Social Identity in New Mexicans of Spanish-Speaking Descent Highlights Limitations of Using Standardized Ethnic Terminology in Research

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Social Identity in New Mexicans of Spanish-Speaking Descent Highlights Limitations of Using Standardized Ethnic Terminology in Research

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Short Title: Social Identity in New Mexicans of Spanish-Speaking Descent

KEY WORDS: SOCIAL IDENTITY, ETHNIC NOMENCLATURE, CONTINENTAL ANCESTRY, NEW MEXICO
Abstract  In this study, we evaluate the extent to which regional history has shaped the social identity nomenclature in New Mexicans of Spanish-speaking descent (NMSD). We asked 507 NMSD to list the social-identity terms they used to describe themselves and their parents, and we examined the correspondence between these choices and family ties to the region, birthplace, and continental ancestry. NMSD frequently identified using the regional terms “Nuevomexicano/a” (15%) and “Spanish” (12%). These individuals reported family ties to the region that predate New Mexican statehood. They and their parents were frequently born in New Mexico, they frequently chose the other of the two terms as a secondary descriptor, and they frequently ascribed one of the two terms to their parents. About 10% of NMSD identified as “Mexican American” and “Mexican.” About 25% of these individuals, and more than half of their parents, were born in Mexico. They also frequently chose the other of the two terms as a secondary descriptor, and they frequently ascribed one of the two terms to their parents.

Compared to NMSD who identified as “Mexican” and “Mexican American,” individuals who identified as “Nuevomexicano/a” and “Spanish” had higher European ancestry and lower Native American and African ancestry. Our results also suggest that the term “Hispanic,” frequently chosen as both a primary and secondary social identity term by NMSD, may, as it continues to rise in prominence, mask more deeply rooted and potential socially relevant aspects of social identity in New Mexico. More broadly, these results indicate that regional history influences social identity nomenclatures in ways that are potentially incompatible with OMB standards. This incompatibility may adversely affect the ability of researchers in the social sciences to assess the causes of social inequality and health disparity in individuals of Spanish-speaking descent in different regions of the US. We argue that future studies would benefit from more fine-grained, region-specific analyses of social identity.
In recognition of the fact that widespread discrimination had adversely affected the health and welfare of Americans of Spanish descent (ASD), in 1974, the US Congress passed a resolution mandating that the federal government collect data on the “social and economic conditions of both urban and rural Mexican Americans, Puerto Ricans, Cubans, and other Americans having Spanish origin or descent” (Roybal 1974). The resolution led to the creation of the sole ethnic category recognized by the Office of Management and Budget (OMB), termed “Hispanic or Latino” (OMB 1997). At the direction of the OMB, the US Census Bureau has collected demographic and socioeconomic data on ASD who self-identify using these terms since 1980. The terms are also often used in social science and health-related research that seeks to measure the impact of ethnic discrimination on health disparity and social inequality (Daviglus et al. 2012; Hajat, Lucas, and Kington 2000; Hanson and Santas 2014; Lucas, Freeman, and Adams 2016; Schneiderman et al. 2014; Jerant, Arellanes, and Franks 2008).

The achievement of these goals, both in government and in academic research, is complicated by the long-recognized fact that social identity and its underlying nomenclatures are highly fluid across space and time (Bradby 2003; Ford and Kelly 2005; Gimenez 1989; Phinney 1992; Portes and MacLeod 1996; Kiang et al. 2010). These nomenclature difficulties are recognized by ASD themselves. In a nation-wide survey by the Pew Research Center, 51% of ASD stated that they most often identified using their country of birth or family origin, while only 24% of ASD stated a preference for pan-ethnic labels such as “Hispanic” or “Latino” (Taylor et al. 2012). Recognizing this fact, under guidance from the OMB (1997), the US Census Bureau collects more fine-grained data on ASD using four subcategories: “Mexican, Mexican Am., Chicano”, “Puerto Rican”, “Cuban”, “another Hispanic, Latino, or Spanish origin.” Going one step further, the Institute of Medicine recommended in 2009 that government agencies use
OMB categories in combination with more “granular,” regionally-relevant subcategories (Institute of Medicine 2009, 2003). While these recommendations have the potential to improve studies of social inequality and health disparity, the granular categories are seldom used in research. Furthermore, the extent to which the categories capture regional nomenclatures is unclear. To this end, a broad goal of this study is to identify the social-identity terms used by the ASD population of New Mexico, the US state with the highest proportion of ASD in the country (48%, 2014 American Community Survey).

The ASD Population of New Mexico. New Mexico has a distinctive history compared to other regions of the US and even other parts of the US Southwest. Native Americans were present in the region for thousands of years prior to the arrival of the first Spaniards in 1598 (Huckell 2014). During the Spanish colonial period (1598-1821), census and church records enumerated individuals of mixed ancestry as well as exclusive Spanish or Native American ancestry. These records indicate that marriage and mating occurred between the two groups from the start (Marshall 1939; Brooks 2002; Tjarks 1978), though, throughout the colonial period, social and political control was concentrated in the hands of putatively pure Spaniards. During the US territorial period (1850-1912), the population grew as people migrated from other areas of the US. While scholars agree that this migration had important and lasting effects on social identity and its underlying nomenclatures (Hansen and Nostrand 1981; Rodriguez 1992; Nostrand 1996; Gonzales 1993), the specific effects were multifaceted, and they are difficult to disentangle (Gonzales 1997). Some scholars argue that, in the face of potential political marginalization by the new arrivals, who were largely of Western European descent (often referred to as “Anglo”), elite members of the resident population embraced their Spanish, i.e., European, roots (Campa
1946). Other scholars contend that members of the resident population embraced Spanish identity primarily in opposition to Anglo hegemony (reviewed in Gonzales 1997). In any case, scholars broadly agree that the notion of deep ancestral ties to Spanish identity and to the New Mexican homeland played an important role in the construction of social identity and its underlying nomenclatures during this period. Throughout this period and beyond, the growing Anglo population itself embraced and romanticized the Spanish heritage of the region (Gonzales 1993; Wilson 1981). In the 20th century, this heritage was incorporated into the symbols of statehood and the institutions of the state, such as the yellow and red colors of the New Mexican flag, adopted in 1925 (*New Mexico Statutes and Court Rules* 1925), and the presence of Spanish conquistadores on the seal of the University of New Mexico, adopted in 1923. This heritage was also incorporated into the social identity nomenclature in terms such as “Nuevomexicano,” “Spanish,” and “Hispano” (Lomelí, Sorell, and Padilla 2002; Nostrand 1996; Nieto-Phillips 2008).

As a result of this history, the notion of deep Spanish heritage may be a prominent aspect of social identity in New Mexico today (Gonzales 1993, 1997; Nostrand 1996; Wolf and Craig 1973). Based on this history, we hypothesize that the terms that New Mexican ASD use to describe themselves will: 1) depart from OMB-based ethnic nomenclature in ways that reflect deep family ties to the region and Spanish heritage, 2) correspond with ancestral ties to the region, reflected in secondary social identity terms that New Mexican ASD use to describe themselves, the terms they ascribe to their parents, and birthplace, and 3) correspond with patterns of Native American, European, and African genetic ancestry.

We conclude with a discussion of the relevance of our findings for the use of standardized social identity nomenclatures in social science research.
Materials and Methods

Ethics Statement. The University of New Mexico and the University of Tennessee Institutional Review Boards approved the research protocols (UNM HRPO 10-310, UTK IRB-14-01527-XM). Written informed consent was obtained from all participants prior to data collection.

Sampling Design and Subject Recruitment. The study was conducted in two phases. The first phase was conducted in 2008 in consultation with community leaders and with cultural anthropologists, health researchers, and Latin American Studies scholars who conduct research in New Mexico. For this study, we recruited 25 adult New Mexican ASD of diverse age, education, and income from personal contacts and from advertisements on the campus of the University of New Mexico. In semi-structured interviews, we asked the participants to list all social identity terms that they used to describe themselves and other New Mexican ASD, and we asked them to discuss associations between the terms and the history of the region. Though participants listed many different terms, the most common choices were “Chicano/a,” “Hispanic,” “Latino/a,” “Mexican,” “Mexican American”, “Nuevomexicano/a,” and “Spanish.” These choices are consistent with those identified in a study of social identity in southern New Mexico (Doan and Stephan 2006). As noted in the introduction, the terms “Spanish” and “Nuevomexicano/a” are associated by many NM ASD with Spanish heritage and with deep ties to the region (Lomelí, Sorell, and Padilla 2002; Doan and Stephan 2006); this association was confirmed in discussions with the participants.

The second phase of the study was conducted between August 2010 and June 2012. For this phase, we administered a questionnaire (“A Long-Term Study of Sociocultural, Genetic, and
Phenotypic Variation in New Mexico Hispanics” 2016) to 507 adult, self-identified New Mexican ASD during face-to-face interviews conducted in English. In order to distinguish the study participants from the general population of New Mexican ASD, we hereafter refer to the participants as NMSD. The questionnaire elicited information about demographic characteristics, social identity terms ascribed by NMSD to themselves and their parents, income, education, birthplace, and ancestral ties to the region. These variables are described in more detail below. Participants were recruited using convenience sampling through printed advertisements on the campus of the University of New Mexico and public libraries, community centers, and non-profit organizations within the Albuquerque metropolitan area.

**Demographic and Socioeconomic Characteristics.** In an attempt to ensure that the NMSD sample was representative of New Mexican ASD with respect to demographic and socioeconomic factors that have been linked social identity choices (Holt et al. 2017), we continually monitored the distributions of age, sex, highest level of completed education, and family income within the past 12 months. The sex and age distributions broadly matched that of the New Mexican ASD population throughout the data collection period (based on data from the 2000 census, taking into account the fact that we only sampled adults). However, as the study proceeded, we found that family income and completed education of participants was high compared to the New Mexican ASD population as a whole. To rectify this deficit, we used data from the 2000 census to identify zip codes in the Albuquerque area with high proportions of relatively low income individuals, and we mailed solicitation flyers to randomly chosen households in these zip codes.
Social Identity and Family Ties to the Region. From the list of terms identified in the first phase of this study, as well as the term “Other,” we asked participants to choose the terms they used to describe themselves in order of salience in their every-day lives. Participants were permitted to choose as many terms as they liked and to rank multiple terms as their top choice. If they chose "Other,” we asked them to provide the relevant term(s). We also asked participants to select the term that each parent would use to describe themselves.

We asked participants to describe the nature of their family ties to the region using three questions: “Were any of your ancestors colonists from Spain?,” “Do you have ancestors from Mexico?,” and “Do your father [and/or] mother belong to an old New Mexico family?” To further examine the relationship between social identity nomenclatures and ties to the region, we asked NMSD to provide birthplace information (state, country) for themselves and both parents.

Continental Ancestry. For continental ancestry, we extracted DNA from mouthwash samples. Extracts were genotyped with the Illumina HumanCytoSNP-12 DNA Analysis BeadChip Kit. The chip contained 291,917 single nucleotide polymorphisms (SNPs) that are a subset of 2.2 million polymorphic loci identified in Yoruban, Utah Mormon, Chinese, and Japanese individuals from the International HapMap Project (The International HapMap Consortium 2005). The chip was also used to type the SNPs in 40 Africans (25 Yoruba, 5 Kenyan Bantu, 5 Mandenka, 5 San), 54 Europeans (29 French, 5 Adygei, 5 Orcadian, 5 Sardinian, 5 Russian, 5 Tuscan), and 45 Native Americans (25 Pima, 5 Karitiana, 5 Maya, 5 Piapoco, 5 Surui) from the Human Genome Diversity Panel-CEPH (Cann et al. 2002). These three groups served as proxies for “parental” populations in the continental ancestry analyses. We performed tests of Hardy-Weinberg equilibrium for each SNP and other quality control tests in PLINK (Purcell et al.)
Native American, European, and African ancestry proportions were estimated for each individual using the model-based approach implemented in the program ADMIXTURE (Alexander, Novembre, and Lange 2009).

**Statistical Analysis.** We used signed Wilcoxon rank sum tests to assess differences in demographic variables, socioeconomic characteristics, and continental ancestry between groups of NMSD that identified using each of the eight terms. We used Fisher’s exact tests to assess differences in the responses to the questions about family ties to the region. We display the results for continental ancestry using violin plots (Hintze and Nelson 1998). P-values were adjusted for multiple tests using the method of Holm (1979), and we used heat maps to highlight p-values that fell below 0.05. Analyses and plotting were conducted in R (R Core Team 2014).

**Results**

**Social Identity.** Table 1 shows the counts and proportions of the first-choice through fourth-choice terms that NMSD chose from the list of the seven social identity terms plus “Other.” The term “Hispanic” was the first choice for 44% of participants. “Nuevomexicano/a” and “Spanish” were the second and third most common first choices at 15% and 12% respectively. “Latino/a,” at 3%, was the least common first choice. Twenty-seven NMSD, or 5% of the sample, picked "Other” as their first choice. When we asked these individuals to specify a term that was meaningful to them, the only term used more than twice was “Spanish American” (n=9). Terms used once included “Spaniard,” “Norteño,” “New Mexican,” “Mexicana,” “Cuban,” “Panamanian,” and “Filipino.”
Second-Choice Terms. Second-choice terms are summarized in Fig 1. Second choices were most heterogeneous for NMSD who chose “Hispanic” as their first-choice term. Among these individuals “Spanish” and Nuevomexicano/a” were the most common second choices at 32% and 23% respectively, “and “Mexican” (4%) and “Mexican American” (6%) were the least common.

Second choices were least heterogeneous for NMSD who chose “Spanish” as their first choice. The most common second choice among these individuals was “Hispanic” (72%) followed by “Nuevomexicano/a” (11%), and the least common choices were “Mexican” (0%) and “Mexican American” (2%).

Of note, individuals who chose “Chicano/a” as their first choice term frequently chose “Nuevomexicano/a” (18%) as a second choice, and they relatively infrequently chose “Mexican” (4%) or “Mexican American” (10%). In contrast, individuals who chose “Mexican” and “Mexican American” first frequently chose “Chicano/a” as second (21% and 24%, respectively), but they rarely chose “Nuevomexicano/a” (1% and 4% respectively). Below we discuss how these results are potentially as odds with the nomenclature used on the US census, which places Mexican, Mexican American, and Chicano into a single ethnic subcategory.

Terms Ascribed to Parents. The terms that NMSD ascribed to their parents are shown in Fig 2. The range of terms was most heterogeneous for NMSD who identified as “Chicano/a”. These individuals most often ascribed the term “Spanish” (21%) to their parents, followed by “Chicano/a” (18%) and “Hispanic” (18%), and they least often ascribed the term “Latino/a” (2%). These individuals ascribed the terms “Nuevomexicano/a” (11%), “Mexican” (9%) and “Mexican American” (10%) with about equal frequency.
The range of terms was least heterogeneous for NMSD who identified as “Mexican” and “Spanish.” NMSD who identified as “Mexican” most frequently ascribed “Mexican” to their parents (81%), followed by “Mexican American” (9%). They never assigned the term “Nuevomexicano/a” to a parent and only seldom ascribed the term “Spanish” (6%). Similarly, NMSD who identified as “Spanish” most frequently assigned the term “Spanish” to their parents (76%), and they almost never ascribed the terms “Mexican” (1%) or “Mexican American” (1%). Also of note, NMSD who identified as “Nuevomexicano/a” most frequently assigned the terms “Nuevomexicano/a” (37%) and “Spanish” (24%) to their parents, and they seldom ascribed the terms “Mexican” (5%) or “Mexican American” (5%).

**Family Ties to the Region.** Table 2 shows the frequency of affirmative answers to the questions about ties to place. The largest differences occurred between NMSD who identified as “Spanish,” who reported stronger ties to New Mexico, from NMSD who identified as “Mexican” and “Mexican American,” who reported stronger ties to Mexico. For the question “Do your father [and/or] mother belong to an old New Mexico family?” the frequency was highest for NMSD who identified as “Spanish” (92%) and lowest for NMSD who identified as “Mexican” (25%), followed by “Mexican American” (34%). All pairwise comparisons between “Mexican” and “Mexican American” vs. the other groupings were significant after adjusting for multiple tests (Fisher’s exact test, p< 0.0017), except for the “Mexican-Latino/a” comparison (p=0.03).

For the question “Do you have ancestors from Mexico?,” the frequency was lowest for NMSD who identified as “Spanish (18%)” and highest for NMSD who identified as “Mexican American” (97%). The difference was statistically significant, as was the difference between
“Spanish” vs. all of the following: “Chicano/a” (57%), “Mexican” (94%) “Nuevomexicano/a” (60%), and “Hispanic” (43%) (all p-values below the multiple-test threshold, 0.0017).

There were fewer differences for the question “Do you have ancestors from Spain?” The frequency of affirmative answers was lowest for NMSD who identified as “Chicano/a” (53%) and highest for NMSD who identified as “Latino/a” (82%). Only the Chicano/a-Spanish (80%) comparison was significant after correcting for multiple tests (p<0.0017).

**Birthplace.** For NMSD who identified using all terms except “Mexican” and “Mexican American,” most participants, and both of their parents, were born in New Mexico (Table 3). New Mexican birth was especially common for NMSD who chose “Spanish” as their first-choice term (average for participant and both parents = 88%) and “Nuevomexicano/a” NMSD (average = 88%), but it was also fairly common for “Chicano/a” (average = 80%), “Hispanic” (average = 81%), “Latino/a” (average = 82%), and “Other” (average = 78%). None of the participants who identified as “Chicano/a,” “Hispanic,” “Spanish,” or “Other” were born in Mexico. Mexican birth was also infrequent for NMSD who identified as “Nuevomexicano/a”, at 1%.

In contrast, of NMSD who identified (first-choice term) as “Mexican American,” 16% were born in Mexico, and about half of their mothers and fathers were born in Mexico. Mexican birth was even more common for NMSD that identified as “Mexican”; 50% were born in Mexico, as were about two thirds of their mothers and fathers.

**Demographic and Socioeconomic Characteristics.** Males comprised 46.4% of the sample and females 53.6%. Median age was 49 years, which is high compared to the median for the New Mexico ASD population from the 2010 census (33.7 years) (US Census Bureau 2010 Census
n.d.). The difference in part reflects the fact that our NMSD sample was limited to adults over the age of 18. Average age was highest in NMSD who identified as “Spanish” (54.1), followed by “Other” (52.2), and it was lowest in NMSD who identified as “Mexican” (41.3) followed by “Nuevomexicano/a” (42.8). The only statistically significant difference in age occurred between older “Spanish” NMSD vs. younger “Nuevomexicano/a” NMSD (Wilcoxon rank sum test, exact conditional p-value < 0.0001).

The NMSD sample was relatively highly educated compared to New Mexican ASD as a whole, with 97% having graduated from high school (compared to 84.2% for the state at large and 85.6% for the US) (2011-2015 American Community Survey 5-Year Estimates). Median family income at $42,500 was comparable to New Mexican ASD as a whole ($41,963) and low compared to the US at large ($50,502) (2011 American Community Survey 1-Year Estimates). There were no statistically significant differences in education or family income based on social identity terms.

**Continental Ancestry.** Table 4 shows the mean Native American, European, and African ancestry across individuals for each social identity term (and standard errors). Fig 3 shows the ancestry distributions associated with each term using violin plots. The heats maps below each plot show the p-values, with asterisks indicating statistical significance after correcting for multiple tests. The mean proportion of Native American ancestry across all NMSD was 0.269 (range 0 – 0.67). The standard errors for individual estimates were low, ranging from 0.002 – 0.020. Only two individuals had effectively zero Native American ancestry (<0.00001); one individual identified as “Spanish” and the other as “Other.” Native American ancestry was highest in NMSD who identified as “Mexican” (0.369), followed by “Mexican American”
(0.331). It was lowest in “Other” (0.232), followed by “Nuevomexicano/a” (0.242) and “Spanish” (0.246). The differences were significant at the multiple-test adjusted p-values for NMSD who identified as “Mexican American” vs. those who identified as the following: “Chicano/a,” “Hispanic,” “Nuevomexicano/a,” “Spanish,” and “Other” (Wilcoxon rank sum test, p < 0.0017).

The pattern was reversed for European ancestry. The mean for the full sample was 0.710, and the range was 0.308 – 0.999; standard errors ranged from 0.003 – 0.020. No one had zero European ancestry and European ancestry exceeded 0.9999 for only one individual, who identified as “Other” (one of the same two individuals who had zero Native American ancestry). With respect to social identity terms, the pattern of statistical significance was the same as it was for Native American ancestry, with the addition that NMSD who identified as “Nuevomexicano/a” had higher European ancestry than NMSD who identified as “Mexican.”

African ancestry was uniformly low in the sample. The mean across all individuals was 0.020 (range 0 – 0.461), and standard errors ranged from 0 – 0.018. The proportion exceed 0.1 for only six individuals (five “Hispanic”, one “Latino/a”) and it exceeded 0.2 for only two individuals (both “Hispanic”). Eighty-eight individuals had effectively zero African ancestry (< 0.00001). The standard error range for these individuals was 0 – 0.006. Zero African ancestry was least common among individuals who identified as “Mexican” (0%) and “Mexican American” (5%). It was most common in NMSD who identified as “Other” (24%) followed by “Spanish” (21%), and it was intermediate for individuals who identified as “Chicano/a” (12%).

“Mexican American” (3.6%) and “Mexican” (3.2%) participants had the highest African ancestry proportions, and “Spanish” (1.3%), “Nuevomexicano/a” (1.4%), and “Other” (1.6%)
had the lowest levels. The pattern of significance was similar to that for Native American and European ancestry (Fig 3).

**Discussion**

Our first hypothesis was that the terms that New Mexican ASD use to describe themselves would depart from OMB-based ethnic nomenclature in ways that reflect deep family ties to the region and Spanish heritage. The hypothesis is supported by the fact that 15% of NMSD identified using a term that is not used by the OMB and does not appear on the US census, “Nuevomexicano/a.” Additionally, the term “Spanish,” used by 12% of NMSD, is not used as a stand-alone term by the OMB or by the US Census. On the US Census, the term is combined with “Hispanic” and “Latino” (“Is Person 1 of Hispanic, Latino, or Spanish origin?”) (Ennis, Ríos-Vargas, and Albert 2011). The term is also used on the census subcategory “Yes, another Hispanic, Latino, or Spanish origin.” For many NM ASD, the term reflects deep ties to the region and direct descent from early Spanish colonists (Nieto-Phillips 2008; Doan and Stephan 2006; Nostrand 1996). This fact may explain why, on the 2010 census, NM ASD chose “another Hispanic, Latino, or Spanish origin” more frequently than ASD from other US states with large ASD populations (New Mexico 17.0%; California 6.2%, Florida 8.2%, Texas 5.3%, New York 9.4%) (US Census Bureau 2010 Census n.d.), and it may explain why, given the opportunity to choose “Spanish” as a stand-alone category in the current study, only 27 NMSD (5%) chose the term “Other.” When these individuals were asked to specify a term that was meaningful to them, 9 of the 27 chose “Spanish American.”

While these differences are consistent with our hypothesis, we also found that many NMSD use terms that are in widespread use nationally. “Hispanic” was the most common first
choice term for NMSD, and it was a common second-choice term. The frequent use of the term in New Mexico, and elsewhere, may have less to do with social identity “on the ground” and more to do with national politics (Gonzales 1993). In this view, “Hispanic” may be supplanting other terms through a process of “cultural hegemony” (Gonzales 1993) in which individuals unite under the banner of a non-autochthonous social identity label in order to more effectively compete for limited federal resources (see also Doan and Stephan 2006). This process may be leading NMSD (and ASD in other regions) to co-opt social identity terms that have limited importance in their local communities.

Turning to other terms, since 1980, the US census has combined the terms “Mexican,” “Mexican American,” and “Chicano” into a single ethnic subcategory. We found that the most frequent second choice term for NMSD who identified first as “Chicano/a” was “Hispanic” (42%) followed by “Latino/a” (22%) and “Nuevomexicano/a” (18%) (Fig 1). Only 10% chose “Mexican American,” and only 4% chose “Mexican.” Additionally, NMSD who identified as “Chicano/a” ascribed the term “Spanish” to their parents more frequently than they ascribed the terms “Mexican” and “Mexican American.” These results are consistent with the notion that the Chicano movement in New Mexico had roots in politically marginalized ASD communities in rural areas of the state, largely among individuals with deep family ties to the region. Other scholars paint a more complex picture of Chicano identity in New Mexico. Zavella (1993) found that the term was rarely used in New Mexico, and when it was, it was sometimes associated with ASD individuals who recently migrated to New Mexico from other locations in the US. Doan and Stephan (2006) found that young NM ASD in the southern region of the state seldom used the term because it carried negative connotations. This variation highlights the potential
limitations of trying to capture important aspects of social identity at the national level using terms that are coopted for different purposes at the regional level.

Our second hypothesis was that the terms that New Mexican ASD use to describe themselves would correspond with ancestral ties to the region, reflected in secondary social identity terms that New Mexican ASD use to describe themselves, the terms they ascribe to their parents, and birthplace. We found that NMSD who identified using the terms “Nuevomexicano/a” and “Spanish” were frequently born in New Mexico, as were their parents. These individuals frequently stated that they had ancestors from Spain and that they belonged to an “old New Mexico family,” and they frequently ascribed the terms “Spanish” and “Nuevomexicano/a” to their parents. They also frequently selected the other of the two terms as a secondary descriptor.

In contrast, NMSD that identified as “Mexican American” and “Mexican” were more frequently born in Mexico, as were their parents. These individuals frequently reported having ancestors from Mexico, and they comparatively rarely belonged to old New Mexico families. They also often ascribed the terms “Mexican” and “Mexican American” to both parents, and they rarely ascribed the term “Nuevomexicano/a” and “Spanish” to either parent. Lastly, they frequently selected the other of the two terms, “Mexican” or “Mexican American,” as a secondary descriptor.

These results indicate that some of the terms that NMSD use to describe themselves are rooted in the history of the region, as a result both of patterns of migration into the region over the past 400 years, and also as a result of continual sociopolitical shifts associated with historical events both regional and national (e.g., Mexican independence from Spain, the US territorial period, the drive towards statehood, and the national ascendency of terms like “Hispanic”)
Such patterns of correspondence between region-specific history and social identity nomenclatures occur in other locations in the US (Duany 1998, 2003; De León 2003).

We also hypothesized that the terms that NM ASD use to describe themselves would correspond with continental ancestry. This hypothesis is supported by the existence of significance differences in Native American, European, and African ancestry among NMSD who identified using different terms. These differences are consistent with the existence of social identity-related population substructure in New Mexico.

The African ancestry distributions (Fig 3, Table 4) are particularly informative in this regard. Under a model of early and low contributions from Africans followed by random mating, everyone today would have a low but significant proportion of African ancestry. This is true of NMSD who identified as “Mexican” (0% have no African ancestry). Additionally, only 5% of NMSD who identified as “Mexican American” had zero African ancestry. However, zero African ancestry was common in NMSD who identified as “Hispanic” (20%), “Nuevomexicano/a” (18%), “Spanish” (21%) and “Other” (24%). These results indicate that mating has not been random in NM ASD as a whole, and they further imply that mating has not been random within groupings of NMSD who identified using the various terms. These results are consistent with other studies of social identity-related population substructure in the region (Bonilla et al. 2004; Healy et al. 2017; Klimentidis, Miller, and Shriver 2009).

It should be noted that the mean European ancestry estimates for NMSD are about 9% higher than estimates from other studies of ASD in the region (Bonilla et al. 2004; Klimentidis, Miller, and Shriver 2009), and the mean Native American and African ancestry estimates respectively are about 6% and 3% lower. The differences could reflect the markers used to estimate ancestry in those studies (76 ancestry informative markers) or their use of Spanish
samples as parental source populations. Importantly, multiple European sources have contributed to the NM ASD population over the past 200 years, and allele frequencies in Spain may differ appreciably from those in the relatively small number of Spanish founders that colonized Mexico and New Mexico (Nostrand 1996). Regardless, our results and conclusions are not predicated on the absolute values of the ancestry estimates; they depend only on the relative estimates among individuals and groups.

While we have demonstrated a connection between social identity nomenclature and regional history, we recognize that we have not captured the fluid nature of social identity in New Mexico (Doan and Stephan 2006; Kiang et al. 2010; Holt et al. 2017; Phinney and Ong 2007). Doan and Stephan (2006) found, for example, that New Mexican ASD routinely switch ethnic labels depending on social context, the ethnicity of people with whom they are interacting, and when they fill out official forms. They also found that these choices varied as a function of perceived benefits and costs of using particular labels in particular contexts. The choices that we recorded in our study were most certainly influenced by these and other factors.

There are several other potentially important limitations to our study. First, based on US census results that show that a high proportion NM ASD identify as “Mexican, Mexican Amer. Chicano,” we have no doubt under-sampled NM ASD who identify using the first two of these terms. This result may reflect the fact NM ASD are less likely to use the term “Mexican” when speaking in English, due in part to persistent discrimination (Hansen and Nostrand 1981; Nostrand 1996; Doan and Stephan 2006). Also, while we empirically connect the terms “Mexican” and “Mexican American” to country of origin, the terms have more complex meanings to New Mexican ASD (Gonzales 1997).
Second, we only interviewed people in English. Though self-reported English-speaking proficiency of our sample matched that of the state at large (Ryan 2013), lack of Spanish proficiency is associated with choices about social identity terms (Doan and Stephan 2006). We need to do a better job of identifying and quantifying the complex ways in which language and culture interact to influence social identity nomenclatures and the broader social significance thereof.

As social scientists who are trying to identify and ameliorate the social identity-related consequences of ethnic discrimination, how can we do better? Our findings support the recommendation from the IOM that government agencies use regionally-tailored granular ethnic subcategories when collecting data on ASD across the US (Institute of Medicine 2009). Their list of granular categories separates all of the terms chosen by NMSD, and it includes the term “Nuevo Mexicano.” While the inclusion of the list of granular categories would improve the ability of researchers in the social and health sciences to better measure the social and health-related consequence of ethnic discrimination, it is unlikely that any single list will capture how people conceive social identity in different regions and communities across the country. For this reason, we believe that it is crucial that social and health sciences researchers work with local communities and scholars to determine how individuals conceptualize social identity and to determine how these conceptualizations affect their lives.

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*New Mexico Statutes and Court Rules*. 1925.


https://www.govtrack.us/congress/bills/93/hjres1083.


Table 1. First- through Fourth-Choice Terms of NMSD

<table>
<thead>
<tr>
<th>Term</th>
<th>1st Choice</th>
<th>2nd Choice</th>
<th>3rd Choice</th>
<th>4th Choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chicano/a</td>
<td>53 (0.10)</td>
<td>65 (0.13)</td>
<td>65 (0.16)</td>
<td>4 (0.67)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>225 (0.44)</td>
<td>135 (0.28)</td>
<td>55 (0.14)</td>
<td>0</td>
</tr>
<tr>
<td>Latino/a</td>
<td>17 (0.03)</td>
<td>70 (0.14)</td>
<td>79 (0.19)</td>
<td>1 (0.17)</td>
</tr>
<tr>
<td>Mexican</td>
<td>16 (0.03)</td>
<td>20 (0.04)</td>
<td>21 (0.05)</td>
<td>0</td>
</tr>
<tr>
<td>Mexican American</td>
<td>38 (0.07)</td>
<td>28 (0.06)</td>
<td>34 (0.08)</td>
<td>1 (0.17)</td>
</tr>
<tr>
<td>Nuevomexicano/a</td>
<td>75 (0.15)</td>
<td>72 (0.15)</td>
<td>57 (0.14)</td>
<td>0</td>
</tr>
<tr>
<td>Spanish</td>
<td>62 (0.12)</td>
<td>86 (0.18)</td>
<td>82 (0.20)</td>
<td>0</td>
</tr>
<tr>
<td>Other</td>
<td>27 (0.05)</td>
<td>14 (0.03)</td>
<td>14 (0.03)</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>513*</td>
<td>490</td>
<td>407</td>
<td>6</td>
</tr>
</tbody>
</table>

*Six participants selected multiple terms as their first choice
Table 2. Ties to Place

<table>
<thead>
<tr>
<th>Ancestors from Mexico</th>
<th>Ancestors colonists from Spain</th>
<th>Old New Mexico Family</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chicano/a</td>
<td>0.566</td>
<td>0.528</td>
</tr>
<tr>
<td>Hispanic</td>
<td>0.427</td>
<td>0.711</td>
</tr>
<tr>
<td>Latino/a</td>
<td>0.529</td>
<td>0.824</td>
</tr>
<tr>
<td>Mexican</td>
<td>0.938</td>
<td>0.688</td>
</tr>
<tr>
<td>Mexican American</td>
<td>0.974</td>
<td>0.632</td>
</tr>
<tr>
<td>Nuevomexicano/a</td>
<td>0.600</td>
<td>0.800</td>
</tr>
<tr>
<td>Spanish</td>
<td>0.177</td>
<td>0.790</td>
</tr>
<tr>
<td>Other</td>
<td>0.259</td>
<td>0.815</td>
</tr>
</tbody>
</table>
### Table 3. Birthplace

<table>
<thead>
<tr>
<th>Participant</th>
<th>Chicano/a</th>
<th>Hispanic</th>
<th>Latino/a</th>
<th>Mexican</th>
<th>MexAmer</th>
<th>Nuevomex</th>
<th>Spanish</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Mexico</td>
<td>0.81</td>
<td>0.84</td>
<td>0.82</td>
<td>0.25</td>
<td>0.61</td>
<td>0.91</td>
<td>0.89</td>
<td>0.78</td>
</tr>
<tr>
<td>Mexico</td>
<td>0.00</td>
<td>0.00</td>
<td>0.06</td>
<td>0.50</td>
<td>0.16</td>
<td>0.01</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mother</th>
<th>Chicano/a</th>
<th>Hispanic</th>
<th>Latino/a</th>
<th>Mexican</th>
<th>MexAmer</th>
<th>Nuevomex</th>
<th>Spanish</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Mexico</td>
<td>0.77</td>
<td>0.82</td>
<td>0.76</td>
<td>0.19</td>
<td>0.29</td>
<td>0.87</td>
<td>0.90</td>
<td>0.74</td>
</tr>
<tr>
<td>Mexico</td>
<td>0.04</td>
<td>0.04</td>
<td>0.06</td>
<td>0.69</td>
<td>0.53</td>
<td>0.01</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Father</th>
<th>Chicano/a</th>
<th>Hispanic</th>
<th>Latino/a</th>
<th>Mexican</th>
<th>MexAmer</th>
<th>Nuevomex</th>
<th>Spanish</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Mexico</td>
<td>0.81</td>
<td>0.77</td>
<td>0.76</td>
<td>0.19</td>
<td>0.29</td>
<td>0.88</td>
<td>0.84</td>
<td>0.78</td>
</tr>
<tr>
<td>Mexico</td>
<td>0.038</td>
<td>0.02</td>
<td>0.06</td>
<td>0.69</td>
<td>0.47</td>
<td>0.01</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Averages</th>
<th>Chicano/a</th>
<th>Hispanic</th>
<th>Latino/a</th>
<th>Mexican</th>
<th>MexAmer</th>
<th>Nuevomex</th>
<th>Spanish</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Mexico</td>
<td>0.80</td>
<td>0.81</td>
<td>0.78</td>
<td>0.21</td>
<td>0.39</td>
<td>0.88</td>
<td>0.88</td>
<td>0.77</td>
</tr>
<tr>
<td>Mexico</td>
<td>0.025</td>
<td>0.02</td>
<td>0.06</td>
<td>0.63</td>
<td>0.39</td>
<td>0.01</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>
Table 4. Mean Continental Ancestry (Mean SE) and Proportion with No African Ancestry

<table>
<thead>
<tr>
<th></th>
<th>Native American</th>
<th>European</th>
<th>African</th>
<th>No African ancestry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chicano/a</td>
<td>0.277 (0.016)</td>
<td>0.703 (0.017)</td>
<td>0.020 (0.008)</td>
<td>0.118</td>
</tr>
<tr>
<td>Hispanic</td>
<td>0.262 (0.015)</td>
<td>0.717 (0.016)</td>
<td>0.021 (0.007)</td>
<td>0.203</td>
</tr>
<tr>
<td>Latino/a</td>
<td>0.289 (0.016)</td>
<td>0.685 (0.017)</td>
<td>0.025 (0.007)</td>
<td>0.188</td>
</tr>
<tr>
<td>Mexican</td>
<td>0.331 (0.016)</td>
<td>0.637 (0.017)</td>
<td>0.032 (0.008)</td>
<td>0.000</td>
</tr>
<tr>
<td>Mexican American</td>
<td>0.368 (0.017)</td>
<td>0.595 (0.018)</td>
<td>0.036 (0.008)</td>
<td>0.053</td>
</tr>
<tr>
<td>Nuevomexicano/a</td>
<td>0.242 (0.015)</td>
<td>0.744 (0.016)</td>
<td>0.014 (0.007)</td>
<td>0.176</td>
</tr>
<tr>
<td>Spanish</td>
<td>0.246 (0.015)</td>
<td>0.741 (0.016)</td>
<td>0.013 (0.007)</td>
<td>0.213</td>
</tr>
<tr>
<td>Other</td>
<td>0.244 (0.015)</td>
<td>0.738 (0.015)</td>
<td>0.018 (0.006)</td>
<td>0.238</td>
</tr>
<tr>
<td>All NMSD</td>
<td>0.269 (0.015)</td>
<td>0.710 (0.016)</td>
<td>0.020 (0.007)</td>
<td>0.174</td>
</tr>
</tbody>
</table>
Figure 1.
Figure 2.
Figure 3.
Figure Captions

Figure 1. Proportion of second-choice social identity terms associated with each first-choice term.

Figure 2. Social identity terms that NMSD ascribed to their parents. The plots only show terms that were used more than once.

Figure 3. Continental ancestry. A. Native American ancestry. B. European ancestry. C. African ancestry. The y-axis scales range from the minimum to the maximum ancestry proportion, except for Africa, which is cut-off at 0.20; only two individuals exceeded 0.20, one at 0.25, and one at 0.46.