Chapter 2
The Importance of Census Accuracy: Uses of Census Data

Abstract This Chapter provides readers with many reasons why the Census count is so important, including the fact that Census data are the backbone of our democratic system of government. In addition, Census-related figures are used to distribute more than $800 billion in federal funding each year to states and localities. Countless decisions in the public and private sectors are based on Census data. Moreover, the impact of flaws in Census counts often last a decade because population estimates, projections, and survey weights, are derived from Census counts.

2.1 Introduction

To understand the importance of differential Census undercounts and omissions it is important to understand how Census data are used. In addition to our scientific and scholarly interest in obtaining correct Decennial Census counts, there are many practical and policy-related reasons why it is important to assess Census coverage. In many cases, Census coverage errors are important because they are both a data problem and a social equity issue.

According to the U.S. Census Bureau (2017), data from the Decennial Census are used for many important applications including:

- Allocating political power
- Distribution of federal funds through funding formulas
- Civil rights enforcement
- Business applications
- Post-Census population estimates and projections
- Providing weights for sample surveys
- Providing denominators for rates
- Community planning
- Economic and social science research.

A more detailed description of how Census data are used is provided in Appendix A of the Census Bureau's 2020 Census Complete Count Committee Guide (U.S. Census Bureau 2018). A number of these points are discussed in more detail below.

2.2   Political Power

Constitutional scholar Leavitt (2018, p. 2) provides a clear idea of the importance of the Census when he states,

> It is impossible to overstate the constitutional significance of the Decennial Census. The requirement that has become a mandate to count each and every individual in the country- -- the 'actual Enumeration' of the population in every decade ---is embedded in the sixth sentence of the Constitution. It is the very first act that the Constitution prescribes as an express responsibility of the new federal Government.

The fact that the Decennial Census is mentioned early in the Constitution by the founding fathers, suggests the central role they envisioned for it in our system of governance. Counts from the Census are used to distribute political power both in terms of assigning seats in the U.S. House of Representatives to states based on population and in the judicially mandated one-person/one-vote rule used for constructing political districts (Grofman 1982; McKay 1965; Balinski and Young 1982; Baumle and Poston 2004). The "one person-one vote" rule requires election districts to be equal (or nearly equal) in population size. Calculation of election district population size is almost always based on data from the Decennial Census.

The fundamental relationship between Census counts and political power was summarized by Heer (1968, p. 11) 50 years ago,

> Where a group defined by racial or ethnic terms and concentrated in special political jurisdictions is significantly undercounted in relation other groups. Then individual members of that group are thereby deprived of the constitutional right to equal representation in the House of Representatives and, by inference, in other legislative bodies.

Decennial Census counts for states are used for apportioning the seats in the U.S. House of Representatives and sometimes small differences can be important in determining which state gets the last seat to be assigned (Conk 1987; Baumle and Poston 2018). For example, Crocker (2011) found that if the 2010 Decennial Census count for North Carolina had been 15,753 higher it would have received an additional seat in Congress. Baumle and Poston (2004) also show that small differences in state Census counts can change which state gets the last Congressional seat assigned.

Based on projecting the 2017 Census Bureau population estimates to 2020, Brace (2017) predicts 15 to 17 states will experience changes in their congressional delegation after the post-2020 re-apportionment. However, many states are close to gaining or losing a seat depending on the demographic changes between now and 2020 and the quality of the Census count in each state. Consequently, details about how the Census is conducted could have an impact on apportionment of Congress following the 2020 Census. For example, Baumle and Poston (2018) show that failure to count non-citizens in the 2020 Census would result in several congressional seats changing states in the apportionment following the 2020 Census.

I could not find a definitive number of election districts where Census data are used to draw boundaries for political districts. In addition to the 435 seats in Congress, almost all of the 7383 state legislators are elected from single member districts

(National Conference of State Legislators 2017). Also, nearly ever large city has city council members elected from single-member districts and the same is true for county commissioners. School board members and many special districts also use Census data to construct districts. Therefore, the number of election districts based on Census results must be at least 10,000.

Siegel (2002, Chap. 2) as well as Teitelbaum (2005) provide additional examples of how demographic data are used in a variety of political applications. The bottom line is that any geographic area that is undercounted is not likely to get its fair share of political power (Anderson and Fienberg 2001; Bryant and Dunn 1995).

2.3 Distribution of Public Funds

Decennial Census data are also used in many federal funding formulas that distribute federal funds to states and localities each year (Murray 1992; U.S. Senate 1992; Reamer 2010; Blumerman and Vidal 2009; Hotchkiss and Phelan 2017). Recent research indicates Census-derived data were used to distribute more than $850 billion to states and localities through 302 programs in Fiscal Year 2016 (Reamer 2018). Table 2.1 shows data for the 16 largest federal programs that use Census-derived data to distribute funds. Places that experience a net undercount do not receive their fair share of formula-driven public resources (PriceWaterhouseCoopers 2001). The distribution of federal funds based on Census data will impact some groups more than others. The Annie E. Casey Foundation (2018) shows that these funding formulas are particularly important for programs that support needy children.

Moreover, the amount of federal money given out through funding formulas has increased in recent years. The increase is heavily driven by Medicaid and Medicare Part B where health care costs are rising faster than inflation and the large baby boomer generation is aging and expanding the number of recipients in these programs.

One question that always arises in this area is," How much money does a state lose for each uncounted person?" There is no definitive answer to this question, but an analysis by Reamer (2018) shows that for five programs that use the Federal Matching Assistance Percentage (FMAP) states, on average, would lose $1091 each year for each uncounted person. In some states the figure was lower, and, in some states, it was higher. These figures only apply to the 37 states which are not already at the minimum FMAP value of 50 percent and only for five programs. Another study following the 2000 Census that was focused on 169 metropolitan areas concluded the loss over the 2002–2012 period was $3392 per uncounted person in these jurisdictions but the authors note this estimate is conservative because not all programs are included (PriceWaterhouseCooper 2001, p. ES-1). In another report focused on Idaho (Miller 2018) concludes, "It's estimated each person counted brings about $1200 per year in federal funding to state and local government."

Table 2.1 Largest 16 federal assistance programs that distribute funds on basis of decennial census-derived data, Fiscal Year 2015

Program name	Department	Obligations
Medical Assistance Program (Medicaid)	HHS	$3,11,97,57,66,352
Supplemental Nutrition Assistance Program (SNAP)		$69,48,98,54,016
Medicare Part B (Supplemental Medical Insurance)–Physicians Fee Schedule Services	HHS	$64,17,67,25,988
Highway Planning and Construction	DOT	$38,33,19,04,422
Section 8 Housing Choice Vouchers	HUD	$19,08,75,49,000
Title I Grants to Local Education Agencies (LEAs)	ED	$13,85,91,80,910
National School Lunch Program	USDA	$11,56,08,52,485
Special Education Grants (IDEA)	ED	$11,23,31,12,681
State Children's Health Insurance Program (S-CHIP)	HHS	$11,08,91,52,000
Section 8 Housing Assistance Payments Program (Project-based)	HUD	$9,23,80,92,008
Head Start/Early Head Start	HHS	$8,25,91,30,975
Supplemental Nutrition Program for Women, Infants, and Children (WIC)	USDA	$6,34,76,80,031
Foster Care (Title IV-E)	HHS	$4,63,57,33,000
Health Center Program	HHS	$4,18,14,07,055
Low Income Home Energy Assistance (LIHEAP)	HHS	$3,37,02,28,288
Child Care and Development Fund—Entitlement	HHS	$2,85,86,60,000
Total		$5,89,69,50,29,211

Source Reamer (2017)

2.3.1   Federal Distribution 2015–2030 Based on Census-Derived Figures

Reamer (2018) estimates that in Fiscal Year (FY) 2016 the federal government distributed at least $865 billion to states and localities based on Census-derived data. The $865 billion figure is based on the largest 35 federal programs that use Census-derived data to distribute money and there are many additional programs that are not included in this figure. In 2010 Reamer (2010) estimated that the federal government distributed about $420 billion to states and localities based on Census-derived data in Fiscal Year (FY) 2008. The $420 billion in FY 2008 amounts to $465 billion in 2015 dollars. Consequently, there was an increase from $465 billion to $865 billion between FY2008 and FY2015. Some of the increase from FY2008 to FY2015 is based on adding programs to the calculation and some of the increase is based on increased spending by programs identified in 2008.

The increase between FY2008 and FY2015 amounts to a little more than 11 percent per year. Data shown in Table 2.2 indicate what would happen between

Table 2.2 Hypothetical distribution of federal funds based census-derived data: FY 2015 to FY2030

	In billions of 2015 dollars
FY2008[a]	$465
FY2015[b]	$844
FY2016	$937
FY2017	$1040
FY2018	$1154
FY2019	$1281
FY2020	$1422
FY2021	$1579
FY2022	$1752
FY2023	$1945
FY2024	$2159
FY2025	$2396
FY2026	$2660
FY2027	$2953
FY2028	$3277
FY2029	$3638
FY2030	$4038
Total 2021–2030	$26,398

[a]*Source* Reamer (2010)
[b]*Source* Reamer (2018)

FY2015 and FY2030 if there were an 11 percent increase per year in the amount of federal funds distributed based on Census-derived data. Perhaps most importantly in the decades following the 2020 Census more than $26 trillion dollars could be distributed to states and localities on the basis of 2020 Census-derived data.

Of course, no one knows exactly what will happen in the future regarding the distribution of federal funds based on Census-derived data and the measurement of change between FY2008 and FY2105 is not precise, but the scenario reflected in Table 2.2 provides one plausible trajectory. Moreover, even if the projected dollars in Table 2.2 are too high by 10 or 20%, the amount of money distributed between 2020 and 2030 using Census-derived data is still enormous.

Demographic data are also used to distribute state government funds within states, but I was unable to find a good estimate of how much money is regularly distributed by state governments based on Census data.

2.4 Population Estimates, Projections, and Surveys

The undercounts in the Decennial Census also have implications for post-Census population estimates and projections. The Census Bureau's post-Census population estimates program, which produces yearly national, state, and county population estimates, uses data from the Decennial Census as the starting point to produce post-Census estimates (U.S. Census Bureau 2014a). If an age cohort is undercounted in the Census, that cohort will be under-represented in the Census Bureau's population estimates for the next decade.

Many population projections also start with the Decennial Census counts, so undercounts in the Decennial Census are likely to be reflected in projections for many years (U.S. Census Bureau 2014b). State population projections, such as those available from the University of Virginia's Weldon Cooper Center for Public Service (2013), are also affected by Census undercounts. In discussing where to get data for state and local projections Smith et al. (2001, p. 113) indicate, "The most commonly used source--and the most comprehensive in terms of demographic and geographic detail—is the Decennial Census of population and housing."

Decennial Census results and the Census Bureau's post-Census population estimates are often used to weight sample surveys both inside and outside government. If the Decennial Census counts and subsequent population estimates underestimate a population group, the weighted survey results will reflect this error (Jensen and Hogan 2017; O'Hare and Jensen 2014; O'Hare et al. 2013). Several analysts have shown how Census undercounts distort estimates of poverty rates for children (Hernandez and Denton 2001; Daponte and Wolfson 2003; O'Hare 2017).

In addition, data from the Census Bureau are often used as denominators for constructing rates such as the child mortality rate. Census undercounts may skew such rates. For example, the 2010 U.S. death rate for all children age 1–4 in 2010 was 26.5 per 100,000 and for Hispanic children age 1–4 it was 22.7 per 100,000 (Murphy et al. 2013). These rates are based on using the Census counts as denominators. If one had used the DA estimates for the population age 1–4 instead of the Census counts, the death rate for all children age 1–4 would have been 25.3 (rather than 26.5) and the rate for Hispanic children age 1–4 would have been 20.9 (rather than 22.7). This represents a 5% difference for all children and an 8 percent difference for Hispanic children. This shows how Census undercounts can lead to flawed rates.

2.5 Using Census Data for Planning

Data from the U.S. Decennial Census counts as well as estimates and projections which are based on the Census are used for many planning activities including schools (Edmonston 2001; McKibben 2007, 2012). Flaws in the Census counts can lead to inefficient use of public funds. For example, the high net undercounts of young

children in many large cities and urban counties are likely to compromise school planning in those areas (O'Hare 2015).

Census data are also used in health care planning (Koebnick et al. 2012). For example, the Center for Medicare and Medicaid Services (2018) shows how Census are used in health care planning and delivery in rural America.

2.6   Use of Census Data in Business

Census data have been used in business planning as well (Headd 2003). Among other uses, Census data are used by business to determine where to start or expand a business and to determine potential customers for new products. A recent U.S. Department of Commerce publication (2015, p. 2) identifies several business and commercial uses of Census data including;

- Create effective marketing or merchandising strategies to better serve customers and communities
- Inform hiring decisions and workforce evaluation
- Forecast growth and sales to make better strategic decisions
- Stock shelves with the goods suited to local customers preferences
- Invest in infrastructure improvements
- Perform risk analysis.

According to the National Research Council (1995, p. 292);

Retail establishments and restaurants, banks and other financial institutions, media and advertising, insurance companies, utility companies, health care providers, and many other segments of the business world use Census data.

One business group working on the 2020 Census, Council for Strong America (2018), states

A thriving economy relies on timely information about the U.S. population and how it is shifting and changing throughout the country. The Decennial census provides the broadest set of data about residents in the United States that no other body produces.

It is also important to note that many of the data products or data systems used by businesses depend on Census data as a benchmark. In the data-driven and digital-driven work of business decision making, at least one business leader (McDonald 2017, p. 2) recognizes the important role the Census plays.

In such a digital-driven world, the Decennial counting of noses known as the U.S. Census may seem irrelevant or outdated. But in fact, the data that the Census Bureau collects –both in its Decennial count and the annual American Community Survey (ACS) – have never been more important to business constituencies.

2.7   Use of Census Data in Civil Rights Protection

For many groups, the Census is seen a civil rights issue (Leadership Conference on Civil Rights 2017). In addition to heavy use of Decennial Census data in the context of redistricting and voting rights, data from the Census are used to examine equality in jobs and education opportunities. A flawed Census can undermine the ability to examine such issues fairly. According to the Leadership Conference Education Fund (2017, p. 1), "Federal agencies rely on Census and American Community Service (ACS) data to monitor discrimination and implement civil rights laws that protect voting rights, equal employment opportunity, and more."

In addition to the use of Census data for many obvious civil rights purposes, it is also used for some lessen known civil rights programs. For example, under section 203 of the Voting Rights Act, data from the Census Bureau are used to identify jurisdictions that must provide language assistance in voting that is based on the number of people in the jurisdiction that speak a language other than English (Advancing Justice 2016).

2.8   Public Perceptions of Growth or Decline

High net undercounts can provide misleading public impressions about the size or growth of the population in a given location. And these perceptions can have a significant impact on public and private investment decisions related to a community.

This point is difficult to quantify but in many instances the size of a population translates into the importance politicians and marketers give it. In response to the 2000 Census, one public official stated, "Pride in the community is involved. I want people to really know how big we are. We aren't just a little burgh in south Louisiana" (cited in Prewitt 2003, p. 7). If communities are perceived as losing population because of an undercount, it can affect the willingness of investors to put money in those communities.

2.9   Science and Scholarship

West and Fein (1990) as well as Clogg and colleagues (1989) review several ways in which the Decennial Census undercounts affect social science research results. Clogg and his colleagues (1989, p. 559) conclude, "Because undercount rates (or coverage rates) vary by age, race, residence and other factors typically studied in social science research, important conceptual difficulties arise in using Decennial Census results to corroborate sampling frames or to validate survey results."

2.10 Census Planning

Finally, to improve Census-taking procedures in the future, it is important to understand which groups are undercounted at the highest rates in the past Censuses. Information on net undercounts and omissions have been used by the Census Bureau to improve the Census-taking procedure from decade to decade. For example, noting the high net undercount of young children in the 2010 Census prompted the Census Bureau to develop plans to reduce the net undercount of young children in the 2020 Census (Jarmin 2018; Walejko and Konicki 2018).

2.11 Summary

Data from the Decennial Census are used for many important applications including:

- Allocating political power
- Distribution of federal funds through funding formulas
- Population estimates and projections
- Providing weights for sample surveys
- Providing denominators for rates
- Civil rights enforcement
- Public and private sector planning
- Economic and social science research
- Improving the accuracy of the Census over time.

It is clear from the content of this Chapter that the Census is more than just a statistical exercise. Census data are used in some of the most important aspects of our society including our system of governance, distribution of federal dollars for many important programs, and thousands of public and private sector decisions.

References

Advancing Justice. (2016). *Census director identifies jurisdictions that must provide language assistance under Section 203 of the voting rights act*. National Association of Latino Elected Officials, December.

Anderson, M., & Fienberg, S. E. (2001). *Who Counts?*. Russell Sage Foundation, New York: The Politics of Census Taking in Contemporary America.

Balinski, M., & Young, H. P. (1982). *Fair representation: Meeting the ideal of one man, one vote*. New Haven, CT: Yale University Press.

Baumle, A. K., & Poston, D. L. (2004). Apportioning the house of representatives in 2000: The effects of alternative policy scenarios. *Social Science Quarterly, 85*(3), 578–603 (September).

Baumle, A. K., & Poston, D. L. (2018). *Alternative house reapportionment scenarios based on projected 2020 census results*. Paper presented at the Population Association of American Conference, Denver CO., April 27.

Blumerman, L. M., & Vidal, P. M. (2009). *Uses of population and income statistics in federal funds distribution—with a focus on census bureau data*. Government Divisions Report Series, Research Report #2009-1. Washington, DC: U.S. Census Bureau.

Brace, K. (2017) *Some changes in apportionment allocations with new 2017 census estimates: But greater change likely by 2020*. Election Data Services, December 20.

Bryant, B. E., Dunn, W. (1995). *Moving power and money: The politics of U.S. decennial census taking*. Ithaca, NY: New Strategists Publications.

Center for Medicare and Medicaid Services. (2018). *Rural health clinic*. Medicare Learning Network Fact Sheet, January.

Clogg, C. C., Massaglie, M. P., & Eliason, S. R. (1989). Population undercount and social science research. *Social Indicators Research, 21*(6), 559–598.

Conk, M. (1987). *According to their respective numbers*. New Haven, CT: Yale University Press.

Council for Strong America. (2018). Business depends on an accurate census. https://www.strongnation.org/readynation/2020-census.

Crocker, R. (2011). *House apportionment 2010: States gaining, losing and on the margin*. Congressional Research Service, 7-5700 R41584.

Daponte, B. O., & Wolfson, L. J. (2003). *How many American children are poor? Considering census undercounts by comparing census to administrative data* (Unpublished paper).

Edmonston, B. (2001). *Effects of U.S. decennial census undercoverage on analyses of school enrollments: A case study of Portland public schools*. U.S. Census Monitoring Board, Report Series, Report No. 5, February.

Grofman, B. (1982). *Representation and redistricting issues*. Lexington, MA: Lexington Books.

Headd, B. (2003). Redefining business success: Distinguishing between closure and failure. *Small Business Economics, 21*(1), 51–61.

Heer, D. M (Ed.), (1968). *Social statistics and the city*. Cambridge, MA: Joint Center for Urban Studies.

Hernandez, D. & Denton, N. (2001). *Census affects children in poverty*. Washington, DC: U.S. Census Monitoring Board.

Hotchkiss, M., & Phelan, J. (2017). *Uses of census bureau data in federal funds distribution*. Washington, DC: U.S. Census Bureau (September).

Jarmin, R. (2018). *Improving our count of young children*. Census Bureau's Directors Blog July 2. https://www.Census.gov/newsroom/blogs/director/2018/07/improving_our_count.html.

Jensen, E., & Hogan, H. (2017). The coverage of young children in demographic surveys. *Statistical Journal of the International Association of Official Statistics, 33,* 321–333.

Koebnick, C., Langer-Gould, A., Gould, M. K., Chao, C. R., Iyer, R. L., Smith, N., et al. (2012). Sociodemographic characteristics of members or a large integrated health care system: Comparison with US census bureau data. *The Permanente Journal, 16*(3), 37–41.

Leadership Conference Education Fund. (2017). Fact sheet: The census and civil rights. Downloaded on June 13, 2017 from http://civilrightsdocs.info/pdf/Census/Fact-Sheet-Census-and-Civil-Rights.pdf.

Leavitt, J. (2018). *Testimony before the United States house of representatives, committee on oversight and government reform*. Progress Report on the 2020 Census, May 8.

McDonald, S. (2017). A 2020 census flop would pose a danger to U.S. Business, #Bigdata December 6.

McKay, R. (1965). *Reapportionment: The law and politics of equal representation*. New York, NY: The Twentieth Century Fund.

McKibben, J. (2007). *The use of school enrollment data to estimate census undercounts in small areas, presentation and applied demography conference* (p. 2007). TX January: San Antonio.

McKibben, J. (2012). *Using school enrollment data to measure small area coverage rates of the 2010 census, presentation and applied demography conference* (p. 2012). TX January: San Antonio.

Miller, C. (2018). Cited in Idaho Census 2020 Planning underway. *Idaho Business Review* (March 8, 2018), written by Sharon Fisher.

Murphy, S. L., Xu, J., & Kochanek, K. D. (2013). *Deaths: Final data for 2010*. *National Vital Statistics Reports, 61*(4).

Murray, M. P. (1992). Census adjustment and the distribution of federal spending. *Demography, 29*(3), a319–332,

National Conference of State Legislators. (2017). Downloaded June 11, 2017 from http://www.ncsl.org/research/about-state-legislatures/number-of-legislators-and-length-of-terms.aspx.

National Research Council. (1995). *Modernizing the U.S. Census*. Washington, DC: National Academy Press.

O'Hare, W. P. (2015). *The undercount of young children in the U.S. decennial census*. Springer.

O'Hare, W. P. (2017). *The impact of the undercount of young children in the census on poverty estimates from the American community survey*. Presentation at American Community Survey Users Conference, 2017, Alexandria, VA.

O'Hare, W. P., & Jensen, E. B. (2014). *The representation of young children in the American community survey*. Presentation at the ACS Users Group Conference, Washington, DC, May 29–30.

O'Hare, W. P., Jensen, E., & O'Hare, B. C. (2013). *Assessing the undercount of young children in the U.S. decennial census: Implications for survey research and potential explanations*. Paper presented at the 2013 American Association of Public Opinion Researchers Annual Conference, Boston, MA.

Prewitt, K. (2003). Politics and science in census taking. In series *The American People: Census 2000*. Russell Sage Foundation and Population Reference Bureau, Population Reference Bureau, Washington, DC.

PriceWaterhouseCooper. (2001). *Effect of U.S. Decennial Census2000 Undercount on Federal Funding to States and Selected Counties, 2001–2012*. Report to the U.S. Census Monitoring Board, Presidential Members.

Reamer, A. D. (2010). *Counting for dollars: The role of the decennial census in the geographic distribution of federal funds*. Washington, DC: Brookings Institution, Metropolitan Policy Program.

Reamer, A. D. (2017). *Counting for dollars*. Washington, DC: George Washington University.

Reamer, A. D. (2018). *Census-guided federal assistance to rural America*, *Report #3, Counting for Dollars 2020: The Role of the decennial census in the geographic distribution of federal funds*. Washington, DC: George Washington University (August 24).

Seigel, J. (2002). *Applied demography: Applications to business, government, law, and public policy*. Academic Press.

Smith, S., Tayman, J., & Swanson, D. A. (2001). State and local population projections: Methods and analysis. *The Plenum Series on Demographic Methods and Population Analysis*, Kluwer.

Teitelbaum, M. S. (2005). Political demography. In M. Michlin & D. L. Poston (Eds.), *Handbook of population* (pp. 719–730). Springer.

The Annie E. Casey Foundation. (2018). *2018 Kids count data book: State trends in child well-being*. Baltimore, MD: The Annie E. Casey Foundation.

U.S. Senate. (1992). *Dividing dollars: Issues in adjusting decennial counts and intercensal estimates for funds distribution*. Report prepared by the Subcommittee on Government Information and Regulation of the Committee on Government Affairs, 102nd Congress, 2nd session Senate Print 102-83, U.S. Government Printing Office, Washington, DC.

U.S. Census Bureau. (2014a). (BILL UPDATE). The 2013 population estimates are available online at http://factfinder2.Census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk.

U.S. Bureau of the Census. (2014b). U.S. Population Projections: 2014–2060, Release Number CB14-TPS.86.

U.S. Census Bureau. (2017). *2020 census operational plan: A new design for the 21st Century, Version 3.0*. Washington, DC: U.S. Census Bureau.

U.S. Census Bureau. (2018). *2020 census complete count committee guide, D-1280*. Washington, DC: U.S. Census Bureau.

U.S. Department of Commerce. (2015). *The value of the american community survey: Smart government, competitive business, and informed citizens, economic and statistics administration*. Washington, DC: U.S. Department of Commerce.

Walejko, G., & Konicki, S. (2018). *Census efforts to reduce the undercount of young children*. Vancouver Canada: Poster Presented at Joint Statistical Meeting.

Weldon Cooper Center for Public Service. (2013). Projections for the 50 states and D.C. Available online at http://www.coopercenter.org/demographics/national-population-projections.

West, K. K., & Fein, D. J. (1990, May). U.S. decennial census undercount: An historical and contemporary sociological issues. *Sociological Inquiry, 60*(2), 127–141.