Teenagers: employment and contributions to family spending

Approximately one-third of all teenagers were employed some time during 1997–98; a closer look into family income and expenditures reveals that many of those working teens do not seem to work to contribute toward family necessities

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As most parents with teenagers know, their children between the ages of 14 and 17 receive a major portion of family income. The latest U.S. Department of Agriculture estimates of family expenditures on children indicate that middle-income families spend between $9,390 and $9,530 per year on the typical teenager.[1] Although teenagers are a major expense, they can offset some of their expense and even contribute toward their family's economic well-being by attaining employment in the labor market and contributing to the family budget. According to a recent report by the Department of Labor, 2.9 million youths aged 15 to 17 worked during the school months, and 4.0 million youths worked during the summer months, over the 1996–98 period.[2]

Previous research on teen employment has primarily focused on the incidence and patterns of work, and the effects on the teenager's educational attainment, future employment prospects, and other developmental outcomes.[3] Some of this research suggests that teenage employment can have detrimental effects, such as lower educational attainment. J.G. Bachman suggests that employment provides youths with "premature affluence."[4] One marketing study suggests that in 1999 teens spent $105 billion of their own money and influenced $48 billion in family spending.[5]

Although previous research has examined the association of husbands' and wives' labor force participation with family expenditures, little research has been undertaken on the connection between the employment status of teenagers and family expenditures.[6] This article does just that. It examines the role that employed and nonemployed teenagers play in family expenditures. It specifically looks at the percentage of teenagers who are employed and not employed, and the characteristics of each. This is done by income level because children from low-income families may be more likely to contribute to family economic well-being than children from nonlow-income households. Low-income households are defined as families with before-tax income below 200 percent of the poverty threshold; this income includes that earned by all family members, including employed teens.[7] In addition, the association of teen employment with major family expenses is analyzed by testing whether teen employment is associated with more or less money spent on certain types of expenses, while controlling for other factors.

Data

Data used for this study are from the interview component of the 1997–98 Consumer Expenditure (CE) Survey, collected by the Bureau of the Census for the Bureau of Labor Statistics. The CE

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is an ongoing study that collects data on expenditures, income, and major sociodemographic characteristics of households.[8] It is the most comprehensive source of information on household expenditures available at the national level. A national sample of households, representing the civilian noninstitutionalized population, is interviewed over the course of a year. The 1997–98 survey contains information from approximately 44,000 interviews.[9]

Teens, aged 14 to 17, were selected for this analysis. The unweighted sample consisted of 2,552 teens. This sample was restricted to teenagers who were children of the household head and to households who were complete income reporters. Complete income reporters are households that provide values for at least one major source of income such as wages and salary, self-employment income, and Social Security. For the descriptive analysis of teen characteristics, each teenager was analyzed separately. About 19 percent of households contained more than one teenager. For the descriptive analysis of household expenditures, each household was analyzed separately. In cases in which the household had two teens, one employed and the other not employed, the household was classified as having an employed teen; this represented 5 percent of households.

Teenagers were classified as employed or not employed, based on their answers to the employment questions in the CE. These questions ask respondents whether they were in the labor force during the past year, and if so, the number of weeks per year and hours per week they worked. A teenager was classified as being employed if he or she reported working sometime during the year for any amount of hours. The CE questions on employment are similar to those asked on the Current Population Survey, March supplement (CPS); employment data from the monthly CPS are used to calculate the official U.S. employment and unemployment rates. Statistics on teen labor force participation are similar in both surveys for the 1997–98 period. The CPS data show 35 percent of teens

Exhibit 1. Teen employment: a comparison of CE and CPS data

The Consumer Expenditure (CE) Survey and the March supplement of the Current Population Survey (CPS) both ask teenagers, ages 15 to 17, about their annual weeks worked, the average hours worked per week, and their annual earnings. However, the CE also surveys 14 year olds, and the CPS does not; it focuses on 15 to 17 year olds. As shown below, both surveys for the 1997–98 period found similar overall employment rates for teens—36 percent in the CE and 35 percent in the CPS.[1] The main difference between the two surveys is that data from the CE indicate a greater percentage of teens worked more than 10 weeks per year and more than 20 hours per week. Data from the CE and CPS also show similar distributions of annual earnings for employed teens. The CE indicates that 61 percent of employed teens earned less than $2,000 per year, 32 percent earned between $2,000 and $5,000, and 7 percent earned more than $5,000. The CPS shows that 63 percent of employed teens earned less than $2,000 per year, 26 percent earned between $2,000 and $5,000, and 11 percent earned more than $5,000. The following are comparisons of the employment status of teenagers by age, from the 1997–98 Consumer Expenditure Survey and the Current Population Survey (in percent):

	Consumer Expenditure Survey				*Current Population Survey*[2]			
	Age 15–17	*Age 15*	*Age 16*	*Age 17*	*Age 15–17*	*Age 15*	*Age 16*	*Age 17*
Not employed	63.7	76.0	63.5	50.7	65.3	83.9	65.4	46.0
Employed:								
10 or fewer weeks per year	10.0	8.1	10.7	11.2	10.9	7.2	14.0	11.6
More than 10 weeks, 1 to 20 hours per week	15.6	8.7	16.0	22.4	18.3	6.8	17.2	31.2
More than 10 weeks, more than 20 hours per week	10.8	7.2	9.7	15.7	5.6	2.0	3.5	11.3

[1] The employment rates are larger using other data and reference periods. See *Report on the Youth Labor Force* (U.S. Department of Labor, June 2000).

[2] Data are from the March 1998 and March 1999 CPS (which applies to the 1997–98 period) for teenagers who are living with their parents.

Table 1. Characteristics of employed and nonemployed teenagers, aged 14 to 17, Consumer Expenditure Survey, 1997–98

Characterisitic	All households			Low-income households			Nonlow-income households		
	All teenagers	Employed teenagers	Non-employed teenagers	All teenagers	Employed teenagers	Non-employed teenagers	All teenagers	Employed teenagers	Non-employed teenagers
Sample size	2,552	865	1,687	968	240	728	1,584	625	959
Average age (years)	15.5	15.8	15.3	15.5	15.7	15.4	15.5	15.8	15.3
Gender (teen)									
Male	53	53	53	54	51	54	52	53	51
Female	47	47	47	46	49	46	48	47	49
Race									
White	80	85	78	71	77	69	86	88	84
Black	15	10	17	24	16	27	9	8	11
Other[1]	5	5	5	5	7	4	5	4	5
Hispanic									
Hispanic	14	8	17	26	16	30	7	5	8
Non-Hispanic	86	92	83	74	84	70	93	95	92
Household income	$53,110	$59,000	$50,110	$19,440	$21,550	$18,740	72,860	72,940	$72,810
Less than $10,000	8	5	10	22	18	24	0	0	0
$10,000 to $15,000	6	3	7	16	13	17	0	0	0
$15,001 to $30,000	17	13	20	43	43	43	2	2	3
$30,001 to $45,000	17	20	16	17	25	14	18	18	18
$45,001 to $65,000	22	22	21	2	1	2	33	29	35
$65,001 to $80,000	10	13	9	0	0	0	16	18	14
More than $80,000	20	24	17	0	0	0	31	33	30
Family type									
Married couple	73	78	70	55	59	54	83	85	83
Single parent	21	18	23	33	30	34	14	13	14
Other[2]	6	4	7	12	11	12	3	2	3
Employment of mother									
Not applicable	6	4	6	7	4	8	5	4	5
Employed full time	43	45	42	32	29	32	50	52	50
Employed part time	32	38	30	31	43	28	33	35	31
Not employed	19	13	22	30	24	32	12	9	14
Employment of father									
Not applicable	21	18	23	38	36	39	12	11	13
Employed full time	62	68	59	37	42	35	77	78	76
Employed part time	11	10	11	13	13	13	9	9	9
Not employed	6	4	7	12	9	13	2	2	2

[1] "Other" race includes American Indians, Alaska natives, Asians, and Pacific Islanders.

[2] "Other" family type includes those headed by a grandparent and those residing in extended families.

NOTE: All data weighted to reflect population.

aged 15 to 17 were employed (the CPS does not have employment data on 14 year olds) and the CE data show 36 percent of teens aged 15 to 17 were employed. (See exhibit 1 for comparison.)

One limitation of the CE data was that about 42 percent of teens who reported working did not report an income. Income was therefore imputed for these teens. (The CPS imputes 16 percent of teenage salaries.)[10] This imputation was made based on age, occupation, gender, and annual hours worked.[11] Although the income of a large proportion of teens was imputed for this study, an analysis was also conducted using only those teens who had a reported income. It was found that study results were similar, using teens who had a reported income and teens who had a reported or imputed income. We, therefore, use all teens whether they had a reported or imputed income. All data were weighted in this study to represent the U.S. noninstitutionalized population.

Results

To examine the results in detail, this study analyzes the employment status of teenagers in relationship to their individual and family characteristics. (See table 1.) Data are shown for teenagers overall and by income level of the family (low in-

come, versus nonlow-income). For employed teenagers, data are presented by income level of the family and by number of weeks worked per year, hours worked per week, annual income, and type of employment. (See table 2.)

All teenagers. Among all teenagers, 34 percent were employed sometime during the year. (See chart 1.) Employed teenagers had average annual earnings of $2,270; 59 percent made $2,000 and less per year and 8 percent made more than $5,000 per year. Time spent in employment varied; 27 percent worked 10 or fewer weeks per year for any amount of time (likely indicating summer employment), 39 percent worked more than 10 weeks per year and 20 or fewer hours per week, and 34 percent worked more than 10 weeks per year and more than 20 hours per week. Nearly a third of employed teenagers working more than 20 hours per week and more than 10 weeks per year may be cause for concern. Some researchers suggest that the 20-hour-per week cut-off represents a threshold above which there are negative consequences of youth employment, such as lower educational attainment.[12] Type of employment for teens also varied; 42 percent worked in the service sector (waiter or waitress, for example), 23 percent as laborers (yard work, for example), 20 percent in retail (sales associate, for example), and 15 percent in administrative work (secretarial/clerical, for example).

A greater percentage of employed than nonemployed teens were white (85 percent, versus 78 percent) and were from two-parent households (78 percent, versus 70 percent).[13] The same percentages of employed and nonemployed teens were male (53 percent) and a smaller percentage of employed than nonemployed teens were Hispanic, who may be of any race (8 versus 17 percent). The average before-tax household income of employed teenagers was greater than that of nonemployed teenagers ($59,000, compared with $50,110); this income includes that of parents and teens. Thirty-seven percent of employed teens resided in a household with more than $65,000 before-tax income, compared with 26 percent of their nonemployed counterparts.[14] A greater percentage of employed than nonemployed teens had a mother who worked full time or part time in the labor force (83 percent, versus 72 percent). The percentages by father's employment show that a greater proportion of nonemployed teens lived in families headed by mothers only. In general, the figures on mothers' and fathers' employment status suggest that teenagers were more likely to be employed if one or both of their parents were employed.

Table 2. Characteristics of employed teenagers, aged 14 to 17, Consumer Expenditure Survey, 1997–98

Characteristic	Households		
	Total	Low-income	Nonlow-income
Weeks worked per year, hours worked per week			
10 or fewer weeks, any hours	27	29	26
More than 10 weeks, 20 or fewer hours	39	39	39
More than 10 weeks, more than 20 hours	34	32	35
Average annual income of teenager			
Level (in dollars)	$2,270	$1,980	$2,380
Income distribution			
Less than $1,000	32	36	30
$1,000 to $2,000	27	28	27
$2,001 to $3,000	13	10	14
$3,001 to $4,000	13	11	14
$4,001 to $5,000	7	7	7
More than $5,000	8	8	8
Type of employment			
Services	42	38	43
Retail	20	24	19
Labor	23	22	24
Administrative	15	16	14

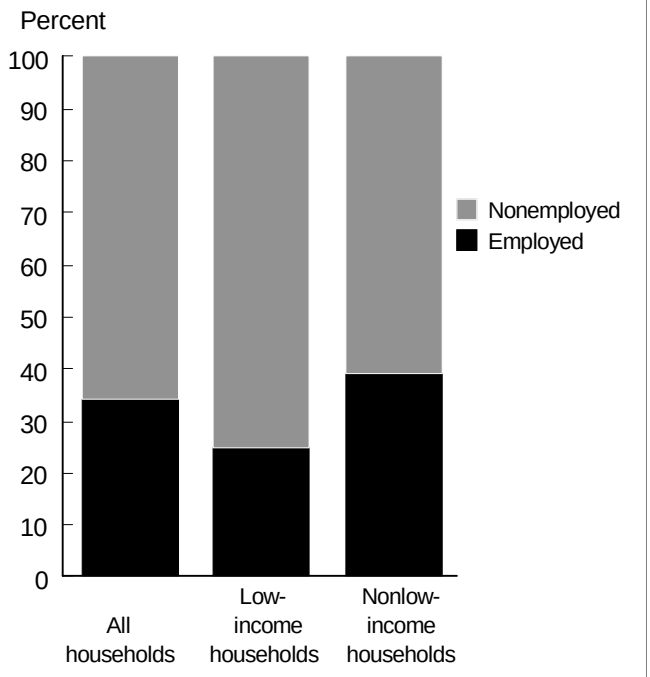
NOTE: All data weighted to reflect population.

Teenagers in low-income families. For teenagers in low-income families, 25 percent were employed during the year. (See chart 1.) Among these employed teenagers, average annual earnings were $1,980; 64 percent had annual earnings of $2,000 and less. Twenty-nine percent of employed teenagers worked 10 or fewer weeks per year (any hours per week), 39 percent worked more than 10 weeks per year and 20 or fewer hours per week, and 32 percent worked more than 10 weeks per year and more than 20 hours per week. Most employed teens in low-income families worked in the service sector (38 percent) or in retail (24 percent).

In low-income families, a greater percentage of employed than nonemployed teens were female (49 percent, versus 46 percent), white (77 percent, versus 69 percent), and resided with both parents (59 percent, versus 54 percent). A higher percentage of nonemployed than employed teens in low-income families were Hispanic (30 percent, versus 16 percent). The average before-tax household income of employed teenagers in low-income families was greater than that of nonemployed teenagers ($21,550, versus $18,740)—the earnings of the teen were the major reason for this higher household income. In low-income families with a working teen, the earnings of the teen accounted for 9 percent of household income. Also in these families, a greater percentage of employed than nonemployed teens had a mother who worked full time or part time in the labor force (72 percent, versus 60 percent).

Teenagers in nonlow-income families. For teenagers in nonlow-income families, 39 percent were employed during the year. (See chart 1.) Among these employed teenagers, average annual earnings were $2,380; 57 percent had annual earnings of $2,000 and less. Twenty-six percent of these employed teenagers worked 10 or fewer weeks per year (any hours per

Chart 1. Employment status of teenagers, aged 14 to17, Consumer Expenditure Survey, 1997 98



week), 39 percent worked more than 10 weeks per year and 20 or fewer hours per week, and 35 percent worked more than 10 weeks per year and more than 20 hours per week.

In families with nonlow-income, a greater percentage of employed than nonemployed teens were male (53 percent, versus 51 percent), white (88 percent, versus 84 percent), and living with two parents (85 percent, versus 83 percent). A smaller percentage of employed than nonemployed teens were Hispanic (5 percent, versus 8 percent). The average before-tax household income of employed teenagers was similar to that of nonemployed teenagers ($72,940, versus $72,810). A greater percentage of employed than nonemployed teens had a mother who worked full time or part time (87 percent, versus 81 percent).

Employed teenagers: low income, versus nonlow-income. Among employed teenagers, those in nonlow-income families had higher average annual earnings than teens in low-income families ($2,380, versus $1,980). Teen earnings, however, represented a larger share of total income in low-income families with an employed teen, compared with that of nonlow-income families with an employed teen (9 percent, versus 3 percent). Compared with teens in low-income families, a slightly higher percentage of teens in nonlow-income families worked more than 10 weeks per year and more than 20 hours per week (35 percent, versus 32 percent) and worked in the service sector (43 percent, versus 38 percent). A greater percentage of employed teens in low-income families than nonlow-income families lived in a single-parent or other type of family (for example, headed by a grandparent) (41 percent, versus 15 percent), were nonwhite (23 percent, versus 12 percent), were Hispanic (16 percent, versus 5 percent), and had a mother who was not employed (24 percent, versus 9 percent). A slightly higher percentage of employed teens in low-income families were female, compared with their counterparts in nonlow-income families (49 percent, versus 47 percent).

Average expenditures

Teenage employment may lead families to spend more or less on some budgetary components. The CE survey collects information on the expenditures of the household. Table 3 presents the average household expenditures and expenditure shares of families with a teenager, by employment status of the teen and household income level (low, versus nonlow-income). Family size was nearly the same for households in each income group so this should not have that much influence on expenditures. Regarding all households with a teenager, the total expenditures of those with an employed teen were higher than the total expenditures of those with a nonemployed teen ($42,450, versus $35,220). This is likely because of the higher income of families with an employed teen, which can be the result of the teen's employment and these families being more likely to have one or both parents employed. Transportation accounted for a higher share of the budget and a greater dollar amount for families with an employed teen, compared with those with a nonemployed teen. For families with an employed teen, 26.2 percent of total expenses went to transportation, compared with 22.5 percent for families with a nonemployed teen. Teenage employment likely results in families driving more miles in a vehicle, using public transportation more often, or even having a second vehicle.

Food away from home makes up a slightly higher share of the budget for families with an employed teen, compared with the share of families with a nonemployed teen (4.7 percent, versus 4.6 percent). Employment outside the home likely entails more consumption of meals away from home. Food at home made up a lower share of the budget for families with an employed teen, compared with those with a nonemployed teen (12.4 percent, versus 14.4 percent). However, the dollar amount spent on food at home was higher for families with an employed teen. Entertainment expenses accounted for a greater share of the budget for families with an employed teen, compared with those with a nonemployed teen (6.7 percent, versus 5.9 percent). The higher income of families with an employed teen and the earnings of the teenager may lead to more spending on nonessential goods and services.

While the expenditure data collected in the CE are primarily

Table 3. Average expenditures of households with teenagers, aged 14 to 17, by income level, Consumer Expenditure Survey, 1997–98

Item	All households			Low-income households			Nonlow-income households		
	All teenagers	Employed teenagers	Non-employed teenagers	All teenagers	Employed teenagers	Non-employed teenagers	All teenagers	Employed teenagers	Non-employed teenagers
Sample size	2,112	772	1,340	785	218	567	1,327	554	773
Total expenditures	$37,860	$42,450	$35,220	$24,160	$29,950	$21,900	$45,730	$47,310	$44,610
Percent of total expenditures[1]									
Housing	33.8	33.1	34.3	35.0	31.8	36.9	33.5	33.3	33.4
Transportation	24.0	26.2	22.5	22.4	29.0	18.8	24.4	25.5	23.7
Food at home	13.6	12.4	14.4	18.5	15.4	20.2	12.1	11.6	12.4
Food away from home	4.6	4.7	4.6	3.7	3.7	3.7	4.9	4.9	4.9
Health care	5.0	4.9	5.0	4.7	4.5	4.8	5.1	5.1	5.1
Clothing	5.7	5.4	5.9	5.5	5.4	5.5	5.8	5.5	6.1
Entertainment	6.2	6.7	5.9	4.0	4.4	3.8	6.8	7.2	6.6
Other	7.1	6.6	7.4	6.2	5.8	6.3	7.4	6.9	7.8
Teenager clothing (dollars per year)	$535	$643	$473	$353	$504	$294	$640	$697	$600
Household size (number of members)	4.2	4.2	4.2	4.5	4.5	4.4	4.0	4.1	4.0

[1] *Housing* includes shelter (mortgage interest, property taxes, or rent; maintenance and repairs; and insurance), utilities (gas, electricity, fuel, telephone, and water), and house furnishings and equipment (furniture, floor coverings, major appliances, and small appliances).
Food-at-home includes food and nonalcoholic beverages purchased at grocery, convenience, and specialty stores.
Food-away-from-home includes dining at restaurants and fast-food establishments, and household expenditures on school meals.
Transportation includes the net outlay on the purchase of new and used vehicles, vehicle finance charges, gasoline and motor oil, maintenance and repairs, insurance, and public transportation.
Clothing expenses include apparel items such as shirts, pants, and dresses; footwear; and clothing services, such as dry cleaning and alterations.
Health care includes medical and dental services not covered by insurance, prescription drugs and medical supplies not covered by insurance, and health insurance premiums not paid by an employer or other organization.
Entertainment includes movie tickets, videos, televisions, and toys.
Other includes personal care items (such as soap and hairbrushes), education, tobacco, alcohol, and reading materials.

NOTE: All data weighted to reflect population.

household-level expenses, the survey does contain information on the household expenses on clothing for individual members. The survey, however, does not distinguish whether the parent or teenager made the particular clothing purchase. Regarding expenditures on teenager's own clothing, the expenses of employed teens were about $170 more per year than the clothing expenses of nonemployed teens ($643, versus $473).[15] A similar finding was reported by M. J. Alhabeeb who studied a sample of high school students ages 15 to 19 in one city.[16]

The household expenditure patterns of low-income households with a teenager, by employment status of the teen were similar to those of all households. The total expenditures of low-income households with an employed teen were higher than the total expenditures of low-income households with a nonemployed teen.[17] Transportation and entertainment accounted for higher budget shares for low-income households with an employed teen than for households with a nonemployed teen. The clothing expenses on the teenager were higher in low-income families with an employed teen, than in families with a nonemployed teen ($504, versus $294). While some of this is because of the higher total apparel expenditures of families with an employed teen, it also represents a larger share of total apparel expenses.

The expenditure patterns of nonlow-income households with a teenager by employment status of the teen were also similar to the spending patterns of all households. Total expenditures of nonlow-income households with an employed teen were higher than the total expenditures of their counterparts with a nonemployed teen. A closer view of expenditures for nonlow-income families reveals that transportation and entertainment expenses accounted for a larger share of the budget for households with an employed teen than they did for households with a nonemployed teen. Also, food away from home accounted for a higher dollar amount for nonlow-income households with an employed teen. The clothing expenses on the teenager were slightly more in nonlow-income families with an employed teen than in such families with a nonemployed teen ($697, versus $600).

Multivariate analysis

Although descriptive analysis gives an initial indication of how the expenditures of families with a teenager differ by employment status of the teen, it could be that these differences

are due to other factors, such as household income, race, or family size. Multivariate analysis is a better procedure to determine the association between employment of teenagers and family expenditures as it controls for these other factors. With multivariate analysis, the expenditure of interest is termed the dependent variable and the controlled factors (for example, teen employment status, household income, race, and family size) are termed the independent variables. Controlling for these other variables is often referred to as "holding all else equal."

Multivariate analysis was performed on the eight major expenditure categories (housing, transportation, food at home, food away from home, health care, clothing, entertainment, and other expenses).[18] The sample was restricted to married-couple and single-parent families with only one teenager in the family and no older adults present, such as an adult child or grandparent (the sample size was 825 married-couple households and 306 single-parent households). This was done to better isolate the association between teen employment and expenditures because the presence of two or more teens or more adults in the household may compound the effect of teen employment on expenditures. The data on married-couple and single-parent families were examined separately because the differences in the number of adults and employment status of these adults may affect family expenditures.

The independent variables included in the multivariate analysis of each expenditure were 1) demographic: number of children ages 13 and younger in household, gender of teenager in household (combined with teen employment status), gender of parent in the cases of single-parent households, region of residence and urban status (to control for cost of living in different parts of the country), age of household head or reference person,[19] and race and ethnicity of the household, and 2) socioeconomic: household income, employment status of parents, total hours parents worked per week, teen employment status, and total hours teen worked per week. These variables are traditionally controlled for in multivariate analysis in which the dependent variable is an expenditure. The primary variables of interest were teen employment status and total hours the teen worked. How these two variables were associated with each expenditure, while controlling for other factors, is the focus here.[20]

Because unique factors likely are associated with the expenditures of various budgetary components, each multivariate analysis was not identical. All analyses had standard demographic and socioeconomic variables such as age of household head and household income. However, the amount spent on housing is probably influenced by whether or not the family is a homeowner and the amount spent on transportation is likely influenced by the number of vehicles the family owns. These variables were therefore included in the respective analysis. The variables and the measurement of these variables, included in each analysis, are described in the box on page 23.

Results of the multivariate analysis for each of the eight expenditures for husband-wife and single-parent families are shown in table 4. For married-couple families, teen employment and hours worked had a significant association (at the .05 level) with housing, food away from home, transportation, and entertainment expenditures, all else being equal. Teen employment and hours worked were associated with higher or lower levels of these expenditures. Households with an employed female teen had lower housing expenses than households with a nonemployed male teen. This may be related to the teen being a female because households with a nonemployed female teen also had lower housing expenses than households with a nonemployed male teen. The more hours a teen worked, the higher housing expenses (such as home appliances) were. It could be that the more hours a teen is employed, the less time he or she has for home chores, so the household spends more on time-saving home appliances. This association is similar to the amount of hours parents worked. The more hours parents worked, the higher housing expenses were, although the finding was not significant.

Married-couple households with an employed male teen had higher food away from home and entertainment expenses than did households with a nonemployed male teen, all else being equal. The finding regarding food-away-from-home expenses is not surprising. Work outside the home likely results in the consumption of more meals away from home. As for entertainment expenses, a survey of high school seniors in 1998 found that 42 percent spent most of their own earnings on personal needs and activities, such as recreation.[21] The more hours a teen worked, the higher household transportation expenses. Work outside the home probably results in travel to and from the place of employment and the increased likelihood of owning an additional vehicle. This finding contrasts with the study by Alhabeeb, which found employed high school students spent less on transportation.[22] The different results may be because our study included the purchase of vehicles in transportation expenses, whereas the Alhabeeb study did not.

The factor that was significantly associated with all eight expenditure categories for married-couple families was household income. The greater the household income, the more families spent on each budgetary category, all else being equal. Households with an employed father and nonemployed mother had higher food-at-home expenses than did households in which both parents were not employed. The more children ages 13 and under in the family, the more families spent on food at and away from home. The older the household head, the more families spent on food at home and health care. Black households had lower expenses on food (at home and away) and health care, compared with those of nonblack households. Hispanic households had lower expenses on food away from home, health care, and entertainment than those of non-Hispanic households. There were differences in married-couple family expenditures by area of residence, including higher

Table 4. Results of multivariate analysis, husband-wife families, and single-parent families, Consumer Expenditure Survey, 1997–98

Variable[1]	Housing	Food at home	Food away from home	Transportation	Clothing	Health care	Entertainment	Other
Husband-wife families Sample N=825								
Intercept	5,604.52	857.31	36.99	78.77	66.81	–1,390.90	–761.46	–461.03
Femunemp	[2]–1,313.36	–66.36	–28.88	819.73	71.71	–203.85	–390.71	–616.96
Fememp	[2]–1,812.45	–535.95	227.17	1,096.30	412.70	–447.82	189.13	–661.88
Maleemp	–885.01	–47.15	[2]566.45	240.71	–10.38	174.81	[2]2,207.45	–445.15
Teenhrs	[2]2.26	.16	–.31	[2]3.74	.02	.08	–.57	–.05
Income	[2].12	[2].01	[2].02	[2].09	[2].02	[2].01	[2].03	[2].03
Motheremp	258.11	1,297.07	–109.08	–3,839.65	–712.36	625.88	267.35	472.12
Fatheremp	1,444.26	[2]1,443.39	158.68	–2,009.30	192.07	326.40	1,581.40	181.11
Bothemp	–1,396.28	1,109.26	–227.65	–6,312.42	–669.99	–303.25	1,248.65	131.55
Parenthrs	.49	.07	.13	1.05	.13	.12	–.10	.12
Child	376.10	[2]511.57	[2]173.82	479.16	116.19	78.22	199.41	31.69
Age	–34.26	[2]43.49	8.88	–54.17	11.27	[2]68.05	4.60	12.72
Black	–446.43	[2]–823.09	[2]–859.34	1,978.50	106.98	[2]–814.91	–413.32	818.13
Hispanic	–103.61	39.64	[2]–628.04	577.25	22.61	[2]–1,071.65	[2]–1,703.15	–657.04
NE	[2]1,913.39	–.46	–51.99	–1,401.34	2.99	[2]–698.95	62.11	835.37
SO	–478.31	–259.35	29.25	[2]4,870.21	123.47	–93.30	–441.67	10.71
WE	1,421.65	130.97	183.32	3,775.54	–86.90	–311.30	[2]1,864.49	204.67
Rural	[2]–1,633.02	–277.70	–313.00	1,487.56	–94.56	35.54	979.10	123.28
CCity	339.58	77.63	–11.45	–3,293.62	253.92	–.73	–283.00	609.23
Home	[2]1,314.78	…	…	…	…	…	…	…
Auto	…	…	…	[2]3,243.66	…	…	…	…
R^2	.37	.14	.15	.07	.19	.07	.06	.09
Single-parent families Sample N=306								
Intercept	5,973.37	[2]3,427.74	–328.40	–5,641.09	261.70	859.41	–303.49	–125.38
Femunemp	637.85	–113.06	33.42	699.05	[2]648.66	–434.00	174.90	123.71
Fememp	1,469.91	–470.77	206.22	–505.28	95.83	309.24	–246.41	297.56
Maleemp	542.83	–582.60	–309.39	–3,720.68	–823.91	–503.52	–723.96	–659.46
Teenhrs	–1.07	.44	–.08	–1.06	.47	–.22	.45	.03
Income	[2].24	[2].02	[2].01	.01	[2].03	[2].01	[2].05	[2].02
Male	–1,118.29	56.97	169.10	943.78	33.25	[2]–675.22	–191.54	–26.39
Parentemp	–2,206.28	–560.27	361.01	1,516.66	136.87	41.53	884.49	333.71
Parenthrs	.50	.17	.01	–.12	.11	.23	–.29	.11
Child	96.95	[2]369.66	10.15	710.94	166.41	–120.80	251.69	230.52
Age	–27.42	–.13	[2]27.15	125.79	10.84	.38	14.82	27.37
Black	–853.54	–251.02	[2]–546.95	930.37	594.31	[2]–817.98	–249.80	[2]–1,080.35
Hispanic	264.35	–112.37	–281.70	–475.47	546.21	–532.21	–101.45	–791.69
NE	495.74	[2]779.71	38.20	–1,379.29	–639.27	108.71	[2]–941.41	686.70
SO	–36.35	–310.93	–48.48	–2,024.20	–550.89	[2]775.74	–483.95	319.07
WE	352.81	–74.75	[2]–428.11	–611.10	–366.54	378.97	–644.40	324.96
Rural	[2]–3,172.27	[2]864.95	[2]–631.31	410.36	–575.87	156.67	[2]–841.86	–504.22
CCity	–915.82	–84.70	–184.40	–771.91	[2]–683.37	–158.70	48.54	–641.18
Home	1,295.56	…	…	…	…	…	…	…
Auto	…	…	…	[2]3,984.93	…	…	…	…
R^2	.63	.16	.21	.10	.17	.08	.29	.06

[1] See box on page 23, for definition of variables.

[2] Statistically significant at .05 level.

NOTE: See footnote to table 3 for definitions of individual expenditure items.

Variables in Multivariate Analysis

To determine the association between employment of teenagers and family expenditures, all else being equal, a multivariate analysis is useful. Each independent variable used in the study is identified and defined as follows:

Femunemp = 1 if female teen was nonemployed
Ememp = 1 if female teen was employed
Maleemp = 1 if male teen was employed (the omitted category being "male teen was nonemployed")

Teenhrs = total hours per week teen in household was employed
Income = total household income (income of parents and teen)

Motheremp = 1 if only mother was employed
Fatheremp = 1 if only father was employed
Bothemp = 1 if both parents were employed (the omitted category being "both parents were nonemployed")
In multivariate analysis of single-parent families, Parentemp = 1 if single parent was employed and the omitted category was "single parent was nonemployed."

Parenthrs = total hours per week parent or both parents in household were employed

Child = number of children ages 13 and under in household

Male = 1 if single parent was male (the omitted category being "single parent was female"); variable only included in analyses of single-parent households

Age = age of household head

Black = 1 if household was black (the omitted category being "household was nonblack")

Hispanic = 1 if household was Hispanic (the omitted category being "household was nonHispanic")

NE = 1 if household resided in the Northeast
SO = 1 if household resided in the South
WE = 1 if household resided in the West (the omitted category being "household resided in the Midwest")

Rural = 1 if household resided in a rural area
CCity = 1 if household resided in a central city (the omitted category being "household resided in a suburban area")

Home = 1 if household owned their home (the omitted category being "household did not own their home"); variable only included in housing expenditure analysis

Auto = number of vehicles household owned; variable only included in transportation expenditure analysis

transportation expenses for families in the South than those in the Midwest and lower housing expenses for families in rural areas, compared with those in suburban areas. Homeowners had higher housing expenses than nonhomeowners and the more vehicles a family owned, the greater their transportation expenses.

Regarding the multivariate results for single-parent families, teen employment (specifically teen nonemployment) was only significantly associated with one expenditure category—clothing. Single-parent families with a nonemployed female teen had higher clothing expenses than single-parent families with a nonemployed male teen, all else being equal. The fact that a teen was employed and the number of hours he or she worked had no significant association with any of the budgetary expenditures examined.

As with married-couple families with a teenager, for single-parent families with a teenager, the amount of expenditures on the eight budgetary components was typically associated with household income. That is, the higher the income of the single-parent family, the higher expenses were for all budgetary components, except transportation, all else being equal. The more children ages 13 and younger in the household, the higher expenses were for food at home, and the older the household head, the higher expenses were for food away from home. Single-parent families headed by a male spent less on health care than did families headed by a female. Black single-parent households had lower expenses for food away from home, health care, and other expenses than nonblack single-parent households. There were differences also in household expenditures by area of residence, including higher food-at-home expenses for single-parent families in the Northeast than in the Midwest and lower entertainment expenses for families in rural areas than in suburban areas. The more vehicles a family owned, the greater its transportation expenses.

As mentioned earlier, teenagers were more likely to be employed if both parents were employed. An additional analysis, not presented here, studied these families (married-couple families in which both the husband and wife were employed) separately. The association of teenage employment and hours worked with family expenditures was similar in these families to that of married-couple families overall.

Conclusions

Results from this study indicate that nearly one-third of teenagers are employed. Many of these teens do not seem to work because of economic necessity, because many live in married-couple families with higher household income, compared with those of their nonemployed counterparts. Thirty-four percent of employed teens work more than 20 hours per week (for more than 10 weeks per year). This may be cause for concern, as prior research has shown that working at this level is associated with negative consequences.

It appears that having an employed parent increases the likelihood of a teen being employed. This is further evidence that teens work for reasons other than economic necessity. It may be that parents who are employed are more likely to encourage or have a greater expectation that their teenage children will also be employed.

In low-income families with a teenager, the teen was less likely to be working, compared with teens in nonlow-income families. However, in low-income families with an employed teen, the teen's earnings accounted for a moderate percentage of total family income—approximately 9 percent. Many of these low-income families are single-parent households. When we examined the association between teen employment and the expenditures of single-parent families, the employment of the teen did not have a significant association with expenditures of any budgetary component. The earnings of teens appear to go to their own expenses, such as clothing. This was evident by the higher personal clothing expenses of employed teens in low-income families (the income group most single-parent families are in), compared with nonemployed teens in such families.

For married-couple families, teen employment had a significant association with higher expenses of housing, food away from home, and entertainment. Two of these three expenses (food away from home and entertainment) are not typically considered as family necessities. So, as with single-parent families, employed teens in married-couple families do not seem to be using their earnings to contribute to family necessities. Employed teens in married-couple families are likely using their earnings on work-related needs and their own personal use.[23]

It should be noted that the employment of the teen and their parents may be determined simultaneously with family expenditures. A teen may not necessarily decide to work and then decide on what to spend their earnings. Rather, a teen may need to cover certain expenses and decide to enter the labor force. While previous research has examined the simultaneity of parental employment and expenditures,[24] this research could be extended to examine the simultaneity of teen employment, parental employment, and expenditures. □

Notes

[1] Mark Lino, *Expenditures on Children by Families, 1999 Annual Report,* Miscellaneous Publication No. 1528–1999 (U.S. Department of Agriculture, Center for Nutrition Policy and Promotion, June 2000).

[2] *Report on the Youth Labor Force* (U.S. Department of Labor, June 2000).

[3] For a review of this research, see National Research Council, *Protecting Youth at Work* (Washington, DC, National Academy Press, 1998); and Department of Labor, *Report on the Youth Labor Force.*

[4] J. G. Bachman, "Premature affluence: Do high school students earn too much?" *Economic Outlook USA,* vol. 10(3), 1983, including updated tables.

[5] "Report of Teen Research Unlimited Study," *Discount Store News,* Jan. 3, 2000.

[6] This research includes M. J. Alhabeeb, "Characteristics of employed teens and their consumption," Paper presented at the annual conference of the Eastern Family Economics and Resource Management Association (Champaign-Urbana, IL, 2000); A. W. Bailey, "Teenagers employment, earnings, and spending," *Journal of Home Economics,* Summer, 1992, pp. 20–24; V. S. Doss, J. Marlowe, and D. G. Godwin, "Middle-school children's sources and uses of money," *Journal of Consumer Affairs,* vol. 29(1), 1995, pp. 219–41; M. A. Guadagno, "Impact of children's employment on the economic status of two-parent families," *Family Economics Review,* vol. 5(4), 1992, pp. 11–16; and C. B. Meeks, "Factors influencing adolescents' income and expenditures," *Journal of Family and Economic Issues,* vol. 19(2), 1998, pp. 131–50.

[7] Low-income households being defined as families with before-tax income below 200 percent of the poverty threshold is in concordance with prior definitions of low-income families. See *America's Children: Key National Indicators of Well-Being, 1999* (Washington, U.S. Government Printing Office, Federal Interagency Forum on Child and Family Statistics, 1999).

[8] The CE actually collects information from consumer units. A consumer unit consists of either: all members of a particular household who are related by blood, marriage, adoption, or other legal arrangements; two or more people living together who pool their incomes to make joint expenditure decisions; or a person living alone or sharing a household with others or living as a roomer in a private home or lodging house or in permanent living quarters in a hotel or motel, but who is financially independent. To be considered financially independent, at least two of the three major expense categories (housing, food, and other living expenses) have to be provided by the respondent. For this study, the terms "consumer unit," "household," and "family" are used interchangeably.

[9] Data are collected from consumer units over four interviews. The interviews are conducted at 3-month intervals, and consumer units report expenditures for the 3 months prior to the month of the interview. There is a rotating sample design such that each month, a portion of the sample consists of new consumer units introduced to replace consumer units who complete their participation in the survey. Each 3-month interval is deemed an independent sample and should be treated as such to incorporate the weights. Data from each interval were therefore aggregated and expenditures annualized.

[10] The reason a lower percentage of teen earnings are imputed on the CPS than the CE is likely because with the CPS teens are asked directly about their earnings, whereas with the CE, the household head is questioned about teen earnings and this head may or may not consult with the teen about this.

[11] All teenagers who reported positive salaries were used to impute a

value to those employed teenagers with missing salaries. We regressed ln(salary) on age dummies, occupation dummies, gender, dummies for length of work (summer, full-time) and total annual hours worked. We obtained an R^2 of 0.30 and many of the coefficients were significant. These coefficients and values of the regressors were then used to impute the missing salaries.

Because most working teenagers have hourly wages that are between $5 and $6 (see *Report on the Youth Labor Force*), the differences in total earnings are mostly due to differences in annual hours worked. In the future, these salaries will be imputed during the production process. In addition, some of the teenagers do not provide information on their annual work hours; these are imputed during the production process of the CE survey. We found similar results whether we used the entire sample or the restricted sample of teens with reported hours.

[12] National Research Council, *Protecting Youth at Work* (Washington, National Academy Press, 1998).

[13] Although the Consumer Expenditure Survey category to define two-parent families is "married-couple with children," one of these parents may be a stepparent.

[14] This is similar to that found in the *Report on the Youth Labor Force.*

[15] The clothing expenses are not totally attributable to one teenager, as some households had two or more teens. However, on average, households had only one teenager in the family so the teen clothing expenses represent a single teen.

[16] Alhabeeb, "Characteristics of employed teens."

[17] For both low-income households with an employed teen and nonemployed teen, total expenditures exceeded their before-tax income. The Consumer Expenditure survey publications also show this relationship for the lower-income groups. This result may stem from income not including in-kind benefits and the Earned Income Tax Credit. Also, this result may be the case because families with limited income go into debt or draw on savings to cover expenses.

[18] Ordinary least squares analysis was applied to each expenditure. For the analyses of married-couple families, most families (85 percent or more) reported a positive expense for each of the eight expenditure categories. Hence, there was no truncation problem in there being too many zeros. For the analyses of single-parent families, most families also reported a positive expense for each of the expenditure categories, with the exception of health care. In the case of health care, Tobit analysis may be a more appropriate technique. However, ordinary least squares analysis was used to be consistent with the other expenditures and the majority of single-parent households reported positive health care expenses. This should not pose a problem, as the significance and association of independent variables to the dependent variable should be the same with ordinary least squares and Tobit analyses.

[19] The reference person in the Consumer Expenditure Survey is defined as the person who owns or rents the home; in cases of joint ownership or renting, the reference person is arbitrarily determined. In this study, the reference person is also referred to as the household head. The race and ethnicity of the household was gauged by the race and ethnicity of the reference person. In most families, the race and ethnicity of the reference person is the same as that of other family members.

[20] Teen income was not used in the multivariate analysis because of the use of imputed income for many teenagers.

[21] Bachman, "Premature affluence."

[22] Alhabeeb, "Characteristics of employed teens,"

[23] C. B. Meeks found that nearly half of adolescents ages 12 to 18 were expected to spend all of their income on whatever they chose. See Meeks, "Factors influencing adolescents' income." In addition, another study suggests that more than half of teen spending is on clothing and entertainment. See Matthew Klein, "Teen green," *American Demographics*, 1998 February, p. 39.

[24] See Marilyn E. Manser, "The allocation of consumption by married-couple families in the U.S.: An analysis conditioning on labor supply" (Annales-d'Economie-et-de-Statistique, January-March, 1993), pp. 83–108; and M. Browning, and C. Meghir, "Testing for separability between goods and leisure using conditional demand systems," *Econometrica*, July 1991, pp. 925–52.