Racial and Ethnic Identity in Mexican Public Health Research, 1990s – 2010s

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Thesis

Submitted to the Faculty of the

Graduate School of Vanderbilt University

in partial fulfillment of the requirements

for the degree of

MASTER OF ARTS

in

Latin American Studies

May 2017

Approved:

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I spent part of last spring driving down Nolensville Road in Nashville, visiting post-partum Latina women in their homes to collect data on their new babies as part of my work in health disparities research. The questions on the surveys I administered to these exhausted women from Mexico and Central America were focused on gestational weight gain and pediatric obesity, but the question that kept floating to the top of my mind was not about the physical body, but the metaphysical one. These women's participation in the study was premised on their identity as Hispanic or Latina women—indeed, one aim of the study was to identify factors that made the burden of excess gestational weight gain and pediatric obesity higher for Latina women. Thus, one of our explicit assumptions was that race and ethnicity matter for health outcomes generally, and that the racial and ethnic identity of our participants was critical to our specific research questions and methodology.

However, we never unpacked what that racial or ethnic identity might mean or its complexity. We did not take into account the diversity represented by this group of women, all of who self-identified as Hispanic or Latina, but who came from different countries, with a range of skin colors, cultural practices, and native languages. We did not interrogate whether these women felt a sense of "imagined community" as Latina women.[1] Self-identification was sufficient for our research, because it is sufficient for most activities or entities that collect data on racial or ethnic identity in the United States, like the census.[2] This is problematic, because it made it much easier for us to make broad statements about "Latina women in Nashville," smoothing out the differences in this diverse group of women.

[1] Benedict Anderson, *Imagined Communities: Reflections on the Origin and Spread of*
[2] United States Census Bureau, "Race," accessed November 29, 2016. https://www.census.gov/topics/population/race/about.html.

How would we have approached issues of racial or ethnic identity in similar public health research in a country like Mexico, our closest neighbor to the south and the country of origin for many of the women who participated in this project? Understandings of race and ethnicity, both in everyday interpersonal interactions as well as at national or ideological levels, can be unique to each country.[3] In Mexico, a national narrative of *mestizaje*, or mixing, promulgates the idea that all Mexicans are a racial mix of Spanish and indigenous heritage, creating a unified national racial identity.[4] I argue in this paper that this ideology extends to the public health and epidemiological literature on nutrition and obesity published in Mexico about Mexicans—that the racial and ethnic categories that are so central to health disparities research are elided and subsumed by this national ideology, with potential ramifications not only for public health research and policy, but for the health of Mexicans in general.

In 1916, as the Mexican Revolution was coming to a close and Mexican elites were confronting the daunting task of rebuilding a nation after war, the Mexican anthropologist Manuel Gamio published *Forjando patria*, a text written about the concept of *mestizaje* that emphasized the concept's utility to building a Mexican national identity and ideology.[5] For Gamio, being Mexican means being *mestizo*, or mixed, a national identity that would allow Mexico to progress as a unified country. José Vasconcelos built on these ideas in 1925,

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[3] Following Telles, for the purposes of this thesis, I use race and ethnicity to refer to the " meaningful social boundaries that people create in their social interactions," often based on phenotype, cultural background, or language. *Pigmentocracies: Ethnicity, Race, and Color in Latin America*, ed. Edward Telles (Chapel Hill: University of North Carolina Press Books, 2014)

[4] Christina A. Sue, *Land of the Cosmic Race: Race Mixture, Racism, and Blackness in Mexico* (New York : Oxford University Press, 2013).

[5] Manuel Gamio, *Forjando patria: pro-nacionalismo* (Boulder: University Press of Colorado, 2010 [1916]).

writing about Mexicans as a cosmic race, a fifth race crafted from a mixture of the white, black, indigenous, and Asian races.[6] By claiming that being Mexican meant being *mestizo*, these and other authors were creating an idea of Mexico with people of only one race: the cosmic race. Furthermore, if there was only one race in Mexico – Mexicans – then there could be no racism or discrimination.

Implementing this vision of a modern, *mestizo* Mexico required that all Mexicans, from elites to peasants buy into this vision of what it means to be Mexican. This often meant the indigenous people had to assimilate culturally and linguistically, a process that was facilitated by national educational policies and institutions like the Instituto Nacional Indigenista (INI), created in the late 1940s with the mission of turning indigenous people into modern Mexicans.[7] It was not until the 1980s that the Mexican government officially acknowledged multiculturalism, although indigenous people continued to experience discrimination and be represented as remnants of history in Mexican schools, while Afro-descended people were not a part of the national narrative at all.[8] In the 1990s, after the Zapatista rebellion of 1994 and into the 2000s, the Mexican government enacted laws and policies that more formally acknowledged the diversity of racial and ethnic backgrounds present in Mexico. Edward Telles and his coauthors suggest that this liberalization of the national narrative of *mestizaje* has caused the population to claim a more diverse racial or ethnic identification in census data, although their PERLA survey shows that most

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[6] José Vasconcelos, *The Cosmic Race: A Bilingual Edition*, trans. by Didier Tisdel Jaén (Baltimore, MD: Johns Hopkins University Press, 1997).
[7] Regina Martínez Casas, Emiko Saldívar, René D. Flores, and Christina A. Sue, "The Different Faces of Mestizaje: Ethnicity and Race in Mexico," in *Pigmentocracies: Ethnicity, Race, and Color in Latin America*, ed. Edward Telles (Chapel Hill: University of North Carolina Press Books, 2014), 44-46.
[8] Ibid.; Sue.

Mexicans still identify as *mestizo*, a finding that Sue corroborates ethnographically in her work in Veracruz.[9]

In many ways, this evolution in Mexican openness to acknowledging racial and ethnic diversity over the last 20 to 30 years is reflected in public health literature on nutrition and obesity. The literature has moved from absolutely no mention of racial or ethnic categories in the 1990s to very sporadic mentions in the last few years, at least in the *Revista Panamericana de Salud Pública*, which started publishing in 1997 and continues to the present day, and in *Salud Pública de México,* which started publishing in 1959 and also continues to this day. These are the journals that published the articles that form the bulk of my analysis of the representation of racial and ethnic categories in public health literature in Mexico.

The *Revista Panamericana de Salud Pública* is published by the World Health Organization in Mexico, with articles usually available in Spanish or Portuguese and English. It is one of the preeminent public health journals for the region, especially given its association with the WHO and its ability to publish in multiple languages. *Salud Pública de México* is a smaller, less prestigious journal published by the Instituto Nacional de Salud Pública exclusively in Spanish and mostly on topics directly relating to Mexico. *Salud Pública de México* has limited archives available electronically, compared to the *Revista Panamericana de Salud Pública.*

In order to identify a manageable but still relevant selection of articles for analysis, I restricted my search to articles in the two journals with the full text available, which is from January 1997 to the present for the *Revista Panamericana de Salud Pública* and from

[9] Martinez Casas, 46-48; Sue.

January 1993 to the present for *Salud Pública de México.* I focused further on articles that dealt with issues of nutrition and obesity, both because nutrition research is what prompted my interest in the topic and because of the central importance of these topics to our understanding of health in contemporary Mexico. This gave me approximately 30 articles to review for the *Revista Panamericana de Salud Pública* and over 300 for *Salud Pública de México.*

Non-communicable disease like malnutrition and obesity – two sides of the same nutritional coin – has seen unprecedented growth in developing countries in recent years. In fact, the WHO expects that non-communicable diseases, including cardiovascular disease, cancer, and diabetes, will be 80% of the global burden of disease and contribute to seven out of 10 deaths every year around the world by 2020.[10] This transition from infectious to non-communicable diseases is also seen in nutrition, as countries move from malnutrition (undernutrition) to obesity (overnutrition) in what has been called a "nutrition transition."[11] Countries like Mexico that are in the process of that transition often experience what is called the "double burden of malnutrition," which is the presence of both malnutrition and obesity in the same population across the lifespan, which can put enormous strain on public health resources.[12]

Nutrition and obesity are also important because of the contributions they make to other conditions—in 2010, obesity was estimated to have contributed directly or indirectly

[10] Sheikh Mohammed Shariful Islam et al., "NonCommunicable Diseases (NCDs) in Developing Countries: A Symposium Report," *Globalization and Health* 10, no. 1 (2014).
[11] Barry M Popkin, "The Nutrition Transition and Obesity in the Developing World," *The Journal of Nutrition* 131, no. 3 (2001).
[12] Roger Shrimpton and Claudia Rokx, "Double Burden of Malnutrition," *The World Bank* 12 (2013), accessed November 12, 2016.

to 3.4 million deaths around the world.[13] In particular, malnutrition in childhood has been linked with obesity in adulthood, which is a challenge for Mexico as it completes its nutrition transition and a serious concern for countries like Guatemala that will have to prepare for an obesity epidemic because of their high rates of childhood malnutrition.[14]

Mexico has one of the highest rates of overweight and obesity in the world, estimated at over 70% of adults,[15] and a corresponding high rate of diabetes, estimated at about 9% of adults.[16] This carries not only a high social cost, but also an economic one, and Mexico's government has attempted to enact policies that can reduce the ramifications of this high burden of disease, such as a tax on sugar-sweetened sodas.[17] It remains to be seen if these efforts will pay off, but further highlights the importance of understanding the extent and intensity of a problem like nutrition and obesity through high-quality research in order to develop policies or interventions.

In the United States, information about the prevalence of disease is almost always reported in disaggregation, which allows differences and disparities within the population to come to light and guide actions. Race and ethnicity is a particularly important component of that disaggregation and is routinely reported in the public health literature on nutrition. However, in the Mexican public health literature, reporting results,

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[13] Marie Ng et al., "Global, Regional, and National Prevalence of Overweight and Obesity in Children and Adults During 1980-2013," *The Lancet* 384, no. 9945.
[14] Shrimpton and Rokx.
[15] Ketevan Rtveladze et al., "Obesity Prevalence in Mexico: Impact on Health and Economic Burden," *Public Health Nutrition* 17, no. 01 (2014).
[16] Rafael Meza et al., "Burden of Type 2 Diabetes in Mexico: Past, Current and Future Prevalence and Incidence Rates," *Preventive Medicine* 81 (2015).
[17] Sarah Boseley, "Mexico Enacts Soda Tax in Effort to Combat World's Highest Obesity Rate," *The Guardian* 16 (2014).

demographics, or effectiveness by racial or ethnic category is rare. Racial and ethnic categories are handled with a range of strategies, which are described in the next section.

Racial or ethnic categories do not appear at all in a substantial proportion of the literature published in Mexico in the fields of public health or epidemiology, particularly for topics related to nutrition and obesity. Authors frequently stratify or categorize their data by other categories, like sex or age, but race or ethnicity is frequently absent, as I will demonstrate in the following two representative cases.

For example, an article was published in 2013 on the validation of a scale to measure physical activity among adults in Mexico.[18] The purpose of the study was to take this standardized scale, which had been used in other contexts, and adapt it for Mexico. The article includes important variables, like height, weight, body-mass index (BMI), and waist circumference, as well as demographic information on the study participants, like age and sex, but not race or ethnicity. The authors explicitly cite the fact that "Mexico has its own distinct culture and geography" as a justification for the study, but the omission of race or ethnicity categories suggests a monolithic Mexican culture and identity, or perhaps that race or ethnicity are not important to their task of confirming the validity of this instrument, which is a significant statement.

A similar omission can be seen in a study published a decade before the preceding study. This paper, published in 2003 and using data from the 1999 Encuesta Nacional de Nutrición de México (ENN), also focuses on physical activity, identifying factors associated

[18] C. Medina, S. Barquera, and I. Janssen, "Validity and Reliability of the International Physical Activity Questionnaire among Adults in Mexico," *Revista Panamericana de Salud Pública* 34, no. 1 (Jul 2013).

with doing physical activity for women of reproductive age in Mexico.[19] The authors used data from a random sample of over 21,000 households from across Mexico to see if variables including age, education, parity, region, urban residence, socioeconomic status, and marital status were associated with exercising or playing sports for women of reproductive age. Again, race and ethnicity were excluded from that list of independent variables, where they might be expected to appear in other public health or epidemiological literature. This is likely due to the way that the 1999 ENN survey, which is implemented by the Instituto Nacional de Salud Pública with funding from the Mexican Ministry of Health, was developed and administered.[20] The survey includes a question about speaking an indigenous language, but no other items or questions related to race or ethnicity. Although much of this literature does include race and ethnicity categories, some authors did use the categories for different reasons and with different effects, an aspect that these next vignettes will explore.

Indigeneity

The most obvious example of racial or ethnic categories in this literature is with the indigenous category, which is the only group singled out for special attention by articles that focus just on research within a specific racial or ethnic group. This makes sense, given that indigenous people in Mexico are seen as a separate race, the only "other" against which *mestizo* identities can be constructed, and this is reflected in these texts.[21] But it does suggest that race or ethnic categories are only mentioned when they are not the default –

[19] B. Hernandez et al., "[Factors Associated with Physical Activity among Mexican Women of Childbearing Age]," *Revista Panamericana de Salud Pública* 14, no. 4 (Oct 2003).
[20] Juan Rivera-Dommarco et al., "Encuesta Nacional De Nutrición 1999," *Estado nutricio de niños y mujeres en México* (Cuernavaca, Morelos, México: Instituto Nacional de Salud Pública, 2001).
[21] Martínez Casas.

that *mestizo* is the norm and therefore not worth identifying. For example, several articles specifically discuss the Otomí indigenous people, focusing on health problems within those communities. In a 2001 article, the authors investigate the prevalence of diabetes and cholesterol issues for "indígenas otomíes" in the state of Querétaro, justifying their study by stating that indigenous peoples in North America have been found to have higher rates of those diseases, perhaps due to a genetic factor, and perhaps the same is true of indigenous people in Mexico.[22] By connecting indigenous people in Mexico to the larger indigenous "race" which is also present in North America, the authors construct them as the "other," and thus, using racial terms is appropriate, since they are not part of Mexico's one cosmic race. Indeed, the rates of diabetes and cholesterol in this population are contrasted with the rates in the "urban Mexican *mestizo* population," again demonstrating the conceptual separation of indigenous people that allows their race to be highlighted. The differences in rates of diabetes and high cholesterol are attributed to the indigenous diet, another aspect in which indigenous people are painted as different from the norm.

This study focuses exclusively on this specific indigenous population, which creates the space to talk about race. This is in contrast to other epidemiological studies that might take a national sample and provide a racial or ethnic breakdown as part of reporting the demographic information of the study participants—which we have seen does not happen in the Mexican public health and epidemiological literature. Occasionally, a narrow focus on an othered subgroup like indigenous people in Mexico can lead to language that could be perceived as racist or discriminatory. A similar article focused specifically on the eating

[22] C. Alvarado-Osuna, F. Milian-Suazo, and V. Valles-Sánchez, "Prevalence of Diabetes Mellitus and Hyperlipemias in Otomi Indians," *Salud Pública de México* 43, no. 5 (Sep-Oct 2001).

habits and nutritional status of Triqui people in Oaxaca, published as recently as 2007 but drawing on anthropometric data from the last century, describes the Triqui as a "Mexican ethnic group with their own culture" for whom "malnutrition seems to be inevitable" due to their highly marginalized socioeconomic situation.[23] The authors go on to find that the nutritional status of women in the community is particularly poor, which they attribute to "a cultural attitude that does not favor the female gender."[24] This is an oversimplification of the causes and risk factors for malnutrition that puts blame on culture or ethnicity without adequately considering other factors that might influence nutritional status. Focusing on a specific, "other" ethnic group not only creates the space to talk about race and ethnicity, but to frame those categories as the reason for the poor health outcomes of the group.

Suggested Indigeneity

In some cases, authors hinted at an ethnic category like indigenous without directly writing about race or ethnicity. For example, in an article describing changes in diet and nutritional status of four "communities" that had transitioned from traditional corn subsistence production to sorghum production, Aguirre and colleagues mention that the agriculture was taking place in "ejidos," which are collectively-owned plots of land traditionally associated with indigenous communities.[25] But the authors make no mention of race or ethnicity, which could reasonably be expected to have an effect on the outcomes

[23] R. M. Ramos Rodríguez and K. Sandoval Mendoza, "[Nutritional Status of the Poor, Marginalized Adults of the Triqui Ethnic Group in Oaxaca, Mexico]," *Revista Panamericana de Salud Pública* 22, no. 4 (Oct 2007).
[24] Ibid.
[25] J. Aguirre-Arenas, M. Escobar-Pérez, and A. Chávez-Villasana, "Evaluation of the Food Consumption and Nutrition in 4 Rural Communities," *Salud Pública de México* 40, no. 5 (Sep-Oct 1998).

they were measuring, instead using language that suggests indigeneity and lower social class.

These sort of veiled references continue into more contemporary literature. In 2013, Barraza and colleagues wrote a paper using a large national data set to look at inequality in health outcomes and healthcare utilization, an area of investigation—health disparities—where you would expect race or ethnicity to be important.[26] However, although they briefly mention "indigenous" people in their introduction, much of the focus is on economic inequality. The authors use words like "marginalized" or "rural," which does not always mean indigenous in Mexico but often can. As a positive, they do include a binary language variable, which they use to approximate indigenous ethnicity. However, since it is only one variable based on one survey question (Do you speak an indigenous language, yes or no?), it functions more as an index of language ability, and not as a direct proxy for race or ethnicity, again suggesting race or ethnicity instead of directly addressing it.

Mexican

Unsurprisingly, many papers described their sample or the participants as "Mexican," when racial or ethnic background was mentioned at all, especially if the participants did not align with some other dimension of "other," like "indigenous," "rural," or "marginalized." For example, in a paper with the stated objective of examining "the relationship between demographic and socioeconomic factors and food consumption in Mexican adolescents," the absence of disaggregation or even just reporting racial or ethnic

[26] M. Barraza-Lloréns, G. Panopoulou, and B. Y. Díaz, "Income-Related Inequalities and Inequities in Health and Health Care Utilization in Mexico, 2000-2006," *Revista Panamericana de Salud Pública* 33, no. 2 (Feb 2013).

categories in the demographics is surprising.[27] Again, the underlying assumption is that all Mexicans—people from Mexico—have the same racial or ethnic identity, which aligns nicely with the national narrative of *mestizaje*. Interestingly, only a very small number of researchers used the actual word "*mestizo*," if they talked about racial or ethnic categories at all, perhaps because it goes without saying that "Mexican" means *mestizo*. Categories like "black" or "Afro-descendant" were completely absent. Again, all of this points to "Mexican" as a normative category, against which other categories like indigenous constitute the "other."

In another example, a qualitative exploration of young children's motivations for consuming sugar-sweetened beverages, very little is said about the demographics or cultural context of the children, beyond their ages and genders and that they are Mexican.[28] The participants' national identity as Mexican is their most important identity, and again, race or ethnicity is not considered. This is particularly surprising in research that is explicitly exploring the role that "cultural constructions" play in dietary habits – surely race or ethnicity would be a part of that? This is further evidence that representations of race or ethnicity in the Mexican public health literature reflect the prevailing national narrative around *mestizaje*.

U.S. Categories

Finally, research conducted in communities that straddle the Mexican border with the United States provides some interesting insight into racial and ethnic categories as used

[27] L. Ortiz-Hernández and B. L. Gómez-Tello, "Food Consumption in Mexican Adolescents," *Revista Panamericana de Salud Pública* 24, no. 2 (Aug 2008).
[28] F. Theodore et al., "[Culturally Constructed Meanings for Consumption of Sweetened Beverages among Schoolchildren in Mexico City]," *Revista Panamericana de Salud Pública* 30, no. 4 (Oct 2011).

in Mexican nutrition literature because of the opportunity they afford to compare labels for similar groups of people across a national boundary. For example, Vijayaraghavan and colleagues carried out a study with the following stated purpose:

> To determine prevalence of blood pressure control, hypertension, hypertension awareness, and antihypertensive treatment among adults (≥ 18 years old) with diabetes living in the border region between the United States of America and Mexico, and to explore variation in those variables between all adults on the Mexican side of the border ("Mexicans") and three groups on the U.S. side of the border ("all U.S. adults," "U.S.-born Hispanics," and "Mexican immigrants").[29]

Clearly, the labels that the researchers are using for to describe their participant groups are based on national identity as well as racial or ethnic identity. The assumption that "all adults on the Mexican side of the border" are Mexicans, whereas on the U.S. side of the border, there are three different groups, points to the different understandings of race in the two countries. In Mexico, there are only Mexicans, but if a Mexican crosses the border, she becomes a Mexican immigrant; if she is born to "Hispanic" parents on the U.S. side of the border, she becomes a "U.S.-born Hispanic;" and "all U.S. adults" does not make distinctions based on racial or ethnic identity because it refers to an entire population and not a subgroup. The act of crossing the border makes an individual's racial or ethnic identity subject to the racial categories and national narratives functioning in that country.

Although there is likely a difference in the social experiences of "Mexicans," "Mexican immigrants," and "U.S.-born Hispanics," their genetics could be very similar or they could share a sense of "imagined community." The authors could have created the divisions between these three groups for the purposes of the research. Of course, it is possible that there is significant racial diversity within each group as well, a possibility that

[29] M. Vijayaraghavan et al., "Blood Pressure Control, Hypertension, Awareness, and Treatment in Adults with Diabetes in the United States-Mexico Border Region," *Revista Panamericana de Salud Pública* 28, no. 3 (Sep 2010).

is not allowed for by these categories. But, considering the "Mexican" label in comparison to the options afforded by the American labels highlights again the way that the national narrative of *mestizaje* creates one single national identity: Mexican.

The absence of the racial and ethnic categories from the Mexican public health literature on nutrition and obesity is a direct reflection of the Mexican national ideology of *mestizaje*. Indeed, it is another actualization of how Telles and colleagues have described how "the defining of the *mestizo* category as Mexico's 'national identity' has taken hold and powerfully shaped the collection and interpretation of social science data."[30] Perhaps, then, it could be argued that the omission of race and ethnicity from the Mexican public health and epidemiological literature in this way is appropriate to the context. Indeed, if the majority of Mexicans identify as *mestizo*, both in national censuses and in other representative surveys, then why include information on racial or ethnic identity in public health research?[31] Most immediately, there is the clear fact that not all people identify as *mestizo*— there are important minorities of indigenous and afro-descended people who are culturally, linguistically, and genetically different than people who identify as *mestizo*.[32] But in the most fundamental way, not considering or including that information lowers the quality of the research, which leads not only to a lost opportunity to improve the health and lives of many Mexicans, but potentially does harm as well.

One of the most important assumptions of epidemiology, the study of the incidence, prevalence, and distribution of disease and health in a population, is that a researcher will never be able to measure their outcomes of interest within an entire population. In order to

[30] Martínez Casas, 48.
[31] Ibid.
[32] Ibid.; Sue.

estimate for an entire population, the researcher must select a representative sample from that larger population. The sample must reflect the larger population on every conceivable dimension, or else they run the risk of an uncontrolled confounder skewing their results and leading them to false conclusions. A classic example involves coffee and liver cancer: researchers had selected what they thought was a representative sample, implemented their study, and found that there was a correlation between people who drank coffee and liver cancer. Unfortunately, they had neglected to include information about cigarette smoking in their work, and it ended up confounding their results – the coffee drinkers were also cigarette smokers, and it was the smoking that caused the liver cancer. By not including and accounting for racial or ethnic identity in their research, these researchers could be committing the same error as the researcher who did not include cigarette smoking status in their research. This leads to lesser quality research and its associated ills, like policy that does not benefit the most vulnerable members of society, or even worse, actively does harm.

Beyond assuring high quality research, including racial and ethnic identity in public health research is important because it can serve as a proxy for other potential confounders, such as socioeconomic factors, access to healthcare, the built environment (housing and land tenure, etc.), and in a newer area of research, even genetic factors Although the science of linking health disparities to genetic underpinnings is still evolving, we know that an individual's genetic makeup, which is related to racial or ethnic identity, influences health outcomes. Certain genes that are more common in groups that might self identify as a certain race or ethnicity have been linked to negative health-related

outcomes.[33] Similarly, a fascinating recent study found that diabetes can be more lethal in Mexicans and Mexican-Americans than in non-Hispanic whites, which the authors attribute partially to genetics, although medication use, insulin use, fasting glucose levels, and duration of diabetes explained much of the difference in mortality.[34] All of these factors can be influenced by race or ethnicity, either through genetics or through race or ethnicity as a proxy for other social or economic factors. It is difficult to tease out exactly which factors—genetic, social, economic, environmental—or which combination of factors is the true cause of health disparities, but including information in public health research about racial or ethnic identity is an important first step toward grappling with that important question. Of course, as a study published in the United States, this study uses terms like "Mexican-Americans" and considers "Mexicans" as a monolithic, "foreign" group, which could be further interrogated. Further discussion of the racial makeup of the Mexican groups in the study would have further enriched their discussion of disparities in lethality by allowing for the possibility of a more varied Mexican genetic pool. But it does highlight the importance of including racial and ethnic categories as a proxy for genetic and socioeconomic influences on health.

A person's genetic makeup can also have an effect on the effectiveness of different drugs and even different public health interventions. For example, in the United States, we know that racial and ethnic minorities have been underrepresented in clinical trials for decades, which reduced the generalizability of medical and public health research and

[33] See for example: Karol Estrada et al., "Association of a Low-Frequency Variant in Hnf1a with Type 2 Diabetes in a Latino Population," *Jama* 311, no. 22 (2014).
[34] Kelly J. Hunt et al., "Diabetes Is More Lethal in Mexicans and Mexican-Americans Compared to Non-Hispanic Whites," *Annals of Epidemiology* 21, no. 12 (2011).

often meant that certain medications were less effective for certain groups.[35] As we saw in the Hunt study, medication use (and efficacy) was an important determinant of health outcomes like diabetes mortality.[36] Furthermore, health promotion programs are often more effective for certain racial or ethnic groups than others. The Diabetes Prevention Program, an effort to keep people from developing diabetes through diet and exercise changes, was hugely successful with white Americans and met with much more limited success in Hispanic or Latino communities.[37] However, if the researchers had not included racial and ethnic data and variables in this research, this disparity would never come to light and would never be addressed, leading to continued poor diabetes outcomes for the most vulnerable groups. For these reasons, including racial and ethnic identity in public health research on nutrition and diabetes in critical to good research and good health.

But including racial and ethnic identity in public health literature is not a straightforward process. As Margaret Winker writes:

> Still lacking are careful consideration of what is actually being measured when race/ethnicity is described, consistent terminology, hypothesis-driven justification for analyzing race/ethnicity, and a consistent and generalizable measurement of socioeconomic status. Furthermore, some studies continue to use race/ethnicity as a proxy for genetics. Research into appropriate measures of race/ethnicity and socioeconomic factors, as well as education of researchers regarding issues of

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[35] B. Evelyn et al., "Participation of Racial/Ethnic Groups in Clinical Trials and Race-Related Labeling: A Review of New Molecular Entities Approved 1995-1999," *Journal of the National Medical Association* 93, no. 12 Suppl (Dec 2001); Mahvash Hussain-Gambles, Karl Atkin, and Brenda Leese, "Why Ethnic Minority Groups Are Underrepresented in Clinical Trials: A Review of the Literature," *Health & Social Care in the Community* 12, no. 5 (2004).
[36] Hunt et al.
[37] Deborah Vincent et al., "The Effects of a Community-Based, Culturally Tailored Diabetes Prevention Intervention for High-Risk Adults of Mexican Descent," *The Diabetes Educator* 40, no. 2 (2014); Ira S Ockene et al., "Outcomes of a Latino Community-Based Intervention for the Prevention of Diabetes: The Lawrence Latino Diabetes Prevention Project," *American Journal of Public Health* 102, no. 2 (2012).

> race/ethnicity, is necessary to clarify the meaning of race/ethnicity in the biomedical literature.[38]

The age-old questions around how to appropriately define and operationalize the concepts of race and ethnicity remain. Although many, if not most, academic public health articles published in the United States include racial and ethnic categories, even if in a purely descriptive way, there is still a lot of work to be done in order to make the use of those categories less problematic. As Winker suggests, a clear understanding of what is being referenced when researchers invoke racial or ethnic categories is still necessary—do racial and ethnic categories include genetic background, or are they proxies for socioeconomics, or is it some combination of both? Any of these options seems better than not including the categories at all, as long as the definition and measurement of the categories was clear. By including racial and ethnic categories, we can begin to grapple with these issues on a larger scale as an academic public health community.

In the case of Mexico, a good first step might be to actively include race as a variable, perhaps as a simple self-identification question for all participants participating in a research study. After all, you if you aren't collecting data on racial and ethnic identification, you cannot begin to address health disparities that could be related to that racial or ethnic identification, and perhaps more interestingly, you cannot contribute to the larger academic discussion about the use of racial and ethnic categories in public health research. Edward Telles and the PERLA study offer possibilities beyond self-identification, like different question wording that might make it easier for people to identify as something

[38] Margaret A Winker, "Race and Ethnicity in Medical Research: Requirements Meet Reality," *The Journal of Law, Medicine & Ethics* 34, no. 3 (2006).

other than *mestizo*, which is still a strong ideology and identity for many Mexicans.[39] I also am interested in the application of the PERLA color palette to other areas of research or policy. Skin color seems to matter and lead to different outcomes and experiences for Mexicans, and it seems reasonable to assume that the same would be true for health outcomes. Perhaps the future of public health research in Mexico is a focus on colorism and pigmentocracies, where skin color is used instead of racial or ethnic identity in research studies.

In conclusion, the national Mexican narrative of *mestizaje*, the idea that Mexicans are all part of a single cosmic race, affects the manner in which public health research is conducted in the country. Analysis of literature published in the *Revista Panamericana de Salud Pública* and *Salud Pública de México*, specifically articles on nutrition and obesity published over the last 20 years, indicates that racial or ethnic categories are almost completely absent from the literature. When they are included, they usually refer explicitly or implicitly to an indigenous other, occasionally in more racist terms. Some articles referred to "Mexicans" as the default, assumed race, or compared Mexicans to other categories as used in the United States. This treatment of racial and ethnic identity in the literature leads to poorer quality research, a lost opportunity to improve the health outcomes of all Mexicans but particularly marginalized people through policy, and the definite possibility that the health of many Mexicans is being harmed.

[39] Martínez Casas.

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