Chapter 7

Census Coverage of the Hispanic Population

Abstract The net undercount for Hispanics in the 2010 Census was relatively high at 1.5% compared to a net overcount of 0.8% for the Non-Hispanic White Alone population. The omissions rate for Hispanics (7.7%) was about twice the rate for Non-Hispanic White Alone (3.8%). Hispanic men age 18–49 had net undercount rates over 5% and omissions rates over 10% in the 2010 Census.

7.1 Introduction

Studying the recent history of Census coverage of Hispanics is important because they are the fastest growing major race/ethnic group in the U.S. and they have relatively high net undercount and omissions rates. The number of Hispanics in the U.S. grew from 50.5 million in 2010 to 57.5 million in 2016 (U.S. Census Bureau 2017c). Consequently, the Census coverage of Hispanics increasingly drives the overall Census coverage figures.

The Dual-Systems Estimates (DSE) method provides net undercount estimates and omissions rates for Hispanic by age-sex groups and tenure in the 2010 Census. Demographic Analysis (DA) only provides data by single year of age for Hispanics under age 20 because Hispanic were not recorded on birth and deaths certificates consistently until 1990. The term Hispanic is used here rather than Latino, because that is the term used most often in Census Bureau publications.

7.2 Net Undercount Rates of Hispanic Adults

Overall, there was a net undercount for Hispanics (1.5%) and a net overcount of Non-Hispanic White Alone (0.8%) resulting in a difference of 2.3 percentage points. This pattern is generally consistent across age and sex groups.

Table 7.1 shows net undercount rates from DSE for Hispanics and the Non-Hispanic White Alone population ages 10 and over from the 2010 Census broken down by age and sex. Data for the youngest age group (0–9) are not presented in

Table 7.1 2010 Census coverage of Hispanics compared to Non-Hispanic White Alone by age and sex

	Percent undercount	
	Hispanic	Non-Hispanic White Alone
Total population	−1.5	0.8
10–17	−0.1	1.8
18–29 male	−5.2	1.5
18–29 female	−2.1	1.1
30–49 male	−5.1	−2.1
30–49 female	−0.2	0.7
50+ male	0.7	0.6
50+ female	3.6	2.2

Source U.S. Census Bureau (2012c), Table C
A negative sign reflects an undercount. The signs here are reversed from the source report in order to keep directionality consistent within this publication
Figures in **BOLD** are statistically significantly different from zero

Table 7.1 because there is strong evidence that the coverage estimates of young children from DSE in 2010 are problematic (O’Hare et al. 2016). For information on the Census coverage of young Hispanic children in the 2010 Census see the analysis of DA data later in this Chapter.

Every age/sex group of Hispanics except those over age 50, had a net undercount while only one group of Non-Hispanic White Alone population (males age 30–49) had a net undercount. The net undercount rate for Hispanic males age 18–29 was 5.2% and the net undercount rate for Hispanic males 30–49 was 5.1% and both rates are statistically significantly different than zero.

To focus on differential coverage, the net undercounts for Hispanics are compared to the Census coverage rates for Non-Hispanic White Alone population in the same age/sex category. The biggest coverage differential in Table 7.1 is among males age 18–29. The net undercount rate for Hispanic males age 18–29 is 5.2% compared to a net overcount of 1.5% for Non-Hispanic White Alone. This results in a difference of 6.7 percentage points. This percentage point differential is more than twice as high as any other age/sex group examined in Table 7.1 and underscores the special problems associated with trying to enumerate Hispanic males in their 20s.

The differential Census coverage for males age 18–29 may reflect differences in socio-economic status. Overcounts in this age group are often attributed to young people being counted in the college dormitory (or off campus residence) as well as their parents’ home (see Chap. 5). Census undercounts are often attributed to unstable living arrangements or lack of attachment to a housing unit (Martin 1999, 2007). The undercount differential reported above suggests that young adult Hispanic males may be more likely to be experiencing unstable living situations while young adult Non-Hispanic White Alone males may be more likely to be in college.

The net undercount rates for Hispanic males age 30–49 was also relatively high (5.1%) but the differential between Hispanics and Non-Hispanic Whites Alone is not as high as for males age 18–29 because there is a statistically significant net undercount for Non-Hispanic White Alone males in this age group (2.1%) as well, leaving a net undercount differential of only 3.0 percentage points.

It is possible that the net undercount rate for Hispanic males age 18–49 is even higher than what was reported by the Census Bureau because correlation bias among Hispanic men is not accounted for in the DSE analysis. Correlation bias means the types of people missed in the Census are also likely to be missed in the Post-Enumeration Survey that is the basis for the DSE estimates (U.S. Census Bureau 2012a). Correlation bias leads to an underestimate of net undercount rates. The Census Bureau made an adjustment to the DSE estimates for Black adult males, based on the sex ratio shown in DA (U.S. Census Bureau 2012a). No adjustment was made for Hispanic adult males because the data needed for such an adjustment (DA sex ratios) were not available for Hispanics.

Another group that is noteworthy in Table 7.1 is Hispanic females age 50 or older. There is a large statistically significant net overcount of this group (3.6%). This is the only age/sex group of Hispanics to experience a statistically significant net overcount. There is also a large statistically significant overcount for Non-Hispanic White Alone females in this age group (2.2%) so the gap between Hispanics and Non-Hispanic White Alone is relatively small. It is possible the high net overcount of Hispanic females age 50 or older is due to an under-reporting of births more than a half-century ago and/or undetected in-migration.

7.3 Omissions Rates for Hispanics

Recall that the Census net undercount rate is a balance between people omitted and those included erroneously (mostly double counted). The omissions rate captures the share of a group missed in the Census. DSE is the only method that shows omissions rates.

In many ways the omissions rate is a more meaningful statistic than the net undercount rate because in the net undercount calculation omissions can be cancelled out by erroneous inclusions or double counting. A net undercount of zero could be the result of no one being missed and no one double counted, or for example, 10% missed, and 10% double counted.

Table 7.2 shows omissions rates for Hispanics and Non-Hispanic White Alone by age and sex. The overall omissions rate for Hispanics (7.7%) is twice that of the Non-Hispanic White Alone population (3.8%). To a large extent the omissions rates reflect the same age/sex pattern as the net undercount rates. In every age/sex group examined here, the omissions rate for Hispanics is higher than that of Non-Hispanic White Alone. Like the results for net undercount rates, Hispanic males age 18–49 had the highest omissions rates. The omissions rate for Hispanic males age 18–29 was 12.4% and the omissions rate for Hispanic males age 30–49 was 10.9%.

Table 7.2 2010 Census omissions rates for Hispanics and Non-Hispanic Whites Alone by age and sex

	Percent omissions	
	Hispanic	Non-Hispanic White Alone
Total population	7.7	3.8
10–17	5.9	3.1
18–29 male	12.4	6.6
18–29 female	9.6	6.2
30–49 male	10.9	6.2
30–49 female	5.8	3.0
50+ male	5.5	3.5
50+ female	2.5	1.7

Source U.S. Census Bureau (2012c), Table C

Hispanic females age 18–29, also had a relatively high omissions rate of 9.6% but the omissions rates for Hispanic females age 30–49 (5.8%) was lower than the overall omissions rate for Hispanics.

7.4 Differences in Census Coverage by Tenure

Table 7.3 shows net undercount rates and omissions rates from the 2010 Census DSE analysis for the populations living in owner-occupied housing units and renter-occupied housing units among Hispanics and the Non-Hispanic White Alone population.

Two patterns are clear. First, Non-Hispanic White Alone population was covered better than Hispanics for the populations living in both owner-occupied housing units and rental housing units. Among the population living in owner-occupied units, there was a larger net overcount for Non-Hispanic Whites Alone (0.8%) than for Hispanics (0.3%) and the rate for Non-Hispanic Whites Alone was statistically significantly different than zero, while the rate for Hispanics was not. Among those living in renter-occupied housing units there was a statistically significant net undercount for Hispanics (3.3%) compared to a net overcount (0.9%) for Non-Hispanic White Alone. Omissions rates for Hispanics are higher than for Non-Hispanic White Alone for renters and owners.

Second, the gap between census coverage of Hispanics and Non-Hispanic Whites Alone is bigger for the population living in renter-occupied housing units than for the population living in owner-occupied housing units.

For some categories of Hispanic renters, the omissions rates are particularly high. The compound impact of Hispanic Origin Status, age, and tenure can be seen by looking at the omissions rates of Hispanic male renters age 18–29 where about one-

Table 7.3 2010 Census net undercount rates and omissions rates for Hispanics and Non-Hispanic White Alone by tenure

		Hispanic origin	Non-Hispanic White Alone
Percent undercount	Population living in owner-occupied housing units	0.3	0.8
	Population living in renter-occupied housing units	-3.3	0.9
Percent omissions	Population living in owner-occupied housing units	5.0	3.0
	Population living in renter-occupied housing units	10.4	6.4

Source U.S. Census Bureau (2012c), Table B

A negative sign reflects a net undercount. The signs here are reversed from the source report in order to keep directionality consistent within this publication

Figures in **BOLD** are statistically significantly different from zero

sixth (16.1%) were missed in the 2010 Census and nearly one-seventh (14.1%) of Hispanic males age 30–49 living in rental housing units were missed in the 2010 Census (U.S. Census Bureau 2012b, Table C).

7.5 Census Coverage of Hispanic Children Age 0–19

In the 2010 Census, DA undercount estimates for Hispanics are limited to those under age 20 because it has only been since 1990 that Hispanics were systematically identified in birth and death certificates across all the states. In the 2010 Census cycle, the Census Bureau first produced a series of five DA estimates based on differing assumptions about births, deaths, and net international migration. The Census Bureau produced five different series to reflect some uncertainty in the DA estimates. The estimates were released in early December of 2010, to mitigate any perception that the actual Census count (released in late December) might influence the DA estimates. Subsequently, the Census Bureau updated the middle series DA estimate in 2012 but did not include Hispanics in the update because the updated data were primarily for use to develop sex ratios for Black adults to be used in the DSE estimates.

Figure 7.1 shows net undercount rates for Hispanic and Non-Hispanics by single year of age from 0 to 19, based on data from the Middle Series December 2010 DA release. Results for Hispanics are compared to those for Non-Hispanics because there are no data for Whites or Non-Hispanic Whites in the DA results for 2010. It

Fig. 7.1 2010 Census net undercount rates by single year of age for Hispanics and Non-Hispanics: Age 0–19. *Source* U.S. Census Bureau, December 2010 DA Release

should be noted that Non-Hispanics include Blacks and American Indians and these population have above average net undercount rates (see Chap. 4).

When the population ages 0–19 are examined collectively, Hispanics and Non-Hispanics show very similar net undercount rates. The net undercount rate for Hispanics age 0–19 is 1.2% and for Non-Hispanics it is 1.3%. However, these averages mask some important age differences among Hispanics and Non-Hispanics. At the youngest ages, the net undercount rate for Hispanics is much higher than that for Non-Hispanics. Based on the DA data released in 2010, there was a net undercount of 7.5% for Hispanics age 0–4 compared to a 3.6% net undercount for Non-Hispanics age 0–4 (O’Hare 2015). O’Hare (2015) also reports the net undercount rate for Hispanic children age 0–4 was 7.7% in the 2000 Census. But for ages 10–19, Hispanics had a higher net overcount than Non-Hispanics. For age 10–19, there was a net overcount of 4.3% for Hispanics and 0.1% for Non-Hispanics.

There are a couple of methodological notes on this topic that readers should be aware of. First, there is reason to believe that the DA estimates for the teenage Hispanics may be problematic because of net immigration assumptions for teenagers that did not take into consideration the economic downturn during the 2008 to 2010 period, which may have dampened in-migration of young Hispanics. But this probably had a small impact on the estimates.

Second, the data for age zero (those less than one year old) are problematic for both Hispanics and Non-Hispanics because Hogan and Griffin (2017) found many infants born after April 1, 2010, were included in the 2010 Census count erroneously. So, the net undercount rates for age 0 is actually higher than what is shown here.

Third, it is possible the high net undercount for the youngest Hispanics is partly due to assumptions about births to Hispanics in the 2008–2010 period that were too high. When the DA estimates were first issued in December 2010, the Census Bureau had to make assumptions about births and deaths in 2008, 2009 and the first quarter of 2010 because data from National Center for Health Statistics were not yet available. Recently, Jensen et al. (2016) provided updated estimates for young Hispanics in 2010 based on observed births and deaths in 2008–2010. The update suggests that the initial estimated net undercount for young Hispanics was a little high. The original net undercount estimate was 7.5% and the revised estimate was 6.5%.

Fourth, recently, the U.S. Census Bureau discovered data from the 2010 Mexican Census that shed light on net immigration estimates for young U.S.-born Hispanic children in 2010 (Jensen et al. 2018). The new data suggests earlier undercount estimates for young Hispanics were too high.

Collectively the new data generally show a lower net undercount rate for young Hispanics children than the original DA estimates, but the new net undercount estimates for young Hispanics are still very high compared to other demographic groups.

7.6 Bilingual Questionnaires

In one respect, Hispanics are different from other groups because bilingual (Spanish/English) Census questionnaires were sent to households in many neighborhoods with large Spanish-speaking populations in the 2010 Census (U.S. Census Bureau 2011). The 2010 Census was the first one to use a bilingual English/Spanish questionnaire. Almost half (46%) of all Hispanics in the U.S. resided in areas that received bilingual questionnaires in the 2010 Census.

Table 7.4 shows the net undercount and omissions rates for Hispanics and Non-Hispanics in Bilingual Mailing Areas compared to other areas. In both types of areas, Hispanics had a statistically significant net undercount. The Hispanic net undercount in Bilingual Mailing Areas (1.3%) is lower than that in other areas (1.7%), but the difference is small. The omissions rate for Hispanics in both types of areas are almost identical (7.9% in bilingual areas compared to 7.6% in other areas).

After evaluating the 2010 Census experience with bilingual questionnaires, the Census Bureau (2011, p. v) concluded, “Further results suggest that the bilingual questionnaire provides substantial benefit to the areas that were targeted...”

7.7 Hispanic Trend Data from 1990 to 2010

Table 7.5 shows estimated net undercount rates for 1990, 2000 and 2010 Censuses for Hispanics and Non-Hispanic Whites Alone based on the Census Bureau’s DSE

Table 7.4 2010 Census undercount and omissions rates for Hispanics and Non-Hispanics inside and outside bilingual mailing areas

	Census count (in 1000s)	Percent undercount	Percent omissions
U.S. total	3,00,703	0.0	5.3
Bilingual mailing area	35,204	−0.8	7.3
Hispanic	22,498	−1.3	7.9
Non-Hispanic	12,706	0.2	6.0
Balance of U.S.	2,65,499	0.1	5.1
Hispanic	27,082	−1.7	7.6
Non-Hispanic	2,38,418	0.3	4.8

Source U.S. Census Bureau (2012b), Table 16

A negative sign reflects an undercount. The signs here are reversed from the source report in order to keep directionality consistent within this publication

Percent undercount figures in **BOLD** are statistically significantly different from zero

Table 7.5 Estimates of net undercount rates of Hispanics and Non-Hispanic White Alone populations: 1990, 2000 and 2010

	2010	2000	1990
	Percent undercount	Percent undercount	Percent undercount
U.S. total	0.0	0.5	−1.6
Non-Hispanic White Alone	0.8	1.1	−0.7
Hispanic	−1.5	−0.7	−5.0

Source U.S. Census Bureau (2012b), Table 7

A negative sign reflects an undercount. The signs here are reversed from the source report in order to keep directionality consistent within this publication

Figures in **BOLD** are statistically significantly different from zero

method. In terms of trends over time, the coverage of Non-Hispanic White Alone is consistently better than that of Hispanics, but the magnitude of the difference varies over time.

For Hispanics, there was a relatively high net undercount rate in 1990 (5.0%) but in the 2000 Census the net undercount rate for Hispanics (0.7%) was so low that it was not statistically significantly different than zero. In the 2010 Census, however, there was an estimated net undercount of 1.5% for Hispanics which was statistically significant. The undercount rate for Non-Hispanic Whites Alone went from a net undercount of 0.7% in 1990, to a net overcount of 1.1% in 2000, to a net overcount of 0.8% in 2010.

Looking at net undercount rates for both Hispanics and Non-Hispanic Whites from 1990 to 2010 there doesn't seem to be any consistent trend over the 1990–2010 period. The difference between the Census coverage rates of Hispanics and Non-Hispanic White Alone decreased from 1990 to 2000 but increased from 2000 to 2010.

7.8 Census Coverage of Hispanic Subgroups

All the Census coverage estimates on Hispanics produced by the Census Bureau treat Hispanics as a single group. But the Hispanic population is far from homogeneous. There are several distinctions that should to be made in the Hispanic population with respect to Census coverage.

First, there are several subgroups of Hispanics such as Mexicans, Puerto Ricans, Central and South Americans, and Cubans. The 2016 American Community Survey indicates there are 36.3 million Mexicans, 5.5 million Puerto Ricans, 5.3 million Central Americans, 3.5 million South Americans, and 2.2 million Cubans in the U.S. Hispanic population. The social, economic, and cultural differences among these subgroups of Hispanics suggest that they are likely to have different levels of Census coverage (National Research Council 2006; O'Hare 2017). There are no direct estimates of Census coverage rates for subgroups of Hispanics produced by the Census Bureau, but some researchers have produced estimates for some subgroups. Using multiple methods, one group of researchers, (Van Hook et al. 2014, p. 699) concluded, "Additionally, we find evidence that U.S. Census and ACS data miss substantial numbers of children of Mexican immigrants, as well as people who are most likely to be unauthorized: namely working-aged Mexican immigrants (ages 15–64) especially males."

Second, many Hispanics speak English well, but some do not. For those who do not speak English well, participating in the Census may be more difficult. About 73% of Hispanics speak a language other than English at home and 31% speak English less than "very well" which is typically the threshold used to determine limited English proficiency (The Leadership Conference Education Fund 2017).

Third, a large share of the Hispanic population are recent immigrants. Kissam (2017) provides ample evidence that recent Mexican immigrants in California had a high likelihood of being missed in the Census. Jensen et al. (2015) show that recent immigrants are more likely to be missed in the Census Bureau's American Community Survey. Many of the recent Hispanic immigrants fall into the category of cultural and linguistic minorities which Harkness et al. (2014) argue is a hard-to-count group in the Census.

Fourth, a substantial fraction of Hispanic immigrants is undocumented. Evidence suggests the undocumented population have high net undercount rates (Warren and Warren 2013; Van Hook et al. 2014). For example, Warren and Warren (2013, p. 307) estimate a net undercount rate of 10% in the 2000 Census for undocumented immigrants who entered the U.S in the 1990s. Also, Van Hook et al. (2014, p. 720) state, "Age and sex patterns further suggest that coverage error among unauthorized Mexican immigrants is probably higher than that for the entire Mexican-born population." It should also be noted that census coverage of some Hispanic subgroups has been addressed in qualitative studies (Romero 1992; Dominguez and Mahler 1993; Mahler 1993).

It is also important to note that Censuses in some other countries are not always viewed positively and immigrants may bring their negative views about census-taking with them when they move to the U.S.

The last-minute addition of a question on citizenship to the 2020 Census is likely to have big implications for the count of Hispanics in the 2020 Census (Ross 2018; Barabba and Flynn 2018; Meyers and Goerman 2018; U.S. Census Bureau 2017a, b). See Chap. 15 for more information on this issue.

7.9 Summary

The net undercount of Hispanics in the 2010 Census was 1.5% compared to a net overcount of 0.8% for the Non-Hispanic White Alone population. Other findings include:

- Hispanic Males age 18–49 had the highest net undercount rate and highest omissions rate of any age/sex group of Hispanics.
- Hispanic children age 0–4 had a very high net undercount rate (7.5% based on December 2010 DA).
- Hispanic females over age 50 had a high net overcount rate.
- The trend in the net undercount of Hispanics from 1990 to 2010 is complicated. The net undercount rate decreased between 1990 and 2000 but increased between 2000 and 2010.
- The Hispanic population is very diverse with respect to characteristics linked to being difficult to enumerate.

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