

HOW DOES POSSLQ MEASURE UP? HISTORICAL ESTIMATES OF COHABITATION*

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We use March Current Population Survey (CPS) data from 1977 to 1997 to produce a new historical series of indirect cohabitation prevalence estimates. We compare our new estimates with those produced by the traditional method and evaluate the new estimates. We then compare the indirect estimates with the new direct estimates to investigate whether biases exist in the indirect estimates. Our findings indicate that the traditional indirect method of estimating cohabitation prevalence underestimates cohabitators in different subpopulations, especially among those with children. We also find that the new indirect measure produces relatively unbiased estimates of cohabitators' characteristics.

Researchers at the Census Bureau developed nationally representative estimates of the number of cohabitators and their characteristics in the late 1970s (Glick 1984; Glick and Norton 1977; Glick and Spanier 1980). Because of the lack of direct data on cohabitation—that is, survey questions asking respondents to identify nonmarital cohabitation relationships—the Census Bureau had to infer these rates on the basis of household composition. The result was the measure that became known by the term *POSSLQ* (“PA-sul-cue”): Partners of the Opposite Sex Sharing Living Quarters. This concept and its acronym became cultural fixtures of the time, as demonstrated by book titles in the 1980s such as *There’s Nothing That I Wouldn’t Do If You Would Be My POSSLQ* (Osgood 1981) and *Will You Be My POSSLQ?* (Bunting 1987). The POSSLQ concept contained a number of problematic assumptions, but researchers embraced these national estimates despite their limitations and still refer to them today. As recently as 1998, a *Washington Post* article trumpeted the “eightfold increase” in the number of POSSLQ households (Vobejda 1998).

For the past few decades, many cohabitation studies have referred to increases in the prevalence of cohabitation

as demonstrated by the Census Bureau’s POSSLQ estimates. Of the 91 articles we reviewed that dealt with cohabitation, about two-thirds contained either direct or indirect references to the POSSLQ estimates; 28% referred to the POSSLQ estimates directly (e.g., Bianchi and Spain 1996; Bumpass and Sweet 1989; McLanahan and Casper 1995), and another 35% referred to them indirectly (e.g., Bumpass, Sweet, and Cherlin 1991; Manning and Smock 1995; Raley 1996; Schoen 1992). Thus, despite the problems with these estimates, they are used widely.

Other research provided a demographic profile of cohabitators and examined which populations were most responsible for the increases (Chevan 1996; Glick 1984; Glick and Spanier 1980; Hatch 1995; Spanier 1982). Researchers described the distribution of cohabitators and the prevalence of cohabitation by characteristics such as age, gender, race, presence of children, marital status, metropolitan status, educational attainment, and income.

Improving on the traditional POSSLQ estimates is important; they are the only consistent estimates available for assessing the trends in the prevalence of cohabitation from the 1960s to the present. In this paper we evaluate the strengths and weaknesses of the traditional POSSLQ measure and offer an alternative: the Adjusted POSSLQ measure. We then compare these measures with a direct measure that first became available in 1995 to investigate whether biases exist.

Indirect Methods

Along with the decennial census, the CPS has been the primary source for Census Bureau estimates of cohabiting adults since 1960. In 1990 the decennial census began to include “unmarried partner” as a category in the “relationship to the householder” question; this category could be used to develop a direct measure of cohabitation. This option, however, did not become available in the CPS until 1995. Thus, until the 1990s, the Census Bureau had to employ indirect methods using household composition to identify nonmarital cohabitation. POSSLQ households are identified as all of those that contain two and only two adults (age 15+) who are unrelated and of the opposite sex. Because the definition is restricted to households containing only two adults, group living situations are excluded. Presumably, however, the definition still captures a significant number of simple roommate situations. Thus it misses cohabitators who share households with other adults; at the same time, it includes adults who live together but are not couples, such as college roommates.

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The POSSLQ measure helped to identify the importance of nonmarital cohabitation as an emerging trend, and laid the foundation for much of the research that followed. Nevertheless, certain problems are apparent when the POSSLQ measure is used as an indicator of cohabiting couples.

First, related adults are included in the count of total adults; thus households with two unrelated adults and (for example) one 15-year-old child are excluded. As a result, by definition, POSSLQ households never include own children or other relatives age 15 or older. The POSSLQ measure thus *underestimates* the "true" POSSLQ population; probably it also *overestimates* the unmarried-partner population because it includes roommates (Bachrach 1987:624; Hatch 1995:4).

A second and numerically much smaller problem is that foster children (technically not related to the householder) are not excluded, so some foster children are counted as cohabiting partners.

Because the Census Bureau does not include a POSSLQ variable on its public use files for either CPS or the decennial census, analysts have been required to implement the designation themselves. In the process, several studies have adjusted the traditional POSSLQ definition in beneficial if not consistent ways (see Chevan 1996; Hatch 1995; Moffitt, Reville, and Winkler 1998).

Direct Methods

Recall that the CPS began to include "unmarried partner" as a self-identified relationship category on the household roster for the first time in 1995; this option first appeared in the decennial census in 1990. In both the census and the CPS, this relationship is identified only for individuals who are not the householder—the person in whose name the house is owned or rented. Because the relationship question asks how everyone in the household is related to the householder, the designation "unmarried partner" does not identify how nonhouseholders are related to each other. Therefore unmarried couples in which neither partner is the householder cannot be identified.

The National Survey of Families and Households (NSFH), the National Survey of Family Growth (NSFG), the Survey of Income and Program Participation (SIPP), and the National Longitudinal Survey of Youth (NLSY) also identify cohabitators directly. All CPS, NSFH, NSFG, and SIPP respondents are shown a flashcard indicating that the partner category is an acceptable response. Because cohabitation may be an informal relationship that is defined subjectively or culturally by either or both partners (Nock 1995), its identification is unusually prone to variation, depending on the measurement techniques employed.

In the 1995 NSFG (Cycle V) women age 15 to 44 were asked to state their relationship to every other person in the household; "male partner" appeared as one of the choices. If they specified anyone in the household as a male partner, they were coded as cohabiting on an alternative marital status variable (National Center for Health Statistics 1997). In the NSFG, cohabitators also can be identified in the "cohabitation history" section of the interview: If a respondent indi-

cates that she has ever lived with a partner and that she is still living with him, she is reclassified as cohabiting.

In a separate household relationship matrix, the SIPP asks about the relationship of each household member to every other member, similar to the procedure in the NSFG. In this manner, cohabiting couples that do not include a household reference person also can be identified. The NLSY asks a separate question: "Are you currently living as a partner with someone of the opposite sex?" (Moffitt et al. 1998). Census Bureau public use data do not include marital status recodes that include cohabitation.

Because of taboos and possible stigmas associated with cohabitation, it may be significant that some surveys take steps to make respondents more comfortable in identifying themselves as cohabitators. In the NSFH, for example, interviewers introduce the issue in the "over-sample screener" section of the interview by stating "Nowadays, many couples live together without being married. Is this true of *anyone* who lives in the household?" (Bumpass and Sweet 1989). The survey thus can identify couples that do not include householders, even before anyone is officially added to the roster. Also, in addition to offering a "lover/partner" category on the household roster, the survey allows respondents to be recoded as cohabitators if their current cohabitation spell extends to the current date. In this fashion, about 3% of cohabitators who are not identified on the household roster apparently are recoded subsequently as cohabitators.

NEW HISTORICAL ESTIMATES OF COHABITATION PREVALENCE

Methods

We develop a new indirect method for measuring the historical prevalence of cohabitation. This method uses data from the March Current Population Surveys, 1977 to 1997, and applies an adjustment to the traditional POSSLQ measure.¹

Cohabiting adults may be "living together" alone, with any combination of other relatives, or with other unrelated adults. In this paper, to improve on previous indirect estimates by the Census Bureau, we introduce an "Adjusted POSSLQ" designation that still restricts unmarried-couple households to two unrelated adults but does not exclude households with multiple related adults. The great majority of these related adults are 15- to 17-year-old children of one of the unrelated adults; this is not surprising given that postmarital cohabitation is increasingly common (Bumpass and Sweet 1989), and these unions often take place in the presence of children from a previous marriage (McLanahan and Casper 1995).

We define Adjusted POSSLQ households as those that meet the following criteria: They contain (1) a reference person (householder); (2) one other adult (age 15+) of the opposite sex who is not in a related subfamily, not a secondary

1. We use CPS public use files prepared by Unicon Research Corporation (1997). In some years these files may differ from the latest files released by the Census Bureau.

individual in group quarters, and not related to or a foster child of the reference person; and (3) no other adults (age 15+) except foster children, children or other relatives of the reference person, or children of unrelated subfamilies.

This definition still excludes households in which a reference person lives with a cohabiting partner and that partner's nonchild relatives. Yet because CPS records only relationships to householders and family or subfamily reference persons, it is impossible to distinguish these cases from groups of unrelated individuals. More important, this definition includes as couple households those situations in which a householder's relative is living with a nonmarital partner. For example, a single female householder's daughter and her boyfriend might both be present. In such cases, the Adjusted POSSLQ would correctly identify the household as an unmarried-couple household, but it would incorrectly designate the mother and the daughter's boyfriend as partners.² Thus the adjusted measure probably estimates more correctly the number of unmarried-couple households, but also might introduce some patterned biases with regard to partner characteristics. The traditional POSSLQ definition may avoid this latter problem by excluding all such households.

Table 1 shows the number of cohabiting couples as indicated by Adjusted POSSLQ and traditional POSSLQ methods for 1977 to 1997. The increase in the POSSLQ couples is the now-familiar story of the rapid, nearly linear increase in unrelated-couple households, from fewer than 1 million in 1977 to more than 4 million in 1997. The Adjusted POSSLQ trend reveals the extent to which the traditional POSSLQ undercounts potential partner households because it excludes households with related adults. This undercount increased from about 129,000 in 1977 to 731,000 by 1997, or from about 13% to about 18%.³

In 1997, CPS produced a weighted estimate of 3.1 million unmarried partners, 4.1 million traditional POSSLQs, and 4.9 million Adjusted POSSLQs (Table 2). Compared with POSSLQ, the Adjusted POSSLQ does not significantly increase the false-positive rate for unmarried partners. For the three years spanning 1995 to 1997, however, the traditional POSSLQ definition failed to identify 16.7% of the self-identified unmarried partners, who were excluded because of the number of adults present in these households. In comparison, the Adjusted POSSLQ measure, which excludes only households with more than two unrelated adults, missed only 4.9% of the self-identified partners.

Comparisons With Other Data Sets

To gain a clearer idea of the accuracy of these CPS estimates, we compare estimates achieved with POSSLQ, Adjusted

TABLE 1. NUMBER (IN THOUSANDS) OF COHABITING COUPLES BASED ON TWO INDIRECT MEASURES, 1977–1997

Year	POSSLQ	Adjusted POSSLQ	Difference in Thousands
1977	968	1,097	129
1978	1,155	1,295	140
1979	1,353	1,531	178
1980	1,560	1,776	216
1981	1,808	2,059	251
1982	1,863	2,124	261
1983	1,891	2,173	282
1984	1,980	2,268	288
1985	1,983	2,304	321
1986	2,220	2,533	313
1987	2,334	2,780	446
1988	2,588	2,999	411
1989	2,764	3,215	451
1990	2,856	3,324	468
1991	3,039	3,493	454
1992	3,308	3,836	528
1993	3,510	4,014	504
1994	3,662	4,272	610
1995	3,667	4,312	645
1996	3,958	4,602	644
1997	4,125	4,856	731

Source: Current Population Survey.

Note: All differences between POSSLQ and Adjusted POSSLQ estimates are statistically significant at the .10 level, using a two-tailed test and adjusting for design effects.

POSSLQ, and our direct measure with similar estimates from the NSFH, the NSFG, the SIPP, and the Consumer Expenditure Survey (CE). Table 3 presents national estimates of cohabitation rates among unmarried women age 25 to 44, by age group, for 1987 and 1995. Bumpass and Lu (forthcoming) compared the 1987 NSFH with the 1995 NSFG to measure trends in cohabitation; we use their estimates to evaluate our alternative historical estimates.

Direct estimates from the NSFG and NSFH produce substantially higher rates of cohabitation than all the CPS measures. In 1995, for example, the NSFG estimate of the proportion of unmarried women age 35 to 39 who are cohabiting is about 13 percentage points higher than the CPS direct measure. The Adjusted POSSLQ measure—the highest indirect estimate—is much closer to the estimates in the other two surveys, but for some age groups even this estimate is as much as 7 percentage points lower. The Adjusted POSSLQ estimates, however, are closer to the 1987 NSFH estimates than to those produced by the NSFG in 1995. The direct estimates from SIPP conform most closely to the Adjusted POSSLQ measure. When SIPP estimates are compared with Adjusted POSSLQ estimates, the largest difference is found among unmarried women age 25 to 29: 4 percentage points.

2. The opposite-sex restriction presumably excludes about one-half of such situations (i.e., a male householder living with his daughter and her boyfriend). On the other hand, the opposite-sex restriction would allow households to be misidentified as the nonmarital partners of their relatives' same-sex partners.

3. Two-tailed tests of statistical significance at the .10 level (adjusted for design effects) show that the difference between POSSLQ and Adjusted POSSLQ estimates is significant in each year, and that the increase in the underestimate over time is also significant.

TABLE 2. COMPARISONS OF THE NUMBER OF COHABITING COUPLES BASED ON THREE DIFFERENT MEASURES, 1995–1997

	Self-Identified Unmarried Partners	POSSLQs	Adjusted POSSLQs
Number (Thousands) ^a			
1995	2,641	3,667	4,312
1996	2,858	3,958	4,602
1997	3,079	4,125	4,856
1995–1997 Combined			
Percentage who are unmarried partners	100	60.9	59.3
Percentage who are not unmarried partners	0	39.2	40.7
Percentage of partners correctly identified	100	83.4 [†]	95.1 [†]
Percentage of partners not identified	0	16.7 [†]	4.9 [†]

Source: Current Population Survey.

^aAll estimates are statistically different at the .10 level, using a two-tailed test and adjusting for design effects.

[†]Difference between POSSLQ and Adjusted POSSLQ is significant at the .10 level, using a two-tailed test and adjusting for design effects.

Direct measures of cohabitation prevalence could produce higher estimates than the CPS indirect measures for a number of reasons. First, they allow identification of partners other than those of the household reference person. For example, about 3% of the cohabitators identified in the first wave of the NSFH were not reference people or part-

ners. Second, these measures may allow multiple couples per household. Third, both the NSFH and the NSFG use multiple questions to identify people who are living together but who may not have been identified as partners in the “relationship” questions; this safeguard also might act to boost rates.

Fourth, in some surveys people may say they are “living together” with someone who in the CPS would not be counted as a member of the household, or who might also be counted as a member of another household because that person also has his or her own house or apartment. That is, “living together” as a relationship state does not necessarily match official definitions of household membership. Thus some of these rate differentials may be due to differences in the construction of the household roster and in who is or is not considered to be a household member. For instance, the NSFH roster includes everyone who *stays* in the household “half the time or more,” and NSFG respondents are asked to define relationships with those “people who live and sleep here most of the time.” In the CPS, the definition of household membership is much more narrow. In the CPS, a household member is anyone who “ordinarily stays here all the time”; those who have a residence elsewhere (including students) are specifically excluded.

Fifth, the topic of the survey may influence the identification of cohabitators. For example, more cohabitators might be identified in a survey such as the NSFH, which focuses primarily on families, or in the NSFG, whose primary interest is women’s fertility, than in a labor force survey such as the CPS, because these relationships are clearly a concern in the former surveys.

Sixth, the NSFG surveys only females. Insofar as women are more likely than men to say they are cohabiting (e.g., Bumpass and Sweet 1989: table 5), the NSFG’s survey design would identify more cohabitators than a survey such as

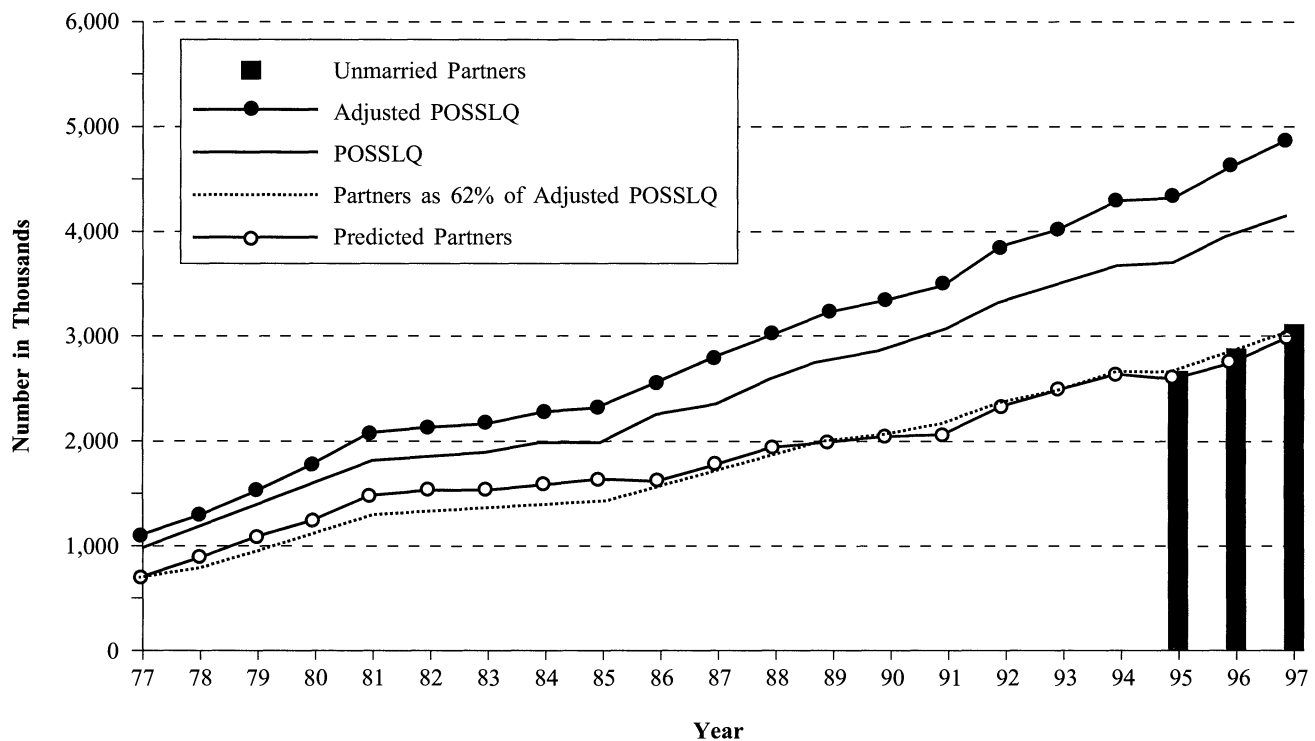
TABLE 3. AGE-SPECIFIC COHABITATION RATES: ESTIMATES OF PERCENTAGE COHABITING FOR TWO PERIODS AMONG WOMEN NOT CURRENTLY MARRIED

	Women’s Age			
	25–29	30–34	35–39	40–44
1987				
NSFH ^a	20	16	11	14
CPS POSSLQ	14	12	8	6
CPS Adjusted POSSLQ	15	14	11	10
1995				
NSFG ^a	24	24	22	15
CE ^b	16	13	12	11
SIPP ^c	16	16	15	11
CPS POSSLQ	19	15	10	9
CPS Adjusted POSSLQ	20	18	15	12
CPS partners	14	11	9	9

^aNational Survey of Families and Households and National Survey of Family Growth, estimates from Bumpass and Lu (forthcoming).

^bConsumer Expenditure Survey figures prepared by David Johnson, U.S. Bureau of Labor Statistics.

^cSurvey of Income and Program Participation estimates from 1996, prepared by Jason Fields, U.S. Census Bureau.

FIGURE 1. POSSLQ, ADJUSTED POSSLQ, UNMARRIED PARTNERS, AND ESTIMATED PARTNERS, 1977–1997

Source: Current Population Survey

the CPS, which collects information from any knowledgeable respondent.

Assessing the New Indirect Estimates

In addition to comparing the Adjusted POSSLQ estimates with estimates derived from other sources, we seek to identify potential problems in using the Adjusted POSSLQ to describe trends over time. For 1995–1997, the March CPS offers the opportunity to examine the difference between households identified by the Adjusted POSSLQ measure and the smaller number who self-identified as unmarried partners. In those three years, 62% of the Adjusted POSSLQ households were self-identified unmarried-partner households. For estimates over time, we must consider that differential increases in the cohabitation rates, and variation in the reliability of indirect assignments, create the possibility that the self-identified households would number more or fewer than 62% of the Adjusted POSSLQ households in previous years. Although we cannot assess changes in the reliability of the indirect assignments, we can determine whether the changing composition of Adjusted POSSLQ households alone would alter the portion of “false positives.”

To test the assumption that a constant 62% of Adjusted POSSLQ households would be self-identified partners in the years before 1995, we indirectly standardize the time series using information on couples’ marital status, presence and age of children, labor force status, income, education and school enrollment, age and age difference between partners, cohort, race/ethnicity, region, homeownership, and metropolitan residence status in each year. Using predicted probabilities from a logistic regression, we produce a predicted time series and compare it with the 62% series (see Figure 1).⁴ Significance tests show that the predicted series differs from the 62% series only in seven early years (1979–1985). In 1986, however, the CPS added an improved variable indicating current school enrollment for persons age 16 to 24. In the years when this variable is available (after 1985), it has a strong negative effect on the odds that an Adjusted POSSLQ couple is a self-identified unmarried-partner couple. Thus the absence of that variable on the historical file before 1986 probably accounts for the higher estimates of the predicted series during the earlier period. We therefore conclude that a

4. Details of this analysis, as well as the results, are presented in the working version of this paper (Casper, Cohen, and Simmons 1999).

TABLE 4. CHARACTERISTICS OF SELF-IDENTIFIED UNMARRIED PARTNERS, POSSLQ, AND ADJUSTED POSSLQ HOUSEHOLDS, 1997 (PERCENTAGES)

	Self-Identified Unmarried Partner	POSSLQ	Adjusted POSSLQ
Number (Thousands)	3,079	4,125	4,856
Children			
Any	45.2	34.2 ^c	42.7 ^d
Under 15	38.4	34.2 ^c	35.1 ^c
15 or older	11.7	0.0 ^c	12.8 ^d
Age			
Women			
15–24	24.7	25.7	23.7
25–34	36.8	38.0	34.7 ^d
35–44	20.4	17.0 ^c	20.6 ^d
45–54	11.8	10.4	12.1 ^d
55–64	4.9	5.4	5.5
65+	1.4	3.5 ^c	3.3 ^c
Men			
15–24	15.4	15.8	14.6
25–34	39.4	41.5	38.2 ^d
35–44	23.7	21.4	23.6 ^d
45–54	12.7	10.2 ^c	12.2 ^d
55–64	6.0	6.2	6.6
65+	2.9	5.0 ^c	4.8 ^c
Marital Status			
Women			
Married ^a	2.5	2.7	2.7
Separated	4.8	4.3	4.9
Widowed	4.0	5.0	5.8 ^{c,d}
Divorced	34.0	32.0	34.2
Never married	54.7	56.0	52.5 ^d
Men			
Married ^a	2.7	3.1	3.0
Separated	4.6	4.3	4.6
Widowed	2.1	3.3 ^c	3.3 ^c
Divorced	33.4	30.3 ^c	33.1 ^d
Never married	57.2	58.9	56.0 ^d
Education (in Years)			
Women			
0–11	15.7	14.2	16.1 ^d
12	36.9	37.5	38.3
13–15	31.8	30.6	29.4
16+	15.6	17.7 ^c	16.2
Men			
0–11	15.9	15.3	16.6
12	42.1	41.0	42.0
13–15	24.8	25.6	24.6
16+	17.2	18.1	16.8

*(continued)**(Table 4, continued)*

	Self-Identified Unmarried Partner	POSSLQ	Adjusted POSSLQ
Race-Ethnicity ^b			
Women			
White	73.1	75.3	73.6
Black	13.5	12.7	13.4
Hispanic	10.2	8.6	9.6
Other	3.2	3.4	3.4
Men			
White	70.4	72.7	71.1
Black	16.2	15.3	16.0
Hispanic	11.1	9.5	10.4
Other	2.4	2.5	2.6

Source: Current Population Survey.*Note:* All tests are at the .10 level, using two-tailed tests and adjusting for design effects.^aSpouse absent.^bWhite, black, and other are non-Hispanic.^cStatistically significant difference from self-identified partner.^dStatistically significant difference from POSSLQ.

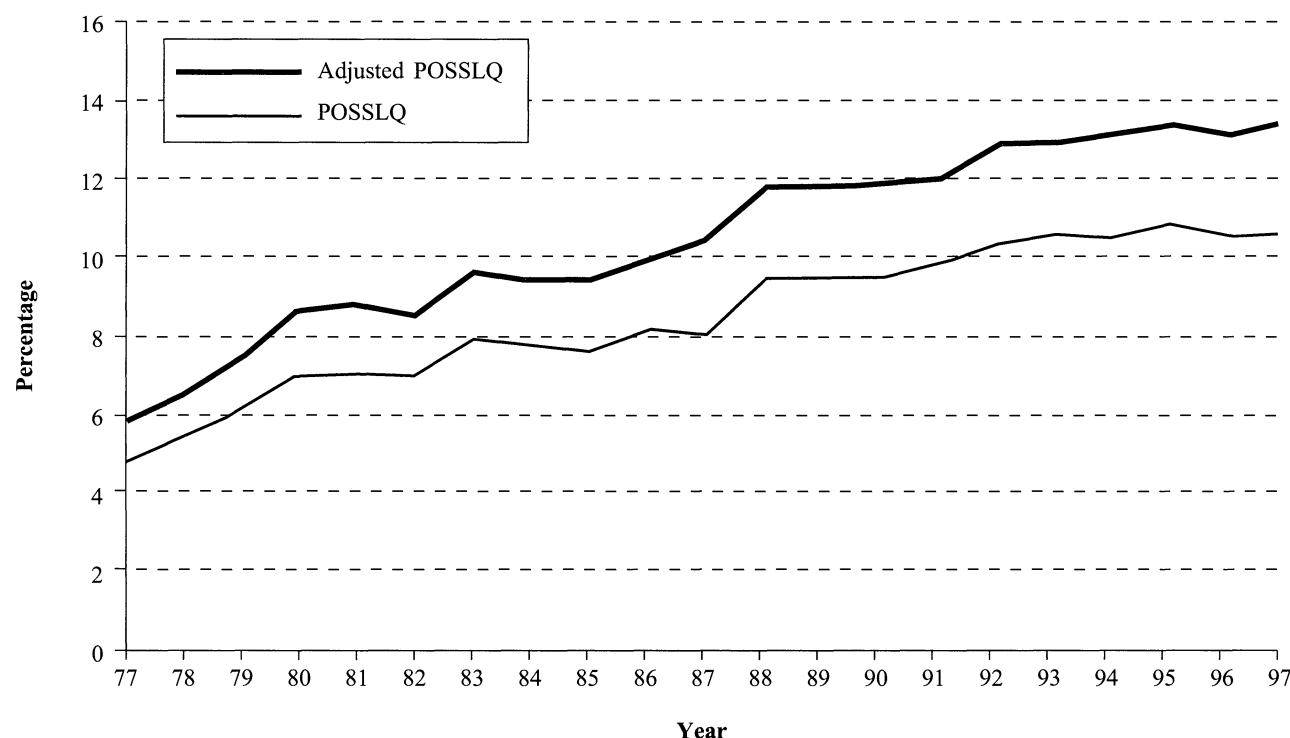
constant 62% adjustment to the number of Adjusted POSSLQ households should not be rejected on the basis of changes in the heterogeneity of such households.

CHARACTERISTICS OF COHABITORS

Estimates of characteristics of the POSSLQ and Adjusted POSSLQ populations may be biased (Bachrach 1987). To our knowledge, however, the biases associated with these indirect estimates have not been documented using data from the same survey. The self-identified unmarried-partner data that became available in 1995 make it possible to use data from the same source to assess whether biases exist in the characteristics of cohabitators associated with indirect measures. We use the self-identified unmarried-partner measure for this purpose, and compare these estimates with the traditional POSSLQ and Adjusted POSSLQ estimates to uncover any differences that might result from using these indirect measures.

Table 4 shows the distribution of cohabitators by selected socioeconomic and demographic characteristics in 1997, using the new direct measure and the two indirect measures—POSSLQ and Adjusted POSSLQ. When we compare the characteristics of cohabitators based on the self-identified unmarried-partner measure with those based on the POSSLQ measure, we find a few patterned differences.

The greatest difference occurs in the presence of children in the household. None of the POSSLQ households contain children 15 or older, by definition. The indirect POSSLQ measure underestimates this group by 12 percentage points, when compared with the self-identified unmarried-partner

FIGURE 2. PERCENTAGES OF DIVORCED OR SEPARATED WOMEN COHABITING: POSSLQ AND ADJUSTED POSSLQ, 1977–1997

Source: Current Population Survey

estimate. POSSLQ underestimates by 11 percentage points the proportion of cohabitators who live with children of any age. This difference is diminished, but still significant, when we consider cohabitators with children under 15: The POSSLQ measure underestimates this proportion by 4 percentage points.

The POSSLQ measure estimates a lower proportion of cohabitators in the 35-to-44 age range for women and in the 45-to-54 age range for men, while estimating a higher proportion in the older age groups. Similarly, a lower proportion of male cohabitators is estimated to be divorced when POSSLQ is used, while a higher proportion is estimated to be widowed. POSSLQ also identifies a higher proportion of female cohabitators who have 16 or more years of education. Overall, however, these differences are small, and there are many fewer significant differences than other research would have suggested.

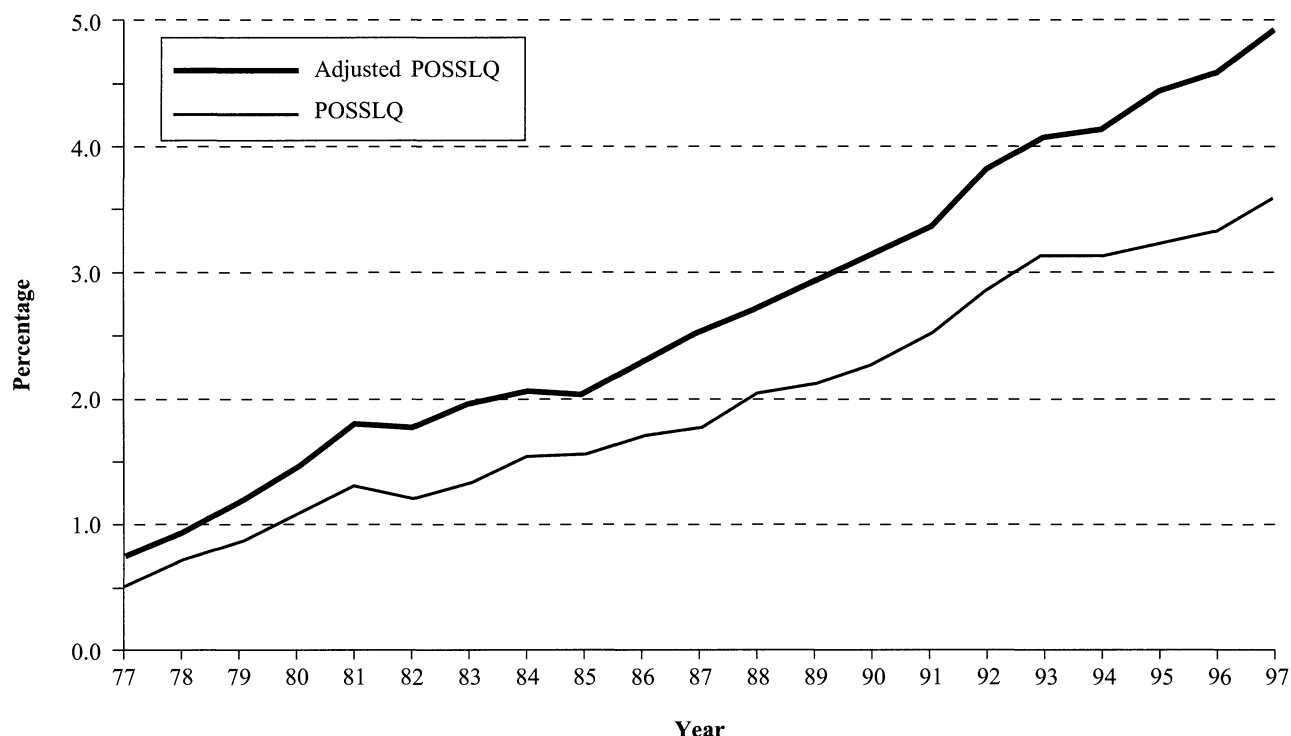
When we compare the distributions based on the direct measure with those based on the Adjusted POSSLQ measure, we find fewer significant differences, and those differences are smaller. When compared with the self-identified unmarried-partner measure, the Adjusted POSSLQ measure produces biased estimates of the proportion of cohabitators

only in the “65 or older,” “with children under 15,” and “widowed” categories. The most important difference between the Adjusted POSSLQ and the POSSLQ indirect estimates is the great improvement of the Adjusted POSSLQ in estimating the proportion of unmarried partners living with children.

To summarize our findings, neither indirect measure produces characteristics of cohabitators that differ substantially from the self-identified estimates, except for presence of children in the case of the POSSLQ measure. Our findings show, however, that the Adjusted POSSLQ estimates result in fewer significant differences than the POSSLQ estimates and that these differences are generally smaller.

HOW DOES POSSLQ MEASURE UP?

We have now established that the Adjusted POSSLQ is a better historical measure than the traditional POSSLQ. But what do the differences between these two indirect measures imply for previous research on the prevalence of cohabitation in different subgroups? We examined differences in the two measures across many of the subpopulations studied in previous research. Here we present only the most striking differences as examples of the biases that occurred when the traditional POSSLQ measure was used; other biases might exist as well.

FIGURE 3. PERCENTAGES OF ALL CHILDREN UNDER 18 IN UNMARRIED-COUPLE HOUSEHOLDS: POSSLQ AND ADJUSTED POSSLQ

Source: Current Population Survey

Differences between the two measures were greatest with regard to marital status, age, and the presence of children. These findings are not unexpected, given that these variables are correlated with the types of people that the Adjusted POSSLQ measure added by removing the restriction on cohabiting couples with older children: persons who were more likely to be divorced or separated, middle-aged persons, and those with older children.

The Adjusted POSSLQ measure produces substantially higher cohabitation rates for divorced and separated women than does the traditional POSSLQ measure, and these differences increase over time (Figure 2). This is also true for divorced and separated men. The Adjusted POSSLQ measure, however, does not increase the percentages cohabiting among never-married and widowed men and women.

Analysis by age reveals that the Adjusted POSSLQ measure produces significantly higher cohabitation rates among unmarried women in the middle age categories. For example, the Adjusted POSSLQ rate in 1997 is 42% greater than the POSSLQ rate among unmarried women age 35 to 44, and 36% greater among those age 45 to 54. Differences were much smaller in the other age groups.

The traditional POSSLQ measure greatly underestimates the cohabitation rate for those with children. The proportion cohabiting among households containing children is much greater when the Adjusted POSSLQ measure is used instead of the traditional POSSLQ measure. The new measure, for example, indicates that nearly one child in 20 under age 18 (5%) now lives in an unmarried-couple household (Figure 3). In comparison, the proportion is only 3.5% when the POSSLQ measure is used—a difference of nearly 1 million children.

SUMMARY AND CONCLUSIONS

In this paper we have produced a new historical series of estimates of cohabitation prevalence. On the basis of our analysis, we conclude that the measure we call "Adjusted POSSLQ" is an improvement over the traditional POSSLQ for estimating historical trends in cohabitation prevalence dating back to the 1970s. Our Adjusted POSSLQ estimates indicate that the number of cohabiting households increased from 1.1 million in 1977 to 4.9 million 20 years later, in 1997. Cohabiting households made up 1.5% of all households in 1977; this figure had increased to 4.8% by 1997. We conclude that

the most serious undercounts resulting from the use of the traditional POSSLQ measure occurred among those in the middle age ranges (35 to 54), persons who were divorced or separated, and especially households with children.

Some researchers have argued that although indirect estimates are acceptable for documenting historical trends, they may produce patterned biases in estimating cohabitators' characteristics. Here, however, we have demonstrated that both the POSSLQ and the Adjusted POSSLQ measures produce only modestly biased estimates of cohabitators' characteristics, at least in 1997. In comparison with the self-identified unmarried-partner estimates, the Adjusted POSSLQ measure produced less biased estimates than the POSSLQ measure, particularly in regard to the proportion of partners living with children.

The Adjusted POSSLQ measure, unlike the traditional POSSLQ, captures almost all of the unmarried partners self-identified in the CPS. Only those in households containing more than two unrelated adults are not identified with this measure. The Adjusted POSSLQ also may identify some partners who are missed by the CPS self-identified measure: those who fail to self-identify for whatever reason, and some of those who are partners of persons who are not householders. Compared with the POSSLQ, however, the adjusted measure also captures more noise. In some cases, it will misidentify specific partners within a partner household. In such cases, one of the two partners will introduce incorrect data on characteristics into the measure, and the other will not. The opposing effects of those different sources of error result in an Adjusted POSSLQ population that is remarkably similar in its characteristics to the self-identified partner population, although the total population is more than half again as large.

We have argued that differences in survey designs and in the conceptualization of cohabitation influence the estimates of cohabitation prevalence. Direct estimates of the number of cohabitators and of the prevalence of cohabitation from the 1995–1997 CPS surveys are lower than both the POSSLQ and the Adjusted POSSLQ estimates, as well as the estimates from other surveys.

These differences suggest that researchers should be cautious when comparing cohabitation estimates across surveys and that they should consider the particular study design used when describing the data presented. Moreover, our findings suggest a need for conducting cognitive studies to determine the best methods for collecting reliable data, which will accurately reflect our conceptualization of cohabitation. First, however, we must consider more carefully how cohabitation ought to be conceptualized and whether it should be conceptualized differently across surveys, depending on the purpose of the survey.

REFERENCES

- Bachrach, C.A. 1987. "Cohabitation and Reproductive Behavior in the U.S." *Demography* 24:623–37.
- Bianchi, S. and D. Spain. 1996. "Women, Work, and Family in America." *Population Bulletin* 51(3):1–46.
- Bumpass, L.L. and H. Lu. Forthcoming. "Trends in Cohabitation and Implications for Children's Family Contexts." *Population Studies*.
- Bumpass, L.L. and J.A. Sweet. 1989. "National Estimates of Cohabitation." *Demography* 26:615–25.
- Bumpass, L.L., J.A. Sweet, and A. Cherlin. 1991. "The Role of Cohabitation in Declining Rates of Marriage." *Journal of Marriage and the Family* 53:913–27.
- Bunting, E. 1987. *Will You Be My POSSLQ?* San Diego: Harcourt Brace Jovanovich.
- Casper, L.M., P.N. Cohen, and T. Simmons. 1999. "How Does POSSLQ Measure Up? Historical Estimates of Cohabitation." Working Paper 36, Population Division, U.S. Census Bureau, Washington, DC. Available at <http://148.129.129.31:80/population/www/documentation/twps0036/twps0036.html>.
- Chevan, A. 1996. "As Cheaply As One: Cohabitation in the Older Population." *Journal of Marriage and the Family* 58:656–67.
- Glick, P.C. 1984. "American Household Structure in Transition." *Family Planning Perspectives* 16:205–11.
- Glick, P.C. and A.J. Norton. 1977. "Marrying, Divorcing, and Living Together in the U.S. Today." *Population Bulletin* 32(1):4–34.
- Glick, P.C. and G.B. Spanier. 1980. "Married and Unmarried Cohabitation in the United States." *Journal of Marriage and the Family* 42:19–30.
- Hatch, R.G. 1995. *Aging and Cohabitation*. New York: Garland.
- Manning, W.D. and P.J. Smock. 1995. "Why Marry? Race and the Transition to Marriage Among Cohabiters." *Demography* 32:509–20.
- McLanahan, S. and L. Casper. 1995. "Growing Diversity and Inequality in the American Family." Pp. 1–45 in *State of the Union: America in the 1990s*, edited by R. Farley. New York: Russell Sage.
- Moffitt, R.A., R. Reville, and A.E. Winkler. 1998. "Beyond Single Mothers: Cohabitation and Marriage in the AFDC Program." *Demography* 35:259–78.
- National Center for Health Statistics. 1997. *Public Use Data File Documentation, National Survey of Family Growth Cycle 5: 1995 User's Guide*. Hyattsville, MD: U.S. Department of Health and Human Services.
- Nock, S.L. 1995. "A Comparison of Marriages and Cohabiting Relationships." *Journal of Family Issues* 16(1):53–76.
- Osgood, C. 1981. *There's Nothing That I Wouldn't Do If You Would Be My POSSLQ*. New York: Holt, Rinehart, and Winston.
- Raley, R.K. 1996. "A Shortage of Marriageable Men? A Note on the Role of Cohabitation in Black-White Differences in Marriage Rates." *American Sociological Review* 61:973–83.
- Schoen, R. 1992. "First Unions and the Stability of First Marriages." *Journal of Marriage and the Family* 54:281–84.
- Spanier, G.B. 1982. "Living Together in the Eighties." *American Demographics* (November):17–20.
- Unicon Research Corporation [producer and distributor of CPS utilities]. 1997. Santa Monica. *Current Population Surveys, March 1962–1997 [MRDF]*, conducted by the Bureau of the Census for the Bureau of Labor Statistics. Washington, DC: Bureau of the Census [producer and distributor].
- Vobejda, B. 1998. "Unwed Pairs Make Up 4 Million Households; Number Has Grown Eightfold Since 1970." *Washington Post*, July 27, p. A10.