

Full Title: **MOTHERS' TIME SPENT IN SPENT IN CARE OF HER CHILDREN
AND MARKET WORK: A SIMULTANEOUS MODEL WITH
ATTITUDES AS INSTRUMENTS**

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Abstract:

Using a model that addresses the potential endogeneity of employment hours on mothers' child care

MOTHERS' TIME SPENT IN CARE OF HER CHILDREN AND MARKET WORK: A SIMULTANEOUS MODEL WITH ATTITUDES AS INSTRUMENTS

Introduction:

Increasing hours of employment by mothers of young children has caused some to worry that the time spent by mothers directly providing care for their children has been substantially diminished and maternal child care time is thought to be of high quality in comparison to purchased options or other relative care. Care for one's child and market employment typically take a considerable majority of the discretionary time available to a mother with minor children.¹ Because these two time uses compete for the same scarce time, it would seem that they must be interrelated and determined simultaneously. However, since these are not the only uses of discretionary time, it may be that other time uses have picked up the squeeze caused by the substantial increase in women's employment hours. If this is the case, the employment and time caring for children could be independent of one another.

Time use data needed to test this hypothesis are scarce in the U.S. but the limited studies done to date have shown much less effect of mother's employment hours on child care time than was expected. Robinson and Godbey (1997) look at parental time use with data from 1985. Sandberg and Hofferth (2001) analyze children's time use with data from 1981 and 1997. However, both of these studies take hours of employment as exogenous.

This paper estimates a simultaneous model that addresses the potential endogeneity of employment hours on the time mothers spend with young children and visa versa, using a unique set of instruments based on parental attitudes towards work and child care. Using survey data from mothers in Missoula Montana, we find a significant negative but inelastic relationship between hours of employment and the hours of maternal child care. The inelasticity of child care hours with respect to work hours leads us to conclude that children do not bear a large share of the burden of their mothers' market work in the form of reduced parental time inputs. Rather, it is the mothers who bear most of the burden, since increased market work seems to be crowding out other activities, such as

The Model

Our equations for mothers' hours of child care (*pntcare*) and weekly work hours (*workhours*) may be expressed formally as:

$$\begin{aligned}
 pntcare_i &= \beta_0 + \beta_1 workhours_i + \beta_2 importance_i + \beta_3 quality_i \\
 &+ \beta_4 kids_i + \beta_5 social_i + \beta_6 bother_i + \beta_7 family_i + \beta_8 education_i \\
 &+ \beta_9 kids01_i + \beta_{10} kids25_i + \beta_{11} kids610_i + \beta_{12} kids1115_i + \beta_{13} kids16p_i + \epsilon_i
 \end{aligned} \tag{1}$$

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Endnotes

¹ Discretionary time is defined as the hours remaining after biologically necessary bodily maintenance such as sleeping and eating.

² The sampling technique was similar to that reported in Dalenberg, et al. (2004)

³ The following definition of child care time provided the basis for this question: “This includes only the time spent actively engaged in

Table 1:

Explanatory Variable	Structural Model for Child Care Time and Work Hours	
	<i>Dependent Variable: Mother's Child Care Hours</i>	<i>Dependent Variable: Mother's Work Hours</i>
<i>Constant</i>	3.56 (3.95)	28.86 (2.22)
<i>Work hours/ Child care hours</i>	-0.10 (-13.04)	-4.34 (-6.33)
<i>Importance</i>	-0.00 (-0.08)	
<i>Quality</i>	-0.04 (-0.67)	
<i>Kids</i>	-0.00 (-0.15)	
<i>Social</i>	-0.05 (-1.22)	
<i>Bother</i>	-0.03 (-1.13)	
<i>Family</i>	0.18 (2.11)	
<i>Married</i>		-10.39 (-1.94)
<i>Nonwage</i>		-0.22 (-1.59)
<i>Income</i>		0.62 (0.88)
<i>Likework</i>		0.02 (0.04)
<i>Class</i>		0.01 (0.02)
<i>Parents</i>		0.59 (0.84)
<i>Education</i>	0.20 (3.27)	1.42 (1.94)
<i>kids01</i>	2.70 (4.85)	-8.90 (-2.21)
<i>kids25</i>	0.70 (2.56)	-3.97 (-1.76)
<i>kids610</i>	-0.10 (-0.56)	-1.00 (-0.48)
<i>kids1115</i>	-0.36 (-1.95)	0.22 (0.08)
<i>kids16p</i>	-1.27 (-4.78)	-2.75 (-0.65)
<i>^</i>	4.46	199.32
<i>R²</i>	0.42	0.30
<i>F-Stat</i>	20.08	11.86
<i>Obs</i>	371	371