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## **Pathways into Work: Short- and Long-term Effects of Personal and Institutional Ties**

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Although youths are often confined in jobs that allow minimal gains in earnings, the authors used quantitative data to examine whether any kinds of job contact allow youths to get jobs that lead to later higher earnings and use qualitative data to illustrate school job contacts and the ways they can help disadvantaged groups. Analyzing data from *High School and Beyond*, the authors found that most types of contacts have little effect on early earnings, but relatives and school contacts place students in jobs that lead to higher earnings nine years later (at age 28). Blacks, young women, and high-achieving youths less often get their jobs from relatives but more often get jobs through school contacts. The findings indicate the theoretical importance of social contacts and previously overlooked ways that high schools improve the work-entry process for youths, especially blacks and females.

**Y**oung people face great difficulties in gaining recognition of their value in the labor market. New high school graduates have difficulty getting jobs that offer good pay or advancement, and their jobs and pay tend to be unrelated to their school achievements (Bills 1992; Crain 1984; Grubb 1993; Jencks et al. 1979; Parcel 1987; Stern, Finkelstein, Stone, Latting, and Dornsife 1995). These outcomes are not well explained by economic or sociological theories. For instance, human capital theory predicts that new high school graduates with higher achievement will get better jobs and pay than will those with low achievement, but that prediction is clearly contradicted by research (Gamoran 1994; Griffin, Kalleberg, and Alexander 1981; Miller 1998; Murnane, Willett, and Levy 1995).

Sociological theories suggest that the problem resides in the structure of the labor market; the labor market is stratified, and youths are confined in low-strata jobs that offer poor stability, low pay, and little advancement (that is, the secondary labor market; Doeringer and Piore 1971). Stratified labor market theory explains these findings, but it overexplains youths' difficulties. It has two problems: It does not explain why some youths escape the secondary labor market at the outset or how many individuals eventually escape it later (Granovetter 1995).

In response to the failures of traditional economic and sociological theories (Althausser and Kalleberg 1981; Dore 1992; Williamson 1975), new theories have arisen in both fields. The new institutional economics considers the efficiencies of institu-

tional relationships and calls for studies of actors and social contexts (Lazear 1979; Rosen 1982). Similarly, new sociological models contend that markets often "depend on the nature of personal relations and the network of relations between and within firms" (Granovetter 1985:502). Instead of assuming that information is always used and trusted, these models describe some ways that information is given meaning through social contacts. "People prefer to deal with individuals of known reputation, or, even better, with individuals they have dealt with before; social relations . . . are mainly responsible for the production of trust in economic life" (Granovetter 1985:490-91).

Some types of job contacts may explain how some youths can evade ordinary obstacles of the labor market structure and get jobs that lead to better immediate pay and better career trajectories that increase their earnings over time. This article examines whether different kinds of youths use different ways to contact employers and whether youths' ways of contacting employers affect their earnings right after high school and nine years later. Besides examining the effects of two types of personal contacts (relatives and friends), it also explores the influence of two types of institutional contacts (school job placement and employment services) that have rarely been considered in previous research.

## **PERSONAL VERSUS INSTITUTIONAL CONTACTS**

In recent years, there has been increasing interest in the ways in which social contacts influence labor market outcomes. Granovetter's (1973) early study showed how the job search process was facilitated by personal ties, particularly weak ties (such as casual acquaintances) that provide wide sources of information about jobs, from which one can choose the best. However, Granovetter's finding occurred in a sample of experienced well-educated workers, and subsequent research has suggested that weak personal ties are "of most advantage to those higher up and least to those at the bottom" (Granovetter 1995:150; Lin, Ensel, and

Vaughn 1981). For less educated, inexperienced workers, weak personal ties may be less effective (Ericksen and Yancey 1980; Wegener 1991).

Moreover, there is an additional concern that "cross-sectional analyses may miss the role of personal contacts in building a career" (Granovetter 1995:149). Granovetter suggested that early contacts may have a greater impact on later jobs than on early jobs. This effect may occur because of the accumulation of advantages that come from initial contacts, since good initial contacts lead to more and better subsequent contacts (p. 149). Alternatively, it may occur as the result of the operation of career ladders in that youths with good contacts get early jobs that lead to better future career advancements, even though these jobs pay no better initially (Rosenbaum 1984). These contentions suggest the need for longitudinal studies.

While studies have focused on personal contacts, institutional contacts have been largely neglected in the United States, although they have been studied in other nations. In Germany and Japan, institutional contacts help youths gain access to good jobs (Brinton 1993; Kariya and Rosenbaum 1995; Osterman 1988). In these nations, many youths, particularly those with higher school achievement, gain access to jobs with better training and advancements because these nations have institutional contacts between schools and employers that communicate youths' value to employers. In Japan, high school teachers nominate appropriate youths for better job openings, and employers generally respond to teachers' nominations that they value as reliable signals of youths' abilities and work habits (Rosenbaum and Kariya 1989, 1991). Similarly, in Germany, a national employment agency uses students' grades in determining which students are nominated to better apprenticeships, and employers use grades in hiring youths who apply directly (Hamilton 1989; Rosenbaum, Kariya, Settersten, and Maier 1990). Both nations have stratified labor markets, but institutional networks communicate youths' value to employers, and youths who do well in school gain access to jobs with better opportunities for advancement.

The United States lacks a formal system like Japan's or Germany's, so institutional contacts may have weaker effects or none at all. Yet it is possible that informal institutional contacts may exist in the United States, perform similar functions, and explain how some youths get jobs that lead to better pay.

Despite the great interest in the effects of personal contacts, research has paid little attention to institutional contacts, and information in popular data sets is often inadequate. The National Longitudinal Survey of Youth (NLSY) found that 4.8 percent of unemployed youths get jobs through state employment agencies and 14.3 percent get them from personal ties (friends or relatives; Holzer 1988:10), but it asked only about one type of institution (state employment agencies). Although the NLSY ignored jobs obtained through private employment services and high schools, Holzer's (1996:52) survey of employers found that more employers had gotten their most recently hired workers from these two sources (4.4 percent and 4.6 percent, respectively) than from state employment agencies (3.3 percent).

Moreover, the NLSY ignores a potentially important distinction by merging "friends and relatives" into a single category (Holzer 1988). Thus, although the NLSY found that 25.3 percent of new hires came from personal referrals, these data could not distinguish whether referrals were friends or relatives, which we expected (and found) to be an important distinction. Therefore, the NLSY could not study the distinction between friends and relatives or between employment services and schools, nor can many other longitudinal surveys of youths.

The study presented in this article examined two kinds of institutional contacts in the United States. *Employment services* inform job seekers of many job openings, but they provide meager information about jobs. Although employment services provide listings of job openings and applicants, they rarely convey much information to employers or applicants, they have weak relationships with employers (Holzer 1996), and their influence has declined in the past 20 years (Bishop 1993). Employers do not expect employment services to screen applicants, and they would

not trust the services' screening if it was done (Osterman 1988). Moreover, applicants find that searches take longer if they use employment services (Wielgosz and Carpenter 1987).

We also studied the effects of *high schools*. Holzer's (1996) study of employers found that 4.6 percent of jobs are filled by school placements, and Bishop's (1992) study reported a figure of 7.9 percent (for small and medium-sized employers). Our present analyses found that about 8.5 percent of students said that they got their jobs through school help. School job placement is conceptually important because it represents a form of institutional help that may perform similar functions as the Japanese and German systems. Indeed, some American employers have developed strong ties with certain high school teachers, and they trust these teachers' recommendations of students (Rosenbaum and Binder 1997). Moreover, school job placement would have important policy implications if it was available to all youths who attend high school (Rosenbaum and Jones 1999). Yet because American society does not have a formal system of contacts between schools and employers as Japan and Germany do (Hamilton 1989; Rosenbaum and Kariya 1989) and help with job placements is not a formal responsibility of American high schools, school job placement is generally unrecognized and unstudied.

The present research sought to examine the effects of various kinds of contacts on youths' earnings. We examined two types of personal contacts and two types of institutional contacts. Although only a few studies have examined hiring through institutional ties, those studies have suggested that employers have weak relationships with employment services and strong relationships with vocational teachers (Osterman 1988; Rosenbaum and Jones 1995). We hypothesized that *youths will get better pay if they get jobs through high schools, but not if they get jobs through employment services*.

Our study also examined two kinds of personal contacts: *relatives* and *peers*. Many employers rely on recommendations by current workers, especially ones with seniority, and workers often recommend relatives

(Manwaring 1984). Moreover, employers often consciously recruit within families to build in the social obligations and control that come with kinship ties, leading them to hire the "lads of dads" (Grieco 1987:37). Because they have less seniority and social control, youths' friends tend to have less influence with employers than do relatives (Borman 1991). Therefore, we hypothesized that *youths will get better pay if they get jobs through relatives, but not if they get jobs through peers.*

In addition, following Granovetter's reasoning (noted earlier), we hypothesized that *contact effects may increase over time.* Consequently, we used a longitudinal survey that allowed us to analyze the effects of various types of contacts right after high school and nine years later.

We also expected that different kinds of youths get jobs through different kinds of contacts. Since the relatives of minority youths and youths of low-socioeconomic status (SES) are more likely to be unemployed (Wilson 1996) and females, minorities, and low-SES youths tend to receive lower earnings (Farkas 1996; Jencks et al. 1979), we considered them disadvantaged groups. We hypothesized that *these disadvantaged groups get less help from relatives.* The same may be true for friends, although research is less clear. Since societal institutions (high schools and especially employment services) are responsible for helping disadvantaged groups, we hypothesized that *disadvantaged groups get more help from institutional contacts than others do.* Although teachers often favor females and disfavor blacks and Hispanics in the classroom (Bossert 1979), research offers no indication of which groups are helped by school job placements. We also hypothesized that *jobs obtained through personal ties are unrelated to school achievement, but jobs from school contacts may be related to school achievement.*

These hypotheses are based on little research, since few studies have been done. Indeed, as we noted, some of the best longitudinal data sets do not permit the study of some of these issues. If Granovetter (1995) is correct that longitudinal surveys are needed, the HSB data that we used are distinctively appropriate for studying the long-term effects of contacts.

## METHOD

### *Model and Plan for Analysis*

The hypotheses proposed that different kinds of individuals get jobs by different kinds of job contacts, which have different effects on short-term and long-term earnings. Our analysis was performed in two stages. First, we analyzed who gets jobs through each type of job contact, in bivariate analyses and multivariate logistic analyses. Second, we analyzed the effects of each type of contact on short-term and long-term earnings.

Our model examined who gets jobs through each type of contact, first, in terms of individual background attributes (SES, ethnicity, and gender) and, second, adding school variables (track and private schools) and individuals' test scores. In explaining earnings, our model assessed the influence of individual background attributes (SES, ethnicity, and gender), school variables (track and private schools), test scores, and placement variables. Because earnings may vary by region, we added regional variables to the earnings regressions.

### *Data and Variables*

The best test of the long-term effects of contacts would use longitudinal data because of the unreliability of retrospective reports of networks. Hence, this study was based on the longitudinal survey, HSB, using the cohort who graduated in 1982, followed through 1992.

For the job search variables, the survey asked students which job search method was most important in getting their first job. In studying the various kinds of *job contacts*, our analyses compared the effects of the various ways students get their jobs: *school placement, relatives, friends, employment services, or other* (civil service, unions, and other), each represented by a dummy variable. The category other was included because it sometimes has strong effects but is not easily interpreted. Since the opposite of using contacts is for individuals to apply directly to employers in response to want ads or signs, direct application is in the constant. This question is clearly better than the NLSY item in allowing

analyses to distinguish many different types of help.

Because school tracking can have many effects on students' education (Gamoran 1994; Rosenbaum 1996), we included dummy variables for general and vocational tracks (with college track as the comparison). In the United States, vocational tracks are the main institutional way that public schools address work-entry issues, but nearly all students take some vocational classes (Wirt, Muraskin, Goodwin, and Meyer 1989). While some critics have argued that vocational tracks have detrimental influences on students, research has not found that they hurt earnings, even compared to the higher-status college track (Kang and Bishop 1986; Rosenbaum, 1996). We also controlled for attendance at private schools.

The other independent variables we used are ones that are usually included in such analyses: *SES, ethnicity, gender, test scores, and region of the country*. SES is a continuous scale composite of parents' education and occupational status in the HSB data file (units are not comparable with Blau and Duncan's (1967) Socio-Economic Index or other standard SES scales). Black and Hispanic are dummy variables with other races as the comparison (in the constant). Female is a dummy variable. Test scores are a composite from achievement tests in the HSB survey. Since wage rates often vary by region, we added variables for students' region—Northeast, South, or West, with the Midwest as the comparison in these regressions.

To examine whether social contacts might help youths evade jobs in the secondary labor market that offer low pay and little advance-

ment in job status or earnings, one could analyze earnings or job status as dependent variables. Early job contacts that lead to higher earnings, especially later earnings, would indicate an escape from the secondary labor market (Althausser and Kalleberg 1981; Gamoran 1994). This study examined earnings in the first year after graduation and nine years later, in 1991 (1992 earnings are not for a full year).<sup>1</sup>

## ANALYSES

### *Use of Job Placement Help*

This section describes the incidence of the various kinds of contacts that high school graduates used to get jobs in the year after graduation. Most of the students (30.5 percent) got their first jobs directly, using no contacts. Of those who used contacts, most used friends (22.2 percent of all first jobs) or relatives (13.8 percent). School placement was a relatively infrequent method of entry into the labor market (8.5 percent), and employment services were used even less frequently (4.2 percent). Some students used civil service, union, or other sources (11.0 percent).<sup>2</sup> If one considers only this overview, then it is easy to dismiss school placement as infrequent, and it is not surprising that previous studies that had findings on school placement did not comment on them (Holzer 1996).

However, these averages conceal important variation among subgroups of youths (see Table 1). Women and blacks used school placement more frequently than did men and

**Table 1. Job Search Method, by Gender and Ethnicity (percentage)**

	School	Relatives	Friends	Employment Service	Direct	Other	No Answer
Black women	15.6	4.9	19.6	8.4	36.4	4.9	10.2
Hispanic women	10.1	12.3	21.4	6.5	33.5	6.3	9.9
White women	9.3	13.3	22.1	5.7	32.8	9.6	7.2
Black men	10.3	13.4	21.3	3.2	24.9	12.7	14.2
Hispanic men	5.1	15.4	23.4	2.4	29.4	1.6	2.7
White men	7.2	15.9	22.4	2.4	28.3	3.7	10.1

whites. Among the high school graduates who had earnings in the year after graduation, black women used school placement the most (15.6 percent), followed by black men (10.3 percent) and Hispanic and white women (10.1 percent and 9.3 percent, respectively). In contrast, fewer white and Hispanic men used school placement (7.2 percent and 5.1 percent, respectively). Relatives' job help was in the reverse direction, with white and Hispanic men receiving most job help from relatives, women getting less help than men of all ethnic groups, and black women getting the least. Although one would expect some inverse relationships since only one answer could be given, this particular relationship is striking, since the vast majority of students used other alternatives (especially friends and direct contacts). This finding suggests that schools help those groups who are less likely to get help from relatives.

### **Who Gets Which Kinds of Job Placement Help?**

We now turn to our multivariate analyses to examine which types of individuals get which types of job help. Unlike the preceding

descriptions, these analyses controlled for other factors that may influence job help, such as achievement, private schooling, and track placement. Initial analyses included regions, but they are omitted here because they have no influence and do not alter other influences. Because each type of job help is a dichomous dependent variable, we used logistic analyses.

We ran the analyses in two stages, first using a simple demographic model (SES, female, black, and Hispanic) and then a full model in which school variables and individual achievement were added. As is customary, we considered coefficients to be significant if they were twice their standard error.

We hypothesized that disadvantaged groups get little help from relatives and friends and more help from institutional contacts. Beginning with help from relatives, the short and long models both found that females and blacks are significantly less likely to get help from relatives, but Hispanic is not significant in either model (see Tables 2 and 3). SES has a significant influence on help from relatives in the full model (but not in the short model). Thus, students get relatives'

**Table 2. Logit Analyses of Who Gets Which Kinds of Job Placement Help: Reduced Form**

	1 School		2 Relatives		3 Friends		4 Employment Service	
	B	Exp (B)	B	Exp (B)	B	Exp (B)	B	Exp (B)
SES	.275*	1.316	.005	.995	.065	1.067	-.464*	.629
	(.075)		(.063)		(.052)		(.112)	
Female	.414*	1.512	-.278*	.757	-.024	.976	.859*	2.361
	(.105)		(.086)		(.071)		(.157)	
Black	.525*	1.691	-.438*	.645	-.109	.897	.206	1.228
	(.158)		(.171)		(.127)		(.232)	
Hispanic	-.020	.980	-.085	.919	.004	1.003	-.078	.925
	(.143)		(.113)		(.093)		(.193)	
Constant	-2.589		-1.654		-1.204		-3.675	
	(.089)		(.064)		(.055)		(.141)	
Percentage correct	90.96		86.25		77.32		95.68	
$\chi^2$	37.28		17.47		2.77		53.83	
Significance	.0000		.0016		.5972		.0000	

\*  $p < .05$ .

**Table 3. Logit Analyses of Who Gets Which Kind of Job Placement Help: Full Model**

	1		2		3		4	
	School		Relatives		Friends		Employment Service	
	B	Exp (B)	B	Exp (B)	B	Exp (B)	B	Exp (B)
SES	.064 (.082)	1.066	.101* (.049)	1.107	.093 (.056)	1.097	-.333* (.121)	.717
Female	.435* (.108)	1.544	-.284* (.089)	.753	-.030 (.073)	.971	.898* (.163)	2.456
Black	.696* (.166)	2.006	-.486* (.176)	.615	-.116 (.132)	.891	.130 (.245)	1.139
Hispanic	.135 (.149)	1.145	-.140 (.118)	.869	-.024 (.097)	.976	-.143 (.203)	.867
General track	-.216 (.122)	.806	-.090 (.100)	.914	.109 (.081)	1.115	-.059 (.176)	.943
Vocational track	-.030 (.173)	.971	-.011 (.136)	.989	-.198 (.119)	.821	.361 (.210)	1.435
Private school	.089 (.122)	1.093	.008 (.108)	1.008	-.066 (.088)	.936	.048 (.186)	1.049
Achievement test	.056* (.008)	1.057	-.025* (.006)	.976	-.008 (.005)	.992	-.014 (.010)	.986
Constant	-5.587 (.464)		-.312 (.340)		-.773 (.284)		-2.987 (.593)	
Percentage correct	90.83		86.27		77.33		95.65	
$\chi^2$	102.09		32.06		13.43		56.96	
Significance	.0000		.0001		.0978		.0000	

\*  $p < .05$ .

help regardless of their track or school, and low-achieving students are more likely to get relatives' help.

In contrast, friends seem to be an equal opportunity provider. Females, blacks, and Hispanics get job help from their friends as often as white men in both models. Moreover, in the larger model, none of the variables has a significant influence on getting jobs from friends. As we subsequently discovered, friends' help does not lead to better-paying jobs.

School help also represents a contrast in what kinds of youths are helped. In the short model, females, blacks, and high-SES youths are significantly *more* likely to get their jobs through school help, but Hispanics are not. In the full model, females and blacks are significantly more likely to get their jobs through

school help, but the SES effect becomes insignificant, apparently mediated by test scores. In addition, lower-achieving students are significantly less likely to get their jobs through school help. Vocational track students are as likely as college-track students to get such help.

In the short model, the employment service also offers significantly greater opportunities for females and low-SES youths, but not for blacks or Hispanics. In the larger model, the female and SES effects remain, and nothing else is significant. Just as its mission dictates, the employment service is more useful to low-SES youths.

To the right of each coefficient, the tables report the exponent of the coefficient (Exp (B)), which indicates the way that the variable changes the odds of the outcome. Thus, in



the full model, being female increases the odds of getting school help by 54.4 percent and of getting employment service help by 145.6 percent, but decreases the odds of getting relatives' help by 24.7 percent (1-.753). Being black increases the odds of getting school help by 100.6 percent and decreases the odds of getting relatives' help by 38.5 percent. A one standard deviation increase in SES (.66) increases the odds of relatives' help by 7.1 percent, but decreases the odds of employment services help by 18.7 percent. A one standard deviation increase in test scores (7.8) increases the odds of school job placement by 44.5.<sup>3</sup>

In sum, the hypothesis that disadvantaged youths get less help from relatives is supported for females, blacks, and SES (long model), but not for Hispanics. The hypothesis that disadvantaged youths get more help from institutional contacts is supported for females and blacks in getting school help (but not for SES or Hispanics) and for low-SES youths and females for employment service help (but not for blacks or Hispanics). Although the SES effect on school help is the only significant relationship to contradict the hypothesis regarding disadvantaged youths, this effect disappears after test scores are controlled. As hypothesized, school help is meritocratic (based on school achievement), and relatives' help is unmeritocratic, in that it helps low-achieving youths more.

To oversimplify, while help from relatives preserves social disadvantage and is antimeritocratic (on the basis of test scores), school job placement helps many who are socially disadvantaged and is meritocratic. Employment services also serve many of those who are socially disadvantaged (females and low-SES youths), but they are not meritocratic. Friends are indiscriminate on most criteria.

### **Regression Analyses on Early and Later Earnings**

The following analyses evaluated the influence of job contacts on youths' earnings. Because the policy literature considers the lack of a college degree the primary mark of disadvantage and labels those without a col-

lege degree "the Forgotten Half" (cf. Halperin 1988), and some research has suggested that a college education confers little earnings benefit unless one gets a degree (Grubb 1993, 1995; Jencks et al. 1979, but see Kane and Rouse 1995), our sample consisted of youths who graduated high school but did not get college degrees (associate's or higher).

We used multivariate analyses to examine the effect of the various types of contacts on youths' earnings. Since we took the natural logarithm of earnings, coefficients indicate the *percentage* increases (not dollar increases) that each independent variable contributes to earnings. We first examined the determinants of early earnings right after graduation and then examined youths' earnings nine years after graduation. For comparability, these analyses considered only youths who had earnings in both periods ( $n = 3,245$ ).

**The Determinants of Earnings Right After High School** In these analyses, we examined the factors that affect youths' first earnings after high school graduation. The results are no surprise. Many studies have examined the determinants of early earnings, and they typically explained small amounts of variance, just as we do. For instance, Murnane et al. (1995, Table 3) explained 4–8 percent of the wages six years after high school in the cohort of HSB seniors in 1980. Grubb (1993, Table 3) explained 3–11 percent of the wages in the National Longitudinal Study of the High School Class of 1972 (NLS:72). Analyzing the NLS:72, Griffin et al. (1981:219) concluded that "initial entry into labor market segments was almost a random process, at least for the pool of non-college educated workers." In contrast, for youths who have been in the labor market for 10–15 years, analyses have typically found  $R^2$  over 16 percent (cf. Farkas 1996:47). Comparing several longitudinal and cross-sectional studies, Jencks et al. (1979:117) concluded that the effects of school factors increase steadily up to around age 35.

In the first stage, the linear regression to explain early earnings found that SES has a strong positive influence and female has a strong negative influence (see Table 4, col-

**Table 4. Determinants of Youths' 1983 Earnings (Ln) (unstandardized coefficients/standardized errors;  $n = 3,245$ )**

SES	.056*	.052*	.053*
	(.009)	(.009)	(.010)
Female	.138*	-.140*	-.141*
	(.012)	(.012)	(.012)
Black	-.034	-.031	-.031
	(.019)	(.020)	(.020)
Hispanic	-.023	-.019	-.019
	(.017)	(.018)	(.018)
Northeast	.064*	.057*	.058*
	(.017)	(.018)	(.018)
South	.006	.003	.005
	(.015)	(.015)	(.015)
West	.087*	.089*	.089*
	(.017)	(.018)	(.018)
General track		.002	.002
		(.013)	(.014)
Vocational track		.011	-.014
		(.016)	(.017)
Private school		.035	.033
		(.023)	(.023)
Achievement test ( $\times 10^{-2}$ )		.058	.075
		(.085)	(.085)
<i>Placement Variables</i>			
Relatives			.038*
			(.018)
Friends			.024
			(.016)
Employment service			.066*
			(.027)
Civil service, union, other			.029
			(.020)
School placement			.040
			(.027)
Constant	9.238	9.211	9.182
Adjusted $R^2$	6.8%	6.9%	7.0%
Significant $F$	.0000	.0000	.0000

\*  $p < .05$ .

umn 1). Blacks' earnings are less than the comparison group (whites and Asians) but not quite significant. Hispanics' earnings are not significantly lower. Earnings are higher in the Northeast and West than in the Midwest.

In the next stage, the addition of school variables and individuals' test scores did not

alter the foregoing influences (see Table 4, column 2). We found that vocational and general-track students have no different early earnings than college-track students, and private-school graduates have no different earnings than those from public schools. We also found that individuals' test scores have no

influence on youths' earnings right after high school, corroborating the findings of many other studies cited earlier.

The addition of job search method did not alter previous influences very much (see Table 4, column 3). Employment services raise earnings by 6.6 percent, but since they focus mainly on adults and help only 4 percent of these youths, this large effect is for relatively few individuals. The other methods have small and mostly insignificant effects. Relatives raise earnings by 3.8 percent (significant); school contacts raise earnings about the same, but the coefficient is not significant.

**Determinants of Earnings Nine Years After High School** Nine years later, when these youths were about 28 years old, the linear regression to explain 1991 earnings ( $\ln$ ) indicated that SES continues to have a strong positive influence and females continue to have strong negative influences on earnings (see Table 5, column 1). Hispanics and blacks do not have lower earnings net of SES. Earnings are higher in the Northeast than in the Midwest, but no other regional differences emerged.

In the next stage, the addition of school variables slightly altered the previous influences (see Table 5, column 2). We found that vocational and general-track students have no different earnings than college-track students (who took jobs after high school). Private school graduates do not have significantly higher earnings than do public school graduates. Test scores have a strong significant influence on youths' later earnings, in contrast with the earlier period. Apparently, although youths' achievement is not rewarded at the outset, it is rewarded later, as has been seen in other studies (Altonji and Pierret 1995; Murnane et al. 1995).

The addition of job search method did not alter previous influences very much (see Table 5, column 3). We found that school help has the largest influence, raising earnings by 17.0 percent. Relatives have smaller, but significant, benefits (8.6 percent), but the youths who got jobs through employment services no longer have significantly higher earnings. Youths who got their first jobs through friends have no earnings benefit.

In adding early earnings (see Table 5, column 4), we found that the influence of most variables (SES, female, and Northeast) remains significant and at about the same level, although early earnings mediates some of the influences. Black and Hispanic remain insignificant. The achievement effect declines minimally and remains highly significant. Achievement has little influence on early earnings, and virtually all its influence on later earnings is independent of early earnings. The placement variables decline after early earnings are controlled, but relatives and school placement remain strong and significant. School placement has a particularly large influence net of early earnings, suggesting that the jobs gained through this means offer much better earnings trajectories.

These results confirm Granovetter's (1995) hypothesis: Early contacts may have a greater impact on later jobs than on early jobs. However, this hypothesis is true only for certain kinds of contacts. Relatives and school placement have larger effects on later earnings than on early earnings. As hypothesized, relatives and school placement have significant effects, while friends and employment services do not. Most notably, school placement, which disproportionately helps females and minorities and is generally unrecognized in American society, has very strong benefits on later earnings. School placement leads to a degree of earnings advancement over the first decade that is not consistent with jobs in the secondary labor market.

## TEACHER-EMPLOYER CONTACTS

To get a better idea what form school-employer contacts may take, a companion study interviewed 110 vocational teachers in 12 public high schools throughout the Chicago metropolitan area in 1993 (6 in the city and 6 in the suburbs). While the results are reported elsewhere (Rosenbaum and Jones 1999), a brief summary illustrates one form of school-employer contacts.

Of the 110 vocational teachers, 95 percent have casual contacts with employers from jobs they held before teaching, and most teachers (68 percent) say that employers trust

**Table 5. Determinants of Youths' 1991 Earnings (Ln) (unstandardized coefficients/standard errors; n = 3,245)**

SES	.126*	.118*	.120*	.099*
	(.020)	(.021)	(.021)	(.021)
Female	-.379*	-.376*	-.372*	-.316*
	(.025)	(.026)	(.026)	(.026)
Black	-.017	.035	.030	.043
	(.042)	(.044)	(.044)	(.043)
Hispanic	.035	.030	.030	.036
	(.038)	(.040)	(.039)	(.039)
Northeast	.146*	.111*	.110*	.087*
	(.038)	(.038)	(.038)	(.038)
South	.057	.046	.048	.046
	(.033)	(.033)	(.033)	(.032)
West	.013	.011	.010	-.025
	(.038)	(.039)	(.039)	(.039)
General track		-.011	-.010	-.011
		(.030)	(.030)	(.029)
Vocational track		.017	.011	.017
		(.037)	(.037)	(.036)
Private school		.084	.075	.062
		(.050)	(.050)	(.049)
Achievement test (x 10 <sup>-2</sup> )		.603*	.624*	.594*
		(.182)	(.182)	(.179)
<i>Placement Variables</i>				
Relatives			.086*	.070*
			(.035)	(.034)
Friends			-.015	-.025
			(.033)	(.033)
Employment service			.084	.058
			(.058)	(.057)
Civil service, union, other			.115*	.103*
			(.043)	(.042)
School placement			.170*	.155*
			(.063)	(.062)
Ln (Earnings '83)				.401*
				(.037)
Constant	9.885	9.588	9.541	6.014
Adjusted R <sup>2</sup>	7.7%	8.1%	8.5%	11.7%
Significant F	.0000	.0000	.0000	.0000

\*  $p < .05$ .

their recommendations of students. Teachers report similar themes—“Some employers will even say, ‘You just send me a student. You know what I want’ (T74). ‘I have been here long enough that some [employers] have already said, ‘Well, you know what I’m looking for,’ . . . they take . . . my word, and it’s worked out in the past” (T4). “[Some employers] say ‘Send me somebody, and I know who you send, they have always worked out’” (T68). “Among my employers, they take my word for it. . . . Employers who keep calling back . . . know they can rely on my word” (T69).

Indeed, when asked “what percent of your work-bound students can you place in good jobs that use students’ skills,” 58 percent of the teachers said they could place three-quarters or more of their students in good jobs that would use their skills. While one must be skeptical about self-reports, these placement rates are plausible, since many of the teachers who made these claims regularly attend professional association and union meetings, have employers on their program advisory boards, have former students who are workers and employers in the field, or could name five or more specific employer contacts in high-demand fields (including administrative, clerical, sheet metal, heating, machining). Even during the weak labor market of 1993, these teachers placed most students in good jobs.

As a check on teachers’ reports, we interviewed 51 employers in the vicinity of three of these schools. Over 20 percent reported having contacts with one or more of these teachers, nearly always with vocational teachers. Seven employers who had strong long-term contacts with teachers consistently hired students who were highly recommended by these teachers for jobs with a potential for advancement (Miller and Rosenbaum 1997; Rosenbaum and Binder 1997).

Just as our HSB analyses indicated that school help does not seem to discriminate against disadvantaged groups, the teachers reported helping minorities and students with handicapping features or experiences. The teachers reported that they sometimes help females, blacks, and Hispanics to get jobs in mostly white male industries (such as sheet

metal and machining), reassuring a reluctant employer that a particular female was “as good as the last five males I sent you.” Indeed, the teachers even reported getting jobs for students with speech impediments, limited English skills, and learning disabilities. While such youths may have difficulty impressing employers in job interviews, the teachers urged the employers to hire them on the basis of their strong job skills and the work habits they exhibited in vocational classes. An urban teacher reported, “A teacher can give [information about] things like quality, . . . honesty, dependability. . . . It would be very hard [for employers] to get that from another source” (T15).

Teachers’ contacts are not just a way for students to get jobs; they also offer students incentives. Previously unmotivated students discover that their school efforts can pay off if their teachers’ recommendations can get them jobs. Students who see the relevance of school to their career goals may work harder in school (Rosenbaum 1998; Steinberg 1996; Stinchcombe 1965) and may develop stronger skills and work habits.

These results illustrate one form of school-employer contacts, although we cannot tell how often the HSB variable takes this form or how representative these vocational teachers may be. We do not know whether academic teachers or other school staff have or use job contacts, although there are some indications that few guidance counselors do (Rosenbaum, Miller, and Krei 1996). However, since nearly all students take some vocational courses (Wirt et al. 1989), vocational teachers could potentially help any student, not just vocational students.

## CONCLUSION

Just as institutionalized contacts allow Japanese and German teachers to help students get jobs, the present findings indicate that American high schools sometimes help students enter work, and blacks and females are more likely to get their first jobs through school job placement than are white males. Moreover, school contacts (and relatives) help youths get jobs that lead to higher later

earnings. Perhaps this finding indicates that these contacts allow youths to escape the secondary labor market.

The results are different for personal and institutional ties. For personal ties, we found that relatives and friends both have small effects on early earnings, but the jobs gotten through relatives lead to higher earnings nine years later, while the jobs from friends do not. For institutional contacts, school contacts lead to jobs that result in higher earnings nine years later, while the benefit of employment services is largely at the outset and is not significant nine years later. The results for long-term earnings generally support our hypotheses about institutional and personal ties (that school placement and relatives have strong earnings effects but employment services and friends do not).

These results confirm Granovetter's (1995) hypothesis: Early contacts may have a greater impact on later jobs than on early jobs. School contacts and relatives have a significant influence on later earnings, but not on early earnings, and a significant effect on later earnings net of early earnings. Thus, one kind of contact that Granovetter did not study, school contacts, also supports his hypothesis. The idea that a factor could have a larger influence nine years after it happened than it had at the outset is perhaps counterintuitive, but it is exactly what Granovetter predicted.

Our findings on school achievement fit the same pattern: Students' 12th-grade test scores have stronger effects on earnings over time. The increasing effect of test scores over time was previously found by Altonji and Pierret (1995) and Murnane et al. (1995). In interpreting these findings, these economists assumed that employers do not have information about test scores and that the achievement effect on earnings emerges as a result of the ways that achievement becomes manifest in the individuals' subsequent performance as workers.<sup>4</sup>

In contrast, employers are aware of the contacts they use, so the signaling interpretation cannot be used. A structural interpretation seems plausible. Youths who are hired through relatives or school contacts may be assigned to jobs that offer better career-trajectory possibilities and lead to higher later earnings, even though early earnings are not

high. In effect, contacts may allow youths to escape the customary dead-end "youth jobs" in the secondary labor market. This speculation warrants further study.

Other interpretations are possible for our model's inability to explain early earnings. One must wonder if we did not control enough for individual attributes. However, our analyses of early wages are totally consistent with a large number of comparable studies (cited earlier) that controlled for various combinations of other variables and explained little variance in the early earnings of high school graduates. After analyzing many dependent and independent variables, Griffin et al. (1981:213) stated the finding succinctly: "The first job following high school termination . . . appears largely unaffected by a host of variables known to be important for later life achievement."

It is also possible that our early wage variable is unreliable. Of course, all national surveys of youths have the same problem of self-reported earnings and job attributes, which youths may misreport, misperceive, or misunderstand. Studies of firms' personnel records avoid the problem of reporting error; such studies suggest that new high school graduates are typically assigned to a limited set of entry jobs that offer fairly similar initial salaries (Baron and Bielby 1980; Rosenbaum 1984). Moreover, employers report that although they make special accommodations to hire youths with valued skills, they rarely differentiate the youths' pay, but gradually advance these youths to more challenging jobs as they exhibit more potential (Rosenbaum and Binder 1997). Therefore, various sources of data support the inference that these results on earnings reflect actual labor market processes, not just measurement error.

Are job contacts chosen by youths or determined by others? Youths with well-connected parents and teachers have choices. However, if youths' relatives are unemployed and their teachers lack job contacts, their choices are restricted to other kinds of contacts (especially friends) that do not lead to long-term earnings benefits in our analyses. Wilson (1996) urged high schools to help disadvantaged groups get jobs, but schools rarely define job placement as a responsibility

ty. Nonetheless, these results indicate that students do sometimes get jobs through school contacts, and school contacts help females and blacks, the groups who get less help from relatives. Research needs to examine what causes some schools or teachers to offer youths help in finding jobs, while others do not. Research also needs to examine why youths choose one contact over another (for those who have several alternatives) and which youths have only poor alternatives. This study is a first step on these issues.

We should not get lost in numbers and names of variables. Job contacts are not merely variables; they represent potentially important social processes in youths' lives. In the United States, where formal job-help systems are not available, the school contacts we have discovered appear to have a large and lasting impact over youths' first decade in the labor market, especially for some groups who cannot count on relatives.

From a practical viewpoint, these findings indicate that high schools can and do help youths get jobs and that youths get better jobs this way. Students could benefit from knowing this information. School achievement and school contacts lead to jobs that ultimately result in much higher earnings, even if they have little or no early benefits. Because it is easier for a student to see what happened to the previous year's graduates than to those who graduated 10 years earlier, high school seniors are more likely to be aware of early effects than later effects. This likelihood may explain why youths do not see incentives for achieving in school (Bishop 1993; Ray and Mickelson 1993) or for seeking schools' job placement services. Although teachers may tell students that school can help them, students tend to doubt such statements as self-serving (Rosenbaum 1998). If work-bound students realized that school contacts and achievement could help them get better later earnings, they would see incentives to work in high school, as students who aspire to selective colleges do.

In addition, although the United States does not give schools or teachers any responsibility in helping youths get jobs, we found that schools sometimes help students get jobs, and when they do, students gain sub-

stantial earnings benefits, especially in later years. While few students are currently helped, it is possible that this help could be vastly expanded if teachers were encouraged and given time and incentives to do so. Unlike the current policy focus on using job training programs to fix youths' labor market difficulties after they have gotten to be serious problems, policies that encourage school job contacts might prevent such problems from occurring in the first place (see Rosenbaum in press).

## NOTES

1. The analyses used the restricted release 1992 file and students who answered the 1982 and 1992 surveys. They were factor weighted accordingly.

2. About 10 percent offered no answer to this question. Because of the way students might interpret the question, we suspect that this group got their jobs mainly through direct methods, and these students are in the constant for the earnings analyses.

3. One might be tempted to use multinomial logistic analysis for these analyses, since these job-search strategies seem to be a coherent choice set. Yet, while college graduates from well-connected families can choose among their job-search strategies, high school graduates' choices of job strategies are often determined by others, not themselves. As Hoffman and Duncan (1988:419) noted, in a multinomial logistic analysis,

the assumption of independence is critical. . . . If, for example, there is a change in the characteristics of any other alternative in the choice set, this property requires that the [other] two probabilities must adjust precisely in order to preserve their initial ratio. This is equivalent to assuming that the percentage change in each probability is equal, a response pattern that may be an unwarranted and inappropriate restriction. For example, the possibility that one choice probability might be more greatly affected by such a change is thereby excluded.

If one alternative is removed, it is assumed that the choices of the others increase proportionally. For example, a person's travel

destinations (Boston, Miami, Los Angeles) might have a certain set of probabilities, and the others would increase proportionately if Miami was removed.

However, that assumption does not apply when outcomes are structurally constrained. School help is probably not offered as a choice to all students (Rosenbaum and Jones 1999), and low-income youths (who are overrepresented among work-bound students) may not be able to get job contacts from relatives (Wilson 1996). Therefore, excluding one of the other alternatives would not proportionately increase the use of school or relatives' help. Multinomial logistic analysis requires assumptions that seem inappropriate for these phenomena.

Although multinomial analysis does not seem appropriate, separate logistic analyses are not without problems, for the results of one job contact are not totally independent of those of the others. For comparison, we ran multinomial logistic analyses and found similar, but not identical, results. Females totally matched our results; females are significantly more likely to get job help from schools and employment services and are less likely to get help from relatives in the short and long multinomial models. Blacks confirmed the results for school and relatives' help and had no effects for the other two (as in the simple logistic analyses). SES was significant in affecting help from employment services in both the short and long models (but had no other significant influences), and the Hispanic and track variables were never significant. The main departure was test scores, which affected help from relatives, friends, and employment services (each time negatively), but not help from school placement. With the exception of the last finding, the multinomial results generally confirmed the results of the single logistic analyses. The finding that relatives, friends, and employment services are "antimeritocratic" is intriguing, but we are dubious of the assumptions required by multinomial analysis.

4. It is commonly assumed that even if employers do not know test scores, they can infer ability in other ways during a job interview. This assumption is contradicted by interviews with employers. Employers report

that they are often misled by applicants' performances during interviews (Miller and Rosenbaum 1997). Moreover, teachers also report that students who are shy and unimpressive during interviews may actually have the most promise as employees in many jobs (Rosenbaum and Jones 1999).

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