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Abstract

Researchers across the health sciences are engaged in a vigorous debate over the role that the concepts of “race” and “ethnicity” play in health research and clinical practice. Here we contribute to that debate by examining how the concepts of race, ethnicity, and racism are used in medical–anthropological research. We present a content analysis of *Medical Anthropology* and *Medical Anthropology Quarterly*, based on a systematic random sample of empirical research articles (\( n = 283 \)) published in these journals from 1977 to 2002. We identify both differences and similarities in the use of race, ethnicity, and racism concepts in medical anthropology and neighboring disciplines, and we offer recommendations for ways that medical anthropologists can contribute to the broader debate over racial and ethnic inequalities in health.

Key words: [Race; ethnicity; racism; health disparities; systematic review]
Racial and ethnic inequalities in health have become a major focus of research across the social and biological sciences. This research is significant most of all because the stakes are so high. In Brazil, for example, infant mortality is almost 70 percent higher for Afro-Brazilians than it is for whites (Pan American Health Organization 2001). In Singapore, diabetes mellitus is twice as common among Indians as it is among Chinese (Cutter et al. 2001). In Canada, the overall death rate for indigenous peoples is more than 50 percent higher than in the nonindigenous population (Trovato 2001). And in the United States, each year more than 83,000 African Americans die who would not if death rates for black and white Americans were equal (Satcher et al. 2005).

Beyond the devastating scale of suffering, these inequalities are also significant because they are the center of contemporary scientific debate about the meaning of race. Historically, physicians and medical scientists have played a pivotal role in representing race as a natural, biological concept (Krieger 1987). Some researchers still openly defend race as a legitimate framework for identifying genetic differences in the risk for disease (e.g., Risch et al. 2002; Tang et al. 2005). However, over the last 20 years, clinicians and health researchers have become increasingly critical of race as a biological construct (Cooper 1984), and the health effects of racism are now a major area of research (Dressler et al. 2005). This shift has led to vigorous debate over the meaning and measurement of race in biomedicine and public health (e.g., Bamshad 2005; Burchard et al. 2003; Cooper et al. 2003; Krieger 2005).

Meanwhile, a parallel debate is taking place in anthropology. In the nineteenth and early twentieth centuries, anthropologists were central in constructing race as a
legitimate biological category. By the 1960s, most anthropologists rejected race as biology but largely fell silent about race and racism as sociocultural phenomena (Littlefield et al. 1982; Mukhopadhyay and Moses 1997; Shanklin 1998). In the last decade, however, anthropologists have begun to reclaim a voice in national discussions about race and racism. Recent examples include position statements on race by both the American Anthropological Association (1998) and the American Association of Physical Anthropologists (1996); the AAA’s (1997) response to the U.S. federal government’s revised standards for collecting data on race and ethnicity; and the AAA’s multimillion-dollar RACE project to improve public understanding of race, racism, and human variation.¹

To date, discussions about race in anthropology and in the health sciences have had relatively little to do with one another. Indeed, in comparison to other disciplines, anthropology remains marginal to the current debate over racial inequalities in health (Chapman and Berggren 2005). Yet medical anthropologists are well positioned to make anthropology matter again. One striking element of recent debates in medicine and public health is how often clinicians and health researchers appeal to anthropologists for guidance on the meaning of race, often citing the American Anthropological Association’s recent position statement (e.g., Anderson et al. 2001; Braun 2006; Freeman 1998; Oppenheimer 2001). Such broad recognition of anthropologists’ expertise is rare, a singular invitation to be relevant in solving a problem of theoretical and practical importance.

We aim to stimulate interest in this debate by examining how the concepts of
“race,” “ethnicity,” and “racism” are used in medical–anthropological research. Following the example of similar studies in neighboring disciplines, we present a content analysis of two key journals, *Medical Anthropology* and *Medical Anthropology Quarterly*. In particular, we ask: (1) How often and in what context medical anthropologists use the concepts of race or ethnicity?, (2) How, if at all, they distinguish between these concepts?, and (3) How often medical anthropologists explicitly identify racism and social inequality as causes of health disparities? By comparing our results to trends in medicine, nursing, and public health, we draw attention to areas in which debates across disciplines can inform one another.

[h1]Background

The recent surge of interest in health disparities has prompted many researchers to reflect critically on the role of race and ethnicity in health-related disciplines. In particular, researchers in nursing, public health, and medicine have systematically reviewed the use of race and ethnicity as variables in U.S.-based health research. Table 1 summarizes the key findings from six such reviews. In general, they show that:

- race and ethnicity are among the most commonly used variables in health research
- the use of these variables is on the rise
- the concepts of race and ethnicity are seldom defined or justified for inclusion as study variables.
Of the studies in Table 1, Jones and colleagues’ (1991) review of the *American Journal of Epidemiology* covers the broadest time span. From 1921–90, nearly two-thirds of the U.S.-based studies published in the *American Journal of Epidemiology* referred to race. The proportion declined from 1921–65 but has risen again since 1975. By 1990, 79 percent of U.S.-based studies made mention of race. In a later study, Comstock et al. (2004) extended the analysis to 1996–99 and found that roughly 74 percent of articles published in the *American Journal of Epidemiology* used race or ethnicity as study variables.

Similar patterns are evident in other journals. Denise Drevdahl et al. (2001) reviewed almost 50 years of the journal *Nursing Research*. Overall, roughly half of the articles used race or ethnicity. However, the proportion of articles has increased over time, from less than 30 percent in 1975 to more than 81 percent in 2000. Likewise, in the *American Journal of Public Health*, half of the articles published during the 1980s used race, ethnicity, or “national origins” (Ahdieh and Hahn 1996), but, by the late 1990s, race and ethnicity appeared in 80 percent of articles (Comstock et al. 2004).

A common concern across the reviews is the conceptual and methodological ambiguity of race and ethnicity as generally used in health research. There are four related problems. First, race and ethnicity are generally ill defined—if they are defined at all (Table 1). For example, Matthew Anderson and Susan Moscou (1998) searched MEDLINE for all original reports on infant mortality from January 1995 to June 1996.
Of the 43 articles that used race or ethnicity, one defined *ethnicity*, and none defined *race*. Similarly, David Williams (1994) identified 121 research articles that used race or ethnicity in *Health Services Research* from 1966 to 1990. None of these articles defined *race*. Racial and ethnic categories were defined in 8.4 percent of articles that used them in the *American Journal of Public Health* (1980–1989) and in only 3.0 percent in *Nursing Research* (1952–2000).

Second, there is little agreement about the conceptual relation between race and ethnicity. In *Health Services Research*, for example, “the terms race and *ethnicity* were used interchangeably, and clear distinctions were not made among nationality, race, and ethnicity” (Williams 1994:266). In the *American Journal of Public Health*, “terminology for race, ethnicity, and national origins … was rarely based on a clear and explicit definition,” and “different terms were used interchangeably” (Ahdieh and Hahn 1996:98). In infant mortality research, 53 percent of the articles that used race or ethnicity “intermixed racial data with data on ethnic groups, nationalities, or geographic areas of origin” (Anderson and Moscou 1998:226). And during 1996–99, articles in the *American Journal of Epidemiology* and the *American Journal of Public Health* used nine different variable names that combined race and ethnicity into a single variable (e.g., race–ethnicity) (Comstock et al. 2004:613).

Third, even when researchers define race or ethnicity, they rarely provide information about how these variables are measured. Overall, fewer than one in five studies specified methods for determining participants’ race or ethnicity (Table 1). The overall proportion is biased upward by the relatively high frequency of articles that
specify methods in the *American Journal of Public Health* (45.5 percent) and the *American Journal of Epidemiology* (24.8 percent) during 1996–99. Yet even the high frequency in these journals is deceptive because the most commonly stated method for determining race or ethnicity was the use of preexisting records, such as birth certificates or medical records. These records, in turn, have well-known flaws regarding the validity and reliability of data on race and ethnicity (Hahn 1992, 1999b; Hahn et al. 2002).

Fourth, these patterns—few explicit definitions, conflation of race and ethnicity, and unspecified methods—reflect a more basic problem: the routine and uncritical use of race or ethnicity without an explicit rationale. As Jay Kaufman and Richard Cooper observe, “epidemiology journals are filled to overflowing with direct black–white comparisons” (1995:664), but the testable hypotheses underlying such comparisons are seldom stated. Instead, *race* and *ethnicity* are typically used as proxies for some unspecified combination of genetic, sociocultural, or behavioral influences on health. The result is an endless collection of descriptive differences that test neither genetic nor environmental mechanisms and serve mainly to reinforce racial thinking (Braun 2006; Dressler et al. 2005).

Anthropologists have much to contribute to improving the use of race and ethnicity in health research. Yet, to foster fruitful exchange across disciplines, we believe it is important first to turn a critical eye toward the literature in medical anthropology. Thus, here we describe patterns in the use of race, ethnicity, and racism concepts in medical anthropology, as others have done for neighboring disciplines.

**Methods**
Sample

We conducted a content analysis (Neuendorf 2002) of two key journals: *Medical Anthropology* (1977–2002) and *Medical Anthropology Quarterly* (1987–2002). We identified 843 articles published in these journals from their inception through 2002. We then drew a systematic random sample that included every other article published in both journals prior to 2003 (n = 422). This sampling design enhances the representativeness of our sample because it ensures consistent coverage across all time periods. We distinguished among four types of articles: empirical research reports (n = 283); review, method, or theory articles (n = 70); commentaries (n = 57); and editorial material (n = 12). To facilitate comparison with systematic reviews in other disciplines (Table 1), we limit our analysis to the 283 empirical research articles.2

Measurement

Our coding scheme assessed the concepts, categories, and context in which race and ethnicity were used in the entire text of each article. We recorded verbatim the general concepts (e.g., “race,” “ethnicity,” “racial–ethnic”) and the specific categories (e.g., “black,” “white”) used in each article. We also recorded whether concepts were justified or defined, and whether researchers specified how people were assigned to racial or ethnic categories. Last, we coded whether articles used *race* and *ethnicity* in the context of discussing health disparities, racism, or other forms of social inequality. All measures were coded as dichotomous (1 = present, 0 = absent).3

The original sample (n = 422) was divided between two coders. We assessed intercoder reliability in a random subsample of 143 articles (33.9 percent) assigned to
both coders. We use two estimates of intercoder reliability. Percent agreement is the proportion of times that coders applied the same value for a code. Cohen’s Kappa (κ) measures the amount of agreement above what would be expected by chance (Cohen 1960).

Intercoder reliability for whether the 143 articles were “empirical research reports” was excellent (κ = .97). For the remaining codes, estimates of reliability are based on the 67 articles in the reliability subsample coded as “empirical” by either coder. In general, reliability is acceptable. Coders agreed more than 90 percent of the time about all but two codes (see Appendix A). Kappa is generally higher for the presence of specific categories (.66 ≤ κ ≤ 1.00) than it is for race (κ = .53) or ethnicity (κ = .58) as generic concepts. In part, this pattern reflects the low frequency of abstract concepts related to race or ethnicity in the reliability subsample, which makes estimates of Kappa unstable.

The coders faced several challenges. For example, coders reported difficulty in distinguishing between ethnic (as opposed to national or other social) identities in articles in which the concept of “ethnicity” was not explicitly used. We decided to record national identities as ethnic categories because the distinction between nationality and ethnicity is not always clear in the contexts in which anthropologists work; we generally excluded other social identities, such as religious affiliation. Coders also reported difficulty in coding subtle discussions of racial or ethnic inequality in articles that did not use direct terms such as racial inequality. For that reason, our analysis does not attempt to distinguish between racism and other forms of social inequality. Coders typically reviewed each article twice to ensure that they did not overlook any concepts or
categories related to race or ethnicity.

[h1]Results

We found little evidence that the frequency of racial or ethnic concepts differs between the two journals any more than would be expected by random sampling error (for race: $\chi^2 = 2.14$, $p = 0.14$; for ethnicity: $\chi^2 = 2.96$, $p = 0.09$). The only significant difference is in use of the category “African American,” which appeared in 19.4 percent of the articles in *Medical Anthropology Quarterly* but in only 7.1 percent of the articles in *Medical Anthropology* ($\chi^2 = 9.47$, $p = 0.002$). Otherwise, the differences between journals are not statistically significant. Thus, we combine results from the total sample in the rest of our analysis.

[h2]Frequency and Use of Race and Ethnicity

Figure 1 shows the proportion of articles over time that use any concept of race or ethnicity in our sample and in similar studies from neighboring disciplines. Two patterns are evident. First, despite large fluctuations from year to year, the role of race and ethnicity concepts in medical anthropology appears to have grown over time. A similar trend has occurred in other disciplines, although some of this trend may be an artifact of methodological differences between content analyses. Second, at all times, race and ethnicity appear to play a smaller role in medical anthropology than they do in allied disciplines. Overall, one third (32.9 percent) of the articles in our sample used the concepts of “race” or “ethnicity,” as compared to 50 to 80 percent in neighboring disciplines.

Table 2 lists selected terms and phrases that we interpreted as racial or ethnic
concepts. Not surprisingly, there is no uniform terminology for discussing race and ethnicity in medical anthropology. Rather, medical anthropologists use a wide variety of terms to invoke different meanings. Some terms in table 2 are used to delineate groups of people (e.g., “ethnic group,” “people of color,” “racial group”). Others refer to social identities (e.g., “ethnic identity,” “racial identity”) or to cultural and linguistic differences (e.g., “ethnic or cultural group,” “ethnolinguistic group”). Still others refer to race and ethnicity as an aspect of social organization (e.g., “ethnic and race relations,” “racial and ethnic stratification”).

[PLEASE PLACE TABLE 2 HERE]

These differences in meaning generally depend on context; explicit definitions of race or ethnicity are rare. Of the 93 articles in our sample that used race or ethnicity, only two defined or justified use of these terms. Both of these cases refer to the contested meaning of race and ethnicity in endnotes:

[ex]We use the term “social race” to underscore the socially and politically constructed nature of “race” as a category. Ongoing controversy about the meaning of the term and how best to address the politics and ideology of race in research have yet to produce a vocabulary that is widely accepted. In deference to this unfinished discussion, we use “race” in the remainder of the article. [Estroff et al. 1991:365]

[ex]This is not the article to critique the categorical terms racial or ethnic. I find
both terms, as well as the cultural–political process of lumping people of various backgrounds into a handful of superimposed identity categories that describe skin color (white, African American), language (Hispanic), or continent of origin (Asian), to be inadequate. Because it is culturally and thus academically the norm to separate people according to these classifications, I do the same. [Pliskin 1997:104]

The second passage is notable, among other reasons, because it refers to both *racial* and *ethnic* but does not distinguish between these concepts. Indeed, table 2 includes several terms that combine race and ethnicity in a single phrase (e.g., “race–ethnicity,” “racial and ethnic minorities,” “racial and ethnic stratification”). These patterns raise questions about how medical anthropologists conceptualize the relation between race and ethnicity.

[h2]Race versus Ethnicity

Figure 2 compares time trends in the percentage of articles that (1) use race alone, (2) use ethnicity alone, or (3) use race and ethnicity together. In general, the concept of ethnicity is nearly four times more common than is the concept of race. About 19 percent of the articles in our sample use ethnicity alone, but less than five percent use race alone. The most significant change over time is the growing tendency to use both race and ethnicity together. From 1979–1984, no article in our sample used both *race* and *ethnicity*; from 1997–2002, on average, 18 percent did so each year (range = 8.3–41.7).

[PLEASE PLACE FIGURE 2 HERE]
In part, the preference for ethnicity may reflect the demise of the race concept in anthropology (Harrison 1995). But it may also reflect the fact that many medical anthropologists work in cultural contexts where the emic concept of race is not locally meaningful. Thus, Table 3 summarizes our results for the total sample and separately for research based in the United States versus other regions.

Table 3a shows that articles based on research in the United States are substantially more likely to use the concepts of “race” or “ethnicity” (45.7 percent versus 25.3 percent), but the difference is most pronounced for the concept of race. More than one-quarter of U.S.-based articles used some racial concept, but only 6.7 percent of other articles did so. The concept of ethnicity was also more common in the U.S.-based articles, but here the regional difference is more modest (36.2 versus 22.5 percent).

Figure 3 further illustrates these differences. Just under 8 percent of U.S.-based articles use the concept of “race” alone (i.e., without also using “ethnicity”). This proportion is still not large, but it is nearly triple the proportion for articles based on research in other societies. More striking still is the fact that nearly five times as many articles about the United States use both race and ethnicity than is the case for research based in other parts of the world (19.1 versus 3.9 percent). There is no significant regional difference in the proportion of articles that use the concept of ethnicity alone.
(i.e., without also using race).

[PLEASE PLACE FIGURE 3 HERE]

**[h2] Frequency and Use of Racial and Ethnic Categories**

Table 3b summarizes the frequency of specific racial or ethnic categories (e.g., “white,” “Indian”) by region and for the total sample. Overall, specific racial or ethnic labels are much more common than are abstract racial or ethnic concepts. Nearly 90 percent of the articles use some racial or ethnic category; the modest difference between research in the United States and in other regions is not statistically significant. However, as we would expect, there is a substantial difference in which specific categories are used in different regions. Research based in the United States is dominated by the racial and ethnic categories defined by the federal Office of Management and Budget (OMB 1997), whereas these categories are not relevant in other societies.

Table 4 shows the most frequently used categories in our sample. The list is dominated by categories related to OMB guidelines, even though U.S.-based research accounts for less than 40 percent of the sample. By far the most common category is “white,” which occurred in more than 20 percent of the articles. Five of the top seven terms correspond to OMB categories (e.g., “Hispanic,” “black,” “African American,” “Native American”), and even many of the less frequently used terms are closely related to these categories (e.g., “American Indian,” “Caucasian,” “Euro-American,” “Latino”). At the same time, none of these categories is widely used. With the exception of “white,”
no term is used in 15 percent of the articles or more. This pattern likely reflects the fact that medical anthropologists work all over the world, and many of the racial or ethnic labels they use are bound to particular contexts.

A relatively small fraction of articles (4.6 percent) define or justify the use of racial or ethnic categories (Table 3b). However, these cases—particularly those based in the United States—highlight two important themes. First, several researchers are critical of OMB categories, citing the importance of local context and diversity within conventional racial and ethnic categories. For example, Rayna Rapp (1988:147) notes that “‘Hispanic’ glosses a range of Spanish-speaking cultures, especially at the present time in New York City.” Similarly, Maria Luis Urdaneta and Rodney Krehbiel (1989) examine cultural diversity among “at least four distinct populations which are collectively referred to as Mexican-Americans in the United States.” Leo Chavez and colleagues likewise explain, “A note on terminology is in order”:

[ex]“Latinas,” like “Hispanics,” is a general term that refers to women of Latin American descent and includes Mexican and Salvadoran immigrants and U.S.-born Chicanas. Our use of “Chicanas,” “Mexican immigrants,” and “Salvadoran immigrants” is intentional and is meant not only to highlight the diversity among Latinas but to allow us to examine for differences among these groups. “Latina immigrants” includes Mexican and Salvadoran immigrants only. [Chavez et al.
Second, a few authors explain that racial and ethnic categories are important because of the way people are labeled in society. For example, writing about South Africa, Rachel Jewkes and Katharine Wood note that “the term ‘coloured’ is used to refer to people who would have been classified as such by the apartheid population classification system” (1999: 184). Eugenia Kaw describes the participants in her study as “Asian American” for a similar reason: “Although I realize their ethnic diversity, people of Asian ancestry in the United States share similar experiences in that they are subject to many of the same racial stereotypes” (Kaw 1993:87). These examples suggest that, despite their limitations, racial or ethnic categories may be important to the extent that they reflect processes of racialization that are a meaningful part of people’s experience.

Because these examples focus on how people are labeled by others, they raise questions about the relative value of self-identification versus categorization by others. However, in our sample, there is otherwise little discussion of self-identification versus observer categorization. Very few (5.1 percent) of the articles that use racial or ethnic categories describe how people were assigned to these categories. These articles either rely on self-identification (2.4 percent) or use data from the census, historical sources, or other literature (2.7 percent). The remaining 94.9 percent of the articles omit discussion of how racial or ethnic labels were applied.

Context of Racism and Social Inequality

Table 3c summarizes the proportion of articles that explicitly mention racism or other
forms of social inequality. Here we distinguish between (1) racism and racial or ethnic inequalities and (2) other forms of social inequality (e.g., poverty, sexism). Social inequalities (other than racism) are a substantial focus of research in medical anthropology regardless of region; more than 26 percent of articles refer to social inequalities as a determinant of health status or access to health care. Racism and racial or ethnic inequalities are nearly as salient for articles about the United States; nearly one in four (23.8 percent) U.S.-based articles mentions racism or racial and ethnic inequality. By contrast, less than seven percent of articles about other regions discuss racism or racial and ethnic inequality.

We also find that, when medical anthropologists use the concepts of “race” or “ethnicity,” they are likely also to discuss racism or other social inequalities. Most articles that discuss social inequalities do so without using the concepts of race (76.7 percent) or ethnicity (56.3 percent). But among articles that do use race or ethnicity, most do so in the context of discussing racism or other social inequalities (61.5 percent for race; 57.7 percent for ethnicity).

Discussion

The links between race, medicine, and health have always been contentious, but probably never more so than now. Racial inequalities in health have become a central focus of debate not only in academic circles but also in the public sphere (e.g., Bakalar 2007; Brink 2002; Drexler 2007; Wade 2002). The unprecedented level of interest in health disparities provides a unique opportunity for medical anthropologists to participate in a public discussion with broad theoretical and practical implications.
The content analysis we present here permits direct comparisons between the role that the concepts of “race,” “ethnicity,” and “racism” play in medical anthropology and in other health-related disciplines. The results point to both differences and similarities. In some cases, the differences highlight unique strengths of medical anthropology that could inform the broader effort to explain and eliminate racial and ethnic inequalities in health. Yet our findings also call attention to potential pitfalls that could hinder medical anthropologists’ contribution to this effort.

One of the striking contrasts between our results and similar studies in neighboring disciplines is the relatively low frequency of race and ethnicity concepts in medical anthropology. Reviews in nursing (Drevdahl et al. 2001), in biomedicine (Anderson and Moscou 1998), and in public health and epidemiology (Comstock et al. 2004), show that roughly 80 percent of recent articles in those fields include race or ethnicity as study variables. By contrast, we find that the concepts of race and ethnicity appear in less than one-third of all articles in *Medical Anthropology* and *Medical Anthropology Quarterly* from 1977–2002; in no year did race or ethnicity appear in more than two-thirds of our sample. The contrast with other disciplines is even more striking if we focus only on race. The “race” concept occurs in just 13.8 percent of the articles in our sample, and most of these articles also reference ethnicity. Race appears by itself in less than 5 percent of the articles.

This pattern is a double-edged sword. On the one hand, the habitual use of *race* and *ethnicity* in biomedicine—with no apparent rationale, no testable hypothesis, and little consideration of what these concepts mean or how they should be measured—is a
well-recognized problem (Kaplan and Bennett 2003; Kaufman and Cooper 1995). It obscures the causes of health disparities and reinforces the insidious assumption that racial inequalities stem from innate, immutable differences between racially defined groups. In general, medical anthropology avoids this trap.

On the other hand, medical anthropology risks being irrelevant to the broader debate about racial and ethnic inequalities in health, given the relatively small role that race currently seems to play in the discipline. This possibility mirrors the fate of anthropology in general. In the nineteenth and early twentieth centuries, anthropologists played a central role in constructing race as a legitimate biological construct (Baker 1998; Brace 2005). By the mid–20th century, the discipline reversed course, and most anthropologists adopted the view that there are no biological races of humankind. However, in dismissing race as biology, most anthropologists neglected the causes and consequences of persistent racial inequality, and the discipline lost its voice in public discussions of race and racism (Harrison 1995). Thus, as Eugenia Shanklin observes, the critique of race “helped to ensure that American anthropology won the battle and lost the war” (1998:670).

Some researchers in public health and biomedicine are aware of this legacy and want to avoid repeating it. For example, Oppenheimer notices anthropology’s blind spot and wonders whether public health could develop one, too: “Would the excision of race as a category of analysis tend to blind researchers…to the existence and consequences of racism, including its impact on health?” (2001:1053). In particular, Gerald Oppenheimer worries that supplanting race with ethnicity—a trend we detect in our content analysis—
would put health researchers out of touch with the reality of people’s lives:

[ex]Should we dump “‘race’” when most people—White, Black, Asian, etc.—tend to use the concept both in describing themselves and in perceiving and responding to others? … Race, if not a biological fact, is a social fact. … In substituting “‘ethnic group’” for “‘race,’” to what extent will research fall short of the subjective and objective experiences of the groups we are studying?

[Oppenheimer 2001:1053]

This sentiment resonates with clinicians and health researchers alike. For example, Anderson et al. note the family physician’s dilemma: “If clinicians omit race because it is not a biological variable, do they risk ignoring or, worse, concealing important social data about their patients?” (2001:430). Likewise, Glenn Flores and colleagues write in the *Archives of Pediatrics and Adolescent Medicine* that they “are deeply distressed … by the journal policy of restricting the use of ethnicity and race in future research, a position that could set back pediatric research by decades.” “Now, more than ever,” they suggest, “ethnicity and race should be an essential part of all child health research” (2001:1178). Their chief rationale is that ethnicity and race, as sociocultural phenomena, are linked to a wide range of sociocultural factors that influence health and well-being.

These arguments imply that we must better understand how the sociocultural reality of race and racism affects individual experience, behavior, and biology. Yet current practices in the health sciences often undermine this objective. In particular, as other content analyses have shown, most health researchers (1) fail to define race and ethnicity,
(2) conflate the two concepts, (3) neglect to identify how people were assigned to racial or ethnic categories, and (4) omit the reason for including race and ethnicity in the study. These limitations make it practically impossible to know just what race and ethnicity measure, leading researchers to speculate about the influence of unmeasured genetic, behavioral, or sociocultural factors on racial and ethnic inequalities in health.

Our results indicate that some of these patterns are evident in medical anthropology, too, but important differences also point the way to a more productive line of research. First, like their colleagues in allied disciplines, medical anthropologists seldom define race or ethnicity, and they often conflate the two. This finding should not be a surprise; concepts of race and ethnicity are no less contested in anthropology than in any other field. Indeed, Carol Mukhopadhyay and Yolanda Moses suggest that the first step in resuscitating an anthropological voice in discussions of race and racism is to resolve the “terminological chaos” (1997:521) that plagues the field. The debate over racial and ethnic inequalities in health is an important forum for this work.

Second, we find that, when medical anthropologists use specific racial or ethnic categories, they rarely identify the methods they used to assign people to these categories. This finding may not have the same meaning in our study as it does in other disciplines, given that anthropologists in general are less likely to be explicit about methods than are epidemiologists or biomedical researchers (Greenfield 2000). However, our sample does include several articles that discuss the rationale for and limitations of using conventional racial and ethnic categories (e.g., Chavez et al. 1995; Kaw 1993; Rapp 1988; Urdaneta and Krehbiel 1989). These articles draw attention to the importance of understanding the
meaning of the racial or ethnic categories that are relevant for people in a given context. This point has important implications for discussions about the measurement of race and ethnicity as variables in health research.

Last, we note a stark distinction between medical anthropology and other disciplines regarding the context in which race and ethnicity are discussed. The tendency in most health-related disciplines is to treat race and ethnicity—operationally and conceptually—as (often immutable) characteristics of individuals (Kaplan and Bennett 2003). By contrast, our results suggest that race and ethnicity often enter medical anthropology as an aspect of sociocultural context. Thus, we find that many of the racial and ethnic concepts medical anthropologists use refer to cultural background, social relations, or power and social stratification (Table 2). More important, we find that over 60 percent of the articles that use the concepts of “race” or “ethnicity” also explicitly discuss racism or other social inequalities. This finding differs sharply from studies in other disciplines. Indeed, the mention of racism warranted inclusion in only one of the content analyses in Table 1. That study found that just a single article in the sample (1.3 percent) identified racism as a potential factor in infant mortality.

We acknowledge three important limitations of our study. First, we can generalize only to research reports in Medical Anthropology and Medical Anthropology Quarterly. In keeping with similar studies in other fields, we have excluded review articles, commentaries, and theoretical pieces that do not present new findings. This approach is sensible, given our goal of comparing research trends across disciplines. But it means that some relevant commentaries are omitted from our sample (e.g., Porter 1994). Moreover,
the identification of empirical research articles is not as straightforward in medical anthropology as it is in neighboring disciplines. The format of journal articles is less standardized, and the conceptualization of research design is more diverse. Indeed, one of the biggest hurdles in developing a reliable coding scheme was in operationalizing the definition of empirical research articles. However, our attention to this issue during training and codebook development resulted in excellent interrater reliability on the identification of empirical research articles.

Second, although the journals we selected are important, they do not represent the full reach of medical anthropology. Indeed, it may be that medical anthropologists who study racial inequalities in health place their work deliberately in interdisciplinary journals that reach a broader audience, precisely to participate in the wider debate over racial inequalities in health. It is also possible that some of the authors in our sample are not anthropologists. Nevertheless, we would argue that *Medical Anthropology* and *Medical Anthropology Quarterly* best represent the main currents of the subdiscipline.

Third, to make our study comparable to content analyses in neighboring disciplines, we opted for an approach that describes broad patterns but cannot capture the richness of individual articles. Thus, we can generalize about how often anthropologists use concepts of race, ethnicity, and racism, but we cannot convey the full nuance in such usage. Given our aims, this trade-off was unavoidable, but we recognize the potential value of a more selective review of exemplary articles. The results we present here provide a baseline for such a review.

Despite its limitations, our study provides an important comparison between
medical anthropology and other health-related disciplines regarding the use of race, ethnicity, and racism. It also points to several ways that medical anthropologists could contribute to interdisciplinary research on racial and ethnic inequalities in health. We conclude with seven recommendations to stimulate such research. These recommendations complement existing guidelines for the use of race and ethnicity in health research (e.g., Kaplan and Bennett 2003) but focus on the unique strengths of medical anthropology.

1. **Advance the critique of racial-genetic determinism.** Given the common assumption that racial health inequalities are largely genetic in origin, it remains necessary for anthropologists to clarify why race fails to describe human biological variation and genetic susceptibility to disease. Anthropologists have long advanced this critique. However, with a few notable exceptions (e.g., Goodman 2000; Kittles and Weiss 2003; Sankar et al. 2004), the critique is not usually addressed to biomedical audiences. The recent, widely publicized supplement to *Nature Genetics* on race and the human genome (Patrinos 2004), which featured the work of several biological anthropologists, demonstrates the relevance of anthropology to the debate in biomedicine. It also suggests that the extent to which anthropologists participate in this debate is a measure of our relevance to public discussions about race, racism, and human variation.

2. **Examine the cultural construction of race in biomedicine.** Medical anthropologists could contribute to criticism of the routine and uncritical use of race and ethnicity in biomedicine by examining the cultural construction of race in health research and clinical practice. There is already important work in this area (Linder 2004; Page and
Thomas 1994; Rouse 2004; Santiago-Irizarry 2001), but there is room for more. In particular, it would be invaluable to have more ethnographic research on the hidden assumptions about race that shape the questions researchers ask and the ways they interpret their data. In addition, more ethnography of race and racism in clinical settings would be timely and relevant across disciplinary boundaries, given the overwhelming evidence for systemic racism in the provision of health care in the United States and elsewhere (Bhopal 2007; Braveman and Tarimo 2002; Smedley et al. 2002).

3. Clarify the relation between race and ethnicity. Our results reveal a growing tendency among medical anthropologists to combine the concepts of “race” and “ethnicity.” Content analyses in other disciplines have also documented this trend, and we echo others’ recommendation that researchers clarify the conceptual relation between race and ethnicity (Office of Behavioral and Social Science Research [OBSSR] 2001).

The unique cross-cultural perspective of anthropology may prove particularly valuable here. Elsewhere we have suggested that race be understood as a culture-bound, emic construct that warrants ethnographic inquiry alongside other ways of constructing human difference in other societies (Dressler et al. 2005; Gravlee 2005). If the North American emic construct of race is used as a framework for understanding other societies, it may lead to profound misunderstanding (Bourdieu and Wacqant 1999; Hoetink 1967:34, 51–52; Seda Bonilla 1972). By contrast, because the concept of ethnicity presupposes fewer meanings, it may be more useful as an analytic framework for making valid comparisons between the emic construct of race in the United States and related constructs in other societies. In this sense, we suggest that ethnicity belongs
on the same level of abstraction as constructs like kinship, religion, or the economy. That is, it delineates a field of study, not a variable that can be measured directly. Within this field, race demands attention as a sociocultural phenomenon bound to particular times and places.

Our content analysis suggests that medical anthropologists have implicitly adopted this strategy. The concept of race is nearly four times more common in articles based on research in the United States than it is in articles about other regions. By contrast, there is no significant regional difference in the use of ethnicity. This finding reinforces the view of race as a culture-bound construct and suggests that ethnicity may be more useful as an abstract theoretical construct for making comparisons across time and space. Others may argue with this conceptualization, but it is beyond question that clarifying the conceptual relation between race and ethnicity is a priority for future research.

4. Link ethnography and measurement in health research. One implication of our conceptualization of ethnicity is the need for systematic ethnographic research on the cultural construction of ethnic difference across time and space—including the construction of race in the United States. Ethnographic understanding of the salient concepts and categories in local models of ethnic classification can help to inform more meaningful measurement strategies in health-related research (OBSSR 2001:8–10).

A few articles in our sample touched on this point. In particular, Kaw (1993) and Jewkes and Wood (1999) justify the use of specific racial categories in the United States and South Africa, respectively, on grounds that they are meaningful to people in these
contexts. Elsewhere Gravlee et al. (2005) take this approach a step further by incorporating systematic ethnographic data explicitly into the measurement of color in Puerto Rico. As they argue, establishing an empirical link between survey measurement and the meaning of local ethnic categories facilitates the interpretation of associations with health outcomes (Dressler et al. 2005).

5. Identify sociocultural processes that generate inequalities in health. Rachel Chapman and Jean Berggren (2005) make a compelling case that anthropologists can contribute to our understanding of racial and ethnic inequalities in health through the “radical contextualization” of health disparities. Ethnography is essential for understanding how global forces and power inequalities shape the local context of people’s lives and become embodied in individual sickness and suffering (Farmer 2004; Nguyen and Peschard 2003; OBSSR 2001:10–14). Ethnography also challenges assumptions that researchers otherwise take for granted, and it helps to generate hypotheses about specific sociocultural processes that link structural inequalities to health. These strengths represent an important and long-standing contribution of anthropology to epidemiology and other health sciences (Trostle 2005).

6. Advance biocultural approaches to health and development. There are growing calls for research that integrates the social and biological sciences across multiple levels of analysis (Glass and McAtee 2006; Institute of Medicine 2001; National Research Council 2001; OBSSR 2001). Anthropologists should be at the forefront of this development, but we are in danger of sitting on the sidelines as others reinvent the discipline. There are many different ways to envision the integration of cultural and
biological anthropology (e.g., Briggs and Martini-Briggs 2004; Dressler 2005; Farmer 2003; Goodman and Leatherman 1998; Schell 1997; Worthman and Kuzara 2005), but all are relevant to an anthropology of racial and ethnic inequalities in health.

7. Foster community-based participatory research. Last, there is growing interest in community-based participatory research (CBPR) as a means for understanding and eliminating racial health disparities (Baker et al. 2001; Israel et al. 1998). This framework fosters institutional support and legitimacy for a style of research that many medical anthropologists take for granted (see, e.g., NIH Program Announcement PAR-07–283). Given the common ground between CBPR and the guiding principles of anthropological research (Hahn 1999a; Hyland 2005), medical anthropologists should be poised to make significant contributions to action-oriented research designed to eliminate racial inequalities in health.

[Notes]

1. For further information, see http://www.understandingrace.org.

2. Our codebook defined empirical research articles this way: “Article focused on reporting new research findings. The data may be qualitative or quantitative, and it may be the authors’ own data or that collected by other researchers or institutions. Analysis of primary historical or archival materials should also be coded as empirical research. Do not code a literature review or synthesis of ideas as empirical research.”

3. The codebook and coding forms are available on request. Coding materials are available by e-mail (cgravlee@ufl.edu) or from ‘Gravlee’s website (see http://
References Cited

[Ahdieh, L., and Robert A. Hahn


[American Anthropological Association


[American Association of Physical Anthropologists


[Anderson, Matthew R., and Susan Moscou


[Anderson, Matthew R., Susan Moscou, Celestine Fulchon, and Daniel R. Neuspiel


[Bakalar, Nicholas

Baker, Edward L., LuAnn E. White, and Maureen Y. Lichtveld

Baker, Lee D.

Bamshad, Mike

Bhopal, Raj S

Bourdieu, Pierre, and Loïc Wacquant

Brace, C. Loring

Braun, Lundy
2006 Reifying Human Difference: The Debate on Genetics, Race, and
Braveman, Paula, and Eleuther Tarimo


Briggs, Charles, and Clara Martini-Briggs


Brink, Susan


Burchard, Esteban Gonzalez, Elad Ziv, Natasha Coyle, Scarlett Lin Gomez, Hua Tang, Andrew J. Karter, Joanna L. Mountain, Eliseo J. Perez-Stable, Dean Sheppard, and Neil Risch


Chapman, Rachel R., and Jean R. Berggren


Chavez, Leo R., F. Allan Hubbell, Juliet M McMullin, Rebecca G. Martinez, and Shiraz I. Mishra

1995 Structure and Meaning in Models of Breast and Cervical Cancer Risk

Cohen, Jacob


Comstock, R. Dawn, Edward M. Castillo, and Suzanne P. Lindsay


Cooper, Richard S.


Cooper, Richard S., Jay S. Kaufman, and Ryk Ward


Cutter, J., B. Y. Tan, and S. K. Chew


Dressler, William W.

Dressler, William W., Kathryn S. Oths, and Clarence C. Gravlee


Drevdahl, Denise, Janette Y. Taylor, and Debby A. Phillips


Drexler, Madeline


Estroff, Sue E., William S. Lachicotte, Linda C. Illingworth, and Anna Johnston


Farmer, Paul


Flores, Glenn, Elena Fuentes-Afflick, Olivia Carter-Pokras, Luz Claudio, Gontran Lamberty, Marielena Lara, Lee Pachter, Francisco Ramos Gomez,
Fernando Mendoza, R. Burciaga Valdez, Ruth E. Zambrana, Robert Greenberg, and Michael Weitzman


[rf]Freeman, H. P.


[rf]Goodman, Alan H.


[rf]Goodman, Alan H., and Thomas L. Leatherman


[rf]Gravlee, Clarence C.


Gravlee, Clarence C., William W. Dressler, and H. Russell Bernard


Greenfield, Patricia M.


Hahn, Robert A.


Hahn, Robert A., Scott F. Wetterhall, George A. Gay, Dorothy S. Harshbarger, Carol A. Burnett, Roy Gibson Parrish, and Richard J. Orend

[rf] Harrison, Faye V.


[rf] Hoetink, H.


[rf] Institute of Medicine


[rf] Israel, Barbara A., Amy J. Schulz, Edith A. Parker, and Adam B. Becker


[rf] Jewkes, Rachel K., and Katharine Wood


[rf] Jones, Camara Phyllis, Thomas A. LaVeist, and Marsha Lillie-Blanton


[rf] Kaplan, Judith B., and Trude Bennett


[rf] Kaufman, Jay S., and Richard S. Cooper


[rf] Kaw, Eugenia


[rf] Krieger, Nancy


[rf] Linder, F.

Littlefield, Alice, Leonard Lieberman, and Larry T. Reynolds


Mukhopadhyay, Carol C., and Yolanda T. Moses


National Research Council


Neuendorf, Kimberly A.


Nguyen, Vinh-Kim, and Karine Peschard


Office of Behavioral and Social Sciences Research (OBSSR)


Office of Management and Budget

Oppenheimer, Gerald M.


Page, Helan, and R. Brooke Thomas


Pan American Health Organization


Patrinos, Ari


Pliskin, Karen L.


Porter, Cornelia P.


Rapp, Rayna


Risch, Neil, Esteban Burchard, Elad Ziv, and Hua Tang

[rf] Rouse, Carolyn Moxley


[rf] Santiago-Irizarry, Vilma


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[rt] 1972 Requiem para una cultura: ensayos sobre la socialización del puertorriqueño en su cultura y en el ámbito del poder neocolonial.
Shanklin, Eugenia

Smedley, Brian D., Adrienne Y. Stith, and Alan R. Nelson, eds.

Tang, Hua, Tom Quertermous, Beatriz Rodriguez, Sharon L. Kardia, Xiaofeng Zhu, Andrew Brown, James S. Pankow, Michael A. Province, Steven C. Hunt, Eric Boerwinkle, Nicholas J. Schork, and Neil J. Risch

Trostle, James A.

Trovato, Frank

Urdaneta, Maria Luisa, and Rodney Krebsiel
[rt]1989 Cultural Heterogeneity of Mexican–Americans and Its Implications for the Treatment of Diabetes Mellitus Type II. Medical

[rf] Wade, Nicholas


[rf] Williams, David R.


[rf] Worthman, Carol M., and Jennifer Kuzara


[PLEASE PLACE APPENDIX A HERE]
Table 1. Summary of Content Analyses of Race and Ethnicity in Health-Related Journals, U.S.-Based Studies

<table>
<thead>
<tr>
<th>Source</th>
<th>Scope of review</th>
<th>Period</th>
<th>Articles Screened</th>
<th>Articles Reviewed</th>
<th># Use Race or Ethnicity</th>
<th>% Use Race or Ethnicity</th>
<th>% Defined or justified use of race or ethnicity</th>
<th>% Stated method for determining race or ethnicity</th>
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<td>Infant mortality</td>
<td>1995–1996</td>
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<td>44</td>
<td>35</td>
<td>79.5</td>
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<td>0.0</td>
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<tr>
<td>Jones et al. (1991)</td>
<td>Am J Epidemiol</td>
<td>1921–1990</td>
<td>1200</td>
<td>558</td>
<td>359</td>
<td>64.3</td>
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<td>Williams (1994)</td>
<td>Health Serv Res</td>
<td>1966–1990</td>
<td>585</td>
<td>192</td>
<td>121</td>
<td>63.0</td>
<td>13.2</td>
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<td>5344</td>
<td>3243</td>
<td>2063</td>
<td>63.6</td>
<td>7.8</td>
<td>19.0</td>
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<td>Ethnic populations</td>
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<td></td>
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<td>Ethnic and race relations</td>
<td>Minority populations</td>
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<td></td>
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<td>Peoples of color</td>
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<td>Ethnic heritage</td>
<td>Racial group</td>
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<td>Racial and ethnic minorities</td>
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<td>Ethnic minorities</td>
<td>Race/ethnicity</td>
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<td>Race/ethnic</td>
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<td>Racial/ethnic</td>
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<table>
<thead>
<tr>
<th></th>
<th>United States (n = 105)</th>
<th>Other region (n = 178)</th>
<th>Total (n = 283)</th>
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<tr>
<td></td>
<td>Number</td>
<td>%</td>
<td>Number</td>
</tr>
<tr>
<td><strong>a. Concepts</strong></td>
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<tr>
<td>Any racial or ethnic concept*</td>
<td>48</td>
<td>45.7</td>
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<tr>
<td>Any race concept*</td>
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<td>12</td>
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<tr>
<td>Any ethnicity concept*</td>
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<td>Any combined racial/ethnic concept*</td>
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<td>Concepts defined</td>
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<td><strong>b. Categories</strong></td>
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<tr>
<td>Any racial or ethnic category</td>
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<td>86.7</td>
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<tr>
<td>Any OMB racial or ethnic category*</td>
<td>81</td>
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<td>Any non-OMB racial or ethnic category*</td>
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<tr>
<td><strong>c. Context</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Racism or racial inequality *</td>
<td>25</td>
<td>23.8</td>
<td>12</td>
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<tr>
<td>Social inequality</td>
<td>29</td>
<td>27.6</td>
<td>46</td>
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</tbody>
</table>

*Statistically significant ($\chi^2$) with Sidak correction for multiple comparisons ($\alpha=.05$).

Note. Percentages of “any race concept” and “any ethnicity concept” do not total to “any racial or ethnic concept” because they are not mutually exclusive (i.e., some articles used both race and ethnicity concepts). “Any combined racial/ethnic concept” refers only to articles that combined race and ethnicity into a single term (e.g., race/ethnicity). OMB categories refer to Office of Management and Budget. 1997. Standards for maintaining, collecting, and presenting federal data on race and ethnicity. *Federal Register* 62:58781–58790.
Table 4. Most Frequently Used Racial or Ethnic Categories $(n = 233)$

<table>
<thead>
<tr>
<th>Item</th>
<th>Number of articles</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>1 White</td>
<td>61</td>
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<tr>
<td>2 Indian</td>
<td>41</td>
<td>14.5</td>
</tr>
<tr>
<td>3 European</td>
<td>38</td>
<td>13.4</td>
</tr>
<tr>
<td>4 Black</td>
<td>37</td>
<td>13.1</td>
</tr>
<tr>
<td>5 Hispanic</td>
<td>37</td>
<td>13.1</td>
</tr>
<tr>
<td>6 African American</td>
<td>36</td>
<td>12.7</td>
</tr>
<tr>
<td>7 Native American</td>
<td>22</td>
<td>7.8</td>
</tr>
<tr>
<td>8 American</td>
<td>22</td>
<td>7.8</td>
</tr>
<tr>
<td>9 Puerto Rican</td>
<td>21</td>
<td>7.4</td>
</tr>
<tr>
<td>10 Mexican</td>
<td>19</td>
<td>6.7</td>
</tr>
<tr>
<td>11 African</td>
<td>19</td>
<td>6.7</td>
</tr>
<tr>
<td>12 Chinese</td>
<td>18</td>
<td>6.4</td>
</tr>
<tr>
<td>13 Mexican American</td>
<td>17</td>
<td>6.0</td>
</tr>
<tr>
<td>14 Latino</td>
<td>16</td>
<td>5.7</td>
</tr>
<tr>
<td>15 Latin American</td>
<td>14</td>
<td>4.9</td>
</tr>
<tr>
<td>16 Caucasian</td>
<td>13</td>
<td>4.6</td>
</tr>
<tr>
<td>17 Navajo</td>
<td>12</td>
<td>4.2</td>
</tr>
<tr>
<td>18 North American</td>
<td>12</td>
<td>4.2</td>
</tr>
<tr>
<td>19 Anglo</td>
<td>12</td>
<td>4.2</td>
</tr>
<tr>
<td>20 Japanese</td>
<td>11</td>
<td>3.9</td>
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<tr>
<td>21 Cuban</td>
<td>11</td>
<td>3.9</td>
</tr>
<tr>
<td>22 Mestizo</td>
<td>11</td>
<td>3.9</td>
</tr>
<tr>
<td>23 Haitian</td>
<td>10</td>
<td>3.5</td>
</tr>
<tr>
<td>24 French</td>
<td>10</td>
<td>3.5</td>
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<tr>
<td>25 Asian</td>
<td>9</td>
<td>3.2</td>
</tr>
<tr>
<td>26 American Indian</td>
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<tr>
<td>27 Filipino</td>
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<td>3.2</td>
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<tr>
<td>28 Euro-American</td>
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<td>3.2</td>
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Appendix. Summary of Reliability Analysis for Random Subsample

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency of code</th>
<th>Intercoder reliability</th>
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<tr>
<td></td>
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<tr>
<td>Empirical article</td>
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<td>64</td>
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<tr>
<td><strong>Concepts</strong></td>
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<td>Race^a</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>Ethnicity^b</td>
<td>20</td>
<td>10</td>
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<tr>
<td><strong>Categories</strong></td>
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<td>Any category</td>
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<td>Black</td>
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</tr>
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<td>African American</td>
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<tr>
<td>White</td>
<td>14</td>
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<tr>
<td>Hispanic</td>
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</tr>
<tr>
<td>Latino</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Asian American</td>
<td>1</td>
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<tr>
<td>Native American</td>
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<td>Other category</td>
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<td><strong>Context</strong></td>
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<tr>
<td>Racism</td>
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<td>4</td>
</tr>
<tr>
<td>Social inequality</td>
<td>9</td>
<td>10</td>
</tr>
</tbody>
</table>

^a Includes any concept related to race (e.g., “racial group,” “racial identity”). ^b Includes any concept related to ethnicity (e.g., “ethnic group,” “ethnic identity”).

*Note.* For the random subsample, *n* = 143.