

Child Care Costs in the Redesigned Survey of Income and Program Participation (SIPP):
A Comparison to the Current Population Survey
Annual Social and Economic Supplement (CPS ASEC)

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Brief Summary

This paper assesses child care cost estimates from the Survey of Income and Program Participation (SIPP) and the Current Population Survey's Annual Social and Economic Supplement (CPS ASEC). The SIPP was redesigned for the 2014 panel, including changes to the child care questions. Compared to previous SIPP panels that asked separately about child care expenses for each source of child care for each child, the redesigned SIPP has just one question about total child care expenses across all types of care and for all children in the family, making it more comparable to CPS ASEC which also has a global question about total child care expenses. The authors find differences across the 2014 SIPP and CPS ASEC estimates that are wider than the differences Macartney and Laughlin¹ found in their analysis of the 2010 CPS ASEC and 2004 SIPP panel referencing 2009.

Introduction

This paper compares statistics gathered using SIPP and CPS ASEC data. SIPP is a longitudinal panel survey conducted by the US Census Bureau which consists of successive interviews referred to as "waves." The 2014 SIPP Panel was redesigned to have waves with 12-month reference periods. Prior to the 2014 redesign, earlier SIPP panels had waves with 4-month reference periods. Several of these waves also contained supplemental "topical module" questionnaires that focused on a variety of topics of interest. Child care-related questions were included in a few of these topical modules. The 2014 Panel does not have topical modules, so child care related questions is part of each wave's questionnaire. In comparison, the CPS is a

¹ Macartney, S., & Laughlin, L. (2011). *Child care costs in the Current Population Survey's Annual Social and Economic Supplement (CPSASEC): A comparison to SIPP* (No. 2011-1). SEHSD Working Paper 2001-1. <https://census.gov/library/working-papers/2011/demo/SEHSD-WP2011-01.html>

monthly survey that is the source of official government statistics on employment and unemployment. The CPS ASEC, which contains questions related to child care, is the Annual Social and Economic Supplement to the CPS. Since the CPS ASEC is administered annually, many of its questions reference the prior calendar year.

In 2011, Macartney and Laughlin compared the child care cost estimates in the 2009 CPS ASEC with those from Wave 4 of the 2004 SIPP panel (collected in 2009). Questions about child care cost expenditures were introduced to the CPS ASEC for the first time in the 2010 data as part of a broader goal to develop a new Supplemental Poverty Measure.² Macartney and Laughlin used SIPP estimates as a benchmark for the new CPS ASEC child care estimates. They found CPS ASEC and SIPP estimates to be significantly different, though the differences were small in magnitude.

The 2014 SIPP panel was redesigned to minimize respondent burden, which resulted in changes to the general question format for the child care section while still collecting similar child care measures. In previous SIPP panels, a reference parent (typically the mother) was asked about child care arrangements used for each child in a typical week in the previous month. In the redesigned SIPP, the questionnaire is organized by arrangement type—a reference parent is asked whether she/he used grandparent care for any child, daycare for any child, etc. in a typical week in December of 2013. Unlike previous SIPP panels in which a reference parent was asked separately about child care costs for each type of arrangement and for each child, reference parents in the 2014 SIPP panel are asked how much they spent in a typical week in December of

² Beginning in 2011, the U.S. Census Bureau began publishing the Supplemental Poverty Measure (SPM), which expands the official poverty measure by taking account of government assistance programs not included in the official poverty measure, incorporating alternative thresholds, and modernizing the family level unit of analysis.

2013 for all arrangements and all children under 15 years old. Also, respondents are asked questions regarding child care in each wave in the 2014 SIPP Panel as opposed to the prior SIPP panels, in which respondents were asked child care questions only at times where a child care topical module was administered.³

The redesigned child care cost question in the 2014 SIPP makes it more similar to CPS ASEC, which asks a global question about costs across all arrangements and all children in the home. We seek to compare the 2014 SIPP and 2014 CPS ASEC child care cost estimates for 2013, given these recent changes to the SIPP questionnaire.

Differences Between SIPP and CPS ASEC

Table 1 summarizes the child care components of the 2014 SIPP and 2014 CPS ASEC. The child care and employment reference period is the 2013 calendar year in CPS ASEC and December 2013 in SIPP. Each reference person (i.e., householder) in the CPS ASEC who lived with a child under age 15 at the time of the interview was asked if they, or another adult in the household, paid for care so that an adult could work. CPS ASEC respondents are asked about child care expenditures for all children present in the household, while SIPP respondents are asked about child care costs for children for whom they are a reference parent. In SIPP, a respondent is asked about child care costs if they report using any form of child care on a regular basis. In CPS ASEC, respondents are provided the option of reporting how much they pay for child care weekly, bi-weekly, twice monthly, monthly, or annually, and the frequency and

³ In the 2008 SIPP Panel, the fifth topical module (time period: January 2010 – April 2010) and the eighth topical module (time period: January 2011 – April 2011) contained questions related to child care.

amount are used to calculate the amount spent on child care through the year. SIPP respondents are asked to report how much they spent on child care in a typical week in December 2013.⁴

Given these differences in child care questions between the surveys, we compared group sizes in SIPP and CPS ASEC, starting with the total population of women and incrementally filtering down to working mothers (see Table 2). The estimates for the number of adult women, working women, working mothers, and working mothers with children under 15 in the home each differ between CPS ASEC and SIPP. CPS ASEC estimates 130.0 million women and SIPP estimates 129.6 million women. CPS ASEC estimates 74.7 million working women, while SIPP yields an estimate of 70.0 million. CPS ASEC estimates 27.1 million working mothers and SIPP estimates 24.9 million working mothers. The estimates for working mothers with a child under 15 in their household—the universe used in the analysis—are 22.6 million in CPS-ASEC and 21.7 million in SIPP. In Macartney and Laughlin’s paper, the estimates for working mothers with minor children under 15 in the home were 24.0 million in CPS-ASEC 2009 and 23.0 million in SIPP 2004, Wave 4.

Working mothers with at least one child under 15 years old (which we will refer to as “working mothers” throughout the rest of the paper) were selected as the unit of analysis to maximize comparability across the two surveys. In CPS ASEC, respondents are asked about child care costs while the parent is working. In SIPP, reference parents who are not working are still asked about costs related to child care while their child(ren) was not with them. Excluding non-working mothers from the SIPP sample allowed for a comparable measure of child care costs associated with mothers’ employment.

⁴ The 2014 SIPP uses December as a reference month because it is the closest month in the reference period to the interview.

Results

Table 3 compares estimates of the percent of working mothers who pay for child care in SIPP and CPS ASEC. In the CPS ASEC, 30.3 percent of working mothers living with a child under age 15 paid for child care in 2013, compared to 41.8 percent of working mothers in SIPP who paid for child care in December 2013. Macartney and Laughlin also found differences in the estimates for the percent of working mothers using paid child care in 2009 between the two surveys: 26.9 percent in the CPS ASEC and 34.8 percent in the SIPP. With the exception of widowed mothers and mothers in poverty, the percent who paid for child care is higher in SIPP compared to CPS ASEC for each subgroup (see Table 3). These differences range from 10.1 for mothers whose youngest child is between 6 and 14, to 15.4 percentage points for mothers who are separated from their spouse.

Table 3 also compares mean and median child care costs in the SIPP and CPS ASEC. The edited CPS ASEC data reports child care expenses at the annual level. We converted these annual amounts to weekly amounts in order to make comparisons to SIPP.⁵ Since CPS ASEC amounts are reported at the household level, we sum SIPP child care expenses to the household level to create equivalent comparisons between SIPP and CPS ASEC.⁶

In the CPS ASEC, the median weekly amount spent on child care among working mothers is \$83. In SIPP, median weekly child care expenses are \$104 among working mothers. The mean weekly amount spent on child care is \$138 in CPS ASEC and \$207 in SIPP. The median and mean weekly child care estimates among subgroups are similarly higher in SIPP

⁵ We converted the annual CPS estimates to weekly estimates by dividing the child care costs by total weeks worked.

⁶ SIPP childcare costs are shown at the household level. In the case where multiple mothers are in a single household, the demographics of one mother in the household are selected for sub-setting.

compared to CPS, with the exception of mothers below the poverty line, who do not differ significantly in mean between the surveys, and widowed mothers, who do not differ significantly in mean and median between the two surveys. Margins of error for these estimates are shown in Appendix A.

To further examine differences in child care cost estimates in SIPP and CPS ASEC, we analyzed the percentage of household income spent on child care in both sets of data (see Table 4). Among all working mothers, the median share of household income spent on child care is 6.7 percent in SIPP and 4.7 percent in CPS.

Thus far, the reference year used to compare the two datasets is 2013 (CPS ASEC 2014 and SIPP 2014, Wave 1). In Table 5, we present these child care cost estimates next to estimates from data using 2011 as a reference period (CPS ASEC 2012, SIPP 2008, Wave 8)⁷, adjusting all values to 2013 dollars. We show 2011 and 2013 estimates for all working mothers, and for the three poverty categories. Comparing estimates across the two years is particularly useful because of the changes in SIPP data collection that occurred, beginning in SIPP 2014, Wave 1.

The CPS ASEC estimates varied little across the 2011 and 2013 reference years. The only statistically significant difference across years in the CPS ASEC occurred for mothers below poverty: the weekly median costs for mothers below the poverty threshold were higher in the 2013 sample compared to 2011.

In SIPP, the percent of working moms who paid for child care increased from 25.7 percent in reference year 2011 to 41.8 percent in reference year 2013. The percent who paid for

⁷ SIPP 2008, Wave 8 data were collected from January 2011 to April 2011. Child care questions in SIPP 2008 do not have the same structure as SIPP 2014. A description of differences can be found in the introduction of this paper.

child care increased for all poverty groups. While the median weekly expenditure did not change--\$104 in 2011 and 2013, the mean weekly amount spent on child care increased from \$155 in 2011 to \$207 in 2013.

Conclusion

Just as the introduction of the child care cost question in CPS ASEC in 2011 prompted Macartney and Laughlin's analysis of estimates of child care costs compared with SIPP, the redesigned SIPP 2014 provided an opportunity to once again compare estimates from the two surveys. The reported use of paid child care among employed women was much higher in the 2014 SIPP when compared to the 2014 CPS ASEC, as well as prior panels. The mean and median reported cost of child care were higher in SIPP among working women. These differences in SIPP and CPS estimates were consistent across various demographic subgroups. Compared to SIPP estimates, child care cost estimates in CPS appear to be more consistent with other household surveys, such as the Consumer Expenditure Survey.⁸

There are several factors that may account for some of the differences in child care cost estimates in SIPP and CPS. The reference period for child care questions in SIPP is December of the previous year, a month during which parents may often have atypical child care expenses due to holidays and school breaks. The child care use estimates from Wave 1 of the 2014 SIPP are strikingly high compared to previous years, potentially due to the various changes in the way SIPP data were collected in the redesigned 2014 Panel. This may contribute to the high reports of child care expenses in SIPP, relative to CPS ASEC.

⁸ Based on unpublished tabulations from the Department of Health and Human Services, Office of Assistance Secretary for Planning and Evaluation.

Another factor that may lead to higher child care costs in SIPP is potential differences in imputation rates⁹ for the child care cost question in the two surveys. Thirty-one (30.7) percent of the child care cost data in SIPP are allocated, compared to 26.3 in CPS ASEC. The difference is statistically significant, though doesn't appear to be large enough in magnitude to explain the gap in child care cost estimates.

Because the SIPP and CPS ASEC have distinct designs and different strengths and weaknesses, it's beneficial for both surveys to include questions about child care costs. Furthermore, collecting child care cost data in both SIPP and CPS allows for continued comparisons of estimates between the two surveys.

The data in this report are from the Annual Social and Economic Supplement (ASEC) to the 2014 Current Population Survey (CPS) and the Survey of Income and Program Participation (SIPP), 2014 Wave 1. All comparative statements have undergone statistical testing and are significant at the 90 percent confidence level. Estimates were calculated using replicate weights. The data are subject to error arising from a variety of sources. For information on sampling and nonsampling error see <https://www2.census.gov/programs-surveys/sipp/tech-documentation/source-accuracy-statements/2014/sipp-2014-source-and-accuracy-statement.pdf> and <https://www2.census.gov/programs-surveys/cps/techdocs/cpsmar14R.pdf>.

⁹ The Census Bureau uses imputation methods that either use logic rules to determine acceptable answers or use answers from similar households or people who provided the item information.

Table 1. Child Care Components in the 2014 CPS ASEC and the 2014 SIPP

	Current Population Survey (CPS) Annual Social and Economic Supplement (ASEC)	Survey of Income and Program Participation (SIPP)
Interview method	in person and telephone	in person
Interview period	Feb.-Apr. 2014	Spring 2014
Child care reference period	2013 calendar year	December 2013
Employment reference period	2013 calendar year	December 2013
Child care level of measurement	household	family
Child care data collected for:	all children in the household	children for whom they have been identified as a parent
Cost refers to these types of child care arrangements:	all	regularly used child care arrangements
Types of arrangements specified in the question:	none	none, although a parent only receives the “amount” question if they report using one of the specific child care arrangements asked about previously
Question 1	Did (you/anyone in this household) pay for the care of (your/their) child(ren) while you/they worked last year?	Did you or your family usually pay for any of these arrangements for [child(ren)]?
Question 2	How much did you or they pay weekly/monthly/annually for child care? How many payments did you or they make in the prior year?	In a typical week in December 2013, how much did you or your family pay for all of these arrangements for [child(ren)]?
Periodicity of child care payments	weekly, biweekly, monthly, twice monthly, or annually (whatever is convenient for the respondent)	weekly (typical week in December 2013)

Source: U.S. Census Bureau, Current Population Survey (CPS), Annual Social and Economic Supplement, 2014; U.S. Census Bureau, Survey of Income and Program Participation (SIPP) 2014 Panel, Wave 1.

Table 2. Universe Counts in the 2014 CPS ASEC and the 2014 SIPP
(Numbers in Thousands)

	CPS ASEC 2014	SIPP 2014
Adult Women	129,959	129,645*
Adult Working Women	74,667	70,019*
Adult Working Mothers	27,134	24,942*
Adult Working Mothers, w/ Children Under 15	22,585	21,678*

Source: U.S. Census Bureau, Current Population Survey (CPS), Annual Social and Economic Supplement, 2014; U.S. Census Bureau, Survey of Income and Program Participation (SIPP) 2014 Panel, Wave 1.

Note: Universe for adults: 15 and older

* Indicates a statically significant difference between CPS and SIPP estimates at the 90% confidence level

Table 3. Comparison of Child Care Estimates between the 2014 CPS ASEC and the 2014 SIPP
(Numbers in Thousands)

	CPS ASEC 2014			SIPP 2014			Difference (+/-) between CPS-SIPP				
	N	% who paid	median weekly	mean weekly	N	% who paid	median weekly	mean weekly	% who paid	median weekly	mean weekly
Total employed mothers	22,585	30.3	\$83	\$138	21,678	41.8	\$104	\$207	-11.6*	-\$21*	-\$69*
Employed Full Time	15,139	34.0	\$92	\$141	15,192	45.1	\$122	\$215	-11.1*	-\$30*	-\$74*
Youngest Child 0 to 5 Years Old	10,420	43.1	\$100	\$162	10,407	55.3	\$149	\$240	-12.2*	-\$49*	-\$78*
Youngest Child 6 to 14 Years Old	12,164	19.2	\$53	\$89	11,271	29.3	\$73	\$150	-10.1*	-\$20*	-\$61*
Below Poverty	2,742	20.1	\$50	\$101	2,453	29.6	\$72	\$126	-9.5	-\$22*	-\$25
100 to 299 Percent of Poverty	8,084	25.1	\$58	\$86	8,292	36.5	\$96	\$177	-11.4*	-\$38*	-\$91*
300+ Percent of Poverty	11,758	36.2	\$103	\$166	10,934	48.6	\$146	\$236	-12.4*	-\$43*	-\$70*
White, non-Hispanic	13,321	32.5	\$90	\$149	12,638	43.2	\$117	\$198	-10.7*	-\$27*	-\$49*
Black	3,323	28.4	\$58	\$105	3,375	41.9	\$96	\$181	-13.5*	-\$38*	-\$76*
Hispanic	4,276	25.2	\$70	\$103	4,169	36.2	\$98	\$208	-11.0*	-\$28*	-\$105*
Married	14,504	32.6	\$96	\$155	13,863	43.0	\$143	\$231	-10.4*	-\$47*	-\$76*
Separated	1,051	26.2	\$55	\$95	1,119	41.6	\$95	\$177	-15.4*	-\$40*	-\$82*
Widowed	204	30.6	\$58	\$116	203	38.5	\$56	\$67	-8.0	-\$2	-\$49
Divorced	2,123	29.1	\$57	\$81	2,427	40.9	\$91	\$171	-11.8*	-\$34*	-\$90*
Never Married	4,702	24.5	\$58	\$100	4,067	38.4	\$75	\$154	-14.0*	-\$17*	-\$54*

Source: U.S. Census Bureau, Current Population Survey (CPS), Annual Social and Economic Supplement, 2014; U.S. Census Bureau, Survey of Income and Program Participation (SIPP) 2014 Panel, Wave 1.

* Indicates a statically significant difference between CPS and SIPP estimates at the 90% confidence level

Table 4. Median Share of Household Income Spent on Child Care in the 2014 CPS ASEC and the 2014 SIPP (Numbers in Thousands)

	CPS ASEC		SIPP	
	N	Median % Household Income Spent on Child Care	N	Median % Household Income Spent on Child Care
Total Employed Mothers	22,585	4.7	21,678	6.7*
Employed Full Time	15,139	5.0	15,192	6.8*
Youngest Child 0 to 5 Years Old	10,420	5.6	10,407	8.1*
Youngest Child 6 to 14 Years Old	12,164	2.9	11,271	4.2*
Below Poverty	2,742	10.5	2,453	16.6*
100 to 299 Percent of Poverty	8,084	5.4	8,292	9.4*
300+ Percent of Poverty	11,758	3.9	10,934	5.3*
White, non-Hispanic	13,321	4.3	12,638	5.7*
Black	3,323	5.5	3,375	7.8*
Hispanic	4,276	5.8	4,169	8.9*
Married	14,504	4.2	13,863	5.8*
Separated	1,051	7.4	1,119	9.5
Widowed	204	3.4	203	5.6
Divorced	2,123	4.7	2,427	8.7*
Never Married	4,702	7.0	4,067	9.2*

Source: U.S. Census Bureau, Current Population Survey (CPS), Annual Social and Economic Supplement, 2014; U.S. Census Bureau, Survey of Income and Program Participation (SIPP) 2014 Panel, Wave 1.

* Indicates a statically significant difference from CPS estimates at the 90% confidence level.

Table 5. Comparison of Child Care Estimates, Reference Years 2011 and 2013

CPS ASEC						
Year of Reference	2011			2013		
	%					
	who paid	median weekly ^a	mean weekly ^a	% who paid	median weekly	mean weekly
Total	29.9	\$82	\$131	30.3	\$83	\$138
Below Poverty	22.7	\$40	\$81	20.1	\$50*	\$101
100 to 299 Percent of Poverty	25.6	\$62	\$97	25.1	\$58	\$86
300+ Percent of Poverty	34.8	\$104	\$156	36.2	\$103	\$166

SIPP						
Year of Reference	2011			2013		
	%					
	who paid	median weekly ^a	mean weekly ^a	% who paid	median weekly	mean weekly
Total	25.7	\$104	\$155	41.8*	\$104	\$207*
Below Poverty	15.6	\$61	\$90	29.6*	\$72	\$126*
100 to 299 Percent of Poverty	21.9	\$91	\$123	36.6*	\$96	\$177*
300+ Percent of Poverty	31.7	\$134	\$182	48.6*	\$146	\$236*

Source: U.S. Census Bureau, Current Population Survey (CPS), Annual Social and Economic Supplement, 2014; U.S. Census Bureau, Survey of Income and Program Participation (SIPP) 2014 Panel, Wave 1.

*Indicates a statically significant difference from 2011 estimates at the 90% confidence level

^aAll values adjusted to 2013 dollars using CPI-U

Appendix A. Margins of Error for Child Care Estimates, CPS and SIPP

	CPS ASEC 2014			SIPP 2014		
	% who paid	median weekly	mean weekly	% who paid	median weekly	mean weekly
Total employed mothers	0.8	\$3	\$10	1.2	\$16	\$12
Employed Full Time	0.9	\$2	\$12	1.4	\$9	\$13
Youngest Child 0 to 5 Years Old	1.2	\$4	\$14	1.8	\$12	\$16
Youngest Child 6 to 14 Years Old	0.9	\$3	\$7	1.6	\$7	\$19
Below Poverty	1.9	\$7	\$20	3.6	\$11	\$22
100 to 299 Percent of Poverty	1.2	\$3	\$6	1.9	\$9	\$20
300+ Percent of Poverty	1.1	\$5	\$15	1.9	\$9	\$17
White, non-Hispanic	1.0	\$2	\$15	1.7	\$9	\$14
Black	2.0	\$10	\$14	3.2	\$9	\$26
Hispanic	1.6	\$12	\$8	2.9	\$10	\$36
Married	1.0	\$4	\$13	1.5	\$7	\$15
Separated	3.4	\$18	\$15	5.4	\$13	\$37
Widowed	7.3	\$35	\$66	11.8	\$31	\$19
Divorced	2.3	\$7	\$10	3.5	\$6	\$52
Never Married	1.5	\$6	\$14	3.3	\$19	\$22

Source: U.S. Census Bureau, Current Population Survey (CPS), Annual Social and Economic Supplement, 2014; U.S. Census Bureau, Survey of Income and Program Participation (SIPP) 2014 Panel, Wave 1.