

# Defining Poverty in Terms of Time and Income: Understanding Parental Time

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## Objective

This paper pools the American Time Use Survey (ATUS-X) and the Current Population Survey (CPS) Annual Social and Economic Supplement (ASEC) from 2003 to 2011 to estimate time poverty rates for parents within the United States. We estimate poverty rates by income, time, and a combination of both for diverse household configurations.

## Background

Understanding poverty in terms of time use is not a new phenomenon. In 1977, Vickery theorized a generalized definition of poverty using both income and time dimensions. She uses time diary data to identify families who are income poor, time poor, and both and highlights the importance of a time dimension to poverty, particularly as it relates to different household configurations.

## Research Questions

- What are time poverty rates of parents?
- How do they compare to official income poverty rates of parents?
- What proportion of these parents are both income and time poor?

## Data

We use integrated data from the American Time Use Survey (ATUS) (Abraham et al. 2011). The survey is fielded on all days of the week, with weekends oversampled, and weights correcting for the survey design. Respondents detail the activities they engaged in from 4:00 a.m. of a specified day until 4:00 a.m. of the following day.

The sampling frame for the ATUS is households completing their participation in the Current Population Survey (CPS). Because ATUS respondents (one per household) are drawn from the CPS, we have data about respondents both at the time of the ATUS and during the preceding months. We analyze the subsample of ATUS respondents who participated in the CPS Annual Social and Economic Supplements (ASEC) and adjust weights accordingly. We use IPUMS-CPS ASEC (King et al. 2011) data to capture measures of poverty.

*Any views expressed are those of the authors and not necessarily those of the U.S. Census Bureau. All comparative statements in this poster have undergone statistical testing, and, unless otherwise noted, all comparisons are statistically significant at the 5 percent significance level.*



## Methodology

Our time poor thresholds are constructed for the same household configurations that the U.S. Census Bureau uses to create official income poverty thresholds. For each of the household configurations, we find the median time over a 24 hour period allocated to three major activity groupings: necessary, committed, and discretionary time (Kalenkoski et al. 2011) (see definitions below.) We define as time poor individuals in those household configurations whose time allocated to discretionary activities is less than 60% of the median for that household configuration.

Using the CPS ASEC, we replicate official poverty rates using U.S. Census Bureau methods. These methods are based on absolute thresholds derived in the early 1960s using U.S. Department of Agriculture food budgets designed for families under economic stress and data about what portion of their income families spent on food. They are adjusted annually for price changes (inflation).

We identify three parent types: married parents, cohabiting parents, and parents who are single (never-married, separated, divorced, or widowed). We assess rates of time poverty, income poverty, and both as defined above for each of these three groups.

## Definitions

### Time Thresholds by Household Configuration, 60 Percent of Median Discretionary Time, Pooled 2003-2011, United States

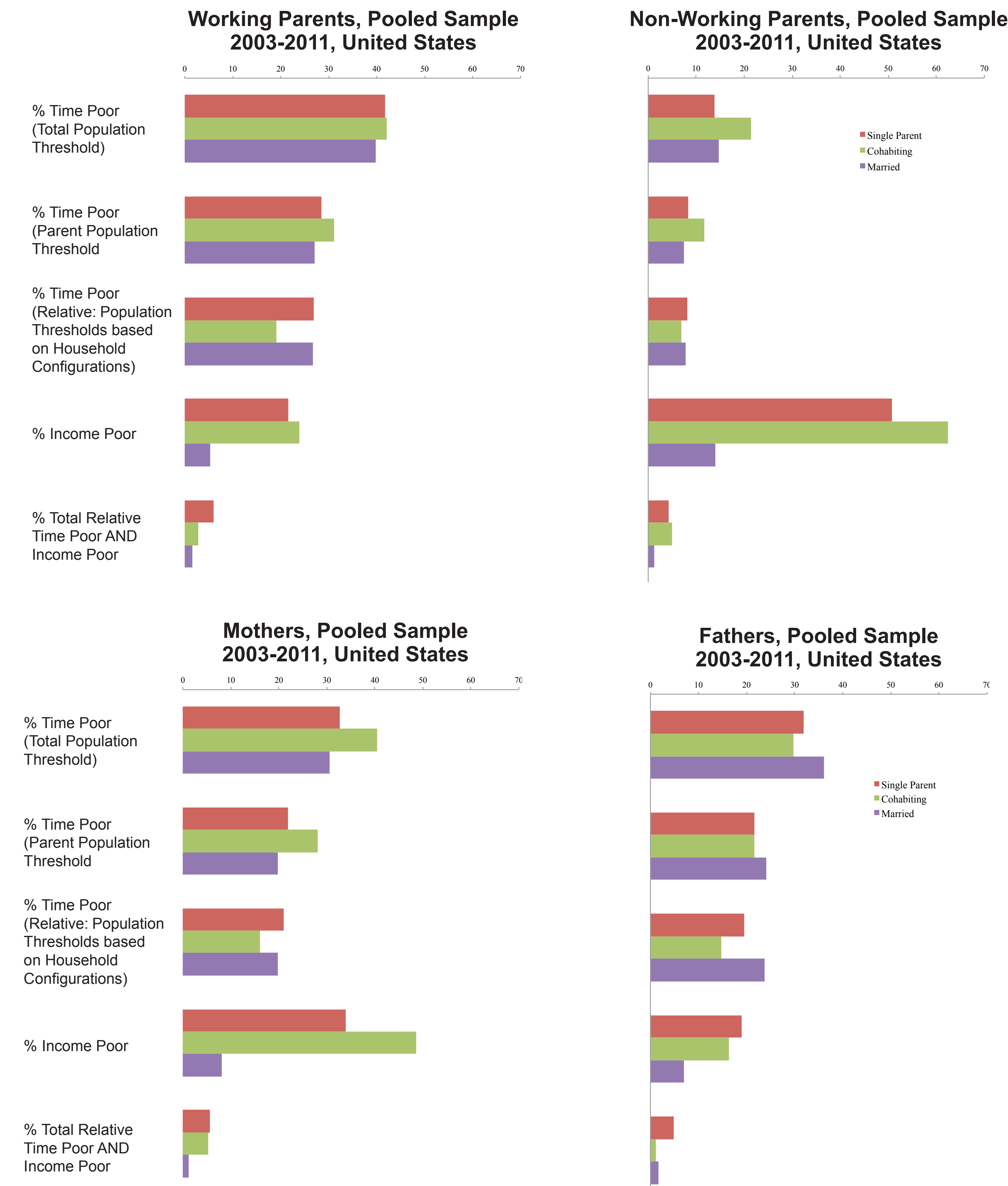
Number of adults	Number of Children		
	0	1	2+
1	227.4 (10.2)	240.0 (6.6)	217.2 (7.3)
2	196.2 (15.2)	222.6 (5.4)	219.0 (3.5)
3+	243.0 (117.5)	234.0 (8.3)	228.0 (9.9)

Notes: Standard errors in parentheses. Time thresholds are number of minutes within a 24 hour time period.  
 Source: Authors' calculations, Minnesota Population Center, ATUS-X and IPUMS CPS ASEC, 2003-2011.

Kalenkoski et al (2011) Activity Groupings:

- Necessary: activities that an individual must perform for himself or herself, such as sleeping, grooming, etc.
- Committed: activities that reflect social roles, such as paid work and caring for children or others as well as housework
- Discretionary: activities such as leisure, education, exercise
- Note: Travel related to activities is grouped along with the main activity

## Results\*



Source: Authors' calculations, Minnesota Population Center, ATUS-X and IPUMS CPS ASEC, 2003-2011. For information on sampling and nonsampling error, see <http://www.bls.gov/tus/atususersguide.pdf> and [www.census.gov/apsd/techdoc/cps/cpsmar12.pdf](http://www.census.gov/apsd/techdoc/cps/cpsmar12.pdf).

\* Income versus time poverty for cohabiting fathers is not significant. Time and income poverty for cohabiting versus single fathers is not significant. Time poverty for cohabiting versus single mothers is not significant.

We find the definition of time poor matters when measuring time poverty among parents. A threshold based on total adult population median time use produces higher time poverty rates for parents compared to thresholds based on total parent median time use. In addition, a threshold that also adjusts for household composition lowers time poor rates of cohabiting parents, showing that household configuration matters (results not shown).

As stated by Vickery (1977), we find an inverse relationship between time poverty and income poverty, only 2.2 percent of parents are both time and income poor. This inverse relationship is associated with marital status. Single parents are 3.7 times more likely to be both income and time poor compared to married parents (5.5 percent and 1.5 percent, respectively) (results not shown.)

Work status matters. Working parents have higher time poverty rates than their non-working counterparts (26.5 percent and 7.8 percent, respectively) and lower income poverty rates (8.2 percent and 22.5 percent, respectively) (results not shown.)

Gender matters. Married mothers have lower time poverty rates than married fathers (19.8 percent and 23.7 percent, respectively).

Single mothers have higher income poverty rates than single fathers (33.9 percent and 19.0 percent, respectively). Their time poverty rates do not differ significantly.

Cohabiting mothers have higher income poverty than cohabiting fathers (48.6 percent versus 16.4 percent), while their time poverty rates (16.1 percent and 14.7 percent) are not significantly different.

## Next Steps

- Assess differences by year.
- Develop models to identify characteristics that influence time poverty, income poverty, and both.

## References

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