differences for multiracial Americans who consolidate to a single race category. Although the percentage of individuals who switch racial categories is relatively small, the use of cross-sectional racial categories could produce different results. Future research is

needed to learn whether there are distinct differences in racial categorization for specific monoracial and multiracial groups.

My second hypothesis was that multiracial respondents who change their racial category would report greater fair/poor self-rated health compared with both consistent monoracial majority and consistent monoracial minority young adults. Counter to what I expected, I did not observe differences in self-rated health for consistent multiracial and consolidating multiracial respondents compared with both monoracial majority and monoracial minority counterparts. I did not find significant differences in self-rated health when switching monoracial were compared with both consistent monoracial groups. Instead, I found that multiracial Americans who diversify from a single race category to several categories are less likely to report fair/poor self-rated health. One possible explanation for this association between better health and switching racial categories is racial fluidity as a protective factor to health risks. This finding aligns with past qualitative research with individuals who change racial categories over time. The ability to move in and out of racial categories is often associated with a protean identity (i.e., the process by which multiracial respondents assign themselves to whatever category they deem appropriate based upon the context) (Rockquemore & Brunsma, 2004). Protean identity is theoretically a protective factor from stressors for multiracial individuals. To adapt to context and place individuals with a protean identity switch categories to attempt to avoid discriminatory situations. The process of protean identity aligns with ecological models of identity expression over time and place (Rockquemore & Brunsma, 2004; Rockquemore, Brunsma, & Delgado, 2009) and racial formation related to social and political context (Omi & Winant, 1994). To date, this perspective is not widely used in health research. Scholars acknowledge that the approach of protean expression of race is usually based upon biological assumptions of race within a health

context (Drevdahl, Philips, & Taylor, 2006; Tashiro, 2005). Whether individuals with a protean identity have better or worse health outcomes has yet to be established.

Racial categorization is a parallel process to racial identification. For the overwhelming majority of Americans, selecting a racial category is a single uncontested choice. Multiracial Americans are individuals who select more than one race when given the option. For some multiracials, the ability to change racial categories might be an important facet of identity (Samuels, 2009). There are several competing hypotheses as to why people switch in and out of racial categories. For some the change in categories could be associated with adverse experiences and, accordingly, are a proxy for racial discrimination or change in self-concept as a result of an adverse experience (e.g., incarceration). For others the change in categorization could be a function of social mobility and change in social class (Korgen, 2010). Or even possibly for others, the change in race over time could reflect responses to policy implementation in a post-civil rights era. Good et al. (2010) examined the use of affirmative action policies and reported that there are several profiles of people who switch into and out of racial categories. Brunmsa (2005) connected the ability to choose different races to "push" factors, certain life experiences that act as a catalyst for people to self-identify differently. Future research is needed to understand the push factors of changes in self-identification and how health is related. Furthermore, the ability to label oneself with different racial groups/categories might be a part of an individual's identity, as qualitative studies have discovered (Rockequemore & Brunsma 2004). In health settings the ability to select and/or change in and out of racial categories might be restricted for a variety of reasons, such as third-party racial assignment (Herman, 2010). Thus, health settings can be contextually discriminatory for multiracial individuals (Tashiro, 2005), and the perception of discrimination can be further distressing if multiracial individuals feel forced to

choose (Herman, 2004). Future studies are needed to learn how multiracial individuals interact with the health care system and which differences exist among those who report a consistent race over time and those who switch in and out of races.

Last, these results have implications for research and social work practice in terms of how practitioners think about racial inequality in America. It is important for social workers to know that reports of race are fluid and may change over time. Individuals who switch racial categories are more likely to identify as multiracial at some point over the life course. As this study found, racial categorization over time is related to health outcomes for some multiracial persons. Future research is needed to examine changes in racial categorization as it relates to all aspects of social work practice.

Limitations

There are some limitations in this present study. First, past studies have compared interviewers' responses with the respondents to see whether there is concordance in racial categorization. Bratter and Gorman (2011) examined the Behavioral Risks Factor Surveillance System cross-sectional data and found that there was an association between self-rated health and discordance in interviewers' perception of race and the self-categorization of race. Second, past examinations of the Add Health sample revealed no difference by skin color (Doyle & Kao, 2007). This finding suggests that although no differences were found in a sample of American young adults, there might be more to investigate with the skin color and phenotypes associated with switching race over time in other samples. Third, ethnicity and ethnic identity are cited as critical factors related to consistent self-categorization over time. For foreign-born respondents, being asked to categorize both race and ethnicity on surveys may lead to confusion for the

respondent (Campbell, 2010). In this study I did not include the ethnicity measure in this study, so all Hispanic respondents were excluded.

Conclusion

Now more than ever before, race is an unstable construct for the majority of multiracial young adults in the United States. At the same time, race is used in the majority of health research often as a proxy for unmeasured factors (LaVeist, 1994). In quantitative studies race is assumed to be stable. Cross-sectional studies mask the fluidity of this characteristic. Several recent longitudinal studies found that there are inconsistencies in race over time for a small subset of respondents in a number of samples. Future studies are needed to further investigate the changes in race across the life course and related health disparities.

Table 4.1
Weighted Sample Proportions Add Health Sample Wave 1 (1994) and Wave 3 (2003)

	Wave 1 (%)	Wave 3 (%)
White	74.84	74.85
Black	16.64	16.95
Native	0.57	0.71
Asian	3.50	3.61
Other	0.82	---
Multiracial	3.62	3.89

Note. N = 7,957.

Table 4.2
Cross-Tabulations of Racial Categorization Self-Report in Wave 1 and Wave 3

	Wave 3					
Wave 1	White	Black	Native	Asian	Multiracial	Total
White	4,987	5	2	3	131	5,128
Black	10	1,751	5	0	46	1,812
Native	7	1	32	2	8	50
Asian	8	1	12	499	19	539
Other	28	12	2	14	6	62
Multiracial	110	87	10	24	135	366
Total	5,150	1,857	63	542	345	7,957

Table 4.3
Sample Characteristics of Racial Categorization Add Health (1994-2003)

	Unweighted Sample Size	Weighted Sample Proportion (%)
Non-switching monoracial	7,269	0.92
Monoracial Majority	*4,987*	
Monoracial Minority	*2,282*	
Switching monoracial	137	0.02
Non-switching multiracial	109	0.01
Switching multiracial	442	0.05
Diversifier	*236*	
Consolidator	*206*	
Total	7,957	

Note. N = 7,957.

Table 4.4

Mutlivariate Logistic Regression to Predict Fair/Poor Self-Rated Health by Independent Variables of Sample Present in Multivariate Analysis

	Model 1 OR 95% CI	Model 2 OR 95% CI	Model 3 OR 95% CI	Model 4 OR 95% CI
Variable	*N* = 7,957	*N* = 7,551	*N* = 7,551	*N* = 7,551
Consistent monoracial	1.0	1.0	1.0	1.0
Switching monoracial	0.98 0.47-2.03	0.94 0.44-2.01	0.94 0.44-2.00	0.94 0.44-2.10
Consistent multiracial	1.35 0.43-4.25	0.84 0.23-3.02	0.84 0.23-3.02	0.83 0.22-3.03
Switching multiracial: consolidator	1.17 0.65-2.10	1.01 0.51-1.98	1.01 0.51-1.98	1.01 0.51-1.99
Switching multiracial: diversifier	0.45 0.19-1.06	0.29* 0.10-.85	0.29* 0.10-0.85	0.30* 0.10-0.85
Childhood SES				
Mother's education				
Less than high school		1.0	1.0	1.0
High school diploma		0.56*** 0.44-0.71	0.56*** 0.43-0.71	0.56*** 0.44-0.72
College graduate		0.47*** 0.36-0.61	0.47*** 0.36-0.61	0.48*** 0.36-0.62
Nativity				
Foreign born			1.00 0.52-1.92	0.98 0.51-1.88
Gender				
Female				0.94 0.78-1.14
Age				1.03 0.96-1.11

Note. SES = socioeconomic status. *N* = 7,957; *$p < .05$, **$p < .01$, ***$p < .001$.

Table 4.5
Multivariate Logistic Regression Models to Predict Fair/Poor Self-Rated Health, Multiracial Compared With Consistent Monoracial Majority and Monoracial Minority: Add Health Sample 2008

	Model 1[a]	**Model 2[b]**	**Model 3[c]**	**Model 4[d]**
	OR (95% CI)	*OR* (95% CI)	*OR* (95% CI)	*OR* (95% CI)
Category				
Switching Monoracial				
Consistent Majority	1.13 (0.54-2.36)	1.12 (0.52-2.41)	1.15 (.54-2.48)	1.16 (0.54-2.49)
Consistent Minority	0.64 (0.30-1.36)	0.61 (0.27-1.35)	0.62 (0.28-1.36)	0.62 (0.28-1.37)
Consistant Multiracial				
Consistent Majority	1.56 (0.49-4.92)	1.03 (0.28-3.73)	1.04 (0.29-3.77)	1.04 (0.28-3.77)
Consistent Minority	0.88 (0.27-2.84)	0.56 (0.15-2.07)	0.56 (0.15-2.06)	0.56 (0.15-2.07)
Consolidating Multiracial				
Consistent Majority	1.24 (0.69-2.23)	1.10 (0.56-2.15)	1.10 (0.56-2.15)	1.10 (0.56-2.16)
Consistent Minority	0.70 (0.37-1.31)	0.60 (0.29-1.21)	0.59 (0.29-1.19)	0.59 (0.29-1.19)
Diversifying Multiracial				
Consistent Majority	0.55 (0.23-1.30)	0.37 (0.13-1.06)	0.37 (0.13-1.06)	0.37 (0.13-1.07)
Consistent Minority	0.31* (0.12-0.77)	0.20** (0.06-0.60)	0.20**(0.06-0.59)	0.20**(0.06-0.6)

Note. $*p < .05$, $**p < .01$, $***p < .001$.

[a] $N = 7{,}957$, bivariate associations.

[b] $N = 7{,}551$, controlling for socioeconomic status (mother's education).

[c] $N = 7{,}551$, controlling for socioeconomic status (mother's education) and nativity.

[d] $N = 7{,}551$, controlling for socioeconomic status (mother's education), nativity, age, and gender.

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