

# Household expenditures on children, 2007–08

*Regression results suggest that household income and parental education are the main factors influencing expenditures on children's education, entertainment, and books; that children in single-parent or cohabiting households are disadvantaged is thus due mainly to the lower income and education levels of these households, not their marital status*

Megumi Omori

**A**n increasing number of children living in nontraditional families has led researchers to study these children and their families. In 2004, two-thirds of children were living with married parents; about a quarter of children were living in a one-parent household, the majority with their mother; and the rest were living in other types of households.<sup>1</sup> Numerous studies show that children in single-parent households, especially mother-only households, are disadvantaged, compared with children in two-parent households.<sup>2</sup> These studies find that children from one-parent households are significantly less likely to complete their high school education<sup>3</sup> and significantly more likely to obtain lower grades<sup>4</sup> than their counterparts in two-parent households. Also, children in single-parent households are deprived economically and socially<sup>5</sup> and show more problem behaviors than children in two-parent households.<sup>6</sup> Differences in children's well-being between two-parent and single-parent households are often attributed to differences in household income.<sup>7</sup> The economic disadvantage of single households is clearly seen in the following statistics: in 2006, the median income for married-couple households was \$69,716, while that for single-father and single-mother households was \$47,078 and \$31,818, respectively. Moreover, less than 5 percent of married-couple households were below the poverty level, whereas the percentages were 13.2 percent for single-father households and 28.2 percent for single-mother households.<sup>8</sup>

Although it is well established that income is a strong indicator of children's well-being, little attention has been paid to possible differences in the *allocation* of economic resources, especially by family type. Few studies have focused directly on expenditures on children.<sup>9</sup> Because each household makes numerous decisions on how to allocate its financial resources, not only income, but also the allocation of economic resources, needs to be thoroughly examined to fully understand children's well-being in single- and two-parent families. In one study, Susan Mayer points out that there is a *direct* relationship between consumption and children's well-being, whereas income shows an *indirect* effect on children's well-being.<sup>10</sup> Mayer also cites the importance of individuals' decisions on resource allocation, contending that if parents spend money on fast food or luxurious clothing for their children, the children might not benefit in the long run.<sup>11</sup> In the same vein, another study, by Patrick

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McGregor and Vani Boroohah, holds that if a person spends money on alcohol rather than necessary food, it is the person's decision to be undernourished.<sup>12</sup> Thus, it is crucial to understand how households allocate their financial resources, especially when their resources are quite limited.<sup>13</sup>

In what follows, the 2007 and 2008 Consumer Expenditure Interview Surveys are used to identify determinants of expenditures relating to children's well-being by type of household. Then, those determinants are compared across household types to see how they differ, especially between married-couple households and single-parent households.

## Previous research

*Household expenditures by type of household.* Parents allocate a significant amount of resources to their children, strongly affecting the children's well-being.<sup>14</sup> Perhaps stating the obvious, Sara McLanahan and Gary Sandefur assert that parents make decisions on how much time and money they spend on their children's "education and intellectual development."<sup>15</sup> It is no surprise that children from higher income households receive more resources from their parents than do children from lower income households. For instance, children from higher income households are more likely to attend art, music, dance, language, and computer classes outside of school than are children from lower income households.<sup>16</sup> Further, children in higher income households receive more financial support from their parents and take out a smaller amount of loans for college than do children from lower income households.<sup>17</sup> Finally, one rung down the income ladder, children in middle-income households possess more books and participate in more outings than do children in households in the lowest 10 percent of the income distribution.<sup>18</sup>

According to Mark Lino, a low-income household with two children is expected to spend a total of \$190,000 over an 18-year period on costs related to child rearing.<sup>19</sup> The figure is higher for a higher income household: more than \$380,000. Thus, in Lino's estimates, the total expenditure on children for a higher income family is twice as large as that for a low-income household. The ratio of the difference in expenditures on childcare and education (not including education loans) is even greater: the average amount a higher income household spends on childcare and education is \$38,220, while a low-income household spends \$13,710, for a ra-

tio of 2.79. Hence, low-income households spend a disproportionately smaller proportion of their expenditures on childcare and education, compared with higher income households.

Still, family income is not the only determinant of expenditures on children: household type also affects how financial resources are allocated. When low-income single-parent households and low-income two-parent households are compared, the expenditure difference is seen to be only about 5 percent, with children in two-parent households receiving the larger share.<sup>20</sup> Although the total expenditure on children shows little difference between low-income single-parent households and low-income two-parent households, how these households spend differs when the expenditure is broken down into several detailed categories. For example, on average, low-income two-parent households spend 27.4 percent more on health care for children and 14.6 percent more on childcare and education than do single-parent households.<sup>21</sup> Food and clothing expenditures for these two types of household are almost identical,<sup>22</sup> showing that the basic needs of children are met (or unmet) approximately at the same level. However, expenditure differences in health care and education may have a long-term impact on children's well-being. Moreover, on average, two-parent households spend significantly higher amounts of money on entertainment and reading materials than do single-parent households.<sup>23</sup> Entertainment and reading materials are necessary for children's well-being. The number of reading materials has been identified as one of the determinants of children's success.<sup>24</sup> Thus, the difference in expenditures on education also indicates an important difference in resource allocation between two- and single-parent households at similar income levels. Another study found that two-parent households are more likely to save money for college than are single-parent households.<sup>25</sup> This difference directly influences children's educational attainment and aspirations. From the literature on household expenditures, then, it is evident that more emphasis needs to be placed on how households *allocate* their financial resources rather than on how much they *earn*.

Expenditures on children also differ between single-father and single-mother households.<sup>26</sup> In 1998 and 1999, single-father households spent an average of \$1,096 on entertainment and recreation whereas single-mother households spent \$599. Because single-father households show higher incomes than single-mother households,<sup>27</sup> it is expected that single-father households show greater expenditures in general. However, a higher level of income does not always yield a greater expenditure: Geoffrey Paulin and Yoon Lee found that single-mother households show a higher expenditure on children's apparel (\$129) than do single-father households (\$85). Further, they found that if single-father and single-

mother households had the same income, single-mother households would spend significantly more on children's apparel than would single-father households.<sup>28</sup> When income is controlled for, other categories, such as food away from home and toys, show no significant difference in expenditures between single-mother and single-father households. Still, household type is a significant indicator of expenditures in some areas and needs to be further explored.

*Demographic characteristics and household expenditures.* The literature also shows that household expenditures in general relate to household characteristics such as the race, occupation, and age of the head of the household. The *life cycle hypothesis* is often used to explain consumption behaviors. The hypothesis assumes that household consumption behaviors vary by their life cycle.<sup>29</sup> Numerous studies have found age to be an important factor in the pattern of household expenditures. According to Yung-Ping Chen and Kwang-Wen Chu, households whose heads are 34 years or younger show a higher level of consumption of clothing, recreation, alcoholic beverages, and tobacco, compared with older households.<sup>30</sup> When what might be called younger households (those whose reference person is 35 to 40 years) with one or more children are compared with older households (those whose reference person is 60 years or older) with one or more children, the younger households are found to spend a higher proportion of their total expenditures on food away from home and on girls' and toddlers' apparel than that spent by older households.<sup>31</sup> Very young two-parent households (those whose reference person is 24 years or younger) also are found to spend significantly less on food at home, and more on recreation and reading, than other two-parent households.<sup>32</sup>

There are several expenditure items—housing, basic food, and basic clothing—on which the vast majority of households spend at least some of their resources, because those items are necessary for survival.<sup>33</sup> Other items, such as leisure activities and education, are “optional” and depend highly on what each household values.<sup>34</sup> Often, households’ expenditures are shaped by their socioeconomic and demographic characteristics.<sup>35</sup> For example, lower social class groups are more likely to spend on clothes and an automobile, while higher social class groups are more likely to spend on consumer durables.<sup>36</sup> Also, blue-collar workers are more likely than white-collar workers to spend money on cigarettes and the lottery.<sup>37</sup> Cultural consumption such as going to art shows

and music concerts is significantly more frequent among professional workers than unskilled workers.<sup>38</sup> Likewise, cultural consumption is greater for urban than rural residents.<sup>39</sup> All these findings indicate that not only income, but social class and residential location, have a significant impact on how households allocate their resources.

Race is another determinant of household expenditures. Fan and Lewis’ study shows that different racial groups within the same income group allocate their budgets differently.<sup>40</sup> For instance, budgets for entertainment, education, health care, and tobacco differ greatly by race, and, among lower expenditure households, White households spend a higher percentage of their total expenditures on education than do African American, Hispanic, and Asian American households.<sup>41</sup> These findings suggest that non-White children in low-expenditure households are at an educational disadvantage. However, among higher expenditure households, Asian American households exhibit the highest expenditures on education, White households the lowest. As regards health care budgets among the lowest expenditure households, White and Asian American households spend a significantly greater proportion of their total expenditures on health care than do African American and Hispanic households. Again, these findings suggest that African American and Hispanic children in low-income families are at a disadvantage when it comes to health care. Because these demographic characteristics are already identified as important predictors of consumption behaviors, they are included as control variables in the analysis that follows.

## Data and Methods

*Data and sample.* The data used are those collected by the Consumer Expenditure Interview Surveys (CE) in 2007 and 2008. Conducted by the Bureau of Labor Statistics, the CE is a nationally representative survey of U.S. households. Since the 1980s, the CE has been conducted annually. The survey questions U.S. households quarterly about their detailed expenditures and then follows the respondent households for five consecutive quarters. In 2007–08, approximately 7,000 households were questioned, on average, each quarter. The CE also asks for demographic information and information on the composition of the households. The survey asks questions on more than 600 items on which each household spends money and captures information on approximately 80 percent to 95 percent of a household’s expenditures, including those which are relatively large (cars, appliances, furniture) or recurring (rent and utilities), and other expenditures,

such as food.<sup>42</sup> The CE also contains information on households' demographic characteristics—for example, educational attainment, occupational status and marital status of the head of the household, and the number of children residing in the household. Thus, the CE is appropriate for the study that follows. To increase the sample size and to avoid capturing a unique or sudden period effect, 2 years of data, from the 2007 and 2008 CEs, are combined.

The sample for the study includes four different types of households with at least one child 18 years or younger who is identified as a reference person's "own" child. An own child includes biological, step-, and adopted children. Households with all children older than 18 years are excluded from the study, because these children may well be additional earners or may make decisions about expenditures for themselves. Also, households with a child other than their own are excluded from the sample.

Because the CE does not differentiate among biological, step-, and adoptive parents, they all are treated as a single category of parents for the study. The four types of households examined are married-couple households, single-mother households, single-father households, and cohabiting households. Married-couple households are two-parent households with no additional adult residing in them; households with additional adults are excluded from the study. Single-mother and single-father households also are households without any other adults residing in them; thus, only one parent and his or her own child or children reside in a single-mother or single-father household. Cohabiting households include a parent and his or her unmarried partner residing together with no other adults present. For all four types of households, only those with no missing information for any of the variables are included in the final analyses. The final unweighted sample consists of 3,944 married-couple households, 934 single-mother households, 144 single-father households, and 341 cohabiting households.

*Limitation of the data.* In presenting its findings, the analysis that follows is subject to a limitation on the data that are used. Specifically, expenditures on education, entertainment, books, and apparel are used to measure children's well-being. The CE data allow the direct measurement of expenditures on education and apparel for children residing in a household; however, they do not allow the analyst to identify the person for whom each expenditure is spent. For education expenditures, an analyst can identify whether the money was spent for children within the household. Similarly, expenditures on

apparel are broken down into expenditures for adults or expenditures for children. Therefore, an analyst is able to examine expenditures on apparel specifically for children. However, expenditures on entertainment and books are not broken down any further as to whether they were for children or for adults. Although it is fair to assume that children living in a household with books available are better off compared with children without any books at home, children's books probably have a direct and immediate impact on children's well-being than do books for adults. Thus, the reader should be aware that entertainment and books are proximate, and not direct, variables for measuring children's well-being.

*Measures.* Four major categories of expenditures are examined in the analysis that follows. Although the CE follows its target households for five consecutive quarters, some households may not be included in one or more quarters. Thus, expenditures examined are weighted quarterly average expenditures for each household. The four major categories of expenditures are education, entertainment, books and other reading materials, and children's apparel. These expenditures are obtained from five separate CE expenditure (EXPN) files, called, respectively, CLA (clothing), CLB (infants' clothing), EDA (education), SUB (subscriptions, memberships, books, and entertainment expenses—subscriptions and memberships), and ENT (subscriptions, memberships, books, and entertainment expenses—books and entertainment expenses) files. Any gift expenditures on items in these categories are excluded from the study. The expenditures are measured in actual dollar amounts. For education, all expenditures relating to educational expenses are included: childcare, tuition, food and board at school, schoolbooks and supplies, and the broad category "other educational expenses." Any educational expenditure that is not for the household's own child or children is excluded from the total educational amount. The category of entertainment comprises tickets and admissions to theaters, concerts, sporting events, health clubs, and swimming pools, as well as fees for participating in sports. The third category, books and other reading materials, consists of subscriptions to, and purchases of, newspapers, magazines, periodicals, books, and encyclopedias. Finally, children's apparel encompasses boys', girls', and infants' clothing.

The key independent variables are the types of households described three paragraphs ago. Other independent variables included in the study are various socioeconomic and demographic characteristics of households and parents. Parental characteristics are parental education, oc-

cupation, race, and age. For married-couple households, parental characteristics are the reference persons' characteristics. Household characteristics are income percentile, number of children, and region of the country. Parental education is measured at three levels: without a high school diploma (or its equivalent), a high school education, and college and higher. Parental occupation is also measured at three levels: managerial/professional, administrative, and the broad category "other occupations." Parental race and ethnicity are grouped into four categories: non-Hispanic White (hereafter, White), non-Hispanic African American (hereafter, African American), Hispanic, and non-Hispanic other race (hereafter, other race). Household income percentile is obtained directly from the CE, which provides the income percentile (before tax) for each household with respect to the total population. Thus, the percentiles used for the analyses are not household-type specific, but rather capture each household's relative ranking in terms of income. The number of children is measured in three variables: children under 6 years, children between 6 and 12 years, and children between 13 and 18 years. Four geographic regions also are included as control variables: Northeast, South, Midwest, and West.

**Methods.** Two separate analyses are conducted. First, for each household and each of the aforementioned four categories, the probability of that household having nonzero expenditures in that category is estimated. Because all four categories are not necessary expenditures, like food and shelter, some households choose either to spend or not to spend money on any items in those categories.<sup>43</sup> Thus, estimating the probability, for each household and each of the four categories, of that household having nonzero expenditures in that category identifies characteristics of households that choose to spend money on items in those categories.

Second, quarterly expenditures of each household, for each of the four categories, are estimated by using an ordinary least squares regression analysis among households with nonzero expenditures in that category. Because the distribution of each expenditure is heavily skewed, the natural logarithm of each expenditure category is used to produce less biased results. (See the appendix for detailed information.) An ordinary least squares regression analysis has been used to estimate numerous household expenditures, including childcare expenditures,<sup>44</sup> food at home,<sup>45</sup> takeout meals,<sup>46</sup> and eating out,<sup>47</sup> and is an appropriate method to use for a study on household expenditure.<sup>48</sup>

## Results

The weighted descriptive statistics of the samples are presented in table 1, which shows that married households have the advantage in purchasing over other types of household, for most categories. In 2007 and 2008, two-thirds of married-couple households spent some money on education, while 55 percent of single-mother households and less than half of cohabiting households did so. More than 70 percent of married-couple households and three-quarters of single-father households spent money on entertainment. The percentages for single-mother and cohabiting households were 57 percent and 55 percent, respectively. Similarly, somewhat more than 60 percent of married-couple households and about the same percentage of single-father households spent some money on books, while approximately 46 percent of single-mother households and the same percentage of cohabiting households did so. Children's apparel was the only category in which married-couple and single-mother households showed similar percentages: eighty percent of each of those two groups purchased children's apparel, while approximately 70 percent of single-father households and about the same percentage of cohabiting households purchased children's apparel.

Not only did married-couple households show a higher percentage of nonzero expenditures on education, entertainment, and books, but when they spent money, they spent more than single-parent or cohabiting households. Among households with nonzero expenditures on children's education, married-couple households spent a quarterly average of \$810. Single-mother households and cohabiting households each spent less than half that (\$403 and \$373, respectively), and single-father households spent about 60 percent of the married-couple figure (\$464). Similarly, among married-couple households, average quarterly expenditures on entertainment were \$134, while single-mother households spent less than half that (\$65). Although single-father households and cohabiting households spent more than single-mother households, their expenditures (\$99 and \$74, respectively) were substantially lower than that for married-couple households. Average quarterly expenditures on books and other reading materials also were higher among married-couple households than single-mother, single-father, and cohabiting households. On average, married-couple households spent \$46 quarterly on books while the amounts spent by single-mother, single-father, and cohabiting households (hereafter, "unmarried households" for all three groups combined) were approximately \$29, \$25, and \$30, respec-

<b>Table 1. Descriptive statistics of households with children, Consumer Expenditure Interview Survey, 2007–08</b>								
<b>Parameter</b>	<b>Married</b>		<b>Single mother</b>		<b>Single father</b>		<b>Cohabiting</b>	
	<b>Mean</b>	<b>95-percent confidence interval</b>	<b>Mean</b>	<b>95-percent confidence interval</b>	<b>Mean</b>	<b>95-percent confidence interval</b>	<b>Mean</b>	<b>95-percent confidence interval</b>
Number of households ....	3,944	...	934	...	144	...	341	...
Percent reporting non-zero expenditure:								
Education.....	67.3	( <sup>1</sup> )	54.9	( <sup>1</sup> )	60.1	( <sup>1</sup> )	48.3	( <sup>1</sup> )
Entertainment.....	71.1	( <sup>1</sup> )	57.1	( <sup>1</sup> )	75.4	( <sup>1</sup> )	55.0	( <sup>1</sup> )
Books <sup>2</sup> .....	64.2	( <sup>1</sup> )	46.7	( <sup>1</sup> )	61.3	( <sup>1</sup> )	46.0	( <sup>1</sup> )
Children's apparel.....	80.0	( <sup>1</sup> )	80.8	( <sup>1</sup> )	73.7	( <sup>1</sup> )	71.3	( <sup>1</sup> )
Quarterly expenditure (dollars): <sup>3</sup>								
Education.....	810.30	(707.84, 912.77)	403.22	(317.43, 489.00)	464.10	(237.52, 690.69)	372.57	(255.50, 489.63)
Entertainment.....	133.56	(120.98, 146.14)	64.97	(53.54, 76.41)	99.29	(56.87, 141.71)	74.02	(54.36, 93.69)
Books <sup>2</sup> .....	46.48	(43.86, 49.10)	28.63	(23.66, 33.60)	25.09	(18.73, 31.44)	30.27	(22.41, 38.13)
Children's apparel.....	213.03	(201.12, 224.94)	187.56	(172.51, 202.62)	214.11	(178.65, 249.58)	173.57	(142.81, 204.32)
Mean income percentile..	66.79	(65.65, 67.93)	34.01	(31.87, 36.15)	50.31	(46.80, 53.82)	45.70	(43.09, 48.32)
Education (percent):								
Less than high school...	10.3	( <sup>1</sup> )	17.0	( <sup>1</sup> )	16.6	( <sup>1</sup> )	21.0	( <sup>1</sup> )
High school .....	53.4	( <sup>1</sup> )	65.4	( <sup>1</sup> )	60.9	( <sup>1</sup> )	68.5	( <sup>1</sup> )
College and higher .....	36.2	( <sup>1</sup> )	17.5	( <sup>1</sup> )	22.6	( <sup>1</sup> )	10.5	( <sup>1</sup> )
Occupation (percent):								
Managerial/professional .....	36.1	( <sup>1</sup> )	26.0	( <sup>1</sup> )	35.4	( <sup>1</sup> )	18.9	( <sup>1</sup> )
Administrative.....	20.1	( <sup>1</sup> )	31.1	( <sup>1</sup> )	17.5	( <sup>1</sup> )	30.9	( <sup>1</sup> )
Other occupation.....	43.8	( <sup>1</sup> )	42.9	( <sup>1</sup> )	47.1	( <sup>1</sup> )	50.3	( <sup>1</sup> )
Race/ethnicity (percent):								
White .....	71.3	( <sup>1</sup> )	47.1	( <sup>1</sup> )	73.0	( <sup>1</sup> )	57.4	( <sup>1</sup> )
African American.....	7.9	( <sup>1</sup> )	31.9	( <sup>1</sup> )	12.6	( <sup>1</sup> )	21.0	( <sup>1</sup> )
Hispanic.....	15.9	( <sup>1</sup> )	17.6	( <sup>1</sup> )	10.4	( <sup>1</sup> )	18.3	( <sup>1</sup> )
Other.....	5.0	( <sup>1</sup> )	3.4	( <sup>1</sup> )	4.0	( <sup>1</sup> )	3.3	( <sup>1</sup> )
Age, years .....	39.27	(39.03, 39.50)	37.75	(37.13, 38.37)	42.76	(41.29, 44.24)	32.41	(31.46, 33.37)
Number of children:								
Ages 0–5 .....	.83	(.80, .85)	.55	(.48, .63)	.31	(.20, .41)	1.04	(.93, 1.15)
Ages 6–12.....	.95	(.92, .99)	.89	(.81, .96)	.74	(.57, .91)	.71	(.59, .84)
Ages 13–18.....	.78	(.75, .82)	.96	(.87, 1.04)	1.06	(.86, 1.25)	.42	(.32, .51)
Region (percent):								
Northeast .....	15.9	( <sup>1</sup> )	19.4	( <sup>1</sup> )	15.5	( <sup>1</sup> )	17.6	( <sup>1</sup> )
South .....	37.4	( <sup>1</sup> )	40.3	( <sup>1</sup> )	38.0	( <sup>1</sup> )	41.4	( <sup>1</sup> )
Midwest .....	21.8	( <sup>1</sup> )	19.9	( <sup>1</sup> )	19.8	( <sup>1</sup> )	21.3	( <sup>1</sup> )
West .....	24.5	( <sup>1</sup> )	20.2	( <sup>1</sup> )	26.7	( <sup>1</sup> )	17.8	( <sup>1</sup> )

<sup>1</sup> No confidence interval was calculated for percentages.<sup>3</sup> Only for those who reported a nonzero expenditure in each category.<sup>2</sup> Including other reading materials, such as magazines and newspapers.

tively. However, unlike expenditures on education, entertainment, and books, quarterly expenditures on children's apparel were similar between married-couple (\$213) and single-father (\$214) households. Likewise, single-mother and cohabiting households spent approximately \$180 per quarter.

Socioeconomic and demographic characteristics are also different across different types of household. For example, income percentile and educational levels are higher among married-couple households than unmarried households. The average income percentile for married-couple households was approximately the 67th percentile, whereas for single-mother, single-father, and cohabiting households, the percentiles were the 34th, 50th, and 46th percentiles, respectively. As regards educational attainment, only 10 percent of married-couple households were without a high school diploma while 36 percent held at least a college degree. In contrast, only about 18 percent of single-mother households, 23 percent of single-father households, and 11 percent of cohabiting households had a college degree or higher. With regard to occupation, more than one-third of married-couple households had managerial or professional occupations while about a quarter of single-mother households and less than one-fifth of cohabiting households did so. Distributions of race and ethnicity also differ by household type. Although 71 percent of married-couple households and 73 percent of single-father households were White, 47 percent of single-mother households and 57 percent of cohabiting households were. At the same time, 8 percent of married-couple households and 32 percent of single-mother households were headed by African American parents. Finally, cohabiting households had the youngest mean age (32.4 years) and single-father households the highest (42.8 years), while the mean ages for married-couple and single-mother households were 39.3 years and 37.8 years, respectively.

Because the differences in percentages of households spending money on education, entertainment, books, and children's apparel can be a result of differences in socioeconomic and demographic characteristics across household types, multivariate analyses were conducted. The likelihood of any given household purchasing items in any of these categories was estimated by logistic regression analysis, the results of which are presented in table 2.<sup>49</sup>

*Logistic regression results.* Expenditures in each category were estimated first with the method of logistic regression.

(1) *Education.* Perhaps surprisingly, the results obtained after controlling for demographic and socioeconomic characteristics revealed that single-mother households were significantly more likely to spend money on education than married-couple households were. Single-father and cohabiting households did not differ from married-couple households with respect to the likelihood of spending on education. Income, education, and occupation also were found to be significant predictors of spending on children's education. Higher income households were significantly more likely than lower income households to spend on children's education. In addition, compared with parents without a high school diploma, parents with a high school education were 65 percent more likely to spend money on education and parents with a college education or higher were 2.38 times more likely to spend money on education. Race, too, significantly relates to the likelihood of spending on education: other things being equal, African American and Hispanic households were significantly less likely to spend money on education than were White households—about half and three-quarters as much, respectively. Finally, regardless of the children's age, the number of children relates positively to the likelihood of spending on education.

(2) *Entertainment.* In another perhaps surprising turn of events, the logistic regression result also revealed that single-parent households were more likely to spend money on entertainment than married-couple households were. Specifically, single-mother households were 1.24 times as likely, and single-father households 1.84 times as likely, to spend money on entertainment than were married-couple households. In contrast, cohabiting households were no more likely than married-couple households to spend money on entertainment. Higher income, higher educational status, and higher occupational status all pointed to a higher likelihood of spending on entertainment. Compared with parents without a high school diploma, parents with a diploma were twice as likely, and parents with a college education 2.66 times as likely, to spend money on entertainment. Parents in managerial or professional occupations and parents in administrative occupations were more than 40 percent more likely to spend money on entertainment than their counterparts in other occupations spent. As regards race, White households were significantly more likely to spend money on entertainment than were other racial groups; for example, White households were approximately twice as likely to spend money on entertainment than African American households. Finally, the number of children ages 6 and

<b>Table 2. Logistic regression results: likelihood of expenditures on items in selected categories, Consumer Expenditure Interview Survey, 2007–08</b>								
<b>Parameter</b>	<b>Education</b>		<b>Entertainment</b>		<b>Books<sup>1</sup></b>		<b>Apparel</b>	
	<b>Estimate</b>	<b>95-percent confidence interval</b>	<b>Estimate</b>	<b>95-percent confidence interval</b>	<b>Estimate</b>	<b>95-percent confidence interval</b>	<b>Estimate</b>	<b>95-percent confidence interval</b>
Household type: <sup>2</sup>								
Single mother .....	1.250	(1.011, 1.545)	1.242	(1.015, 1.520)	0.858	(0.684, 1.075)	1.418	(1.106, 1.819)
Single father .....	1.032	(.667, 1.595)	1.837	(1.045, 3.227)	1.056	(.705, 1.583)	1.085	(.696, 1.692)
Cohabiting .....	.894	(.688, 1.162)	1.091	(.771, 1.542)	.838	(.646, 1.089)	.781	(.575, 1.060)
Income percentile .....	1.013	(1.010, 1.017)	1.021	(1.018, 1.024)	1.010	(1.006, 1.014)	1.005	(1.001, 1.009)
Education: <sup>3</sup>								
High school .....	1.651	(1.311, 2.080)	2.107	(1.626, 2.731)	1.834	(1.522, 2.210)	1.111	(.857, 1.441)
College and higher.....	2.378	(1.836, 3.080)	2.658	(1.937, 3.646)	2.942	(2.276, 3.802)	1.135	(.859, 1.500)
Occupation: <sup>4</sup>								
Managerial/professional.....	1.451	(1.175, 1.791)	1.463	(1.216, 1.760)	1.074	(.866, 1.332)	1.008	(.823, 1.234)
Administrative.....	1.225	(1.043, 1.440)	1.427	(1.219, 1.670)	1.128	(.956, 1.330)	.988	(.830, 1.176)
Race/ethnicity: <sup>5</sup>								
African American.....	.513	(.407, .647)	.480	(.390, .591)	.557	(.458, .678)	1.006	(.791, 1.281)
Hispanic.....	.728	(.564, .939)	.713	(.580, .877)	.391	(.309, .493)	1.146	(.919, 1.429)
Other.....	1.024	(.758, 1.384)	.430	(.329, .563)	.557	(.432, .717)	1.386	(1.031, 1.863)
Age.....	1.022	(1.014, 1.031)	1.008	(.997, 1.020)	1.020	(1.011, 1.029)	1.001	(.989, 1.013)
Number of children:								
Ages 0–5 .....	1.211	(1.111, 1.320)	.957	(.884, 1.036)	1.074	(1.006, 1.147)	1.742	(1.540, 1.970)
Ages 6–12.....	1.291	(1.206, 1.382)	1.188	(1.112, 1.270)	1.043	(.988, 1.102)	2.867	(2.504, 3.283)
Ages 13–18.....	1.100	(1.206, 1.186)	1.257	(1.148, 1.377)	1.074	(.993, 1.161)	1.302	(1.189, 1.426)
Region: <sup>6</sup>								
South .....	1.089	(.882, 1.347)	.880	(.735, 1.053)	.679	(.539, .855)	.910	(.759, 1.092)
Midwest.....	1.239	(1.023, 1.501)	1.243	(1.055, 1.464)	.939	(.789, 1.117)	.976	(.824, 1.156)
West .....	1.009	(1.023, 1.232)	1.135	(.973, 1.324)	.970	(.813, 1.158)	.851	(.684, 1.059)
N .....	5,363	...	5,363	...	5,363	...	5,363	...

<sup>1</sup> Including other reading materials, such as magazines and newspapers.  
<sup>2</sup> Reference class: married-couple households.  
<sup>3</sup> Reference class: less than high school.  
<sup>4</sup> Reference class: other occupations.  
<sup>5</sup> Reference class: White.  
<sup>6</sup> Reference class: Northeast.

older relates positively to the likelihood of their parents spending on entertainment.

(3) *Books and other reading materials.* The regression results indicate that unmarried households are no more or less likely to spend money on books than are married-couple households: household type is thus not a significant predictor of likelihood of money spent on books. However, income and education were found to be important determinants of the likelihood of money spent on books: parents with a high school education were 1.83 times as

likely, and parents with a college education 2.94 times as likely, to spend money on books than were parents without a high school diploma. Interestingly, however, parental occupational status did not have an impact on the likelihood of purchasing books. By contrast, race was a relevant factor: White households were significantly more likely to spend money on books than were households in any of the other racial groups examined. Also, parental age relates positively to the likelihood of purchasing books; however, the number of school-age and teenage children does not influence the likelihood, although the number of preschool-age children

does: the more preschool-age children a household has, the more likely it is that the household purchases books.

(4) *Children's apparel.* The regression results show that the likelihood of purchasing children's apparel does not differ among married, single-father, and cohabiting households. However, single-mother households were 1.42 times as likely to purchase children's apparel than married households were. An increase in income percentile also increased the likelihood of purchasing children's apparel. As regards education, parents with a high school diploma or a college education were at least 10 percent more likely to spend money on children's apparel than were parents without a high school diploma. However, parental occupation did not affect the likelihood of money spent on children's apparel. Likewise, race was largely inconsequential in determining the likelihood of purchasing children's apparel: the "other" racial category was the only racial group that was significantly different from Whites in this regard, being 1.39 times as likely to spend money on children's apparel than White households were, other things being equal. Finally, the age of the parents and the number of children correlate positively with the likelihood of purchasing children's apparel: in respect of the latter, regardless of the children's age, the more children a household had, the higher was the likelihood that it purchased children's apparel.

*Ordinary least squares regression results.* The next set of analyses uses ordinary least squares to estimate the expenditures in each category. In this section, for each category, only those households which reported nonzero expenditures in that category are included. Thus, the sample size varies by category.

(1) *Education.* The results of ordinary least squares regression analyses for the expenditure category of education are presented in table 3.<sup>50</sup> The first model shows estimates of (the natural logarithm of) quarterly educational expenditures. No significant expenditure difference across different household types was found after controlling for other variables: the educational expenditure for married-couple households did not vary significantly from that for unmarried households. Instead, parental income, education, and occupation were found to be significant predictors of educational expenditures. Higher incomes relate to higher educational expenditures: a 1-percent rise in income percentile increased educational expenditures by 1.7 percent. Parents with a high school diploma spent significantly more on their children's education than did

their counterparts without a high school diploma. College-educated parents spent twice as much as parents without a high school diploma. Also, the expenditure difference between the college educated and those with high school diplomas was significantly different (not shown in table). Thus, attaining a college-level or higher education leads parents to spend more on their children's education. Also, parents in managerial occupations spent approximately 28 percent more than parents in other occupations, and the age of the parents relates positively to educational expenditures. Finally, expenditures on education do not differ significantly among any of the racial groups.

(2) *Entertainment.* The second model presented in table 3 gives estimates of expenditures on entertainment, such as attending concerts and sporting events and participating in sports. One important finding is that unmarried households spent no more or less on entertainment than did married-couple households, once other variables are controlled for. However, parental income and college education are significant predictors of entertainment expenditures: the higher a household income percentile, the more money the household spends on entertainment. Also, college-educated parents spent 38 percent more than parents without a high school diploma and 13 percent more than parents with a high school diploma but no college (not shown in table). No significant difference emerged between parents with, and parents without, a high school diploma, but college-educated parents spent significantly more than parents with lower educational attainment.

Parental occupation, race and ethnicity, and age, as well as the region of the country in which the household resides, had little impact on household entertainment expenditures, although African American households were found to spend significantly less on entertainment than did White households. Interestingly, the number of preschool-age children relates negatively to entertainment expenditures; that is, the more preschool-age children the household has, the less it spends on entertainment. Similarly, an additional *school-age* child decreases entertainment expenditures by 11 percent.

(3) *Books and other reading materials.* The third model in table 3 shows the results of the regression analysis for expenditures on books and other reading materials. Single-father households were found to have spent a significant 37 percent less on books than did married-couple households, after other variables were controlled for. Income percentile relates positively to expenditures on books, as does level of education: college-educated parents

**Table 3. Ordinary least squares regression results: estimates of (the natural logarithm of) quarterly expenditures on items in selected categories, Consumer Expenditure Interview Survey, 2007–08**

Parameter	Education		Entertainment		Books <sup>1</sup>		Apparel	
	Estimate	Standard error	Estimate	Standard error	Estimate	Standard error	Estimate	Standard error
Intercept .....	3.480	.0260	2.522	.0176	1.922	.0192	4.054	.0129
Household type: <sup>2</sup>								
Single mother .....	-.027	.084	.076	.072	-.072	.072	.308	.055
Single father .....	-.219	.195	.149	.152	-.372	.118	.291	.112
Cohabiting .....	-.026	.142	.077	.091	-.038	.122	.068	.072
Income percentile .....	.017	.001	.018	.001	.012	.001	.011	.001
Education: <sup>3</sup>								
High school.....	.513	.122	.147	.096	.222	.093	.035	.066
College and higher .....	1.033	.131	.383	.108	.506	.093	.141	.086
Occupation: <sup>4</sup>								
Managerial/professional.....	.278	.065	.098	.064	.062	.068	-.060	.041
Administrative .....	.231	.081	.062	.069	-.056	.068	-.180	.051
Race/ethnicity: <sup>5</sup>								
African American .....	-.080	.110	-.172	.077	-.259	.106	.215	.064
Hispanic .....	-.039	.099	.018	.070	-.334	.080	.172	.040
Other.....	.112	.110	-.169	.137	-.079	.095	.055	.062
Age.....	.005	.005	.000	.004	.011	.004	-.002	.003
Number of children:								
Ages 0–5 .....	.095	.030	-.110	.029	-.129	.030	.010	.018
Ages 6–12.....	-.117	.018	.006	.016	-.082	.019	.186	.013
Ages 13–18 .....	-.070	.034	-.045	.024	-.132	.021	.020	.018
Region: <sup>6</sup>								
South.....	-.183	.098	-.078	.070	-.216	.061	-.120	.049
Midwest .....	-.212	.092	-.012	.076	-.122	.053	-.210	.052
West.....	-.251	.096	.177	.068	.061	.071	-.198	.059
N .....	3,466	...	3,615	...	3,199	...	4,289	...
R <sup>2</sup> .....	.2085	...	.1722	...	.2023	...	.1028	...

<sup>1</sup> Including other reading materials, such as magazines and newspapers.<sup>2</sup> Reference class: married-couple households.<sup>3</sup> Reference class: less than high school.<sup>4</sup> Reference class: other occupations.<sup>5</sup> Reference class: White.<sup>6</sup> Reference class: Northeast.<sup>7</sup> p < .001.<sup>8</sup> p < .01.<sup>9</sup> p < .05.

spent 50 percent more on books than did parents without a high school diploma and 28 percent more than did parents with a high school diploma but no college (not shown in table). In contrast, parental occupation had little effect on expenditures on books. As regards race and ethnicity, African American and Hispanic households spent significantly less on books than did White households. Finally, regardless of the children's age, the number of children relates

negatively to expenditures on books, while the age of the parents relates positively thereto.

(4) *Children's apparel.* The last model in table 3 shows estimated expenditures on children's apparel. Interestingly, and perhaps counterintuitively, single-mother and single-father households spent a significant 30 percent more on children's apparel than did married-couple

households. However, the difference between married-couple and cohabiting households was not statistically significant. Parental income percentile was found to be a significant predictor of expenditures on children's apparel, but parental education had little impact. As regards occupation, parents in managerial/professional and administrative occupations spent less on children's apparel than parents in other occupations, although the difference between managerial/professional and other occupations was not statistically significant. Finally, African American and Hispanic households spent significantly more on apparel than White households did, and an increase in the number of children between 6 and 12 years significantly increases expenditures on children's apparel.

USING THE CONSUMER EXPENDITURE SURVEYS conducted in 2007 and 2008, this article has examined the likelihood of purchases and expenditures relating to children's well-being by household type. The main focus was to identify factors associated with expenditures and to explore possible differences between married-couple and unmarried households. Without controlling for socio-economic and demographic characteristics, the analysis presented showed that a higher percentage of married-couple households spend money on education and books, compared with unmarried households, especially single-mother and cohabiting households. Moreover, when married-couple households spend, they spend more than unmarried households. However, multivariate regression analyses revealed that these differences are due mainly to differences in household socioeconomic and demographic characteristics. First, the article examined the likelihood of purchases on education, entertainment, books, and apparel. With respect to children's education, when other variables are held equal, married-couple households are significantly *less* likely to spend money on children's education than are single-mother households. Higher income, higher educational attainment, and higher occupational status all show a stronger impact on the likelihood of educational expenditures than does household type. Entertainment was examined next. The analysis found that married-couple households are *less* likely to spend money on entertainment than are single-mother and single-father households. Again, parental income, education, and occupation are important factors in a household's spending money on entertainment. Third, expenditures on books were explored, and no difference in the likelihood of purchasing books was found between married-couple and unmarried households. Instead, parental income and education were seen to be significant predictors thereof.

Finally, expenditures on children's apparel were examined, and it was found that married-couple households had no advantage in this regard: single-mother households are more likely to purchase children's apparel than are married-couple households, while the likelihood does not differ between single-father and cohabiting households, on the one hand, and married-couple households, on the other.

Although married-couple households and single-father households show a higher likelihood of purchasing items related to children's well-being, this tendency seems attributable to their higher income and educational status. Once these variables are controlled for, the advantageous status of married-couple households disappears. Thus, multivariate analysis appears to be important in obtaining the findings arrived at in this article.

The multivariate analysis carried out next revealed that there is no significant expenditure difference on education across different household types. That is, the factors determining a household's educational expenditures are not the type of household it is, but rather household income, parental education, and parental occupation. The analysis found that college-educated parents spend significantly more on education than do both parents without a high school diploma and parents with a high school diploma but no college. Although a previous study has found a difference in educational expenditures between married-couple and single-parent households,<sup>51</sup> the analysis just presented found no differences by household type once other characteristics are controlled for. Similarly, Thomas DeLeire and Ariel Kalil found a difference in educational expenditures between married-couple and cohabiting households,<sup>52</sup> whereas the analysis just presented did not. This difference may be because their data were from 1982 to 1998 while the data used here were the most recent CE data. Also, their study did not use the direct measure "cohabiting partner" to identify cohabiting households, whereas the current CE gives the identifier for a cohabiting partner in its member file. Thus, the estimate of the number of cohabiting households may be more accurate in the study presented here.

Results similar to those for education are found as well for expenditures on entertainment. No difference in entertainment expenditures is found between married-couple and unmarried households. The absence of significant differences between married-couple and unmarried households suggests that children in married-couple households are no more advantaged than those in unmarried households with respect to entertainment. In sum, expenditures on entertainment are determined not by parental marital

status, but by parental income and education. The effect of higher income on entertainment is consistent with previous research which found that children in higher income households participate in more entertainment than children in lower income households.<sup>53</sup> However, the finding that there is no difference between married-couple and unmarried households in respect of spending on entertainment contradicts what previous research has found.<sup>54</sup> The inconsistency may be due to differences in survey years and the definition of entertainment. The older study used data from 1989, and since then the number of unmarried households has increased substantially and become more common. Moreover, that study combined expenditures on entertainment and reading materials together, whereas in the study just presented, entertainment and reading materials are treated separately.

The results of the analysis also imply that children in married-couple households are no more advantaged than children in single-mother or cohabiting households with respect to the availability of books and other reading materials. However, single-father households spend less than married-couple households. Not surprisingly, expenditures on books are higher for higher income and highly educated households. Also not surprisingly, college-educated parents spend more on books than do non-college-educated parents. Because the availability of read-

ing materials at home correlates strongly with children's success,<sup>55</sup> children of parents with a college education are more likely to be academically successful than children of parents with lower educational levels, regardless of the parents' marital status. The significance of parental age for the availability of resources for children has been found to be positive,<sup>56</sup> and the study presented here further confirms it. Also, expenditures on children's apparel are higher for single-parent households than married-couple households. By contrast, parental education has little to do with expenditures on children's apparel.

The findings suggest that household income and parental education, not marital status, determine expenditures on education, entertainment, and books and other reading materials. The oft-cited disadvantaged status of children in single-parent and cohabiting households is therefore due mainly to the overrepresentation of lower income households, as well as lower educational levels, among single-parent households. The findings presented here are consistent with Paulin and Lee's study that compared expenditures of single-mother and single-father households and found little difference between the two once other variables were controlled for.<sup>57</sup> Thus, parental higher education, which leads to higher income, needs to be emphasized instead of parental marital status in studies of children's well-being. □

## Notes

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<sup>1</sup> Rose M. Kreider, *Living Arrangements of Children: 2004*, Current Population Reports (U.S. Census Bureau, 2007), pp. 70–114.

<sup>2</sup> See Sara S. McLanahan and Gary D. Sandefur, *Growing Up with a Single Parent* (Cambridge, MA, Harvard University Press, 1994); Elizabeth Thomson, Thomas L. Hanson, and Sara S. McLanahan, "Family Structure and Child Well-being: Economic Resources vs. Parental Behavior," *Social Forces*, September 1994, pp. 221–42; William S. Aquilino, "The Life Course of Children Born to Unmarried mothers: Childhood Living Arrangements and Young Adult Outcomes," *Journal of Marriage and Family*, May 1996, pp. 293–310; John P. Hoffmann, "Family Structure, Community Context, and Adolescent Problem Behaviors," *Journal of Youth Adolescence*, November 2006, pp. 867–80; and Ming Wen, "Family Structure and Children's Health and Behavior: Data from the 1999 National Survey of America's Families," *Journal of Family Issues*, November 2008, 1492–1519.

<sup>3</sup> Aquilino, "The Life Course of Children Born to Unmarried Mothers."

<sup>4</sup> See Douglas B. Downey, "The School Performance of Children from Single-Mother and Single-Father families: Economic or Interpersonal Deprivation?" *Journal of Family Issues*, March 1994, pp. 129–47; and Thomson, Hanson, and McLanahan, "Family Structure and Child Well-being."

<sup>5</sup> Downey, "The School Performance of Children"; and McLanahan and Sandefur, *Growing Up with a Single Parent*.

<sup>6</sup> See Wendy D. Manning and Kathleen A. Lamb, "Adolescent Well-being in Cohabiting, Married, and Single-Parent Families," *Journal of Marriage and the Family*, November 2003, pp. 876–93; Hoffmann, "Family Structure"; and Wen, "Family Structure and Children's Health and Behavior."

<sup>7</sup> See Thomson, Hanson, and McLanahan, "Family Structure and Child Well-being"; McLanahan and Sandefur, *Growing Up with a Single Parent*; Doris R. Entwistle and Karl L. Alexander, "Family Type and Children's Growth in Reading and Math over the Primary Grades," *Journal of Marriage and Family*, May 1996, pp. 341–55; and Manning and Lamb, "Adolescent Well-being."

<sup>8</sup> Carmen DeNavas-Walt, Bernadette D. Proctor, and Jessica Smith, *Income, Poverty, and Health Insurance Coverage in the United States: 2006*, Current Population Reports, P60–233 (U.S. Census Bureau, 2007).

<sup>9</sup> One that does is Geoffrey D. Paulin and Yoon G. Lee, "Expenditures of single parents: How does gender figure in?" *Monthly Labor Review*, July 2002, pp. 16–37.

<sup>10</sup> Susan E. Mayer, *What Money Can't Buy: Family Income and Children's Life Chances* (Cambridge, MA, Harvard University Press, 1997).

<sup>11</sup> *Ibid.*

<sup>12</sup> Patrick McGregor and Vani K. Borooah, "Is Low Spending or Low Income a Better Indicator of Whether or Not a Household Is

Poor: Some Results from the 1985 Family Expenditure Survey," *Journal of Social Policy*, January 1992, pp. 53–69.

<sup>13</sup> Mayer, *What Money Can't Buy*.

<sup>14</sup> *Ibid.* (See also Bruce Bradbury, "Time and the Cost of Children," *Review of Income and Wealth*, September 2008, pp. 305–23.)

<sup>15</sup> McLanahan and Sandefur, *Growing Up with a Single Parent*.

<sup>16</sup> Brian Powell, Lala Carr Steelman, and Robert M. Carini, "Advancing Age, Advantaged Youth: Parental Age and the Transmission of Resources to Children," *Social Forces*, March 2006, pp. 1359–90.

<sup>17</sup> Lala Carr Steelman and Brian Powell, "Acquiring Capital for College: The Constraints of Family Configuration," *American Sociological Review*, October 1989, pp. 844–55.

<sup>18</sup> Mayer, *What Money Can't Buy*.

<sup>19</sup> Mark Lino, *Expenditures on Children by Families, 2006*, Miscellaneous Publication No. 1528–2006 (U.S. Department of Agriculture, Center for Nutrition Policy and Promotion, 2007).

<sup>20</sup> Mark Lino, "Expenditures on Children by Families, 1997," *Family Economics and Nutrition Review*, vol. 11, no. 3, 1998, pp. 25–43.

<sup>21</sup> *Ibid.*

<sup>22</sup> *Ibid.*

<sup>23</sup> See Maureen Boyle, "Spending patterns and income of single and married parents," *Monthly Labor Review*, March 1989, pp. 37–41; and Mohamed Abdel-Ghany and F.N. Schwenk, "Differences in Consumption Patterns of Single-parent and Two-parent Families in the United States," *Journal of Family and Economic Issues*, winter 1993, pp. 299–315.

<sup>24</sup> Robert H. Haveman and Barbara L. Wolfe, *Succeeding Generations: On the Effects of Investments in Children* (New York: Russell Sage Foundation, 1994).

<sup>25</sup> Downey, "The School Performance of Children."

<sup>26</sup> Paulin and Lee, "Expenditures of single parents."

<sup>27</sup> *Ibid.* (See also DeNavas-Walt, Proctor, and Smith, *Income, Poverty, and Health Insurance Coverage*; and Downey, "The School Performance of Children.")

<sup>28</sup> Paulin and Lee, "Expenditures of single parents."

<sup>29</sup> Yung-Ping Chen and Kwang-Wen Chu, "Household Expenditure Patterns: The Effect of Age of Family Head," *Journal of Family Issues*, June 1982, pp. 233–50.

<sup>30</sup> *Ibid.*

<sup>31</sup> Abby Duly, "Spending Patterns of Older Consumers Raising a Child," *Consumer Expenditure Survey Anthology, 2005* (Bureau of Labor Statistics, 2005), pp. 45–50.

<sup>32</sup> Sally E. Horton and Jeanne L. Hafstrom, "Income Elasticities for Selected Consumption Categories: Comparison of Single Female-headed and Two Parent Families," *Home Economics Research Journal*, March 1985, pp. 292–303.

<sup>33</sup> Roger S. Mason, *Conspicuous Consumption: A Study of Exceptional Consumer Behavior* (New York, St. Martin's Press, 1981).

<sup>34</sup> *Ibid.*

<sup>35</sup> *Ibid.* (See also Chen and Chu, "Household Expenditure Patterns"; Jessie X. Fan and Joan Koonce Lewis, "Budget Allocation Patterns of African Americans," *Journal of Consumer Affairs*, spring 1999, pp. 134–64; Richard P. Coleman, "The Continuing Significance of

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<sup>36</sup> Martineau, "Social Classes and Spending Behavior."

<sup>37</sup> Bihaugen, "How Do Classes Make Use of Their Income?"

<sup>38</sup> Tally Katz-Gerro, "Highbrow Cultural Consumption and Class Distinction in Italy, Israel, West Germany, Sweden, and the United States," *Social Forces*, September 2002, pp. 207–29.

<sup>39</sup> *Ibid.*

<sup>40</sup> Fan and Lewis, "Budget Allocation Patterns."

<sup>41</sup> *Ibid.*

<sup>42</sup> *Consumer Expenditure Survey, 1996–1997*, Report 935 (Bureau of Labor Statistics, 1999).

<sup>43</sup> See Mark Lino, "Factors Affecting Expenditures of Single-parent Households," *Home Economic Research Journal*, March 1990, pp. 191–201; and Paulin and Lee, "Expenditures of single parents."

<sup>44</sup> See April Brayfield and Sandra L. Hofferth, "Balancing the Family Budget: Differences in Child Care Expenditures by Race/Ethnicity, Economic Status, and Family Structure," *Social Science Quarterly*, March 1995, pp. 158–77; and Paulin and Lee, "Expenditures of single parents."

<sup>45</sup> See Paulin and Lee, "Expenditures of single parents"; and Kathleen M. Ziolkowski, Thomas DeLeire, and Ariel Kalil, "The Allocation of Food Expenditure in Married- and Single-parent Families," *Journal of Consumer Affairs*, winter 2006, pp. 347–71.

<sup>46</sup> Tanja Van Der Lippe, Kea Tijdens, and Esther De Ruijter, "Outsourcing of Domestic Tasks and Time-saving Effects," *Journal of Family Issues*, March 2004, pp. 216–40.

<sup>47</sup> See Philip N. Cohen, "Replacing Housework in the Service Economy: Gender, Class, and Race-Ethnicity in Service Spending," *Gender and Society*, April 1998, pp. 219–31; and Paulin and Lee, "Expenditures of single parents."

<sup>48</sup> Paulin and Lee, "Expenditures of single parents."

<sup>49</sup> In order to obtain unbiased results, the SAS program PROC LOGISTIC generously provided at the 2009 CE Workshop at the Bureau of Labor Statistics was used. However, the author is fully responsible for the accuracy of the results.

<sup>50</sup> In order to obtain unbiased results, the SAS program PROC REG generously provided at the 2009 CE Workshop at the Bureau of Labor Statistics was used. However, the author is fully responsible for the accuracy of the results.

<sup>51</sup> Lino, "Expenditures on Children by Families, 1997."

<sup>52</sup> Thomas DeLeire and Ariel Kalil, "How Do Cohabiting Couples with Children Spend Their Money?" *Journal of Marriage and Family*, May 2005, pp. 286–95.

<sup>53</sup> Powell, Steelman, and Carini, "Advancing Age, Advantaged Youth."

<sup>54</sup> See, for example, Abdel-Ghany and Schwenk, "Differences in Consumption Patterns."

<sup>55</sup> Haveman and Wolfe, *Succeeding Generations*.

<sup>56</sup> Powell, Steelman, and Carini, "Advancing Age, Advantaged Youth."

<sup>57</sup> Paulin and Lee, "Expenditures of single parents."

**APPENDIX: On mitigating skewness and kurtosis**

Because the original dollar values of expenditures for education, entertainment, books and other reading materials, and children's apparel are not normally distributed, those values are transformed to natural logarithms in the text. The statistics for each expenditure are shown in table A-1. Compared with the

skewness and kurtosis of the original expenditure values, those of the logarithmic values are substantially lower. Although the natural logarithm transformation does not yield a normal distribution for each expenditure category, using a logarithmic value is less problematic than using the original expenditure value.

**Table A-1. Selected original and logarithmic statistics for expenditures discussed in the text**

Expenditure category	N	Original value			Natural logarithm of original value		
		Standard deviation	Skewness	Kurtosis	Standard deviation	Skewness	Kurtosis
Education .....	3,466	2,081.100	13.855	320.836	1.663	-0.167	-0.100
Entertainment .....	3,615	263.686	8.530	113.160	1.349	.074	-.158
Books and other reading materials...	3,199	57.936	3.428	16.807	1.263	-.384	.079
Apparel.....	4,289	231.127	3.156	16.878	1.103	-.617	.718