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A single father's shopping bag: Purchasing decisions in single father families

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Abstract

Using data from the Consumer Expenditure Survey (CEX), 1980-1998 panels, this paper examines purchasing decisions in father-headed families. Very little research exists on this new and growing "other single parent," and much of what does exist is based on small samples of convenience. Extant literature finds that children growing up in single-father families, like those in single-mother families, are quite disadvantaged compared to married families. This paper determines consumption differences that exist in father-headed families. The analysis presents Engel Curve estimation and expenditure elasticities for different consumption bundles. Comparison multivariate analysis finds that single fathers look different from married households, in that they spend more money on food consumed away from home, and less on publications and toys, as well as children's education. Single fathers also spend a larger proportion of total expenditures on food away from home and alcohol and tobacco, and a smaller proportion on children's education. Single fathers differ from single mothers by spending more money on food away from home and alcohol and tobacco, and less on children's education. Further they spend larger proportions of their expenditures on food consumed away from home, alcohol and tobacco products, and recreation, and a smaller share on children's education.

Key Words: single fathers, expenditures, investments in children, consumption bundles, family structure, Engel curves

Introduction

Background

Over the past thirty years, the incidence of single-father families has risen. By 1997, single-father families represented 17 percent of all single parent families with children (U.S. Bureau of Census, 2001). While this represents only five percent of all families with children, single-father families are one of the fastest growing family types, increasing at a rate faster than single-mother families (Bianchi, 1995; Meyer and Garasky, 1993), with the number of single-father families quintupling since 1970 (U.S. Bureau of Census, 2001). During the 1980's the rate of growth of single-father families was 42 percent, compared to 15 percent for single-mother families and the increase in father-only families in the 1980's was a result of an increase in the ever-married single-parent families headed by fathers (Garasky & Meyer, 1996). Further, four percent of all children reside with only a custodial father (U.S. Bureau of Census, 2001).

Much of the existing research on single-father families focuses on demographic data that seeks to describe these families, as well as custodial experiences following divorce (Greif, 1985). Meyer and Garasky (1993) find that single fathers look quite different than men in married families and single mothers. They find that single fathers are less likely to be poor and more likely to be employed than single mothers, and are better off overall economically than single mothers (Bianchi, 1995). Single fathers are worse off economically, measured both by poverty and labor force participation, than married couples, and the gap between the two is increasing (Brown, 2000). They are less likely to be working in full-time year-round employment than are married fathers. This difference may be partially due to differences in ages and educational attainment, but also may be due to additional time spent parenting children. Single fathers are also more likely to be receiving some type of public assistance, including the Earned Income Tax

Credit, and are more likely to be African American than are married fathers. Finally single fathers are more likely to live in extended households than are married fathers, but less likely than are single mothers.

Eggebeen, Snyder, and Manning (1996) look at single-father families (as a result of divorce or separation, widowhood, or never married) from the perspective of the children using the 1960-1990 Public Use Microdata Samples of the U.S. Census of Population, and differentiate single father families by living arrangement. The authors find that children that live with a single father that was ever-married are the best off economically and have the highest educated fathers. Children living in multigenerational households or "complex households" have fathers with the lowest income, education, and labor force participation. However, these households often contain other adults, which translates into higher household incomes, lower poverty rates, and access to more adults for children.

Research focusing on children from all single parent homes suggests that they grow up lacking important economic and social resources that are available in two-parent homes, and that this deficiency weakens future opportunities (McLanahan & Sandefur, 1994). Extant literature finds that children growing up in single parent families have lower educational attainment than children from married households (McLanahan & Sandefur, 1994), are more likely to give birth as a teenager (McLanahan & Sandefur, 1994; Wu & Martinson, 1993), and have increased risk for negative health outcomes (Dawson, 1991). In addition, children who grow up apart from a parent are more likely to become welfare dependent (Garfinkel & McLanahan, 1986).

Existing research suggests that there are differential outcomes associated with growing up specifically in single-father households, compared to other family structures. Hoffman and Johnson (1998) find that adolescents who reside in father-custody families (father-only and

father-step mother), show a significantly increased risk of drug use compared to adolescents living in other family structures. Harris, Cavanagh, and Elder (2002) find that youth living with a single father have more school problems and take part in more health risk behaviors than children living in single-mother families or married parent families, and other research finds a negative effect on socioeconomic attainment (Biblarz, Raftery, & Bucur, 1997). Prior work also finds that single mothers and single fathers provide different types of resources to their children, and while single fathers have more economic resources (measured in terms of resources conditioned on income) mothers may have more interpersonal resources, measured as being involved in children's day-to-day activities (Downey, 1994). Downey looks specifically at children's educational performance and finds that even though single fathers have more income compared to single mother families, the children in single father families do no better in school than children from single mother families, and both have poorer school behaviors compared to children in two-parent families. Specifically, economic resources are important mediators for understanding why children in single parent families do less well in school compared to children in two-parent families, and are more important in explaining the differences in single mother families. By comparison, interpersonal resources play a much larger role in explaining the differences in educational outcomes between single father families and two-parent families. Downey, Ainsworth-Darnell and Dufur (1998) find little evidence that children are better off in terms of educational outcomes in a single-mother household compared to a single-father household. However, they find that children residing with single fathers are less behaved, and are slightly disadvantaged in terms of cognitive skills. Further, they find slight differences in educational attainment when comparing the well-being of adults who grew up in single father

and single mother families, where those from single father families attained about one-half year less education.

One might expect to see differences in outcomes associated with growing up in a single father household because single fathers may parent differently than single mothers due to the different roles men and women play in children's development. The individualist perspective suggests that women and men experience parenting differently, and that this is due to either biological differences or early socialization (Risman, 1987). In this view, women act more as a primary caretaker, and men act more as a breadwinner and playmate (Thompson & Walker, 1989), as well as diciplinarian. Men do, however, appear to adapt to the necessary parenting roles. DeMaris and Greif (1992) find that men provide social, physical and emotional support for their children to the same extent that a mother does. Men are also more likely to use support networks, but have a more difficult time balancing work and family compared to single mothers (Heath & Orthner, 1999). Given this, one might expect single fathers to make different purchasing decisions compared to other families. Single fathers might purchase more recreation and sporting activities, or child care and domestic services. Single mothers, on the other hand, might purchase more food to be cooked in the home.

Theoretical Structure

This analysis uses the "investments-in-children" theoretical framework (Haveman & Wolfe, 1994). This framework stresses the three primary investors in children's success: society and the government, parents, and children themselves. This analysis will focus on the parental investment in children. Parents invest in their children given resources and constraints. These resources are represented by not only the financial resources available to the parent, but also the resources associated with time, nurturing and stability that parents invest. Parents choose to

allocate their income and other resources among consumption bundles (including their children) that maximize their utility or satisfaction. Parents' utility is a function of current consumption and the well-being of the child, constrained by economic resources (Becker, 1993).

Haveman and Wolfe (1994) measure the level of parental investment in children by the environment in which children grow up. Parents invest in children by choosing where to live, where to work, how much to work, whether to marry, how many children to have, what school to send their children to, how much time to spend with children, whether to enroll in government programs, among other things. When making these choices, based on tastes and preferences, parents encounter restrictions or constraints. Specifically, they are constrained by local economic factors, as well as their own individual-level characteristics. The analysis in this paper will take into consideration those factors suggested by Haveman and Wolfe that matter, especially family structure, income and income stability, time spent working, welfare participation, and parental education.

The analysis in this paper follows from the investments-in-children framework in that it examines the parental expenditure choices as a function of income, individual-level characteristics of the parent, as well as parental choices about work and program participation. The purchases the parent makes will then determine the family-based environment in which the child is raised, and contribute to the choice set the child has available when investing in himself.

Research Questions

This paper seeks to answer several important questions that will serve to extend the literature base on single father families. First, what is the relationship between a family's expenditure on a consumption category and income? By estimating Engel Curves, I am able to look at how budget shares change as per-capita expenditure changes. This analysis allows us to

look at whether certain categories are necessities or luxuries, and whether there are different effects depending on family structure.

Second, how do single fathers differ from married fathers? Married families are often used as the benchmark upon which other families are compared. The comparison in this context is quite useful. I examine specifically how single fathers differ from married fathers in terms of purchasing decisions within the household. DeLeire and Levy (2001) find that single mothers or single fathers are most averse to fatal risk in occupation choice, compared to other childless adults, married adults, or married adults with children. The presumption is that they have the most to lose (pp. 16). The same effect is not found for married fathers. Since single fathers are risk averse in occupational choice, they may place high value on their role as family provider, and it could be hypothesized that they make different expenditure choices compared to married father counterparts.

Finally, how do single fathers differ from single mothers? Using expenditure data the differences in the ways in which income is spent within households is parsed out and it is determined if higher proportions of expenditures are on child-specific goods, or on goods that are beneficial to children. By controlling for income, and other differences between single mothers and single fathers, I am able to test if there are differences in expenditure based on family structure. These differences could relate to differences in other resources such as Downey's (1994) interpersonal resources. One might expect to see differences in expenditure decisions between fathers and mothers because of results of empirical tests of income pooling suggesting that income controlled by husbands and wives have different effects on expenditures and child health outcomes. For example, increases in wife's income relative to her husband's is associated with greater expenditure on household food, child care, and children's and women's clothing,

and reduced expenditure on transportation stock (Phipps & Burton, 1998). Furthermore, improvements in child's health and nutrition are associated with mother's control over family resources (Thomas, 1990, 1994).

These questions add to the existing literature in an important way. Prior research on father-headed families has relied on samples of convenience and not representative samples of fathers. This is problematic in generalizing findings, and in assessing the differences between fathers who respond and fathers who do not (Greif, 1995). Use of the Consumer Expenditure Survey (CEX) allows me to focus on a representative sample of families, as well as have a large enough sample of fathers to analyze. Though I cannot look longitudinally as Greif (1995) suggests, by looking at the CEX this analysis is not solely examining fathers who are proud of being a single parent, or fathers who choose to respond to newspaper ads or some other sample selection.

In addition to not focusing on samples of convenience, this study also looks at father investment in children, by examining actual purchasing decisions single fathers make. The benefit of this approach is that it considers the investment choices of single fathers, given the constraints faced in terms of economic and person-level resources. The choices a single father makes represent his tastes and preferences for different goods. These tastes and preferences, in turn, represent different parenting styles. Research has shown that single-parent families invest differently than married-parent families because of disparities in economic and parental resources (McLanahan & Sandefur, 1994; Thomson, Hanson, & McLanahan, 1994). Because this paper controls for available economic resources, expenditure decisions may represent a different and unique way to measure parental resources.

Finally, this paper adds to the economic literature by offering estimations of the relationship between the family's expenditure on commodities and income. Further, elasticities are estimated to examine luxuries and necessities, and whether there are differences across family structure.

Method

Data

Data come from the National Bureau of Economic Research (NBER) Family Extracts of the Consumer Expenditure Survey (CEX), 1980 to 1998. Each household in the CEX reports up to 12 months of consumption data, which includes expenditures on food and other non-durable household necessities; the survey also collects demographic, income, and wealth data. Additionally, each household in the sample for a given year is interviewed four times and each quarter a new sample of households is introduced. The CEX Interview Survey provides the best available consumption data on a large representative set of U.S. households. The NBER extracts aggregate these year-long surveys to the family level. The purpose of the "family-level" data files is to condense the original data into an organization that is consistent over time. The detailed spending, income, and wealth items from the original CEX are aggregated into 109 income, expenditure, and wealth categories available in the family-level extracts. While losing some of the detailed description of income and expenditure, these 109 categories are consistent over the entire time frame, making it possible to examine consumption and income over time.

Sample

The sample used for the analyses is restricted to adult heads of household. Adult heads of household refer to the reference person[1] in the family file who is at least 18 years of age. The

[1] The reference person is the first member mentioned by the respondent when asked to "Start with the name of the person or one of the persons who owns or rents the home." (www.bls.gov/cex/csxfaqs.htm)

analysis is further limited to only include adult heads of household who live in the same household with biological or adopted children. While this means that parents who have children that reside in other households are not included in the analysis, the group of interest is households where children reside with at least one parent.

The sample is divided by family structure based on both the marital status of the head of household and the reported head's gender. Marital status includes never married, married, divorced, separated, and widowed. Separated and widowed heads of household are excluded from all comparison analyses. Definitions of what separation refers to will vary by person, that is whether they are legally separated and filed for divorce or the spouse is living outside of the household. Additionally, the separation process has many outcomes such as continuing to be married or to eventually divorce. There is no way to determine the ultimate family structure decision in this dynamic process, so there is no reason to believe these families should be considered divorced or married. Furthermore, widowed heads are not considered single by choice, and there may be many unobservable characteristics associated with this type of family structure. Finally, family structure is broken up by the gender of the self-reported head of household, which allows for six different family types. The reported head of household gender may matter in terms of spending decisions. This analysis looks strictly at married father heads of household, as well as all divorced and never married heads (both male- and female-headed). Male and female-headed single parent households include only those who are not cohabiting.[2] Bumpass and Raley (1995) suggest that the increase in the number of father-only families reported in the literature is overestimated, because of the incidence of cohabitation among these parents. Rates and frequency of cohabitation have been on the rise (Bumpass &

[2] Cohabitation is not obvious within the CEX. For the purposes of this analysis, those household members who were unrelated to the reference person, were an adult, and were a member of the opposite sex were classified as potential partners.

Sweet, 1989), and prior research finds that single-fathers are likely to be living in this type of relationship (McLanahan & Casper, 1995). If cohabitation among this population is not taken into account, two-parent families may be mistakenly classified as single-parent families (Bianchi, 1995).

The sample is further restricted to households that report all four quarters of data. There are several reasons for this decision. First, because the data in the NBER extracts are aggregated, I am unable to determine quarterly expenditure patterns as is available in the raw CEX data. Further, in order to fully assess income and expenditure information the samples compared need to be analyzed over the same time frame. Additionally, certain purchases might be seasonal, such as grills purchased in the summer or home furnishings purchased at special sale times of year. As a result, the goal of these analyses is to develop as complete a picture as possible of expenditures over a complete year. An important limitation when eliminating part-year data is that we lose the most transient of the households, in many cases those households are headed by a single-father who we are in fact most interested in.

Dependent Variables

The outcomes of interest in these analyses are both the levels and shares of non-medical household expenditures[3] on various categories of goods. Both levels and shares are examined to exploit the benefits of both approaches. The benefit of using levels as dependent variables is that differences between families are translated into specific dollar amounts which are more easily converted into actual purchasing decisions. The benefit of using shares as dependent variables is

[3] Non-medical expenditures are measured as a combination of household spending on the following: food consumed at home, food consumed away from home, tobacco, alcohol at home and away from home, clothing, tailors, jewelry, toiletries, health and beauty, rent/mortgage of home and other homes, furnishings, household supplies, electricity, gas, water, home fuel, telephone, home servants and services, business services, life insurance, cars and car parts, car services, gasoline, tolls, auto insurance, mass transit, other transportation, airfare, books, publications, recreation and sports equipment, other recreation, higher education, lower education, other education, and charity.

that shares take into account that total expenditures are different depending on family structure. Levels are measured as actual amount of expenditure on a particular category, all in 1999 dollars. Shares are measured as a particular category's proportion of total non-medical expenditures. The expenditure categories are consistent with those used in previous research (see Bhattacharya, DeLeire, Haider, & Currie, 2003; DeLeire & Kalil, 2002; Levy & DeLeire, 2003; Ziol-Guest, DeLeire, & Kalil, 2003).

The first class of consumption is ingestibles. Food consumption will be measured with two categories, first food for consumption at home and second food for consumption away from home. Food at home includes food and beverages purchased and prepared by the consumer unit on trips, and food and non-alcoholic beverages purchased at grocery, convenience, or specialty stores. Food away from home includes purchases at restaurants, cafes, fast food restaurants, as well as expenditures for board, catering, and school meals. A distinction is made between food consumed at home and food consumed away from home because of the lack of knowledge regarding nutrition information and portion size a consumer has about foods that he or she consumes away from home. The choice between food cooked at home and food away from home also suggests different investments in nutrition and time. It takes more time to cook a meal at home than order food away home, and single parents may opt for food away as a result of being the only adult in the household (reflecting time constraints). The final ingestible category is alcohol and tobacco products that include alcohol purchased and consumed be it at home or away from home, as well as all tobacco products. Alcohol and tobacco products are adult-specific goods, and do not measure investments in children.

Housing costs are measured by several categories. First, housing (dwelling) is the amount spent on rent or mortgage of primary residence. Second, utilities include expenditures

on electricity, gas, water, home fuel, and telephone. Third, expenditures on home furnishings including furniture and durable household equipment as well as non-durable household supplies and equipment are measured. Finally, domestic services include household operations, homeowners and renters insurance, housekeeping, pest control, repairs, babysitting, and other home services.

Personal care expenses are also measured with several categories. First, clothing expenses are included which are comprised of clothing for adults and children (adult and children clothing purchases cannot be separated in the Family Level Extracts). Clothing expenses also include tailoring and dry cleaning, as well as jewelry purchases. Second, toiletries consist of toilet articles and preparations, as well as health and beauty expenditures. Health and beauty expenditures encompass personal services including haircuts, personal care appliances, and health club memberships. Finally, transportation expenditures are included in the analyses. Transportation consists of new and used vehicle purchases, car parts, care services, gasoline, tools, automobile insurance, and all mass transit purchases.

Other goods included are business and life insurance expenditures. Examples of items included in this category are purchases of occupational expenses such as union dues or uniforms, charges for personal bank accounts, and handling of life insurance policies. Charitable contributions include various religious and political contributions. Other education expenses are not child-specific such as tuition for other schools and contributions to educational organizations.

Child-specific goods included in the analyses focus more on the educational environment in which the child is being raised. These goods include expenditures on books encompassing book clubs and school supplies, publications and toys including magazines and newspapers as well as toys (all are aggregated in the Family Level Extracts), total recreation expenses including

sports equipment and cultural events, and children's education which are the fees and costs associated with nursery, elementary and secondary education.

Independent Variables

Several demographic control variables are used in all of the analyses presented below. First, all analyses control for the age of the head of household. Age is measured as a continuous variable. All analyses control for the reported race of the head of household. Race is coded where White = 1 and Non-White = 0. The educational attainment of the head of household is captured with four mutually exclusive dichotomous variables. These variables represent those who did not graduate from high school, high school graduates, those with some college, and college graduates.

Several measures of household composition are included as controls in all of the analyses presented. First, the number of other adults residing in the household is included.[4] This measure is a continuous measure capturing the economies of scale of household consumption. These other adults can include, where applicable, spouses, adult biological and adopted children, aunts, uncles, grandparents, other relatives, and non-related adults. Second, the number of *other* children living in the household is included. This is also a continuous measure. These other children refer to brothers or sisters of the head of household, nieces or nephews, or other unrelated children. Finally, the number of own children (biological or adopted relationship with the head) living in the household is included in analyses. Number of own children is captured with eight continuous variables that take the age and gender of the child into account. Children in various age groups and of different genders are likely to consume goods differently, or parents are likely to make different purchasing decisions based on the composition of children in the

[4] Analysis below was also computed on families were no other adults resided, and similar findings were indicated (Data not shown).

household. The continuous measures describe the number of boys and girls between 0 and 5 years of age, between 5 and 10 years of age, between 10 and 15 years of age, and between 15 and 17 years of age. These age groups were designed, broadly, to capture different developmental stages.

The economic resources of the household are also controlled for in the analyses. Economic resources are measured in several different ways in this paper. First, income is measured as the natural log of annual after tax income[5] in 1999 dollars. Economic resources are also measured with three other dichotomous variables based on the employment status of the head of household (1=employed at least part time in the survey year), whether the family receives public assistance (1=head reported household received some cash assistance in the survey year), and whether the family receives food stamps (1=head reported household received food stamps in the survey year).

Finally, the analyses control for the year in the panel the household began by including year dummy variables for the year in which the family entered the CEX. These variables control for any time trends associated with different purchasing decisions.

The variables that the analyses will focus on most are those representing the family structure. As noted above, the analyses will look at the impact of family structure on the level and share of expenditures spent on various categories controlling for all possible observables.

[5] Before tax income was measured as an addition of unemployment compensation, worker's compensation and veteran's benefits, public assistance including money received from job such as Job Corps, interest received, dividends received, government or private pensions, scholarships and foster children, food stamps, wages and salaries, social security, SSI, and contributions from child support or alimony. Business, farm and rental proprietor accounting profits are not included in this measure of before tax income. Taxes are measured with the addition of federal income taxes, state and local income taxes, personal property taxes, and other taxes. The after tax measure is the difference between before tax income and aggregate taxes.

Engel Curve Estimation

Engel curves are an efficient way to express how patterns of consumption change as wealth or resources increase. This analysis will use the formulation suggested by Deaton and Case (1988) for comparative studies

$$s_j = \alpha_j + \beta_j \ln(PCE) + u_j$$

where s_j is the share of total expenditures spent on category j, $ln(PCE)$ is the log of the household per capita total expenditures, and u_j is the disturbance term. This prescription satisfies the condition for an allocation model in that if it is applied to all of the goods in the budget, the predicted budget shares total to one. This occurs when

$$\sum \alpha_j = 1 \qquad \text{and} \qquad \sum \beta_j = 0$$

When $\beta_j > 0$ expenditure shares are increasing with per capita expenditure, and when $\beta_j < 0$ expenditure shares are decreasing with per capita expenditure. If β_j does not differ from zero, it is independent of per capita expenditures. This formulation allows for the identification of luxuries and necessities. Therefore, the β are transformed into total expenditure elasticities by using the formula

$$e_j = 1 + \frac{\beta_j}{s_j}$$

where e_j is the expenditure elasticity on category j. Finally coefficients are estimated controlling for demographic characteristics such that

$$s_j = \alpha_j + \beta_j \ln(PCE) + \theta X + u_j$$

where X is the vector of controls. These estimations will be run separately for single fathers, single mothers, and married fathers. Engel curve estimation is useful to summarize the explain consumption patterns as economic resources increase.

Regression Analysis

Differences in expenditure decisions between family structures are determined using both level and share regressions. The multivariate regression analyses presented below will illustrate if the family structures differ in how they allocate resources, whether they spend similar proportions of total expenditure on the same items and whether they spend similar levels of expenditure on the same items.

Aggregated levels of expenditure. The aggregated categories are examined in terms of the raw level of expenditure in 1999 dollars. These measures are computed by taking the raw dollar level the household spent on each of the categories above.

$$l_j = X'\beta_{1j} + \lambda_{1j} MarriedFather + u_{1j}$$

$$l_j = X'\beta_{2j} + \lambda_{2j} SingleMother + u_{2j}$$

where l_j is the level of expenditure for category j, X is a set of demographic characteristics, and *MarriedFather* and *SingleMother* are indicator variables (therefore single father is the omitted group in both regressions).

Aggregated Shares of Expenditure. All share measures are computed by taking the total amount spent on that good's category and dividing it by the total non-medical expenditures made by the family.

$$s_j = X'\alpha_{1j} + \phi_{1j} MarriedFather + u_{1j}$$

$$s_j = X'\alpha_{2j} + \phi_{2j} SingleMother + u_{2j}$$

where s_j is the expenditure share for category j, X is s set of demographic characteristics, and *MarriedFather* and *SingleMother* are indicator variables (therefore single father is the omitted group in both regressions).

Results

From 1980 to 1998 there are 116,087 adult heads of household, of which 39,364 represent households with biological or adopted children. These families are further broken down to 2,732 never married household heads (2,383 female-headed), 29,999 married household heads (4,413 female-headed), and 4,140 divorced household heads (3,451 female-headed), 1,903 separated household heads (1,673 female headed), and 590 widowed household heads (503 female-headed). The samples change once full-year and full income respondent status is accounted for. Once complete response is taken into account there are 1,142 (58.2% decrease) never married heads, 18,687 married heads (37.7% decrease), and 2,111 divorced heads (49.0% decrease). The largest sample decreases were in the single parent family structures. This analysis uses a sample where respondents reported complete income information, and were included in the full year sample. Analysis is further restricted to those who did not report negative expenditures in any category within the total household bundle. The final sample consists of 315 single fathers, 2,444 single mothers, and 15,883 married fathers.[6]

Figure 1 illustrates the changes in composition among families with children over the study time period. The chart reveals the proportion of families with children less than 18 years of age in each year of the CEX from 1980 thru 1998 that are headed by single fathers[7] (never married and divorced). As the chart suggests this proportion goes from a low of 1.6% in 1980 to 4.7% in 1997. The CEX captures more single fathers over time as they have become a more prevalent family structure.

[6] There are 492 single fathers and 2,727 single mothers before removing those potentially living with a domestic partner.

[7] The proportions represent all of the families in the dataset before eliminating families who do not complete 4 quarters of the survey.

Single Father Characteristics

Table 1 presents the weighted descriptive statistics for the single fathers in the study. Fathers are on average 39 years of age, with those who are never married younger than their divorced counterparts (data not shown). Most of the sample are White, and have achieved a high school education if not more. The average income of the fathers is about $39,000 with divorced fathers earning more than never married fathers (data not shown). A majority of the fathers are employed, and household public assistance and food stamp receipt is rare, though more common among the never married than the divorced (data not shown).

Single Mother Characteristics

Table 1 also presents the weighted descriptive statistics for the single mother heads of household in the sample. Single mothers on average are 34 years of age, with never married mothers younger than the divorced (data not shown). A majority of the sample has earned at least a high school diploma, and is White. On the basis of these characteristics the single mothers look a lot like the single fathers, though single mothers are much less likely to be White. However, economically the single mothers are much more disadvantaged than single fathers, earning only around $19,000 and having a greater reliance on public cash assistance and food stamp receipt, and less likely to report working in the survey year.

Married Head Characteristics

Table 1 presents the weighted descriptive statistics for the married heads of household. While single fathers appear much more economically sound than single mothers, both groups are disadvantaged compared to the married households. Married fathers are much more likely to be employed compared to single mothers, and married fathers' income is much greater than single

fathers and single mothers. There is very little public assistance receipt within the married households.

The descriptive statistics support prior research that suggests single fathers, while not as well off as married fathers, are better off economically compared to single mothers.

Engel Curve Estimation

Table 2 presents the mean expenditure share, standard deviation, and proportion of the sample reporting a non-zero share for each consumption category in each family structure, as well as for all of the families combined. The average annual per capita expenditure and average per capita income for each family type is also reported. The largest share of total expenditure in each family structure is the share spent on housing (rent and mortgage). The second highest share for both single and married fathers is transportation, while food consumed at home is the second largest for single mothers. Everyone in the sample spent some share of their total non-medical expenditure on food consumed at home, while most families did not make other educational purchases.

Table 3 illustrates the expenditure share for each per-capita expenditure decile within each family structure. Each family structure was separately analyzed to form per-capita expenditure deciles, and each average share within the decile is reported. While Engel curves will be estimated, analysis of budget shares by expenditure deciles illustrates the main patterns. The share of total non medical expenditure on food consumed at home decreases as per capita income increases, with the share falling from 25 percent in the lowest decile for single fathers to 7 percent in the highest decile. Married fathers share a similar pattern to single fathers, while single mothers spend 38 percent of their total expenditure on food consumed at home in the lowest decile falling to 9 percent in the highest expenditure decile. The share of food consumed

away from home appears to moderately increase as per capita expenditures increase in all three family types. Similarly, the share of expenditures on utilities also decreases as per capita expenditure increases. Housing, clothing, and furnishings remain a relatively constant share across deciles in all family types. Transportation and recreation budget shares appear to increase as per capita expenditure increases in all families.

Table 4 presents the estimated coefficients as well as the expenditure elasticities (evaluated at the sub-sample mean) for each of the family structures. This estimation was done on all of the observations including those reporting zero shares. Further, this estimation does not control for any household or person-level characteristics. Table 4 suggests similar patterns to those in Table 3. As noted in Table 3 food consumed at home is a necessity as its share of the budget drops as per capita expenditures increase, while food consumed away from home is a luxury. Children's education is a luxury for all family structures, but appears much more luxurious for single mothers. However, these analyses do not control for the individual and household level characteristics.

Table 5 presents the estimation for the coefficients as well as expenditure elasticities, controlling for all independent variables. The results suggest that, at least for married fathers, nearly none of the budget shares are constant as per-capita expenditure changes. Further, once controlling for all individual and household level variables available, the patterns on some expenditure categories shift. Food consumed at home, as well as alcohol and tobacco products are necessities in all three family types. Children's education expenses, while a luxury good in all families, have a much higher elasticity in single father families than single mother and married father families. The decile analysis and expenditure elasticities illustrated in Tables 3, 4,

and 5 suggest differences in the role of various consumption bundles in each of the family structures.

Single Fathers Versus Married Fathers

Do single fathers differ in their family consumption bundles compared to married fathers? Table 6 illustrates differences in level expenditures. At the univariate level, single fathers statistically differ from married fathers on all but three expenditure categories. In those categories that differ, married fathers spend more, except for alcohol and tobacco products where single fathers spend more.

When looking solely at the univariate comparisons it appears as though married fathers are spending almost $12,000 more annually on non-medical goods and services than single fathers. However, controlling for all of the independent variables, this difference is about $4400 annually. Married heads spend about $760 more annually on food consumed at home than single fathers. By comparison, single fathers less on "educational resources" for children, namely publications and toys ($75 less), as well as children's education expenses ($185 less).

Table 7 presents findings from share regressions suggesting that single fathers differ quite a bit from married fathers in the manner in which they allocate their household budget. At the univariate comparison, single fathers spend a greater share of their budget on food (both at home and away) and alcohol and tobacco products. Further, single fathers allocated a smaller share toward children's educational expenses. Once controls are included in the analysis, results suggest that married fathers spend a smaller share on food away from home than single fathers do. Married fathers in the sample also spend a smaller share of their total budget on alcohol and tobacco products than single fathers. Further, married heads spent 38 percent more on children's education.

Single Fathers Versus Single Mothers

Do single father headed families differ in terms of expenditures compared to single mother headed families? Table 8 presents the mean comparisons and results from the level regressions. At the univariate level, single fathers spend more annually on non-medical expenses than single mothers. Many of the consumption categories reflect this difference as well. Results from the regression analysis suggest that single mothers are spending $459 less on food away from home and $382 less on alcohol and tobacco products than single fathers, while also spending $332 more on children's education expenses.

Table 9 presents the results from the regression analyses, the unadjusted shares, and the adjusted shares. Results suggest that there are great differences between the manner in which single mothers and single fathers spend money, and the share results are similar to differences in levels. Single mothers spend 19% and 41% less on food away from home and alcohol and tobacco products, respectively, as well as 163% greater share on children's education.

Discussion

Currently little is known about the other single parent, namely single fathers who take on sole responsibility for their children. What is known is demographic in nature, and much of the parenting work has used small convenience samples. This analysis extends the research to look at how single fathers are investing in children compared to single mothers and married fathers. This question is important because it begins to look at another aspect of how single fathers parent differently, and how those purchasing decisions mirror parenting styles and preferences.

Descriptive statistics indicate economic and demographic differences between household heads, depending on family structure, as have been laid out in prior research. Single father families, while better off economically compared to single mother families, are worse off

compared to married fathers (Bianchi, 1995; Meyer & Garasky, 1993). The median income of single fathers is more than twice that of single mothers, but two-thirds that of married fathers. Single fathers are also more likely to be receiving public assistance compared to married fathers, but have less receipt than single mothers. Further, single fathers are on average older than single mothers, and coreside with fewer children.

Findings from the Engel curve estimation suggest there are differences in spending between single fathers and the other two family structures of interest. Specifically, Engel curve estimation allows one to convert the parameters into total expenditure elasticities. When expenditures increase the demand for a good could increase more or less rapidly than expenditures increase. When the demand for a good increases by a greater proportion than the expenditure the good is classified as a luxury good (when the elasticity is greater than one), and when demand increases by a smaller proportion than expenditure it is a necessary good (when the elasticity is less than one). It is useful to compare the elasticities across family structure to determine what happens to demand when expenditures increase in the three households, and if different categories are viewed the same in all family types.

When controlling for all available independent variables, single fathers differ from single mothers on several dimensions. Transportation and children's education are luxury goods in both households, however the elasticity of demand for transportation is larger in the single mother household and the elasticity for children's education is larger in the single father household. There are also differences between single fathers and married fathers. The goods and services that are luxuries in both households, are more luxurious in the single father household. For example, furnishings and nondurable supplies has a greater elasticity of demand in the single father household than in the married father household. While publications and toys

are necessities in both households, the elasticity of demand is lower in single father households than in married father households.

Domestic services is constant as per capita expenditure changes for single fathers but is a luxury good for single mothers and married fathers. Perhaps part of this difference is due to the inclusion of child care services in this aggregate category. Children growing up with a single parent may experience less parental attention, supervision, and monitoring as two-parent families are better able to monitor the other parent's investment and to pick up slack when required. In contrast, single-parent families potentially underinvest in child supervision given less parental resources. Single fathers may be purchasing home babysitting care for their children to make up for this. Single fathers are more likely to be participating in the labor force compared to single mothers, which may also account for the disparity in domestic service purchasing.

Spending on books also differs between the three family structures. The share of expenditure spent on books is constant as single father per capita expenditure increases, but is not constant for single mothers or single fathers. Spending on books increases at a greater proportion for single mothers as per capita expenditure increases, but at a smaller proportion as married father per capita expenditure increases. This finding supports, to some extent, the availability of interpersonal resources in a single father home compared with that available in a single mother home (Downey, 1994).

Finally, the share of the budget spent on food consumed away from home is constant as per capita expenditure increases in all family structures. Food consumed away from home represents a greater share of a family's food budget than ever before, and may have become a more central part of a family's budget.

The findings from both the univariate analyses as well as the regression analyses cannot reject the hypothesis that single father families differ in their consumption compared to other household structures. Moreover, some of these consumption differences could potentially be harmful to child well-being. First, single fathers consistently spend more on alcohol and tobacco products than the other family structures. Single fathers in general are spending over 30 percent more than married heads and single mothers are spending. In terms of levels single fathers are spending over $450 more than single mothers on alcohol and tobacco products. These level differences in terms of actual potential alcohol consumption amounts to a difference of $9 per week over the course of a year, and equals over one-half of a standard deviation for the sample (data not shown). These consumption differences can be detrimental to child health in several distinct ways. First, this difference could be indicative of higher alcohol and tobacco use around children, and potential abuse. This is further problematic because single fathers may be substituting alcohol and tobacco for other goods that may be better for children. Single fathers are "investing" their expenditure decisions in an adult good, and may be trading off investment in child specific goods as a result. DeLeire and Kalil (2002) illustrate similar findings in cohabiting couples with children. They find, using the CEX raw data, that cohabiting couples spend a greater share of their income on alcohol and tobacco compared to married couples, and that they are spending less on education and health care. Additionally, if adult goods are being consumed outside the home, perhaps single fathers are spending less time caretaking and monitoring their children. This purchasing decision may mirror the interpersonal resource differences Downey (1994) finds, where single fathers engage in less talk about the child's day because they are not at home with them. It also suggests a potential reason Downey, Ainsworth-

Darnell, & Dufur (1998) find that children from single father homes are less well behaved contradicting the notion that fathers are disciplinarians, that single fathers are not home as much.

Another consistent finding suggests that single fathers are making very different food purchases than heads of other families. Single fathers in general are spending a greater share of their total non medical expenditures on food consumed away from home compared to both single mothers and married fathers (DeLeire, Ziol-Guest, & Kalil, 2003). First, it is unclear from the data who actually consumes the goods purchased, so fathers may be consuming more food away from home while at work (as they are more likely to work than single mothers). Second, single fathers may have access to both less time and information concerning the quality of food away from home. Since fathers are working more (less time available to cook), and perhaps not familiar with cooking, they may rely more on food away from home. This finding is troubling for two reasons. First, like the purchases of adult goods, the father may be spending greater shares of total expenditures on eating out for himself. Again, he is making tradeoffs in his purchasing decisions opting for meals outside the home instead of child specific goods. Second, single fathers may be choosing to purchase food away from home as meals for the entire family. Large purchases of food away from home are problematic because portion sizes served in restaurants often exceed recommendations by the USDA (Nielsen & Popkin, 2003), and these greater portions are associated with increases in obesity (Young & Nestle, 2002). Food prepared in restaurants also has higher fat density and lower fiber and calcium density than foods prepared at home (Lin, Guthrie, & Blaylock, 1996).

A further striking difference is that single fathers are spending significantly less on children's education expenses, both in terms of shares of total expenditures and raw levels of expenditure. All of the families in the sample reside with their own children under 18, so

families should be making purchases related to children's education that include expenditures on nursery, elementary, and secondary education. However, single fathers are not choosing to invest as much money on education as other family structures (see also DeLeire & Kalil, 2002 for similar findings on cohabitation). There could be many reasons for these choices. Single fathers might be more likely to send their children to public schools that may be less costly. Single fathers may also be less likely to send their children to day care or nursery schools, and rather purchase babysitting care in the home (Parke, 1996), which serves as pre-school care. If the expenditures on education are correlated with better educational resources, children residing with single fathers may be receiving less quality of education compared to other family types. Prior research finds strong connections between the quality of a child's learning environment and subsequent test scores and educational experiences (Bradley & Corwyn, Forthcoming).

In addition to lower education expenses, single fathers spend a smaller level of expenditure on publications and toys compared to married fathers, though single fathers do not differ from single mothers. The quality of the cognitive and emotional stimulation a child receives in the home is correlated with school readiness and cognitive outcomes. The presence of educationally related items in the home has a positive impact on years of education attained by the child (Teachman, 1987). Single fathers are spending less than married fathers on items that may be beneficial to child cognitive development. Further, single father spending on publications in the home and children's education expenses may be measuring his preferences for his children's educational attainment. Given the differences in the prior literature on educational outcomes for children in single father families (Downey, Ainsworth-Darnell, & Dufur, 1998), these purchasing decisions might be quite important for future child well-being.

Finally, single fathers spend a greater level and share of total non medical expenditures on recreation and sports activities with their children than single mothers. The single fathers in this sample are spending more of their total budget on outings, extracurricular activities, and sports equipment for their children compared to single mothers. This difference may be consistent with research findings where single mothers spend more time engaging in "mothering" activities such as talking and interacting with their children, and single fathers spend more time in leisure and play activities (Cooksey & Fondell, 1996; Fassinger, 1993; Hall, Walker, & Acock 1995; Lamb, 1986).

Overall the results suggest that single fathers are investing in children differently compared to married fathers and single mothers. This investment might be indicative of parenting style, which includes both time and information available to the parent. These results put forward that single fathers have different preferences for goods and services compared to married fathers and single mothers. These preferences may motivate different types of parents to parent differently.

Limitations

It is important to note several limitations of this study, and the sample in particular. First, while the CEX is the best nationally representative source for consumption, expenditure, and income information; limiting the observations to only those families reporting a full-year of data, results in a larger loss for those cases the study is most interested in. While not only decreasing the sample size for analysis, this loss also may eliminate those fathers who are the poorest and most transient. This would suggest that the fathers in the analysis are the most stable and therefore results are biased in favor of "better" fathers. Use of the quarterly interviews will improve the analysis.

The second limitation of the study is the definition of marriage used. Unfortunately, this is a data drawback. The only marital status information available in the CEX is whether the reference person is married, never married, divorced, separated, or widowed. There is no way in the data to verify that the reference person's spouse is the other parent of the children in the household. Therefore, there is no possible way to guarantee that these married persons are original married parents, and not step-parents. Prior literature suggests there are differences between step-families and two-parent biological families. As a result, a fraction of the married families in this study may be step-families. If some of the married families are in fact step-families, and as prior literature suggests step-families differ from original two-parent families, perhaps the married effect is a lower bound and the single father effects are actually bigger. I attempt to eliminate some of this potential bias by looking only at father-headed married families. The married families where the female claims to be the head of the household are quite different demographically than the father-headed married families (data not shown). Specifically, married mother heads are more disadvantaged in the economic resource variables, and spending patterns also statistically differ. In this context I am certain that the fathers in both married and single structures are the biological parent of the children because I eliminated any step-families with a step-father (who may invest differently than biological fathers).

A final limitation is the use of the family-level extracts instead of the quarterly interviews in terms of the expenditure, income, and wealth aggregation. While consistent over time, the family-level extracts have condensed many of the expenditure categories where users may want more detailed expenditure patterns. For example, publications and toys have been aggregated, where when looking at child-specific goods one might be more interested in toy purchases, or clothing purchases aimed specifically at children. Further, given the findings on single fathers'

purchases of children's education, the fact that home babysitting services is aggregated with domestic services makes it difficult to ascertain his investment choices.

Conclusions

Single fathers are allocating their resources differently when compared to both married fathers and single mothers, suggesting that they have different parental resources represented by their tastes and preferences for various consumption bundles. Further, these differences illustrate divergent levels of importance placed on different investments in children. In particular single fathers may not be investing as much of their available resources in their children as are single mothers or married fathers. Despite these differences several questions remain. First, why are single fathers making different purchasing decisions? Second, are these investment choices responsible for differences in child well-being associated with family structure? If we know why single fathers are making the purchasing decisions and if purchases are responsible for differences in child well-being, we can inform policy as to ways in which this new and increasing "other" single parent can be educated.

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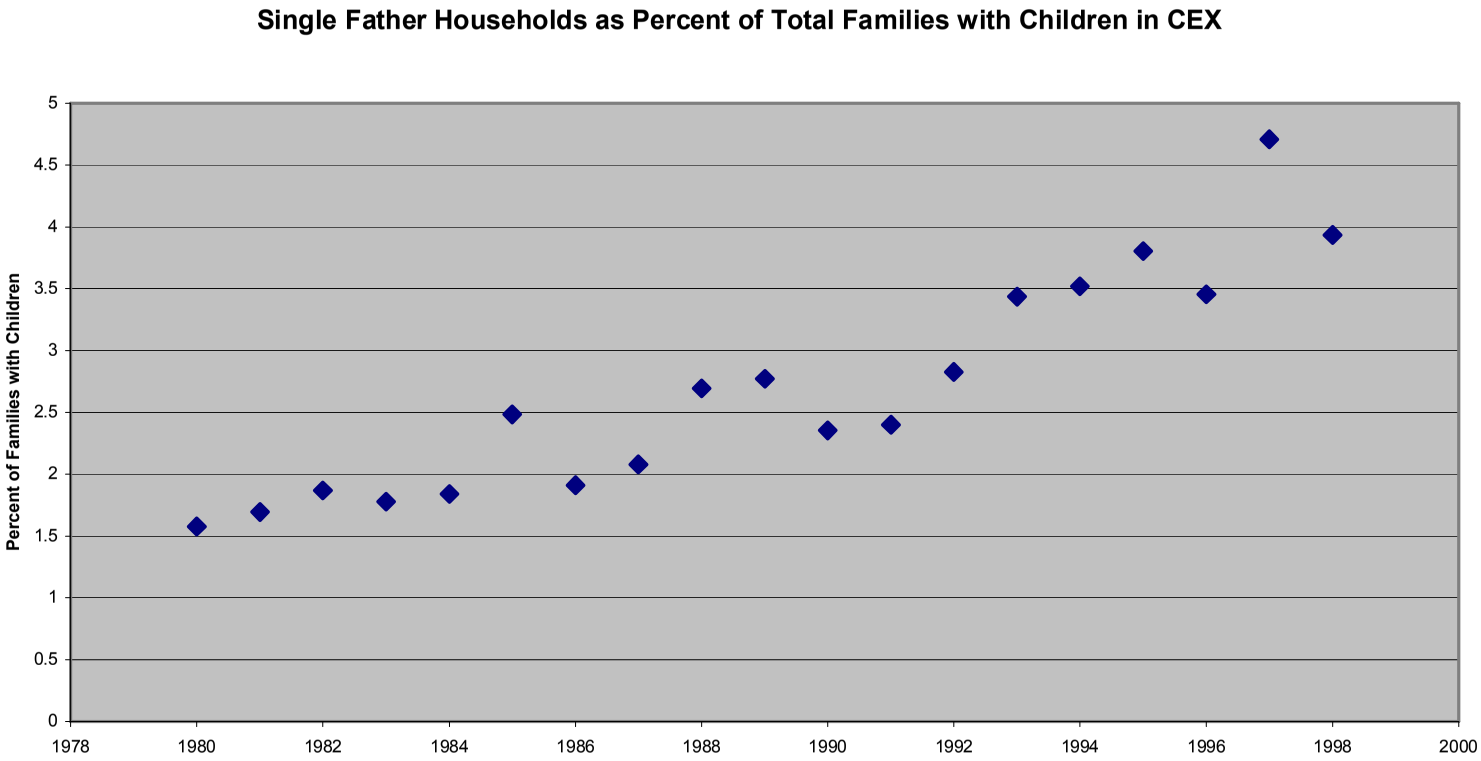
Single Father Households as Percent of Total Families with Children in CEX
Percent of Families with Children
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000

Table 1

Descriptive Statistics Based on Family Structure: Weighted

	Single Fathers	Single Mothers	Married Fathers
Demographics			
Age of HOH	39.72	34.06	37.96
	(9.40)	(8.32)	(8.70)
White HOH	0.86	0.60	0.89
	(.---)	(.---)	(.---)
Education			
No high school diploma	0.22	0.29	0.20
	(.---)	(.---)	(.---)
High school graduate	0.36	0.37	0.31
	(.---)	(.---)	(.---)
Some college	0.23	0.24	0.22
	(.---)	(.---)	(.---)
College graduate	0.19	0.11	0.27
	(.---)	(.---)	(.---)
Household characteristics			
Number of other adults in HH	0.42	0.31	1.31
	(.72)	(.67)	(.72)

Number of other children in HH	0.05	0.11	0.05
	(.22)	(.49)	(.33)
Number of own children in HH	1.46	1.84	1.94
	(.75)	(.99)	(1.00)
Economic Resources			
Income (1999 dollars)	39,034.27	18,890.62	51,133.95
	(30076)	(14936)	(30670)
Median Income (1999 dollars)	33,063.32	14,712.96	45,928.60
Head of household is employed	0.90	0.69	0.96
	(.---)	(.---)	(.---)
Head of household receives public assistance	0.07	0.37	0.03
	(.---)	(.---)	(.---)
Head of household receives food stamps	0.08	0.44	0.04
	(.---)	(.---)	(.---)
Number of observations	*315*	*2,444*	*15,883*

Note: Other adults includes spouse and own children >=18

Table 2

Mean Expenditure Shares, Standard Deviations, and Proportion of Sample with Non-Zero Report: Unweighted

	Single Fathers			Single Mothers			Married Fathers			All Families		
	Mean	SD	p	Mean	SD	p	Mean	SD	p	Mean	SD	p
Food consumed at home	14.7	7.8	1.000	21.1	11.8	1.000	14.8	7.5	1.000	15.6	8.4	1.000
Food consumed away	5.1	3.9	.978	3.3	2.8	.933	3.9	2.7	.986	3.9	2.7	.979
Alcohol and Tobacco Products	3.3	3.8	.876	2.1	2.8	.736	2.0	2.4	.866	2.0	2.5	.849
Housing (dwelling)	24.7	12.6	1.000	24.8	13.0	.996	23.6	12.8	.998	23.7	12.8	.997
Utilities	9.5	5.5	.997	12.0	7.1	.995	8.2	4.1	.999	8.7	4.8	.998
Furnishings & Nondurable Supplies	2.0	3.0	.825	2.3	3.4	.825	2.9	3.2	.943	2.8	3.2	.925
Domestic Services	1.7	2.8	.784	1.8	3.3	.703	1.8	2.4	.874	1.8	2.6	.850
Clothing & Jewelry	4.7	3.3	.991	7.0	4.5	.994	5.4	3.2	.998	5.6	3.5	.997
Tolietry/Health/Beauty	.8	.7	.886	1.1	1.3	.822	.9	.7	.926	.9	.8	.912
Transportation	20.6	14.3	.984	15.0	14.0	.957	23.6	14.1	.999	22.5	14.4	.993
Business & Life Products	3.1	4.0	.879	1.6	2.6	.712	2.6	3.0	.936	2.5	3.0	.906
Charitable Contributions	1.1	.2.3	.486	.7	1.9	.364	1.6	3.3	.624	1.5	3.2	.588
Other Education	.3	1.8	.337	.2	.1	.289	.2	.8	.391	.2	.8	.376

Total Recreation	5.6	5.2	.978	3.8	3.5	.937	4.9	4.1	.989	4.8	4.1	.982
Books	.3	.6	.679	.3	.6	.614	.3	.6	.784	.3	.6	.760
Publications and Toys	1.3	1.7	.921	1.2	1.2	.910	1.3	1.1	.983	1.3	1.1	.972
Children's Education	1.0	2.8	.229	1.3	3.7	.233	1.3	3.1	.348	1.3	3.2	.331
Average PCE	12,056.60	8,945.26	---	7,714.52	5,808.45	---	11,193.36	7,967.75	---	10,751.87	7,827.04	---
Average PCI	13,374.34	13,333.99	---	6,585.50	6,614.81	---	11,873.23	9,105.85	---	11,205.37	9,090.18	---

Table 3

Expenditure Shares by PCE Decile: Unweighted

	Food Consumed at Home			Food Consumed Away			Alcohol and Tobacco Products			Housing		
Decile	Single Fathers	Single Mothers	Married Fathers	Single Fathers	Single Mothers	Married Fathers	Single Fathers	Single Mothers	Married Fathers	Single Fathers	Single Mothers	Married Fathers
1	24.7	38.2	25.6	3.5	1.7	2.8	3.9	2.6	3.0	21.6	20.8	20.9
2	21.6	30.3	20.1	3.6	2.2	3.8	4.3	2.7	2.7	21.4	24.7	21.7
3	15.1	27.6	17.7	4.6	2.4	3.9	4.1	2.6	2.3	20.6	25.2	21.8
4	16.1	24.7	16.0	4.3	2.7	4.0	3.4	2.4	2.2	25.1	26.5	22.1
5	15.8	20.7	15.1	5.1	3.5	4.2	4.1	2.3	2.1	24.8	25.9	21.8
6	12.5	18.1	13.5	5.1	3.5	4.2	3.1	2.2	1.9	28.0	24.6	23.3
7	12.4	15.9	12.1	7.5	4.0	4.2	2.5	1.9	1.6	26.8	25.6	23.9
8	11.5	14.1	11.0	6.8	4.2	4.2	3.8	1.7	1.5	24.0	25.3	24.7
9	10.2	12.5	9.7	5.6	4.4	4.1	2.3	1.7	1.4	27.6	24.1	25.5
10	6.8	9.2	7.3	4.5	3.9	4.0	1.5	1.2	1.1	27.4	25.4	29.8

	Utilities			Furnishings & Nondurable			Domestic Services			Clothing & Jewelry		
	Single	Single	Married	Single	Single	Married	Single	Single	Married	Single	Single	Married

Decile	Fathers	Mothers	Fathers	Fathers	Mothers	Fathers	Fathers	Mothers	Fathers	Fathers	Mothers	Fathers
1	16.5	14.3	12.6	1.4	2.2	2.3	.6	.6	1.2	5.6	8.7	5.5
2	12.8	15.4	10.9	1.7	1.9	2.5	1.0	1.4	1.5	4.6	7.4	5.3
3	11.1	15.3	9.8	3.1	2.4	2.7	2.4	1.1	1.8	5.2	6.8	5.2
4	9.8	14.7	8.9	2.2	2.0	2.7	1.4	1.4	1.8	3.9	6.5	5.4
5	9.4	13.5	8.2	1.0	2.2	2.9	2.5	2.3	1.9	4.5	6.9	5.6
6	9.0	12.1	7.7	1.2	2.3	3.2	2.6	2.1	1.9	3.9	6.6	5.5
7	8.2	10.7	7.1	1.7	2.0	3.0	1.6	2.3	1.8	5.1	6.6	5.4
8	7.1	9.5	6.5	2.0	2.3	3.2	1.7	2.2	1.9	5.3	6.8	5.6
9	6.1	8.4	5.7	2.4	2.6	3.1	1.9	2.4	2.0	4.3	7.1	5.4
10	4.6	6.6	4.6	3.0	2.9	3.5	1.1	2.3	2.4	4.6	6.5	5.3

	Toiletry/Health/Beauty			Transportation			Business/Life			Charitable Contributions		
Decile	Single Fathers	Single Mothers	Married Fathers	Single Fathers	Single Mothers	Married Fathers	Single Fathers	Single Mothers	Married Fathers	Single Fathers	Single Mothers	Married Fathers
1	1.0	1.1	.9	13.7	4.6	17.1	2	1.2	1.9	.5	.2	.9
2	.7	1.1	.9	17.7	6.4	19.9	3.5	1.1	2.4	1.4	.3	1.3
3	.9	1.3	.9	22	8.9	21.9	3.6	1.2	2.7	.5	.4	1.6
4	.8	1.2	.9	22.1	11.0	22.8	2.8	1.3	2.8	1.3	.4	1.6

5	.8	1.3	.9	20.5	12.5	23.6	3.3	1.5	2.8	.5	.8	1.8
6	.8	1.1	.9	16.9	17.4	23.8	2.9	1.8	2.8	1.5	.8	1.7
7	.8	1.0	.9	18.5	18.4	26.0	2.9	2.2	2.7	.9	.7	2.0
8	.7	1.1	.8	20.2	20.0	26.2	3.7	2.1	2.6	1.2	1.1	1.8
9	.6	1.1	.8	23.6	22.9	28.2	3.2	2.0	2.5	1.4	1.0	1.6
10	.6	.9	.7	30.9	27.8	26.9	3.6	2.1	2.6	1.8	1.1	1.7

	Other Education			Total Recreation			Books & Maps			Publications & Toys		
Decile	Single Fathers	Single Mothers	Married Fathers	Single Fathers	Single Mothers	Married Fathers	Single Fathers	Single Mothers	Married Fathers	Single Fathers	Single Mothers	Married Fathers
1	.1	.1	.1	3.4	2.4	3.2	.2	.2	.3	1.2	1.1	1.2
2	.2	.1	.2	3.3	3.0	4.0	.2	.2	.3	1.0	1.2	1.4
3	.1	.1	.2	4.5	2.9	4.4	.2	.2	.4	1.4	1.2	1.4
4	.6	.1	.2	4.3	3.0	4.7	.2	.2	.4	1.0	1.2	1.4
5	.3	.2	.2	4.3	3.5	5.1	.3	.4	.3	1.5	1.3	1.4
6	.3	.2	.2	7.0	4.0	5.4	.6	.3	.4	1.3	1.2	1.5
7	1.1	.3	.2	5.6	4.1	5.3	.5	.4	.4	1.9	1.1	1.3
8	.2	.2	.2	8.8	4.8	5.6	.3	.4	.4	1.2	1.2	1.3

9	.1	.3	.3	7.7	4.9	5.5	.4	.4	.4	1.1	1.2	1.2
10	.4	.3	.3	6.7	5.3	6.0	.3	.5	.3	1.0	1.1	1.0

	Children's Education		
Decile	Single Fathers	Single Mothers	Married Fathers
1	.1	.1	.4
2	1.0	.6	.8
3	.6	.2	1.0
4	.5	.7	1.3
5	.6	1.2	1.5
6	2.1	1.4	1.6
7	1.3	2.0	1.6
8	.1	2.6	1.7
9	1.4	2.5	1.8
10	1.0	2.3	1.6

Table 4

B-Coefficients, Standard Errors, and Expenditure Elasticities: Unweighted

	Single Fathers			Single Mothers			Married Fathers			All Families		
	B	SE	e	B	SE	e	B	SE	e	B	SE	e
Utilities	-5.217	.390	.451	-4.091	.195	.659	-4.035	.046	.508	-4.338	.048	.501
Food consumed at home	-7.791	.547	.470	-12.578	.246	.404	-8.966	.075	.394	-9.846	.072	.369
Alcohol and Tobacco Products	-1.093	.333	.669	-.670	.084	.681	-.952	.032	.524	-.870	.029	.565
Tolietry/Health/Beauty	-.148	.061	.815	-.102	.040	.908	-.113	.010	.875	-.139	.010	.846
Clothing & Jewelry	-.308	.297	.934	-.607	.136	.913	-.063	.044	.988	-.362	.042	.935
Publications and Toys	-.027	.155	.979	-.032	.037	.974	-.116	.015	.911	-.076	.013	.941
Business & Life Products	.387	.356	1.125	.541	.076	1.338	.258	.041	1.099	.418	.036	1.167
Books	.093	.054	1.132	.152	.018	1.507	.040	.008	1.132	.059	.007	1.198
Housing (dwelling)	3.615	1.111	1.146	1.211	.391	1.049	4.463	.172	1.189	3.510	.152	1.148
Domestic Services	.287	.246	1.169	.782	.099	1.434	.484	.033	1.269	.503	.031	1.279
Food consumed away	.971	.348	1.190	1.177	.080	1.357	.498	.037	1.128	.682	.032	1.175
Furnishings & Nondurable Supplies	.531	.268	1.265	.308	.101	1.134	.588	.044	1.203	.586	.039	1.209
Transportation	5.223	1.244	1.254	10.442	.363	1.696	5.059	.189	1.214	6.766	.165	1.301

Other Education	.095	.162	1.315	.111	.023	1.556	.072	.011	1.361	.080	.010	1.398
Charitable Contributions	.400	.204	1.364	.430	.057	1.614	.373	.045	1.233	.483	.038	1.322
Total Recreation	2.355	.446	1.420	1.363	.102	1.359	1.330	.056	1.271	1.430	.048	1.298
Children's Education	.449	.249	1.449	1.235	.109	1.950	.680	.042	1.523	.721	.038	1.554

Note: Expenditure categories are in order of increasing elasticity for single fathers.

Table 5

B-Coefficients, Standard Errors, and Expenditure Elasticities: Unweighted Regressions control for various characteristics

	Single Fathers			Single Mothers			Married Fathers			All Families		
	B	SE	e	B	SE	e	B	SE	e	B	SE	e
Other Education	-.270	.221	.098	.048	.032	1.238	**.047**	**.013**	1.233	**.039**	**.012**	1.194
Utilities	**-5.553**	**.588**	.415	**-4.832**	**.324**	.597	**-4.793**	**.071**	.415	**-4.905**	**.073**	.436
Food consumed at home	**-7.037**	**.769**	.521	-10.630	.385	.496	**-8.982**	**.106**	.393	**-9.070**	**.102**	.419
Alcohol and Tobacco Products	**-1.377**	**.482**	.583	**-.520**	**.128**	.752	**-.920**	**.042**	.540	**-.836**	**.040**	.582
Publications and Toys	**-.453**	**.151**	.652	-.027	.052	.977	**-.242**	**.017**	.814	**-.203**	**.016**	.844
Tolietry/Health/Beauty	**-.228**	**.083**	.716	**-.143**	**.059**	.870	**-.225**	**.013**	.750	**-.224**	**.013**	.751
Domestic Services	-.353	.266	.792	**.367**	**.142**	1.204	**.379**	**.042**	1.210	**.323**	**.040**	1.179
Food consumed away	-.342	.470	.933	.063	.122	1.019	-.084	.046	.978	-.059	.043	.985
Business & Life Products	-.086	.647	.972	.060	.135	1.037	-.042	.061	.984	.022	.056	1.009
Clothing & Jewelry	-.029	.385	.994	-.072	.226	.990	**-.222**	**.059**	.959	**-.298**	**.057**	.947
Books	.002	.054	1.008	**.083**	**.026**	1.276	**-.044**	**.010**	.854	**-.033**	**.009**	.891
Charitable Contributions	.170	.302	1.154	.084	.104	1.120	-.015	.059	.991	.040	.052	1.027
Housing (dwelling)	**4.448**	**1.851**	1.180	1.124	.715	1.045	**4.837**	**.292**	1.205	**4.254**	**.268**	1.179

Total Recreation	1.392	.757	1.249	**.777**	**.187**	1.205	**.884**	**.093**	1.180	**.940**	**.083**	1.196
Transportation	**7.586**	**2.221**	1.368	**11.643**	**.713**	1.776	**8.038**	**.275**	1.341	**8.587**	**.255**	1.382
Children's Education	**.586**	**.272**	1.586	**.704**	**.144**	1.542	**.636**	**.048**	1.489	**.595**	**.045**	1.457
Furnishings & Nondurable Supplies	**1.446**	**.461**	1.723	**.905**	**.160**	1.393	**.555**	**.060**	1.191	**.633**	**.055**	1.226

Note: Expenditure categories are in order of increasing elasticity for single fathers. Bold coefficients are significant at $p < .05$.

Table 6

Differences in Levels--Single Father and Married Households

	Unadjusted Levels			Regression Coefficient		F	R^2
	Single Fathers	Married Fathers		Married Fathers			
Total Non-Medical Expenditures	31558.65	43305.50	a	4402.76	**	101.78	.25
Food consumed at home	3740.88	5418.12	a	764.67	***	86.60	.30
Food consumed away	1586.87	1710.22	a	-173.07		71.03	.23
Alcohol and tobacco products	837.91	742.12	a	-118.21		20.46	.07
Housing (dwelling)	8158.45	10687.32	a	727.35		41.44	.10
Utilities	2392.66	3035.35	a	266.05	**	51.71	.23
Furnishings & Nondurable Supplies	810.76	1341.01	a	281.58	*	19.02	.08
Domestic Services	562.92	828.92	a	54.23		30.38	.10
Clothing/Jewelry	1535.58	2339.90	a	308.48	**	52.21	.21
Toiletries and Health/Beauty	217.07	356.34	a	91.92	***	51.68	.19
Transportation	7074.37	11013.41	a	2096.73	***	40.84	.10
Business & Life products	1179.79	1134.87		-151.81		28.17	.06

Charitable Contributions	433.57	766.54	[a]	163.07		21.79	.08
Other Education	106.75	101.23		-27.05		12.86	.04
Total Recreation and Sports	2002.00	2283.28		10.67		50.04	.12
Books	126.55	156.88	[a]	-17.36		32.54	.12
Publications & Toys	371.05	541.18	[a]	75.26	**	57.58	.15
Children's Education	273.45	606.40	[a]	185.29	**	22.13	.07

Note: Regressions control for age, race, education, log real income, year dummies, number of other adults, number of other children, age-gender children categories, employment of head, public assistance receipt, and food stamps. Attrition adjusted weights used.

[a] statistically different from single fathers ($p \leq .05$) in T-test with unequal variances

****p* < .001. ***p* < .01. **p* < .05

Table 7

Differences in Shares--Single Father and Married Households

	Unadjusted Shares			Regression Coefficient		Adjusted Percent Difference		F	R^2
	Single Fathers	Married Fathers		Married Fathers		Married Fathers			
Food consumed at home	0.145	0.149	a	0.009		6.21%		63.85	.29
Food consumed away	0.048	0.039	a	-0.010	***	-20.83%	***	27.80	.09
Alcohol and tobacco products	0.032	0.021	a	-0.009	**	-28.13%	**	33.31	.12
Housing (dwelling)	0.251	0.230		-0.022	*	-8.76%	*	28.96	.09
Utilities	0.092	0.082	a	-0.004		-4.35%		21.56	.12
Furnishings & Nonduarble Supplies	0.020	0.030	a	0.009	***	45.00%	***	6.19	.02
Domestic Services	0.018	0.018		-0.002		-11.11%		23.09	.07
Clothing/Jewelry	0.049	0.054	a	0.003		6.12%		11.00	.05
Toiletries and Health/Beauty	0.007	0.009	a	0.002	***	28.57%	***	10.24	.06
Transportation	0.202	0.242	a	-0.005		-2.48%		15.77	.05
Business & Life Products	0.034	0.026	a	-0.007	*	-20.59%	*	9.95	.03
Charitable Contributions	0.013	0.016	a	0.002		15.38%		15.78	.05

Other Education	0.004	0.002		-0.002	-50.00%	10.47	.01
Total Recreation and Sports	0.057	0.049	[a]	-0.005	-8.77%	23.56	.08
Books	0.003	0.004		0.000	0.00%	14.96	.05
Publications & Toys	0.013	0.013		0.000	0.00%	37.42	.10
Children's Education	0.008	0.012	[a]	0.003	37.50%	18.89	.06

Note: Regressions control for age, race, education, log real income, year dummies, number of other adults, number of other children, age-gender children categories, employment of head, public assistance receipt, and food stamps. Attrition adjusted weights used.

[a] statistically different from single fathers ($p \leq .05$) in T-test with unequal variances

****p* < .001. ***p* < .01. **p* < .05

Table 8

Differences in Levels--Single Father and Mother Households

	Unadjusted Levels			Regression Coefficient		F	R^2
	Single Fathers	Single Mothers		Single Mothers			
Total Non-Medical Expenditures	31558.65	20345.04	a	-3213.95	**	44.12	.42
Food consumed at home	3740.88	3577.03		51.75		15.20	.29
Food consumed away	1586.87	705.14	a	-458.95	***	30.66	.38
Alcohol and tobacco products	837.91	365.30	a	-382.37	***	7.02	.15
Housing (dwelling)	8158.45	4931.20	a	-1103.49	*	16.77	.18
Utilities	2392.66	2131.46	a	87.95		13.91	.25
Furnishings & Nonduarble Supplies	810.76	501.88	a	-72.80		6.87	.10
Domestic Services	562.92	408.16		86.71		9.32	.16
Clothing/Jewelry	1535.58	1434.23		324.89	**	16.76	.25
Toiletries and Health/Beauty	217.07	218.80		67.47	**	12.71	.25
Transportation	7074.37	3851.00	a	-847.30		20.70	.23
Business & Life Products	1179.79	381.29	a	-517.97	**	12.16	.11

Charitable Contributions	433.57	165.89	[a]	-141.04		5.81	.09
Other Education	106.75	41.53		-36.77		3.86	.07
Total Recreation and Sports	2002.00	868.07	[a]	-556.23	**	14.94	.26
Books	126.55	76.89	[a]	-2.59		7.54	.19
Publications & Toys	371.05	239.55	[a]	-48.33		9.46	.18
Lower Education	273.45	357.41		332.06	***	5.91	.16

Note: Regressions control for age, race, education, log real income, year dummies, number of other adults, number of other children, age-gender children categories, employment of head, public assistance receipt, and food stamps. Attrition adjusted weights used.

[a] statistically different from single fathers ($p \leq .05$) in T-test with unequal variances

****p* < .001. ***p* < .01. **p* < .05

Table 9

Differences in Shares--Single Father and Mother Households

	Unadjusted Shares		Regression Coefficient		Adjusted Percent Difference		F	R^2
	Single Fathers	Single Mothers	Single Mothers		Single Mothers			
Food consumed at home	0.145	0.223 [a]	0.012	*	8.28%	*	39.38	.52
Food consumed away	0.048	0.031 [a]	-0.009	***	-18.75%	***	14.53	.19
Alcohol and tobacco products	0.032	0.022 [a]	-0.013	***	-40.63%	***	6.68	.13
Housing (dwelling)	0.251	0.239	0.000		0.00%		2.42	.13
Utilities	0.092	0.122 [a]	0.008	*	8.70%	*	8.31	.14
Furnishings & Nondurable Supplies	0.020	0.023	0.004		20.00%		2.75	.05
Domestic Services	0.018	0.018	0.003		16.67%		5.46	.12
Clothing/Jewelry	0.049	0.074 [a]	0.016	***	32.65%	***	7.53	.15
Toiletries and Health/Beauty	0.007	0.011 [a]	0.003	***	42.86%	***	7.05	.16
Transportation	0.202	0.143 [a]	-0.008		-3.96%		20.82	.24
Business & Life Products	0.034	0.016 [a]	-0.013	***	-38.24%	***	7.36	.12
Charitable Contributions	0.013	0.007 [a]	-0.004		-30.77%		5.22	.07

Other Education	0.004	0.002		-0.001		-25.00%		3.03	.04
Total Recreation and Sports	0.057	0.038	[a]	-0.010	**	-17.54%	**	7.30	.13
Books	0.003	0.003		0.001		33.33%		5.13	.09
Publications & Toys	0.013	0.013		-0.001		-7.69%		4.90	.10
Lower Education	0.008	0.014	[a]	0.013	***	162.50%	***	5.58	.16

Note: Regressions control for age, race, education, log real income, year dummies, number of other adults, number of other children, age-gender children categories, employment of head, public assistance receipt, and food stamps. Attrition adjusted weights used.

[a] statistically different from single fathers ($p \leq .05$) in T-test with unequal variances

***$p < .001$. **$p < .01$. *$p < .05$