DOCUMENT RESUME

ED 352 555 CE 062 754

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TITLE Influences on Adolescents' Vocational Development.
INSTITUTION National Center for Research in Vocational Education, Berkeley, CA.
SPONS AGENCY Office of Vocational and Adult Education (ED), Washington, DC.
PUB DATE Dec 92
CONTRACT V051A80004-92A
NOTE 71p.
AVAILABLE FROM NCRVE Materials Distribution Service, 46 Horrabin Hall, Western Illinois University, Macomb, IL 61455 (order no. MDS-268: $4).
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS *Adolescent Development; *Career Development; Career Planning; Economic Status; Experiential Learning; Family Influence; High Schools; High School Students; Money Management; *Occupational Aspiration; Self Efficacy; Self Esteem; *Sex Differences; *Student Attitudes; Vocational Interests; Vocational Maturity; Volunteers; Volunteer Training; *Work Attitudes; Work Ethic; Work Experience
IDENTIFIERS *Minnesota

ABSTRACT

A study charted family, school, workplace, and community experiences that are relevant to the vocational development of high school students, focusing on five areas of influence: allowance practices within the family, economic status, paid work experience, volunteerism, and gender differences. The data were from the "Youth Development Study," a 4-year longitudinal study in which questionnaires were distributed in St. Paul, Minnesota, classrooms each year in grades 9-12. Study findings were as follows: (1) receipt of an allowance increases adolescents' interest in money; (2) poor and nonpoor students hold similar occupational aspirations, but poor adolescents have lower feelings of economic self-efficacy regarding future vocational goals; (3) the quality of the work experience, rather than employment status or the number of hours worked, significantly affects occupational value formation (the opportunity to acquire skills on the job strengthens adolescents' intrinsic orientations toward work); (4) participation in volunteer activity affects intrinsic and person-oriented work values among boys and enhances feelings of self-esteem among girls; and (5) gender differences concerning future family plans and in feelings of economic self-efficacy have important consequences for the development of vocational skills and the ultimate achievement of vocational goals (girls exceed boys in their aspirations regarding occupational attainments). (Contains 120 references.) (CML)

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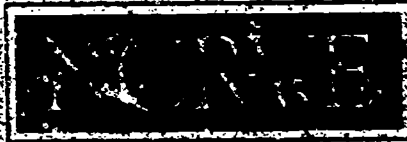

National Center for Research in Vocational Education

University of California, Berkeley

INFLUENCES ON ADOLESCENTS' VOCATIONAL DEVELOPMENT

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INFLUENCES ON ADOLESCENTS' VOCATIONAL DEVELOPMENT

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Supported by
The Office of Vocational and Adult Education,
U.S. Department of Education

December, 1992 MDS-268

ED 352 754

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FUNDING INFORMATION

Project Title:	National Center for Research in Vocational Education
Grant Number:	V051A80004-92A
Act under which Funds Administered:	Carl D. Perkins Vocational Education Act P. L. 98-524
Source of Grant:	Office of Vocational and Adult Education U.S. Department of Education Washington, DC 20202
Grantee:	The Regents of the University of California National Center for Research in Vocational Education 1995 University Avenue, Suite 375 Berkeley, CA 94704
Director:	Charles S. Benson
Percent of Total Grant Financed by Federal Money:	100%
Dollar Amount of Federal Funds for Grant:	$5,775,376
Disclaimer:	This publication was prepared pursuant to a grant with the Office of Vocational and Adult Education, U.S. Department of Education. Grantees undertaking such projects under government sponsorship are encouraged to express freely their judgement in professional and technical matters. Points of view of opinions do not, therefore, necessarily represent official U.S. Department of Education position or policy.
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INTRODUCTION

Adolescence is a critical period for the formation of work-related orientations and identity (Erikson, 1963) and for occupational decision-making. As adolescents move toward greater vocational maturity, they become increasingly interested in work and attempt to identify an occupation which is compatible with their values and self-concepts and is expressive of their personal interests and abilities. During their high school years, students are confronted with major issues concerning occupational choices and other adult situations. The choices they make and the actions they take at this point in life can have major implications for subsequent vocational development and socioeconomic attainment. In this paper, the term "vocational development" refers generally to the broad array of attitudes, values, other psychological orientations, and behaviors that bear on career decision-making and progress toward the realization of vocational goals.

Vocational development during adolescence is influenced by experiences in a wide range of contexts, including the family, school, workplace, volunteer settings, and broader community. These contextual sources of work orientations in adolescence are the focus of an ongoing longitudinal study entitled, "Influences on Adolescents' Conceptions of Work: Values, Identity, and Aspirations," sponsored by the National Center for Research in Vocational Education (NCRVE). Bronfenbrenner (1979) emphasizes the importance of considering multiple contexts in the study of development, as do Vondracek, Lerner, and Schulenberg (1986) in their developmental-contextual framework. In this paper, we report on five different influences during adolescence and their implications for vocational development. First, we investigate the potential importance of allowance arrangements in the family for the socialization of economic concepts. Second, we compare vocational development in the school setting for high- and low-risk adolescents. Third, we examine the implications of adolescent work experience for the formation of occupational values. Fourth, we assess patterns of volunteerism among contemporary youth. Finally, we explore gender differences in adolescent orientations toward future educational, vocational, and familial plans which reflect societal shifts in gender roles.

DATA SOURCE

The data analyzed in this report is derived from the "Youth Development Study," a four-year longitudinal study (1988-1991) of the effects of adolescent work experience on mental health and vocational development. The sample was chosen randomly from a list of ninth graders enrolled in the St. Paul (Minnesota) School District. Although it cannot be claimed that St. Paul is a typical U.S. city (no other single city is), socioeconomic indicators describing St. Paul are comparable to the U.S. population at large. The 1980 Census (U.S. Bureau of the Census, 1982, 1983a, 1983b) showed a somewhat higher socioeconomic well-being for the St. Paul population. For example, per capita income in St. Paul was $7,694; it was $7,298 in the rest of the U.S. St. Paul had lower unemployment rates (4.7% vs. 6.5% nationally) and fewer families in poverty (8.0% vs. 9.6%). The St. Paul population was also more highly educated (of persons twenty-five years old or older, 19.8% were college graduates compared to 16.2% in the country as a whole). St. Paul also had a greater proportion of women sixteen or older in the labor force (55.0% vs. 49.9%). Though a national study would be necessary to ascertain whether there are significant regional variations in youth employment and its developmental implications, the rather small discrepancies between these and other indicators support the supposition that the findings obtained in this study are not unique to this particular community. Questionnaires were distributed in school classrooms each year in grades nine through twelve; those students who were not present for either of the two scheduled administrations (and those who were not attending school, e.g., 9% of the twelfth grade) were mailed questionnaires to their homes. Of the one-thousand initial participants, ninety-three percent were retained over the four-year period. Extensive comparison of the census track characteristics of participants and those who chose not to participate in the study suggests that the panel is highly representative of students attending the St. Paul schools (Finch, Shanahan, Mortimer, & Ryu, 1991; for further information about the sample, see Mortimer, Finch, Shanahan, & Ryu, in press-a). Questionnaire data was also obtained during the first year from parents of ninety-six percent of the adolescent participants.

The questions were mostly fixed format, Likert-type items derived from several previous studies of youth and adults. For example, work experience and attitude measures were derived from Bachman's Youth in Transition Study (Bachman, Bare, & Frankie, 1986), Quinn and Staine's (1979) Quality of Employment Survey, and Kohn and Schooler's (1983) national study of American workers. Items were subject to confirmatory

factor analyses. All differences that are described are statistically significant at the $p<.05$ level or less unless otherwise stated.

FAMILY ALLOWANCE ARRANGEMENTS AND ECONOMIC SOCIALIZATION[1]

Despite their potential importance for the socialization of economic concepts, there has been little systematic study of allowance arrangements in the family context. A prescriptive family guidance literature (Grenberg, 1965; Horton, 1988; McKitric, 1986) extols the benefits of a regular allowance for the development of economic virtues such as thrift and appreciation of the value of money. According to family life educators, children learn through the regular receipt of an allowance, how to save, how to spend, and even how to give their money away to those less fortunate, more wisely. Effective money management is said to derive from knowing that one has a predictable amount each week, not from relying on parents to hand out varying amounts of cash on an irregular basis as the need arises.

During the late nineteenth century, when American children left the factory for school in large numbers, the problem of the newly "insolvent" child arose—the child who needed funds but who could no longer earn them through paid work (Zelizer, 1985). Though the practice of allowance began in the middle class, the experts advised all parents to give their children a small amount of money each week. They said that an allowance should be administered for its educational benefits, not as payment for household chores and caring for younger siblings. They warned that such exchanges would "monetize" or "commercialize" the family, where the division of labor should instead be governed by norms of altruism and caring. Children should realize that all family members benefit from the maintenance of the household, and, therefore, all should contribute to it. Some allowed an exception: children could be paid for special tasks that the parents would otherwise hire another person from outside the family to perform. Payment for this kind of work could be received in addition to a regular allowance. Such a practice would not contradict the norm that regular household work is contributed by family members without extrinsic reward. The family life educators also believed that allowances should not be contingent on the

[1] A full report of the allowance study is contained in Mortimer, Dennehy, Lee, and Finch (1992).

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child's good behavior, for such practice would again subvert more genuine motivations. Similar themes are voiced today as counselors and educators continue to debate the issues surrounding the administration of allowance (Henderson, 1988).

Despite considerable interest in this phenomenon in the guidance community and the apparent widespread adoption of this practice, little is known about the prevalence, distribution, and consequences of allowance arrangements. Miller and Yung (1990) find that an allowance has different symbolic meanings in different families. In accord with the prescriptions of the family life educators, some view an allowance as an educational tool for future handling of money and other economic behaviors. However, others view a regular allowance as "payment" for work performed in the household and it is contingent on the execution of tasks assigned by the parents. Still others see an allowance primarily in terms of "entitlement," recognizing the right of each family member to receive a share of income. While Miller and Yung's study (1990) shows that allowance arrangements have diverse rationales, their sample is confined to a single, highly selective high school in a large metropolitan area.

In our study, almost three-fourths of the ninth-grade students, mostly fourteen and fifteen years old, had at one time received an allowance (74%). Of those who had gotten an allowance up to the time of the ninth grade, more than half started to get their allowances before the age of nine. Table 1 shows the percent of students who received an allowance in each year of the study, from grade nine to grade twelve. Boys and girls are rather similar in the tendency to receive an allowance and in the amount of money received. As students grow older, they are less likely to receive money from parents, and this decline is especially pronounced among those students who have paid jobs (designated as "workers" in Table 1). After the ninth grade, when workers do get an allowance, they tend to receive less money than nonworkers. Thus, once children are earning their own money, parents will discontinue providing an allowance (Miller & Yung, 1990) or give less. Furby (1978) describes a developmental progression in the acquisition of possessions, from dependence on others to self-initiated acquisition. Surely, movement from obtaining money via allowance to paid work would constitute such a shift from a passive to a more active stance, and lead to a corresponding increase in control.

Table 1

Receipt and Amount of Allowance

Employment Status	9th Grade		10th Grade		11th Grade		12th Grade	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Percent Receiving Allowance								
Workers	41.20	40.80	23.80	32.30	16.80	21.90	10.80	15.60
Nonworkers	43.20	53.70	48.40	51.30	35.70	35.70	24.30	27.90
Total Group	41.30	44.70	38.30	40.60	25.80	20.00	17.20	19.10
Average Weekly Allowance (in dollars)								
Workers								
(median)	5.00	6.00	10.00	10.00	10.00	10.00	10.00	10.00
(mean)	8.79	8.79	9.26	9.73	10.82	11.56	11.19	10.80
(s.d.)	7.80	7.83	4.93	5.15	6.76	12.30	7.06	6.19
Nonworkers								
(median)	7.00	7.00	10.00	10.00	10.00	12.25	15.00	13.50
(mean)	8.07	9.24	11.46	11.60	13.15	14.37	16.15	14.36
(s.d.)	4.87	7.19	8.82	8.27	9.20	8.81	9.91	6.88
Total Group								
(median)	7.00	7.00	10.00	10.00	10.00	10.00	10.00	10.00
(mean)	8.31	9.03	10.86	10.86	12.35	12.90	14.39	12.38
(s.d.)	6.10	7.56	7.99	7.23	8.49	10.83	9.11	6.71

The allowance arrangements of most adolescents in our study are consistent with Miller and Yung's (1990) notion of allowance as exchange. Contrary to the prescriptions of the family life educators, eighty percent of the ninth-grade students said that they had to do household chores in order to get their allowances. All of the students (irrespective of whether they received a regular allowance) were also asked whether they do household jobs in their own homes for pay other than for an allowance. Interestingly, most (87%) answered affirmatively, indicating that household transactions of money for services rendered are exceedingly common. But boys and girls who received an allowance were even more likely than other adolescents to perform such "extra" jobs for pay ($p<.001$). Thus, economic exchanges of services for pay, in the context of the family, are highly prevalent.

With respect to the distribution of allowance, it might be expected that higher-income parents who have access to greater monetary resources would be more likely to give their children allowances. However, if allowance is thought of mainly as an educational benefit, the amount of allowance may be determined by more general considerations of what children need in order to develop good spending habits, not by the extent of family resources. Goldstein and Oldham (1979) found socioeconomic status made no significant difference in the amount of children's allowances. There is some indication that children from single parent families are given more responsibility to buy their own clothes and other necessities, perhaps due to the severe constraints on the single parent's time (Stipp, 1988).

Ninth graders in our study who had higher socioeconomic backgrounds were more likely to receive allowances (with parental education, race, family composition, and gender statistically controlled). The higher the family income, the more likely were students to have received allowances, to be receiving allowances at the time of the ninth-grade survey, and to receive allowances for a longer duration of time. Higher-income students also started to receive allowances at younger ages and, as ninth graders, had more money saved. (In these analyses, ordinary least squares [OLS] regression was used to analyze interval-level dependent variables; logit regression was used when the criterion was a dichotomy.) It would thus appear that the economic resource level of the family is an important determinant of whether allowance is received, its duration, and the amount of the child's savings.

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However, there were no significant differences by family income in the amount of allowance students received, nor in whether the receipt of allowance is contingent on household chores. The fact that children from richer and poorer families receive the same weekly payment is consistent with the notion of allowance as an educational benefit and not solely determined by the ability to pay. Students of different economic backgrounds also did not differ in the total monetary resources available to them each week (i.e., allowance, gifts, special jobs, or paid work outside the home), nor in their perceived income need.

Still, family economic resources are not the only determinant of allowance arrangements and other economic behaviors. For example, parental education was positively related to the adolescents having received an allowance and to receiving an allowance during the ninth grade, even with income and other relevant variables (race, family composition, and gender) controlled. Apparently, the more highly educated parents attempt to adhere to the recommendations of the family life educators, irrespective of available income. Parental education, independent of family income, also had a significant, positive effect on the amount of adolescents' savings.

Though there are no racial differences in whether an allowance has been obtained, nor in its receipt in the ninth grade, white students start receiving an allowance earlier and have more monetary savings. A multivariate analysis likewise showed that adolescents in nontraditional families (mainly single-parent) were more likely than those in typical two-parent families to have ever received an allowance ($p<.05$). These findings are consistent with prior observations of such children's greater economic independence in consumership (Stipp, 1988).

Finally, though one study of a small sample of sixth-graders suggests that girls are more likely to receive an allowance than boys (Hollister, Rapp, & Goldsmith, 1986); it is not known whether there are gender differences in adolescence in the receipt of allowance or in arrangements governing this practice. It could be surmised that if allowance is given to enhance economic socialization, boys would be more likely to receive an allowance, given men's traditional responsibility for the economic welfare of their families. Zelizer (1985) notes that boys were more likely to receive an allowance around the turn of the century, and Elder (1974) found that during the Depression era boys were also more likely to receive a regular allowance than girls. Market research in Great Britain suggests that boys receive more allowance money than girls; and in one study, boys were more likely to

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believe that parents would give them more money if they spent it all (Furnham & Thomas, 1984). However, in many contemporary American households, women pay the bills and are largely responsible for the purchase and consumption patterns of the family. Given this situation, we might expect that allowance practices no longer differ greatly by gender, and this is what we find with respect to most of the variables studied. However, boys were more likely than girls to say that their allowances were contingent on the performance of household chores ($p<.05$, with parental education, family income, family composition, and race controlled).

Though the family guidance literature emphasizes the benefits of allowance for consumership—for spending and saving—two empirical attempts to confirm the expectation that receipt of an allowance would lead to more effective money management have not been successful (Hollister et al., 1986; Marshall & Magruder, 1960). We also find that neither the receipt of an allowance in the ninth grade nor its duration are related to the accumulated amount of savings. It is conceivable, however, that receipt of an allowance would have more wide-ranging consequences for the process of socialization to work. The ways children learn about money in the family setting could influence their subsequent thinking about work and earnings more generally.

As individuals move through childhood and early adolescence, they increase their sensitivity to the opinions of their peers that may depend on conformity to norms of dress and acceptable lifestyles which require growing amounts of money. And receiving an allowance may make the adolescent even more sensitive to the importance of money. Students were asked about their total monetary resources including allowance: "Considering *all* your money, from allowance, jobs (paid work outside or inside your home), gifts, and any place else, how much money do you get in an *average* week during the school year?" Median income, from all sources, was $12 per week for boys and $15 for girls. For ninth-grade students receiving an allowance, income from allowance constituted about half the total. Not surprisingly, the majority of the ninth graders felt that they did not have enough money, and they wanted considerably more per week. (The median amount of additional money desired was $20; the mean was $42.) But, those who received allowance for a longer period of time were *more* likely to say that they needed more money (even when parental education, family income, race, and family composition were controlled).

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According to the theory of intrinsic motivation (Deci, 1975; Weiner, 1979), when extrinsic rewards are offered for intrinsically motivated behavior the individual comes to attribute his or her actions to the external reward leading to a devaluation of the activity, initially chosen on the basis of its intrinsic motivational properties, as worthwhile in itself. For example, a child who receives gold stars for engaging in an activity that was previously considered enjoyable would subsequently be less likely to take it up spontaneously. Accordingly, educators in the school setting recommend that extrinsic rewards, if they are offered to stimulate interest in an activity, should be deemphasized and, if possible, withdrawn quickly before the child's natural interest and involvement in a task is extinguished. Like the family guidance experts, they appear to be concerned that motivations of a higher order could be displaced by more extrinsic interests. Applying this reasoning to work, it might be argued that children who receive an allowance become less likely to view work as a source of intrinsic rewards.

To measure occupational values, in each wave we asked the following question: "In the future, how important do you think each of the following will be to you when you are looking for a FULL-TIME job?" Specific features of work followed, which the students rated on a four-point scale (ranging from not at all important to extremely important). (Similar measures have been used by Rosenberg, 1957; Davis, 1964, 1965; and Mortimer & Lorence, 1979.) The following four items reference standard instrumental concerns:

1. good pay
2. good chances of getting ahead
3. a steady job, with little chance of being laid off
4. a job that people regard highly

Intrinsic considerations relate to the following:

- a job that uses my skills and abilities
- a chance to learn a lot of new things at work
- a chance to make my own decisions at work
- a job where I have a lot of responsibility
- a chance to be helpful to others or useful to society
- a chance to work with people rather than things

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A confirmatory factor analysis showed that a two-factor solution fit the data well. The measurement structure (lambdas, or loadings of the indicators on the constructs), as indicated by the multiple groups comparison procedure (the fit of a model in which lambdas are constrained to be equal is compared to that of a model in which they are freely estimated) was very similar, but not identical, for boys and girls.

Whether or not one receives an allowance currently or the duration of allowance in the past bore no significant relationship to students' extrinsic concerns. Interestingly, however, those who received an allowance in the ninth grade had a weaker intrinsic orientation toward work than those who did not—in relation both to jobs before ($p<.01$) and after ($p<.05$) finishing school (when parental education, family income, race, family composition, and gender were controlled.) Consistent with the theory of intrinsic motivation, it is as if receiving an extrinsic reward in the form of allowance which for most involves an exchange of money for services rendered (chores) reduces the salience of intrinsic benefits. (The duration of allowance, however, was not significantly related to adolescents' occupational values.) Our future work will continue to monitor the prevalence and consequences of allowance arrangements as students move through high school.

VOCATIONAL DEVELOPMENT AND HIGH-RISK YOUTH[2]

During adolescence, students begin formulating educational and occupational aspirations, developing plans, and initiating practices directed toward the achievement of those goals. Academic performance, as indicated by grades and the completion of high school, influences options for postsecondary education and the type of job one is able to obtain. Many careers require further formal education after high school which means students intending to go on to college must plan their high school curriculum accordingly and also take preparatory steps for college admission (i.e., sending for applications, taking entrance examinations). Other jobs require technical training in vocational programs and practical work experience. Since the academic performance and vocational development of students during the high school years can have critical ramifications for later vocational and status attainment, it is important to study those students who may be "at risk" of vocational and academic failure. In our research, we examined differences between high- and low-

[2] A full report of the study of high-risk youth is contained in Call, Mortimer, Lee, and Dennehy, 1992.

risk adolescents in vocational preparations and plans, and educational outcomes. Our goal was to compare the vocational development of high-risk (poor) and low-risk (nonpoor) adolescents in order to identify factors that foster positive vocational development for these youths.

Poverty is a clear impediment to positive vocational development. Living in poverty is associated with low academic achievement (Entwisle, 1990) and increased risk of dropping out of school (Frase, 1989; Stedman, Salganik, & Celebuski, 1988; Velez, 1989). Whereas neither of these problems are synonymous with vocational failure, both seriously constrain the job entrant's options in the labor market. Low academic performance by itself is an indication that the student is having difficulty in school and it increases the risk of dropping out (Barrington & Hendricks, 1989; Fernandez, Paulson, & Hirano-Nakanishi, 1989; Frase, 1989; Stevenson & Ellsworth, 1991; Valverde, 1987; Velez, 1989; Williams, 1987). Dropping out of high school increases the risk that the adolescent will be confined to low paying, unstable, and unsatisfying jobs.

In addition to poverty, a variety of factors influence the vocational development process, including feelings of self-efficacy and economic self-efficacy, educational and occupational aspirations, and the availability of social supports such as parents, teachers, counselors, and special vocational and work-study programs. In our study we are interested in discerning whether the high (poor) and low (nonpoor) risk students differ on these psychological and interpersonal dimensions that influence vocational development.

For this research, the concept of "at-risk" or "high-risk" students is defined solely in economic terms. Initially, we considered a composite indicator which included family income, family composition, minority status, and parents' educational attainment. However, these factors were not highly correlated in the sample. Since the literature points to poverty as a key variable adversely affecting vocational development and outcomes (Entwisle, 1990; Frase, 1989; Stedman et al., 1988; Velez, 1989), we chose to define "high-risk" youth as those whose family income falls at or below a modified version of the official federal poverty index. (We include family composition, minority status, parental education, and gender in the analysis as controls since these social background characteristics have also been identified as influencing vocational development and outcomes.)

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We have taken the official federal poverty measure, Poverty Income Guidelines, and multiplied the formula by 150% in order to obtain a classification scheme that is less stringent than the federal guidelines. This modified measure is common among various government agencies that must set eligibility requirements for welfare programs, and it is also sanctioned by some officials and economists (Schorr, 1992). Usage of the modified poverty index is justified on the grounds that the official poverty level is too strict and outdated, and does not take into account the rise in costs of food, housing, and child care (Garbarino, 1992; Schorr, 1992).

In our study, 21.3% (198 cases) of the sample fall into the poverty category and are classified as "high-risk youth." This rate is comparable to U.S. figures which show that approximately 20% of all American children live in poverty (Garbarino, 1989; U.S. Bureau of the Census, 1989); recent figures indicate that 26.5% of children in St. Paul are poor (Children's Defense Fund, 1992). In this sample, high-risk youth differed from low-risk youth on a number of social background variables. Parents of high-risk adolescents are less likely to have completed high school than parents of low-risk youth ($t=4.91$, $p<.001$), and are less likely to have gone to college ($t=5.93$, $p<.001$); high-risk youth are also more likely to live in single parent ($t=6.50$, $p<.001$) and minority ($t=7.45$, $p<.001$) homes.

Educational and occupational aspirations are thought to motivate the person toward high achievement and, therefore, are important to vocational development (Schiamberg & Chin, 1987). One might expect that high risk youth would have lower aspirations than other young people. In our study, we asked students what is the highest level of education they would like to achieve and what type of occupation they would like to have once they complete their education. Educational aspirations were measured on a scale from less than a high school degree to Ph.D. or professional degree, and occupational aspirations were converted to occupational prestige scores (Stevens & Hoisington, 1987). However, in our sample high- and low-risk adolescents are very similar in terms of their future occupational and educational aspirations. High- and low-risk youth also hold similar occupational values.

Despite having similar educational and occupational aspirations, we found that high- and low-risk youth are different in terms of vocational planning and preparation and educational outcomes. In this sample, approximately nine percent of the adolescents dropped out of school ($n=92$) but high-risk youth are significantly more likely to drop out

than low-risk adolescents (16% versus 8%; t=2.76, p<.01). High-risk adolescents' grades, as measured by self-reported grade point average (GPA) are significantly lower than the students in the low-risk group (mean values equal 2.82 and 2.61 for high- and low-risk groups respectively; t=2.98, p<.01). High-risk students who report that they plan to attend college are also less likely to have taken concrete steps towards pursuing their educational plans (t=3.79, p<.001) such as talking to teachers or counselors about college, signing up for or taking college entrance exams, or writing for and/or submitting college applications. In summary, in spite of high- and low-risk students having similar educational and occupational aspirations, the differences in educational outcomes (dropping out and GPA) and preparatory steps for college admittance indicate that the high-risk students are less well-prepared to pursue their educational and occupational objectives.

A key question, then, which needs to be explained is why these high-risk students perform more poorly in school compared to the low-risk students even though they aspire to similar educational and occupational goals. Is it because of differences in the home—low parental education, single-parent families, or other disadvantages? It may be that these students differ in terms of feelings of self-efficacy to accomplish their goals or interpersonal support networks to pursue vocational and educational objectives.

There is evidence that psychological attributes have important ramifications for vocational development (Mainquist & Eichorn, 1989). Self-concept is positively associated with occupational and educational aspirations (Lee, 1984). One aspect of self-concept that is particularly pertinent to vocational development is self-efficacy. Feelings of self-efficacy refer, in Gecas' (1986) words, to "the motivation to perceive oneself as a causal agent in the environment, to experience oneself in agentive terms" (p. 139). People who believe they are able to control their own fate are more likely to push forward to fulfill their goals (Bandura, 1977). Personal efficacy is positively related to educational attainment among young African-American adults (Wilson & Allen, 1987). In a study comparing high and low achieving students from low socioeconomic families, Garner and Cole (1986) found that high achievers had a greater sense of self-efficacy (i.e., they believed that they controlled their successes and failures).

Whereas self-efficacy is usually conceptualized in general terms, it may be useful to differentiate types of efficacy or efficacy with respect to different life domains. In this research, we examined economic efficacy, the expectation that one has control over and

will be able to realize one's basic material goals (i.e., a good job, good pay, ability to buy a home). In our investigation, we found differences in the reported efficacy of high- and low-risk adolescents. High-risk adolescents had lower feelings of self-efficacy than low-risk youth (t=4.19, p<.001), reporting less control over things that happen to them and feelings of helplessness in dealing with the problems of life. High-risk adolescents also reported feeling less economically efficacious (t=3.45, p<.001), responding that they will be less likely to have a job that they enjoy, or that pays well, and are less likely to own a home.

Another perspective taken in examining school success and completion is to consider students' affective response to school. One explanation for school failure and attrition is that students feel alienated. Alienation may be either a cause or a consequence of school failure, but whatever the causal order, estrangement and withdrawal are detrimental to academic performance (Hendrix, Sederberg, & Miller, 1990), and may drive the student to quit school (Stevenson & Ellsworth, 1991; Valverde, 1987). One possible reason behind these feelings of isolation and alienation is that students do not understand the connection between school and the rest of their lives; that is, they do not see school as contributing to their future well-being by improving their occupational chances (Alpert & Dunham, 1986; Hendrix et al., 1990; Valverde, 1987). Adolescents who observe that future vocational opportunities are severely constrained, regardless of their educational attainment, are not likely to feel that working hard in school or getting a high school degree is worth the investment. The constrained opportunity hypothesis, which posits that some students do not try as hard in school because of perceptions that education does not give a fair return on the investment, has primarily been applied to minority groups (Fine & Rosenberg, 1983; Ogbu, 1978; Valverde, 1987). However, it may also apply to youth who grow up in persistent poverty and perceive the occupational opportunity structure to be closed for reasons other than racial discrimination.

In our study, we compared high- and low-risk adolescents on a composite construct of intrinsic motivation toward school activities such as the degree of effort they put into school, level of interest in classes, and belief that school improves their thinking and problem-solving skills. We did not find a statistically significant difference between the high- and low-risk students on intrinsic motivation. Dropouts, however, reported less intrinsic motivation toward school than those who stayed in (t=6.18, p<.000).

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Interpersonal relationships, both within and outside the family, can be viewed as important resources of support that an adolescent may draw upon during the vocational development process. Prior research has shown that parental support and encouragement are positively related to adolescents' academic performance and aspirations (Astone & McLanahan, 1991; Egginton, Wells, Gaus, & Esselman, 1990; Lee, 1984; Marjoribanks, 1986; Picou & Curry, 1973; Wilson & Allen, 1987). However, students living in impoverished circumstances may not receive the same level of support from their parents as more advantaged youth. Given parents' economic difficulties, one might hypothesize that high-risk students may look for vocational guidance outside of their immediate family, turning to teachers or counselors.

Research examining the importance of support and encouragement from adults in the school setting for academic outcomes yields mixed findings. Bachman, Bare, and Frankie (1986) and Rumberger (1982) found that a close relationship with the teacher played an important role in retaining students. In their study of young African-American adults, Wilson and Allen's (1987) respondents maintain that the help of teachers and counselors was not related to educational attainment or retention. Furthermore, using data from the *High School and Beyond Study*, Lee and Ekstrom (1987) found that students from higher socioeconomic backgrounds are more likely to report visiting a guidance counselor. This implies that the high-risk adolescents who conceivably have the most to gain from these resources in the school setting either do not benefit from or do not make use of these resources.

We investigated whether high- and low-risk youth differ in terms of interpersonal resources within the family, school, and peer domains. We find that high-risk adolescents report less closeness to their mothers ($t=2.32, p<.05$) and fathers ($t=2.34, p<.05$), when compared to low-risk youth. A composite variable was constructed from four indicators that assessed the adolescents' relationship to each parent: feelings of closeness to parent, frequency of doing activities together, frequency of sharing personal concerns and decisions with parent, and the frequency with which the parent consults the adolescent on important decisions. We did not find high- and low-risk adolescents to differ in terms of perceptions of teacher support (measured by perceived frequency that teachers are willing to listen to the students' problems or help them find solutions) or in support from friends.

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We find that high- and low-risk youth draw on different sources for occupational guidance. Fathers are more likely to influence the career plans of low-risk youth (t=2.09, p<.05). High-risk adolescents are more likely to be influenced by resources outside the immediate family such as a guidance counselor (t=2.88, p<.01) or work-study coordinator (t=3.01, p<.01). High-risk youth are also more likely to rely on the advice of relatives outside the immediate family (i.e., relatives other than an aunt, uncle, sibling, grandparent, or parent) (t=2.34, p<.05).

Enrollment in vocational programs is also relevant to academic performance and attainment. The findings concerning the effects of participation in vocational education are mixed. Using High School and Beyond (HS&B) Study data, Stedman et al. (1988) found that enrollment in vocational courses and work-study programs increased the chances that white males would drop out of school; their results demonstrate that low-income adolescents are more likely to be involved in these programs. Similarly, using the same data set, Frase (1989) found that students enrolled in vocational or general track programs were more likely to drop out than students in the academic track. In contrast, Williams' (1987) study of one-hundred African-American youth found that students who were "stayers" are more likely to be involved in vocational education programs than dropouts. The students report staying in school because they were getting practical training for "real world" jobs in the vocational education programs.

Unfortunately, our data did not permit us to explore directly the impact of enrollment in vocational education programs on academic performance. However, we did investigate the influence of a work-study coordinator. Work-study coordinator influence on their occupational plans did not have a significant effect on dropping out or GPA. However, those who reported that a work-study coordinator influenced them were less likely to have taken preparatory steps for college admission (e.g., SAT exams, requesting applications) (beta = -.14, p<.001). It could be that students who are influenced by work study coordinators are planning vocations that do not require a college education, and, hence, they do not undertake the necessary preparatory steps for college admission.

Thus far, we have identified differences between high- and low-risk adolescents in academic performance, dropping out, and in the taking of preparatory steps for college admission. Our research also reveals that high- and low-risk adolescents differ in terms of the interpersonal relationships that may affect vocational development (e.g., personal

contacts that influence their career plans and perceived parental support) and psychological variables associated with vocational development (e.g., self-efficacy and economic self-efficacy). To investigate whether the interpersonal and psychological resources account for the difference in vocational outcomes for high- and low-risk youth, we regressed (OLS [Ordinary Least Squares] regression with interval dependent variables, logistic regression with dichotomous criteria) the vocational criteria (GPA, college admission preparation, and dropout status) on risk status (coded 1 if high risk, 0 if low risk), the interpersonal resource variables (mother and father support, influence of a work-study coordinator on occupational plans), and the psychological resource variables (self-efficacy and economic self-efficacy) that were significantly related to both risk status and the criteria, and four control variables (parental education, family composition, race, and gender).

We find that risk status (e.g., poverty) does not have a direct effect on GPA or preparation for college admission (see Table 2). However, we do find that feelings of economic self-efficacy are significantly related to academic performance (beta=.109, p<.001) and college preparation (beta=.272, p<.001). The belief that one will be able to achieve one's economic goals in the future predicts students' grades and steps taken to enter college.

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Table 2
Effects of Risk, Interpersonal, and Psychological Resources on Education Outcomes

	Grade Point Average (W4)[1]		Preparation for College	
	B	Beta	B	Beta
Risk Status (0=low, 1=high)	-.035	-.016	-.204	-.047
Interpersonal Resources:				
Mother Support (W4)	.006	.026	—	—
Father Support (W4)	.017	.078a	.037	.082*
Work-Study Coordinator (W4)	—	—	-.256	-.102**
Psychological Resources:				
Economic Self-Efficacy (W4)	.081	.236***	.192	.272***
Controls:				
Parental Education (0=noncollege, 1=college)	.302	.191***	.612	.182***
Family Composition (0=single-parent, 1=two-parent)	.087	.044	.220	.056
Race (0=minority, 1=white)	.276	.142***	.006	.001
Gender (0=female, 1=male)	-.216	-.142***	-.335	-.103**
R^2	.178***		.175***	
N	620		722	

[1]Indicates the wave of data used in equation (W4- Wave 4 data).

[a]p<.10, *p<.05, **p<.01, ***p<.001

Risk status (i.e., poverty) apparently has a direct significant effect on dropping out of school (p<.005); being poor increases the odds of dropping out of school. However, positive feelings of economic self-efficacy and supportive relationships with fathers reduce the odds of dropping out (p<.052 and p<.050, respectively; see Table 3). Two interpersonal variables, mother support and work-study coordinator influence, were not retained in the model for dropping out because they were not significantly related to dropping out.

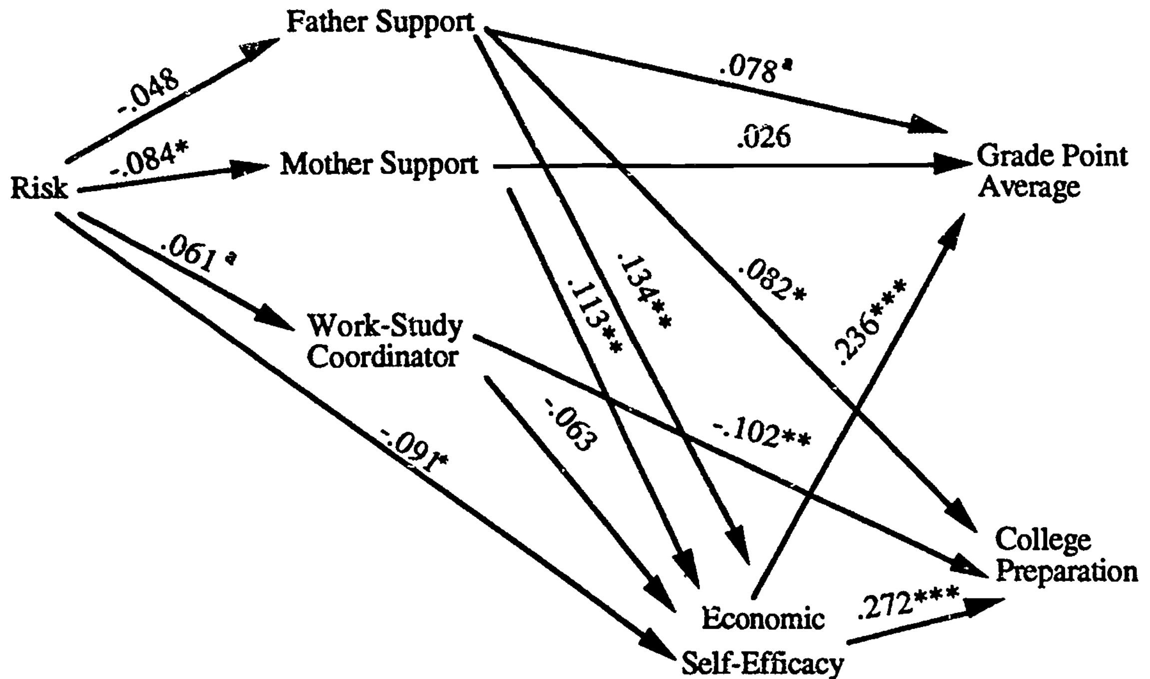
Table 3
Effects of Risk, Interpersonal, and Psychological Resources on Dropping Out, Logistic Regression, with Controls

	Odds Ratio (Adjusted)	t	p
Risk Status (0=low, 1=high)	2.428	2.778	.005
Interpersonal Resources:			
Father Support (W1)[1]	.927	-1.959	.050
Psychological Resources:			
Self-Efficacy (W1)	1.011	.190	.850
Economic Self-Efficacy (W2)	.883	-1.940	.052
Controls:			
Parental Education (0=noncollege, 1=college)	.779	-.882	.378
Family Composition (0=single-parent, 1=two-parent)	.578	-1.797	.072
Race (0=minority, 1=white)	1.324	.776	.438
Gender (0=female, 1=male)	1.175	.569	.570
N	693		

[1]Indicates wave of data used (W1=wave 1 data).

The model presented in Figure 1 illustrates the process through which risk status influences vocational development. The model shows that risk status influences the kinds of interpersonal and psychological resources adolescents have access to, which in turn influence vocational development outcomes. As indicated in Figure 1, living in poverty tends to reduce one's feeling of economic self-efficacy (beta=-.095, p<.10) and high-risk youth perceive lower levels of support from their mothers (beta=-.084, p<.05). However, greater perceived support from both mothers (beta=.114, p<.01) and fathers (beta=.139, p<.001) is positively related to feelings of economic self-efficacy. Economic self-efficacy, in turn, is positively related to academic performance (beta=.109, p<.001) and expending more effort toward the pursuit of postsecondary education plans (beta=.272, p<.001). The model clearly demonstrates that the effects of poverty on vocational development are indirect, operating through interpersonal resources and adolescents' feelings of economic self-efficacy.

Figure 1
Interrelations of Risk, Interpersonal Resources, Economic Self-Efficacy, and Vocational Development Outcomes



Note: All equations control for parental education, family composition, race, and gender. For simplicity, paths for the control variables are omitted from the figure.

ªp<.10, *p<.05, **p<.01, ***p<.001

In order to illustrate the key factors associated with positive vocational development for the high-risk group, we compared successful and unsuccessful high-risk students on the same interpersonal and psychological dimensions used to distinguish high- and low-risk adolescents (i.e., mother and father support, self-efficacy, economic self-efficacy) as well as on the social background characteristics. We have defined a successful high-risk student as someone who has not dropped out of school, who has a senior grade point average of 3.0 or better, and who has taken steps toward preparing to enter postsecondary schooling. Out of the high-risk students (N=171), thirty-one percent (N=53) are successfully participating in the educational system as indicated by these criteria. The key factor distinguishing the successful and unsuccessful high-risk students in terms of educational outcomes is their sense of economic self-efficacy (see Table 4). The high-risk students who are more confident of their ability to obtain future economic goals (in this

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case, to obtain a satisfying, well-paying job, and to own their own home) are more likely to perform successfully in the school setting and to continue their education after high school.

Table 4
Within High-Risk Group Differences on Interpersonal Resources, Psychological Resources, and Control Variables

	Successful High-Risk Youth			Unsuccessful High-Risk Youth			t
	x	s.d.	N	x	s.d.	N	
Interpersonal Resources:							
Father Support	10.58	(3.48)	40	10.96	(3.48)	87	.58
Mother Support	13.58	(3.76)	47	13.15	(3.89)	95	.63
Work-Study Coordinator	1.37	(.66)	51	1.43	(.81)	115	.48
Psychological Resource:							
Economic Self-Efficacy	12.79	(2.13)	53	10.96	(2.66)	115	4.42***
Self-Efficacy	14.53	(2.01)	52	14.55	(2.83)	114	.03
Controls:							
Parental Education (0=noncollege, 1=college)	.510	(.51)	51	.393	(.49)	117	1.40
Family Composition (0=single-parent, 1=two-parent)	.434	(.50)	53	.581	(.50)	117	1.79a
Race (0=minority, 1=white)	.585	(.50)	53	.568	(.50)	111	.21
Gender (0=female, 1=male)	.400	(.49)	53	.525	(.50)	118	1.57

[a]$p<.10$, ***$p<.001$

Our research points to the importance of efficacy in the vocational development of high-risk youth. The analysis suggests that conditions of poverty adversely affect the vocational development of youth indirectly through its impact on feelings of economic self-efficacy. Students who are living in conditions of poverty do not feel that they are able to control their economic fate. Since these students perceive their future economic and vocational opportunities as limited and beyond their personal control, it may be surmised that they are not likely to view performance in the school setting as a means for obtaining satisfying, well-paying careers. For students living in economically deprived environments, our comparison of successful and unsuccessful high-risk students points to the importance of feelings of economic self-efficacy for the achievement of positive educational and vocational outcomes.

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PAID WORK AND VOCATIONAL DEVELOPMENT IN ADOLESCENCE[3]

American teenagers increasingly hold part-time jobs while they are attending school; these jobs often become full-time during the summer months. A recent (1987-1988) national study (Manning, 1990) reports that sixty-one percent of tenth graders and ninety percent of eleventh and twelfth graders worked during the school year. Given the importance of adolescence as a time of vocational development and vocationally relevant decision-making, it is reasonable to suppose that work experience occurring at this time would have a significant formative influence on adolescents' thinking about the potential gratifications and rewards to be obtained from work.

We find that both boys and girls have substantial work experience during the years of high school, with girls somewhat more likely to be working each year than boys (see Table 5). Forty percent of boys were employed in grade nine in comparison to sixty-three percent of girls. The percent of employed boys increased to fifty-eight percent by grade twelve, girls' employment rate increased to seventy percent. In the ninth grade, boys and girls who had jobs both worked on the average of about eleven hours per week. By the twelfth grade, work intensity had also increased for both—to twenty-two hours for boys and twenty hours tor girls. However, boys and girls do very different kinds of work, especially in the earlier years, with girls much more likely to be doing informal work in the context of private households, especially babysitting (see Mortimer, Finch, Owens, & Shanahan, 1990, for a description of gender differences in the earliest work experiences). Whereas sixty-five percent of employed ninth-grade boys reported formal employment (i.e., in nonhousehold settings), only twenty-eight percent of girls did. Over the ensuing period, we find considerable movement on the part of both genders into more formal work settings. This movement is reflected in wage differentials by gender—wages are much lower for girls than boys in grade nine when the vast majority of employed girls are babysitting. However, wages almost assume parity in grades ten through twelve. Adolescent earnings are substantial; on the average, $175 over a two-week period for boys, $149 for girls in the twelfth grade.

[3] A full report of the study of paid work and occupational value formation is contained in Mortimer, Ryu, Dennehy, and Lee (1992).

Table 5

Work Status, Type of Work, Hours of Work, and Earnings by Gender and Grade

	9th Grade		10th Grade		11th Grade		12th Grade	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Percent Working	40%	63%	42%	52%	53%	63%	58%	70%
Percentage of Workers in Formal Employment	65%	28%	91%	66%	97%	87%	97%	94%
Hours Worked								
(Median)	7.50	9.50	20.00	15.00	20.00	18.00	20.00	20.00
(Mean)	11.30	11.50	19.60	15.80	21.90	18.60	21.80	19.80
(S.D.)	9.70	8.80	10.80	8.30	9.90	8.50	10.60	9.20
Earnings Per Hour								
(Median)	3.50	2.00	4.00	3.80	4.35	4.25	4.85	4.65
(Mean)	4.10	2.77	4.38	3.74	4.53	4.25	5.08	4.76
(S.D.)	3.70	3.16	3.52	3.21	0.85	1.07	1.31	4.25
Earnings Two Weeks								
(Median)	*	*	112.00	75.00	150.00	120.00	160.00	140.00
(Mean)	*	*	123.00	85.00	170.00	127.00	175.00	149.00
(S.D.)	*	*	103.00	63.00	112.00	77.00	110.00	82.00

*Information not obtained for that year of data collection

Table 6 provides information on the uses of adolescent earnings. (Because the respondents were able to check as many items as applied to them, the percentages do not sum to unity.) Consistent with other reports (Greenberger & Steinberg, 1986; Bachman, Johnston, & O'Malley, 1987), we find that most adolescent workers use at least part of their earnings on immediate consumption: clothing, entertainment, records, tapes, and other items. Substantial proportions also use their earnings for food, school expenses, and their cars—for needs that might otherwise be entirely provided by families. Thus, whereas very few adolescents report handing over any of their earnings to their families, they may be contributing to the family economy indirectly (and several parents recognized this contribution in their own responses to the survey). It is evident from Table 6 that by the twelfth grade, approximately half of the employed students save some of their earnings for education; saving for other purposes is also quite prevalent. (Marsh, 1991, has noted that saving earnings to attend college is associated with positive educational outcomes for adolescent workers.) Table 7 shows that adolescents who are employed have much higher median savings than those who are not.

Table 6
Summary Information on Use of Earnings

Use Of Earnings (Percentage)	9th Grade		10th Grade		11th Grade		12th Grade	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Food	*	*	35.8	32.5	45.4	41.4	45.6	36.0
Clothing	50.8	80.3	61.5	75.5	62.5	76.8	60.6	80.2
School Expenses (lunches, supplies)	25.4	31.8	33.2	44.2	31.5	44.5	36.1	52.5
Car (repairs, insurance)	22.2	7.6	36.4	18.9	50.2	32.9	61.4	38.9
Other Items (records, tapes)	66.5	63.3	70.6	63.8	68.9	60.5	69.3	65.2
Entertainment (movies, dating)	53.0	66.7	64.2	74.0	67.2	73.0	72.6	77.6
Saving for Future Education	21.6	22.7	31.6	36.2	35.7	40.1	46.9	49.9
Saving for Other Purposes	31.9	26.7	43.3	35.8	39.1	42.0	43.2	37.5
Gives Earnings to the Family	8.1	6.1	13.9	12.5	15.7	11.6	11.2	8.6
Total N	185.0	330.0	187.0	265.0	235.0	319.0	241.0	339.0

*Information not obtained for that year of data collection

The students were also asked whether the amount of money they had (from all sources, including paid work and allowance) was enough (see Table 8). While nonworkers are somewhat more likely to think that their funds are insufficient (and there is little difference between boys and girls in this perception), among those workers who did think they need more money, the amount needed is considerably more than that desired by nonworkers. While it is plausible that some adolescents chose to enter the labor force because of high perceived monetary need, it also may be the case that employment, perhaps like the receipt of an allowance, increases the salience of what money can buy and intensifies interest in these potential benefits. It is also noteworthy that boys perceive greater monetary need than girls.

Table 7
Amount Saved by Gender and Employment Status

Employment Status		9th Grade Boys	9th Grade Girls	10th Grade Boys	10th Grade Girls	11th Grade Boys	11th Grade Girls	12th Grade Boys	12th Grade Girls
Workers	(Median)	100	60	245	100	300	200	300	200
	(Mean)	885	1,022	2,205	1,294	1,500	619	1,121	565
	(S.D.)	3,492	4,579	6,308	5,131	8,111	1,703	2,789	1,061
Nonworkers	(Median)	40	16	23	25	36	30	18	0
	(Mean)	1,210	1,574	951	1,050	684	361	1,275	531
	(S.D.)	5,502	6,356	4,428	5,137	3,711	1,244	5,164	2,215
Total Group	(Median)	60	48	115	60	135	100	120	100
	(Mean)	1,112	1,220	1,461	1,179	1,117	532	1,158	550
	(S.D.)	4,556	5,293	5,287	5,120	6,435	1,555	3,923	1,493

Table 8
Perceived Monetary Need by Gender and Employment Status

Monetary Need	Employment Status		9th Grade Boys	9th Grade Girls	10th Grade Boys	10th Grade Girls	11th Grade Boys	11th Grade Girls	12th Grade Boys	12th Grade Girls
Percent Who Feel Amount Not Enough	Workers		42.6	49.7	45.6	50.0	51.3	47.6	61.6	66.2
	Nonworkers		57.4	60.6	62.6	66.2	61.2	65.7	66.5	66.0
	Total Group		52.0	53.9	55.7	57.6	56.0	54.4	64.0	66.1
How Much Would Be Enough?	Workers	(Median)	30.0	20.0	80.0	37.0	100.0	50.0	100.0	100.0
		(Mean)	66.0	37.0	192.0	94.0	165.0	91.0	124.0	93.0
		(S.D.)	91.0	41.0	272.0	179.0	224.0	131.0	110.0	73.0
	Non-workers	(Median)	20.0	15.0	30.0	25.0	50.0	30.0	95.0	50.0
		(Mean)	46.0	27.0	97.0	49.0	144.0	65.0	123.0	79.0
		(S.D.)	80.0	31.0	205.0	90.0	250.0	112.0	147.0	83.0
	Total Group	(Median)	20.0	20.0	50.0	30.0	75.0	50.0	100.0	60.0
		(Mean)	52.0	33.0	129.0	70.0	154.0	79.0	124.0	88.0
		(S.D.)	83.0	37.0	233.0	140.0	237.0	123.0	127.0	76.0

There is already substantial evidence that adolescent work experiences have significant impacts on indicators of mental health. For example, both extrinsic opportunities and rewards and the presence of stressors in the work environment influence the adolescent's sense of mastery—like personal efficacy or internal locus of control (Finch et al., 1991). Adolescent control orientations, in turn, have major implications for subsequent occupational achievement (Clausen, 1991). The character of adolescent work also has significant influence on depressive affect (Shanahan, Finch, Mortimer, & Ryu, 1991) and other indicators of mental health and behavioral adjustment (Mortimer et al., in press-a, in press-b). Many studies of adolescent work have been concerned with achievement-related outcomes (Finch & Mortimer, 1985; Marsh, 1991; Mortimer & Finch, 1986), or indicators of behavioral maladjustment such as substance use or deviance (see Mortimer et al., in press-a; Mortimer, 1991 for reviews of this literature). However, relatively little is known about the effects of adolescent work experience on vocational development.

Prior research on the psychosocial impacts of adolescent work experience has given far more attention to employment status and to the intensity of work than to the quality of work. Investigators typically examine differences between students who are employed and those who are not or assess the relationship between hours of work and developmental outcomes. In one such study which assessed the implications of adolescent employment status for vocational socialization, Steinberg, Greenberger, Vaux, and Ruggiero (1981) posit three possible consequences of work. According to the first hypothesis, part-time jobs are viewed as helping adolescents to acquire attitudes, values, habits, and knowledge that make them better adult workers. In contrast to this "competence model," the "cynicism model" proposes that since the jobs available to teenagers are often rather menial, employed youth will become cynical about work and focus on its extrinsic rather than intrinsic rewards. The third plausible hypothesis is that early work experience has no effect whatsoever on the values and attitudes of adolescents because the teenagers themselves view their jobs as temporary and do not expect to engage in similar kinds of work following completion of schooling. Consistent with this third possibility, Steinberg et al.'s (1981) study of 531 tenth- and eleventh-grade California high school students found that part-time employment had very little association with occupational values. However, workers valued "doing important things at work" more highly than nonworkers. With respect to extrinsic reward values, Steinberg et al. found no evidence that part-time work has any impact.

Two other studies have considered the quality of youthwork in relation to work orientations. Wijting, Arnold, and Conrad (1977) found that tenth graders' work values were related to the extrinsic and intrinsic satisfactions obtained from their jobs. But the investigators note that little variance was explained by the work experience variables. Like Steinberg et al. (1981), Wijting and his colleagues argued that since many youths' jobs are low-level and require little skill, students do not perceive them as having any bearing on their future occupations. Stern, Stone, Hopkins, and McMillion's (1990) study of high school students in two cities, however, found that the opportunity to learn new things at work and physical challenge on the job were positively related to the motivation to do good work. Use of one's existing skills on the job was negatively related to cynicism about work. While the motivation to do good work might be expected to be positively related to intrinsic value orientations, and cynicism, to the extrinsic value constellation, Stern et al.'s work orientation factors are more general in scope.

Whereas little research has considered the influence of the *quality* of adolescent work on occupational reward value formation, researchers have examined the interrelations of values and work experiences among young adults. The most directly pertinent are those conducted by Mortimer and Lorence (1979), based on data from a sample of male college graduates, and a replication of this research by Lindsay and Knox (1984), using data from a national sample of high school seniors, including both men and women. Both found evidence for a reciprocal relationship between values and work experiences such as the fact that initial orientations become accentuated over time. For example, students who placed high emphasis on intrinsic rewards were found subsequently (a decade later in Mortimer and Lorence's research; seven years after that in the study by Lindsay and Knox) to have more autonomous and mentally challenging jobs. In both studies, however, these qualities of work strengthened intrinsic values over time. In contrast, those who placed greater emphasis on extrinsic rewards while still in school were later found to receive higher levels of financial remuneration in their jobs. In Mortimer and Lorence's (1979) research, high levels of economic reward led to an accentuation (further increase) in the valuation of extrinsic rewards. In both studies, high monetary remuneration fostered subsequent declines in intrinsic values. Thus, the distinctive rewards and activities that are emphasized in the work sphere acquire increasing salience over time.

These prior studies of young adults provide a strong basis for concluding that work experiences and occupational values are reciprocally related to one another in the early years

following the completion of formal schooling—values influence the selection of work, and work experiences affect the further development of occupational values. To what extent might these findings be applied to adolescents? It seems that there may be reason to expect some divergence in these person-job dynamics in a younger age group. Specifically, the initial selection process that has been observed, by which young adults move into certain kinds of work based on their prior values, may not occur among adolescents. Occupational value orientations may lack crystallization and have little motivational force, particularly among the youngest workers. Moreover, because high school students have a quite limited array of work opportunities, concentrated in the retail, service sectors, and informal work such as babysitting or yardwork, they may not be able to effectively choose their jobs based on their prior dispositions.

However, with respect to the influences of work, we might expect to find similar person-work dynamics among adolescents and adults. Kohn, Schooler, and their colleagues (1983) posit that basic processes of "learning-generalization" underlie the effects of work conditions on psychological functioning. According to their reasoning, certain work activities and conditions, especially complex, diverse tasks performed autonomously, are inherently gratifying (Miller, 1988). Moreover, successful resolution of the problems and challenges of complex work teach the individual important lessons and values which generalize to off-the-job situations. Thus, if a person must deal with complicated problems and must think in a flexible, innovative way at work in deriving solutions to them without close supervision, that person will come to value self-direction—for self and for others.

We have little reason to believe that young people would not similarly find gratification from working at jobs that enable them to use or develop their skills. This kind of job might, in the same manner as self-directed work in adulthood, be experienced as gratifying, leading young people to view work in general as a source of intrinsic satisfaction. Moreover, the development of skills at work would give the teenager a sense of progress and forward movement with respect to future occupational attainment. In this study, the opportunity to acquire job skills was indicated by reports that work allows students to develop the following abilities: follow directions, get along with others, be on time, take responsibility for work, and manage money. Work offering high levels of extrinsic reward (measured in this study by evaluation of one's pay) may foster development of extrinsic work values.

The implications of stressors in the workplace should also be considered. Whereas Kohn and Schooler's (1983) analyses, and many other studies (House, 1980; Kahn, 1981) have found that work stressors foster worker distress, they may have distinct implications for the youngest workers whose values may be in a particularly formative stage. That is, if there are excessive stressors on the job, the young person may come to think of work as not providing intrinsic gratifications which are of value in and of themselves but only as a source of income and instrumental benefits. We assess job stressors as including role over load, feeling drained of energy after work, time pressure, and noxious work conditions.

We found no differences in intrinsic and extrinsic values orientations, in any of the four years of study, between boys who were employed and those who were not. Girls who were employed in grade nine had stronger ($p<.01$) intrinsic values than those who were not; there were no significant differences in girls' values, depending on employment status, in the two succeeding years. However, in grade twelve, employed girls had higher mean intrinsic ($p<.01$) and extrinsic ($p<.05$) values. Furthermore, neither intrinsic nor extrinsic occupational reward values were significantly correlated with job hours at any time for either boys or girls. Thus, there is no substantial evidence that employment or hours of work foster distinctive occupational value orientations in adolescence.

The hypothetical analytic model shown in Figure 2 parallels those estimated by Mortimer and Lorence (1979) and Lindsay and Knox (1984). First, intrinsic and extrinsic value constructs are assumed to be stable over time. Second, consistent with earlier findings, one year lagged intrinsic values and extrinsic values are specified as influencing subsequent work experiences. Third, we hypothesize that the work conditions—opportunity to obtain skills on the job, the chance to be helpful to others, income evaluation, and job stressors—contemporaneously influence occupational values (Kohn & Schooler, 1983; Mortimer, Lorence, & Kumka, 1986). The model was estimated three times, considering the process of value formation between the ninth and tenth grades, the tenth and eleventh grades, and finally the eleventh and twelfth grades. We report the standardized parameter estimates (obtained from the LISREL [Linear Structural Relations] program, version 7.16-PC) for the model of occupational value formation between grades eleven and twelve in Figure 3. (For discussions of the models for grades nine through ten and ten through eleven, see Mortimer, Ryu, Dennehy, & Lee, 1992.)

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Figure 2
Hypothetical Model

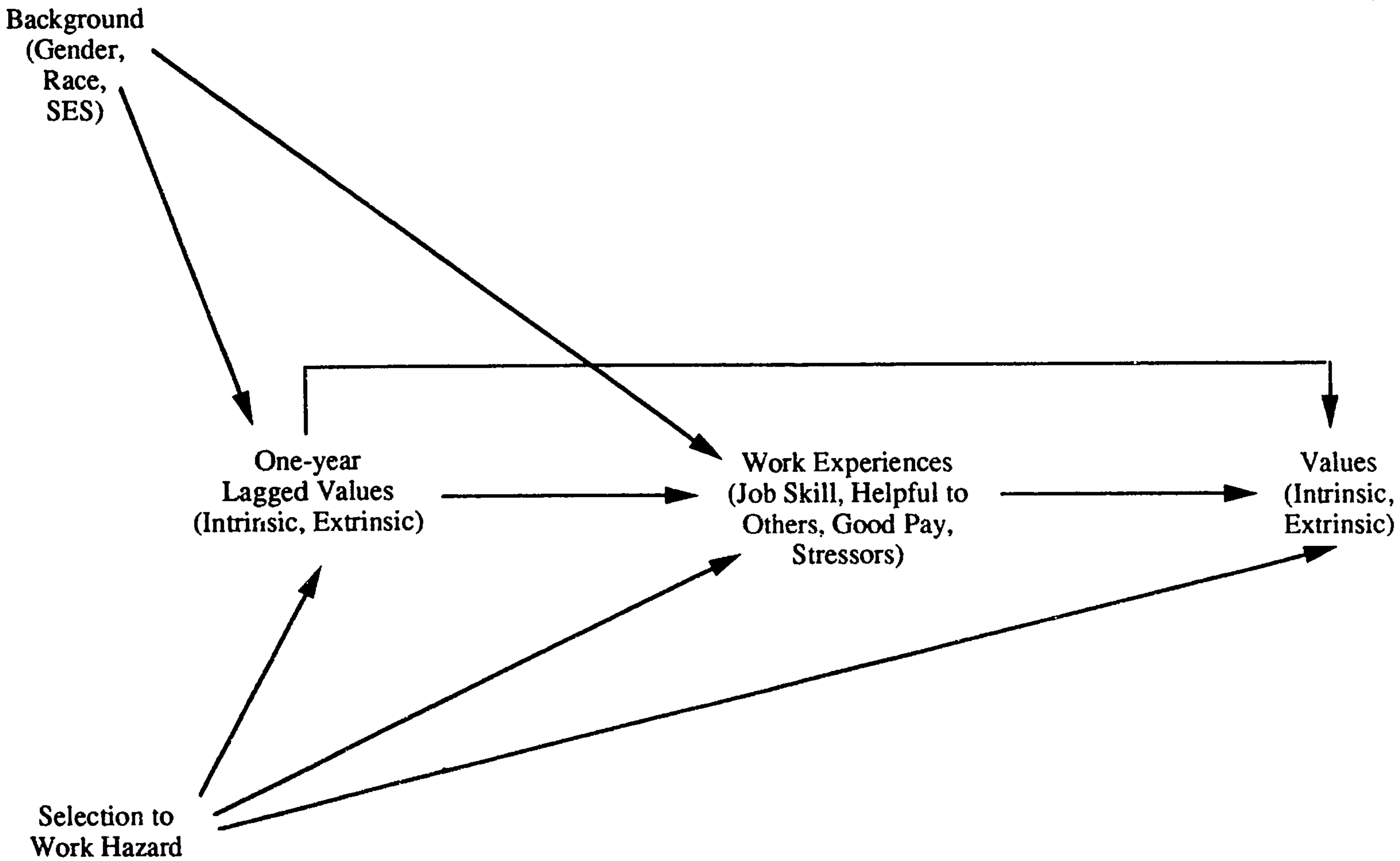

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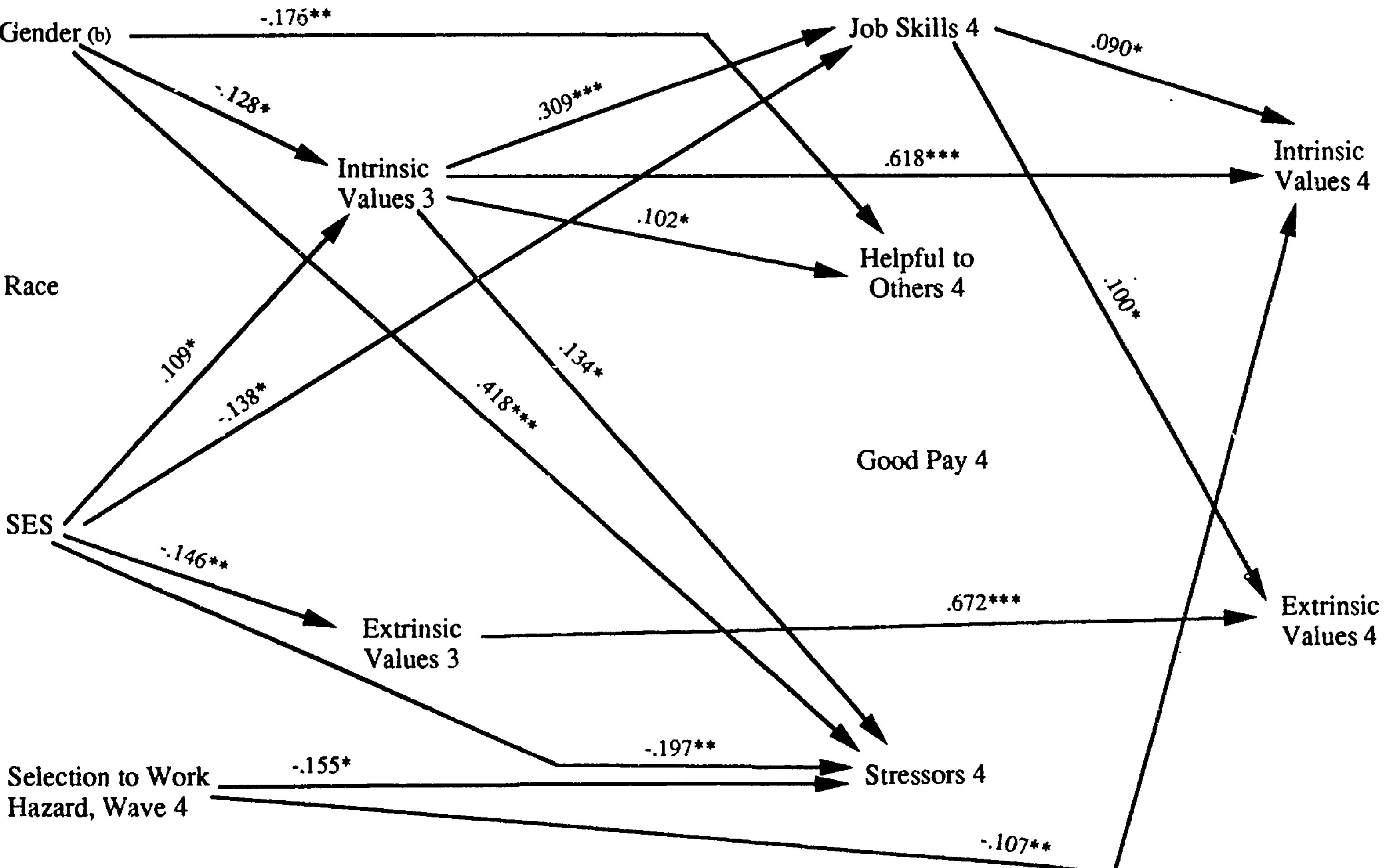
Figure 3
Interrelations of Work Experiences and Values, Waves 3 and 4(a)



*	p<.05	2 = 1129.21
**	p<.01	df = 585
***	p<.001	GFI = .896

(a) Parameters found to be non-significant in a preliminary analysis were deleted in this reduced model.
(b) 1 = male, 0 = female

For eleventh- as well as tenth-grade students, we found that their occupational value orientations had significant positive effects on their work experiences in the subsequent year. For example, intrinsic values in both the tenth and eleventh grades have positive effects on students' reports that their jobs the following year foster the development of useful skills and enable them to be helpful to others. This scenario was not the case for ninth graders. Thus, it appears that occupational values after the ninth grade increasingly predict adolescent work experiences. Extrinsic values did not have any bearing on subsequent work experiences.

To assess the impacts of adolescent work *experiences* on values, we regressed the intrinsic and extrinsic work value constructs on four key occupational experience variables, controlling the selection to work hazard, and the lagged value construct (measured one year previously) as there was substantial stability of occupational value orientations through the high school period.

The work variable with the most consistent positive effects in all three models reflected the opportunity to learn skills on the job that are useful in the future. When adolescents perceived their jobs as allowing them to move forward on their occupational trajectories, enabling them to learn how to accept responsibility, work with people, be on time, manage money, and follow directions, they came to view the intrinsic benefits of work as more important to them. Of the three tests of this effect (considering the outcomes measured at waves 2, 3, and 4), all coefficients were positive and statistically significant. Given that we were able to control the substantial stability of values in the analyses, these findings provide convincing evidence that the opportunity to acquire skills on the job does heighten adolescents' intrinsic orientations toward work. Moreover, the effect of job skill acquisition extends beyond intrinsic values to influence the extrinsic value construct as well. Lindsay and Knox (1984) similarly report what they call a "cross-over" effect of intrinsic work features on extrinsic values in their longitudinal prospective study of high school seniors seven years following graduation.

Thus, with respect to occupational socialization processes, we found no evidence that work status itself or the intensity of adolescent work have significant implications for occupational value formation. We do find, however, that the quality of work does make a difference, especially with respect to opportunities for skill acquisition and the development of both intrinsic and extrinsic values. It may be that both intrinsic and extrinsic benefits are

more likely to be seen as within reach given successful learning and adaptation to the demands of adolescent work.

From the standpoint of vocational educators, these findings have particular interest. First, they show that occupational values are in the process of formation in adolescence and that they are particularly responsive to work experiences that provide learning opportunities. Second, they indicate the kinds of work experiences that may be of greatest importance for occupational value development. In this study, we do not compare those students who have supervised jobs or internships obtained through vocational programs in school (which is a very small portion of our sample), and those who find their jobs freely in the open youth employment market. However, based on other research (Stern et al., 1990), it is reasonable to suppose that school-supervised jobs have greater potential for the kinds of learning which significantly influence adolescents' occupational reward values.

VOLUNTEERISM AND VOCATIONAL DEVELOPMENT

For adolescent high school students in the process of formulating vocational aspirations and plans, volunteering one's services to a formal organization (e.g., church, hospital, nonprofit agency) can positively contribute to the vocational development process in a number of ways. First, volunteer activity may introduce young people to more formal work settings and work tasks. Second, the hands-on experience of different volunteer duties (e.g., tutoring English as a Second Language, visiting the ill or elderly, compiling mailing lists, or organizing files on a computer) may help students identify types of jobs or careers that they would like or not like to pursue in the future. Third, participating in volunteer work could foster more altruistic (people-oriented) occupational values. In addition, volunteer activity may foster a sense of competence in the adolescent and/or provide training and skills that are useful in the job market. Volunteer activity also introduces adolescents to other adult role models pursuing various careers and further exposes students to different vocational possibilities.

It is possible that volunteer activity during adolescence could have adverse consequences on vocational development. If high school is intended to be a period of study, training, and preparation for the world of work or for advanced education, time spent on volunteer activities may detract from the time that students should spend on their

school work. (A parallel argument is often made with respect to paid work. We find no evidence that paid work has a negative impact on academic performance.) One could argue with equal force that volunteerism may have beneficial effects on high school academic performance. Busy students often know how to organize their time well and learn to competently juggle competing demands, an important skill for the adult world. Furthermore, volunteer activity may enable students to perceive the utility of their education and the importance of vocational training. So, volunteer work could select the more academically able students seeking further avenues for their personal and vocational development.

Surprisingly, little is known about adolescent volunteer behavior, the social characteristics of volunteers, their motivation for volunteering, and its impact on vocational development. In our sample, thirty-five percent of the boys and thirty-six percent of the girls reported volunteering in any one of the three years examined (grades nine, ten, or eleven). For each single year, sixteen to seventeen percent of the boys and sixteen to nineteen percent of the girls volunteered some amount of time to help others. Adolescents did volunteer work in churches, service agencies, hospitals, food shelves, and other charitable organizations.

In our sample, adolescents participating in volunteer activities did not differ from nonparticipants in terms of social background characteristics (e.g., gender, race, parental education and income, or family composition). However, ninth-grade boys who anticipate that parenthood and community participation will be more important to them in the future are more likely to engage in volunteer activities in the ninth through eleventh grades ($p<.05$). Female participants in volunteer activity placed higher value than the nonvolunteers on working with people ($p<.05$). For both boys and girls, volunteering was found to have a positive effect on the value placed on the importance of community participation in the eleventh grade (even with the lagged criterion controlled) (beta=.14, $p<.01$ and beta=.12, $p<.01$ for boys and girls respectively). Engaging in volunteer activities thus serves to strengthen adolescents' commitment to the importance of community participation.

We examined the relationship between volunteerism and several school-related variables for ninth-, tenth-, and eleventh-grade boys and girls (e.g., academic achievement, intrinsic motivation toward school work, academic self-concept, and educational

aspirations and plans). We found that high school students who engaged in volunteer work in any given year had higher GPAs than nonvolunteers. (This was significant throughout all three grades for boys and in grades nine and ten for girls.) Compared to those who did not engage in volunteer activities, volunteers also had higher educational aspirations in grades nine and ten (however, for grade ten boys, the p value was only marginally significant, $p < .10$) and higher educational plans in grades nine and eleven.

In order to determine if the volunteer activity itself had any subsequent impact on academic performance, we regressed the school outcome variables in the eleventh grade on volunteerism (coded 1 if the student participated in any volunteer activities in grades nine, ten, or eleven, and 0 if no participation was reported), and controls for prior school outcomes in grade nine. Volunteering was not found to have an effect on school-related variables. That is, volunteering did not influence a student's grade point average, educational aspirations and plans, or intrinsic motivation toward school. Thus, our research indicates that participation in volunteer activity neither enhances nor hinders academic outcomes. However, it appears that students doing well in the school setting choose to participate in volunteer activities.

We also investigated whether volunteers spend more time in extracurricular activities and paid work compared to nonvolunteers. For boys, there was no difference between the two groups in the amount of time spent on extracurricular activities in the ninth grade. However, tenth- and eleventh-grade boys who participated in volunteer work spent significantly more time in extracurricular activities compared to boys who did not engage in volunteer work ($p < .05$). For girls, volunteers spent more time in extracurricular activities in grades nine ($p < .05$) and ten ($p < .106$), but not in grade eleven.

There were gender differences in the relationship between volunteerism and involvement in paid work. For boys, even though volunteers were no more likely to be employed in the ninth grade than nonvolunteers, the volunteers report a greater degree of involvement in paid work during childhood up to the ninth grade, and report doing more home jobs for pay compared to nonvolunteers ($p < .10$). For boys, volunteers also reported engaging in more hours of paid work throughout high school compared to nonvolunteers ($p < .05$). There was no significant relationship between paid work and volunteer behavior for girls.

In order to assess the effects of volunteering on vocational development, we regressed intrinsic, extrinsic, and people-oriented work values in the eleventh grade on volunteerism (coded 1 if the student participated in any volunteer activities during grades nine, ten, or eleven, and 0 if no participation was reported) and prior values in ninth grade. (For the purposes of this analysis, the people-oriented value constellation was separated from other intrinsic concerns.) In our sample, it appears that participation in volunteer activities has a significant effect on occupational values for boys, but not for girls. For boys, volunteering has a positive effect on intrinsic work values (beta=-.09, $p<.05$). Participation in voluntary activity increases the value that boys place on having a job in the future that utilizes their talents and provides opportunities to learn new skills and make independent decisions on the job. Volunteering had an additional positive effect on boys' people-oriented values (beta=.11, $p<.05$). For boys, volunteering increased their preference for jobs that would provide a chance to work with people and an opportunity to be useful to society. Volunteering was also found to have a negative effect for boys on the value placed on having a well-paying job in the future (beta=-.13, $p<.01$). The greater emphasis placed on intrinsic and people-oriented work values of male adolescent volunteers is consistent with their expressed occupational choices. Among the boys, those who do volunteer work are more likely than nonparticipants to aspire to be educators, social or religious workers, or health workers, and less likely to aspire to a profession in law or sales work.

While volunteering seems to have stronger implications for boys' occupational values than girls', volunteerism does influence girls' self-esteem. For girls, participation in voluntary activities has a significant positive effect on self-esteem in grade eleven, with self-esteem in grade nine controlled (beta=.089, $p<.05$). Volunteering has a marginally significant positive effect on boys' well-being ($p<.10$), but no effect on girls' well-being. These findings indicate that participation in volunteer activity contributes to adolescents' self-concept as measured by self-esteem and well-being.

Volunteerism, though given relatively little attention in the literature, appears to be another source of influence in the vocational development process. Participation in volunteer activities influences occupational values for boys but not for girls. The adolescent self-concept appears to be bolstered by volunteer activity; such participation increases girls' self-esteem and boys' sense of well-being in the eleventh grade. Even though volunteers tend to spend more time in extracurricular activities compared to the

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nonvolunteers, it does not hinder volunteers' school performance. In fact, we find that the students with the higher aspirations and GPAs are more likely to have participated in volunteer activity.

EDUCATION, WORK, AND FAMILY ORIENTATIONS OF ADOLESCENT BOYS AND GIRLS[4]

It is reasonable to expect that young people's orientations toward education, work, and family may reflect broad societal level changes in gender roles and the institutions of work and family during the second half of the twentieth century. In recent decades, women have pursued higher levels of education, remained employed after marriage and after the birth of children, and divorced at high rates (McLaughlin et al., 1988). At the same time, some researchers claim that men are playing a more active and nurturing role in the family sphere (Entwisle & Doering, 1981; Gershuny & Robinson, 1988; Lewis, 1986; Pleck, 1985). The traditional nuclear family model of the 1950s with the husband as sole breadwinner and the mother as full-time homemaker is no longer the majority family form. Currently, the majority of mothers in two-parent households are employed and one quarter of American children live in single-parent households (Barringer, 1991). Given such trends in the broader society, we might expect the education, work, and family orientations of adolescent boys and girls to have converged and to be less differentiated along gender lines.

The study of adolescent orientations toward education, work, and family is critical to understanding the vocational development of high school students. The attitudes and plans adolescents hold about educational achievement and their future work and family roles may influence decisions that ultimately affect their vocational development. Anticipated family, work, or career roles may influence the degree of vocational preparation the high school student engages in. The work and family goals of these young adolescents may impact their course curriculum decisions, educational and occupational aspirations, and the degree of effort they expend on studies and job training to achieve those goals, all of which have consequences for later vocational outcomes. The relationship between adolescent educational and occupational aspirations and plans and early adult

[4] A full report of the study of gender differences is contained in Dennehy and Mortimer (forthcoming).

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socioeconomic attainments is well-established (Featherman, 1980; Spenner & Featherman, 1978). Occupational value orientations in the final years of schooling are significantly predictive of early adult occupational experiences (Mortimer & Lorence, 1979; Lindsay & Knox, 1984). Early marriage and childbearing can be detrimental to vocational development and the economic attainments of both sexes, but especially to women (Marini, Shin, & Raymond, 1989). Thus, adolescent attitudes and plans with respect to education, work, and family life may establish a framework for decision-making that can have important implications for future vocational choices, opportunities, and outcomes.

It is important to consider whether there are differences in the work and family orientations of adolescent boys and girls which may at least partially influence later socioeconomic and vocational outcomes. Gender differences in orientations to achievement, work, and family could influence the processes of vocational preparation, career and status attainment, family formation, and the division of household labor. Such gender differences in orientations may help to explain the continued inequality between the sexes in earnings and occupational attainment (Marini, 1989).

Since the 1960s, sociologists have monitored the educational and occupational aspirations of youth given their important role in the status attainment process (Sewell & Hauser, 1975); their studies indicate increases in girls' aspirations. While boys had higher occupational aspirations than girls in the late 1960s (Marini & Greenberger, 1978), several more recent studies have not found gender differences in the occupational and educational aspirations of youth (Crowley & Shapiro, 1982; Danziger, 1983; Farmer, 1983). Some research even shows that girls have higher occupational aspirations than boys (Farmer, 1983, 1985a, 1985b).

Consistent with these recent studies, our findings indicated that boys, on the average, do not have higher educational aspirations and plans than girls. In fact, throughout the high school years (grades nine, ten, and eleven), boys consistently have lower educational aspirations than girls. By the eleventh grade, boys aspire to obtain a bachelor's degree, while girls, on average have even higher aspirations. When asked to report the highest level of schooling that they realistically expect to finish, both boys and girls report slightly lower levels of educational attainment. Both boys' and girls' educational aspirations and plans decline slightly as they move through high school, perhaps indicating growing realism with respect to future educational achievement.

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Whereas in absolute terms both boys and girls are aiming high, in all years, the boys' aspirations and plans are significantly ($p<.05$) lower than those of girls.

Similarly, boys consistently have lower occupational aspirations than girls ($p<.05$ in grades nine and ten, $p=.104$ in grade eleven; not shown). For both boys and girls, occupational aspirations decline somewhat after the tenth grade which may also indicate a greater realism in their occupational goals as they become more aware of labor market realities. Furthermore, boys and girls do not differ in the anticipated importance of future careers. Contemporary adolescent girls are as likely as boys to report that having a career or occupation will be very important to them. Finally, consistent with their relatively high occupational aspirations, we found that girls have higher mean intrinsic occupational values than boys. We found no mean differences by gender in extrinsic work values.

Orientations toward family life, however, may be a mitigating factor that differentially affects the ability of boys and girls to ultimately attain their educational and occupational objectives. Research indicates that males and females differ in how they plan to coordinate their work and family responsibilities (Maines & Hardesty, 1987). Some studies show that young women's occupational expectations are influenced by their expectations or beliefs about their domestic roles (Aneshensel & Rosen, 1980; Waite & Berryman, 1985). Thus, while males plan to have an uninterrupted work or career trajectory (Maines & Hardesty, 1987; Tittle, 1981), young womens' educational, work, and career plans are contingent upon family demands (Maines & Hardesty, 1987; McLaughlin et al., 1988). Spade and Reese (1991) found that male and female college students have equal commitments toward work roles and family life, yet both men and women expect the woman to assume a more prominent role in the family. Machung (1989) reports that college men plan to rely on their wives to care for the home and family as they pursue their own careers.

Furthermore, studies of adult women found that despite their high levels of employment, contemporary women still have primary responsibility for children and household tasks (Berardo, Shehan, & Leslie, 1987; Blumstein & Schwartz, 1983; Coverman & Sheley, 1986; Hochschild & Machung, 1989). As a result, adult women tend to organize their paid labor force participation (e.g., movements in and out of the labor force, the number of hours and the time of day worked) in response to family demands (McLaughlin et al., 1988; Moen, 1985; Thompson & Walker, 1991). In comparison to

men, women's employment is more often interrupted by demands to care for ill, aged, or young family members (Menaghan & Parcel, 1991).

Our research indicates that boys think that marriage and parenthood will be less important to them in the future compared to girls. Although there is little change in boys' evaluation of the family sphere across time, the importance of family life for girls increases somewhat over the high school years. As the literature suggests, girls' higher evaluation of the importance of family life may lead them in the future to alter their vocational training and objectives in response to family demands.

Despite girls' higher evaluation of the importance of marriage and parenthood compared to boys, the girls in this study overwhelmingly plan to work after marriage. In fact, there is almost total rejection of the full-time homemaker role; only 3.4% of the eleventh-grade girls plan not to be employed after marriage. With few exceptions, the girls also plan to work after having children; only four percent of the eleventh grade girls plan not to do so. Still, most girls do plan to stay out of the labor force until their children are at least one or two years of age, or until the end of their children's nursery school (see Table 9A). This finding is consistent with the literature indicating that women adjust their careers and labor force patterns in response to family demands (Menaghan & Parcel, 1991; Moen, 1985; Thompson & Walker, 1991). Short interruptions, however, may have deleterious career consequences since temporary removal from the labor force is often looked upon disfavorably.

Table 9A

Plans to Return to Work After Children—11th Grade Boys and Girls

Response Options: When my youngest child is . . .	Boys		Girls	
	%	(N)	%	(N)
(1) less than a year old	75.4	(288)	25.1	(115)
(2) one or two years of age	14.1	(54)	39.2	(180)
(3) in nursery school	4.5	(17)	15.7	(72)
(4) in kindergarten	4.2	(16)	12.2	(56)
(5) in elementary school	1.6	(6)	7.0	(32)
(6) in junior high school	0.0	(0)	0.7	(3)
(7) in high school	0.0	(0)	0.2	(1)
(8) in college	0.0	(0)	0.0	(0)
(9) gone from home	0.3	(1)	0.0	(0)

In contrast to the girls' almost unanimous desire to join the labor force and to work after their children are born, many of the boys are uncertain about whether or not their spouses should return to work after they have children (see Table 9B). Across all three waves, from thirty-three to forty-two percent of the boys said their spouses should work outside the home after having children. Approximately half of the boys were not sure if their future wives would work after having children, and another ten percent said that their wives would not work in the labor force after having children. These findings are consistent with previous research that found a disparity between the expectations that boys have for their future wives and girls' expectations for themselves; the boys anticipated a longer delay for their wives' return to work after children than the girls predicted for themselves (Tittle, 1981).

Table 9B
Boys' Attitudes About Spouse Working After Children, Grades 9, 10, 11

Spouse Work After Children?	9th Grade (N=371)	10th Grade (N=389)	11th Grade (N=379)
Yes (2)	32.9%	39.6%	42.2%
Don't Know (1)	54.7%	49.6%	48.0%
No (0)	12.4%	10.8%	9.8%

It is interesting to note, however, that a minority of the boys in the "Youth Development Study" did plan to delay returning to work in order to care for their young children (see Table 9a). When asked when they would go to work after having a child, seventy-five percent of the boys checked the option, "less than a year old." We may interpret these responses as indicating minimal leave-taking to care for the newborn (perhaps none). However, almost twenty-five percent of the eleventh grade boys told us that they would have a substantial delay (of one year or more) before returning to work after having children. This may support several researchers' contentions that men are increasingly choosing to play a more nurturing role in family life (Entwisle & Doering, 1981; Gershuny & Robinson, 1988; Lewis, 1986; Pleck, 1985). However, as they go through school, boys may become increasingly aware of the costs that career interruptions entail.

Even though boys have lower aspirations and plans than girls, boys are more optimistic about their ability to achieve certain goals. We asked tenth and eleventh graders about their chances for achieving a variety of desirable objectives with respect to work and family. Students rated their chances for achieving each goal on a five-point scale (a value of five meant that they thought it was "highly likely" that they would achieve the goal, while a value of one indicated they felt their chances were "very low").

We found that boys feel more efficacious than girls in the occupational and economic realms (see Table 10). In comparison with the girls, boys were significantly more optimistic about being able to obtain a well-paying job and about owning their own homes in the future. Previous research indicates that self-efficacy plays an important role in positive vocational development and the achievement of vocational goals (Mainquist & Eichorn, 1989; Clausen, 1991). Girls, however, had a stronger belief that their own children would have a better life than they themselves; this may indicate that boys feel less efficacious than girls in the family realm.

Table 10
Mean Self-Efficacy by Gender for 10th and 11th Graders

	10th Grade			11th Grade		
Efficacy Variables	Boys	Girls	p	Boys	Girls	p
You will have a job that pays well.	3.90	3.73	.001	3.94	3.79	.004
You will be able to own your own home.	4.01	3.76	.000	3.95	3.96	.001
You will have a happy family life.	4.00	3.98	.734	3.93	4.03	.097
Your children will have a better life than you've had.	3.63	3.78	.020	3.64	3.76	.064
You will have good friends you can count on.	4.08	4.20	.024	4.03	4.17	.012
You will be in good health most of the time.	4.18	3.95	.000	4.14	3.96	.000
N (range)						
Boys	(450—452)			(446—448)		
Girls	(500—510)			(504—506)		

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We also investigated whether adolescents' life situations influence their educational and work orientations. Using eleventh-grade data,[5] we regressed educational plans and occupational aspirations (using OLS regression) on parental education, family composition (coded 1 if two-parent, 0 if another family arrangement), mother's employment (coded 1 if employed, 0 if not), race (see coding in Table 11), and family income. We used logistic regression to ascertain the effects of the same social background variables on boys' attitudes toward spouse working after having children (coded 1 if yes or "don't know," 0 if no).

Parental education was the only variable that had a significant effect on educational plans and occupational aspirations for boys (see Tables 11 and 12). Surprisingly, family income was not significantly related to boys' educational plans. In contrast, both parental education and family income had significant positive effects on the educational plans and occupational aspirations of girls.

Table 11
Effect of Social Background on Educational Plans of 11th Grade Boys and Girls, OLS Regression

	Boys		Girls	
Independent Variable	B	Beta	B	Beta
Parents' Education	.300	.444***	.213	.284***
Family Composition (1=two-parent, 0=other)	.151	.062	.162	.063
Race–Other[a]	.037	.011	.282	.079
Race–African American[b]	-.019	-.000	.318	.078
Mother's Employment (1=employed, 0=not employed)	.042	.015	.250	.080
Family Income	.022	.045	.079	.156**
R^2	.226		.169	
N	376		411	

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

[a]Dummy variable coded 1 if other race (reference category is white). This residual category consisted largely of Asians, Hispanics, and adolescents who indicated mixed race parentage.

[b]Dummy variable coded 1 if African American (reference category is white).

[5] Twelfth-grade data was not used because it was unavailable at the time these analyses were being done.

Table 12

Effect of Social Background on Occupational Aspirations of 11th Grade Boys and Girls, OLS Regression

Independent Variable	Boys		Girls	
	B	Beta	B	Beta
Parents' Education	1.50	.196***	1.35	.148**
Family Composition (1=two-parent, 0=other)	1.32	.047	-.792	-.025
Race–Other[b]	.570	.015	4.47	.098
Race–African American[c]	.667	.013	4.61	.096*
Mother's Employment (1=employed, 0=not employed)	-.134	-.000	-.430	-.011
Family Income	-.141	-.025	.962	.151**[a]
R^2	.036		.062	
N	352		414	

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

[a]Gender difference in coefficients is statistically significant (p<.05).

[b]Dummy variable coded 1 if other race (reference category is white). This residual category consisted largely of Asians, Hispanics, and adolescents who indicated mixed race parentage.

[c]Dummy variable coded 1 if African American (reference category is white).

It appears that the educational plans and occupational aspirations of girls are influenced more by differences in family income than are those of boys, which is consistent with previous research (Alexander & Eckland, 1974; Sewell & Shah, 1967). A study of 145 midwestern high school students also found that social class background influenced girls' educational and occupational aspirations more so than boys (Danziger, 1983). Danziger argues that in comparison to boys, "girls from lower social class backgrounds are more likely to perceive constraints in their opportunities and to perceive less encouragement at home with respect to their future education" (p. 689). It may be that families with limited economic resources direct them toward boys to help them achieve their educational and occupational goals. Or working class or lower-income parents may have more traditional values about women and may not place as much emphasis on postsecondary education for their daughters.

In our investigation of influences on boys' attitudes toward their future spouses' employment after having children (not shown), we found that boys whose mothers worked

outside the home were much more likely (3.67 times more, $p<.001$; not shown) to have positive or uncertain views (answering "yes" or "don't know") about their future wives' employment after having children, whereas those whose mothers were not employed were more likely to have a negative attitude toward this prospect. Boys from more highly educated families also had the more nontraditional orientations.

The research on gender differences in adolescent orientations reveals that girls are quite similar to boys in their plans to work outside the home and in the anticipated importance of their careers. Girls were found to exceed boys in their aspirations and plans for future educational and occupational attainments. Nevertheless, most of the gender differences in orientations are still to the advantage of boys' socioeconomic attainment. Boys are clearly advantaged with respect to their feelings of efficacy regarding future work. Previous research (Clausen, 1991; Mainquist & Eichorn, 1989) demonstrates that it is not so much one's aspirations or desires to achieve that are important for actual occupational attainment. Of far greater significance is the individual's sense of actually being able to attain personal goals. So even though boys do not have aspirations and plans that are as high as girls, their stronger sense of self-efficacy with respect to having a job that pays well (and, consistently, being able to own their own homes) may enhance their ability to achieve their vocational objectives.

Our research also indicates gender differences in family plans. Boys evaluate the importance of marriage and parenthood in their future lives lower than the girls rate these family values. These orientations may lead adolescent boys to plan careers with little thought about the consequences for their family lives. The stronger emphasis that girls place on their family roles may direct them to choose jobs in adulthood that allow flexibility in balancing work and family obligations. Maines and Hardesty (1987) find that some women modify their career goals because they anticipate difficulty meeting the demands of both work and family. If young women still place greater emphasis on their family roles, compared to men, they may be more likely to forego advanced vocational training and higher occupational attainment if the demands conflict with family responsibilities.

SUMMARY AND CONCLUDING COMMENTS

This study has charted, over a four-year period of high school, experiences within the family, school, workplace, and community that are relevant to the vocational development of adolescents. The research uncovers sources of influence on the vocational development process that have previously been given limited attention—allowance practices in the family and adolescent experiences of paid work and volunteerism. The study also provides very recent data on gender differences in the vocational development process and brings forth new evidence concerning the vocational development of high-risk youth.

In our study of economic socialization within the family, we found evidence that the receipt of an allowance increases adolescents' interests in money. The receipt of allowance was found to have a small but statistically significant depressive effect on ninth graders' intrinsic occupational values.

The comparative analysis of high- and low-risk adolescents points to the importance of economic conditions for educational attainment and vocational development. While both high-risk (poor) and low-risk (nonpoor) students held similar educational and occupational aspirations, high-risk students had lower GPAs, were less likely to have taken steps to gain college admission, and were more likely to have dropped out of school. Poverty was found to significantly affect the vocational development of high school students indirectly through its impact on feelings of economic self-efficacy. Adolescents living in conditions of poverty have lower feelings of economic self-efficacy regarding future vocational goals, and this low feeling of economic self-efficacy is found to be adversely related to academic achievement (GPA) and college preparation and positively related to dropping out of school.

We have examined changes in labor force participation and intensity over a four-year period of high school, the use of earnings, perceived monetary need, and the implications of employment for the development of intrinsic and extrinsic occupational values over time. Our research on paid work and occupational value socialization during adolescence indicates that the quality of the work experience, rather than employment status itself or the number of hours worked, has significant implications for occupational value formation. The results provide convincing evidence that the opportunity to acquire skills on the job strengthens adolescents' intrinsic orientations towards work. Furthermore, job

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skill acquisition appears to influence extrinsic work values as well. This study confirms others' assertions that the quality of work has important implications for vocational development (Borman, 1991; Charner & Fraser, 1984).

This study identifies adolescent volunteer experiences as another source of influence on the vocational development process. For boys, participation in volunteer activity has a significant effect on intrinsic and person-oriented work values. For girls, volunteering enhances feelings of self-esteem. There was a weak tendency for adolescents with more intrinsically oriented work values in the ninth grade to engage in volunteer activity at some time during high school. Our investigation did not detect a significant effect of volunteerism on school motivation and performance. However, we did find that students who volunteer have higher GPAs and higher educational aspirations and plans than their nonvolunteering peers.

Our examination of gender differences in adolescent orientations toward education, work, and family plans reveals that contemporary boys and girls do not differ in the importance that they place on careers. Girls were even found to exceed boys in their plans and aspirations regarding future educational and occupational attainments. Yet our findings indicate that gender differences concerning future family plans and in feelings of economic self-efficacy (i.e., the ability to achieve economic goals in one's life) may have important consequences for the development of vocational skills and the ultimate achievement of vocational goals.

We will continue to monitor adolescents' occupational value formation and vocational development as these adolescents leave high school and enter the labor force or continue their vocational and educational training.

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