How do College Students Find Summer Jobs? The Role of Institutional Contacts in Employment Outcomes

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Abstract

The prospect of a good job with higher earnings motivates many students' decision to seek a college degree. Students take on jobs or internships during the summer to get a glimpse at possible career choices and perhaps to pave the way toward obtaining a job in that organization following graduation. Because little is known about the types of summer jobs students hold while in college or how they obtained these jobs, this paper looks at job search methods, types of summer jobs, and earnings for a sample of nearly 4,000 black, white, Asian, and Hispanic students from 28 colleges and universities. Of particular interest is the use of school-based contacts to obtain employment, since it is these contacts that have the greatest potential to level the playing field for students from disadvantaged backgrounds. Students who found their summer jobs through these institutional contacts had significantly higher earnings and held positions with higher occupational prestige than students using most other methods (controlling for race, prior work experience, and parental education).

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In today's labor force, a college degree is becoming less of an option and more of a requirement to obtain well-paying and hopefully stable employment. Recent graduates who do not enter post-graduate programs typically head directly into the labor force, taking on a variety of positions. How well students fare initially in the "real world" will be to some extent related to the types of opportunities that they took advantage of in college. For instance, students who do internships or co-ops during their college years may become employed by these organizations upon graduation. Many of these early opportunities are obtained through summer employment. Researchers looking more broadly at the job search process have suggested that how people find their jobs may have implications for job outcomes(Falcon, Melendez, and 2001; Granovetter 1974; Granovetter 1995 (1973); Green, Tigges, and Diaz 1999; Holzer 1988; Korenman and Turner 1996) . This paper applies these ideas to summer employment for college students from elite colleges and universities.

I begin by examining the different methods that students use to find their summer jobs, focusing on differences by race/ethnicity, gender, and family background. I characterize these job search methods into seven major types: institutional (school) based contacts; personal school based contacts; personal contacts outside of school; family contacts; traditional methods (responding to ads or using employment services); foot in the door method (having an 'in' to employment through previous internships or having a job created for oneself); and other methods. I am particularly interested in school-based methods because social networks formed in college are potentially one way that less advantaged students can access a wider range of opportunities, beyond those that are simply available by virtue of having a college education. In previous research I have shown that students who form more formal and informal connections on campus have better outcomes in terms of grades, feeling integrated into college, and retention

(self identifying reference). This paper addresses whether these connections formed on campus have implications beyond the boundaries of the institution.

Contacts and Job Search

Early research on job contacts by Granovetter (1995 (1973)) showed that personal ties, especially weak ties, result in more successful job searches. Granovetter's premise, the strength of weak ties, is that weak ties are the most likely to provide diverse information about jobs, placing the job seeker in an optimal position to choose among the best of these diverse leads. However, these findings were based on the job seeking behaviors of well-educated workers. Subsequent research has suggests that weak ties are particularly beneficial to workers in the upper socioeconomic strata, but may not hold the same benefits for lower wage workers (Lin 1999). The relative homogeneity of social networks (McPherson, Smith-Lovin, and Cook 2001) is the suspected cause for this disparity. Because lower wage workers are more likely to have networks dense in ties to others in low wage positions, the information gleaned from such contacts is less likely to result in substantially better job outcomes.

The seemingly networked nature of job searches has led some to hypothesize that at least part of the stratification we observe in the labor market by race (and also to some degree by gender) might be a consequence of the fact that most job seekers have segregated social networks to begin with as a result of residential and social segregation. This argument makes sense intuitively. We know that there are differences in income between race/ethnic groups. We also know that neighborhoods, schools, and friendship networks are segregated by race/ethnicity. If better jobs are typically found through social networks, then having a socio-economically disadvantaged social network would presumably yield worse job outcomes. In other words, the social context of the job seeker is a key factor in explaining the returns to using personal

contacts. A number of recent studies have tested this hypothesis by examining the effect of personal contacts on labor market outcomes for black and white workers (Elliott and Sims 2001; Green, Tigges, and Diaz 1999; Korenman and Turner 1996; Mouw 2002a; Mouw 2002b). The findings are generally consistent with the hypothesis that black job seekers see worse average returns to their use of personal contacts in job searches than do whites.

However, recent work by Mouw (2002b; 2003) has called into question the causality in these findings. Because workers choose their job search strategies and are only going to use personal contacts if they yield a job offer that is as good as one yielded from more formal methods, the search method that yields a job may simply be an indicator of opportunity in one's network rather than the effect of contacts per se. In other words, the use of personal contacts may be an endogenous variable. Therefore a different approach is needed to determine whether contacts indeed offer worse returns for black workers. Mouw approaches this problem by comparing results from cross sectional data, on which most previous research is based, to results from longitudinal data for black workers who had changed jobs between survey waves. He finds that the negative relationship between contacts and wages in the cross-sectional data are actually the result of lower levels of opportunity among black workers using contacts (Mouw 2002b).

But what if minorities and whites are launching a job search from the same institutional setting? The context of elite colleges and universities provides a unique circumstance in which we can observe whether minorities, some of whom initially come from disadvantaged settings and most of whom experience moderate to high levels of racial segregation while growing up (Massey, Charles, Lundy, and Fischer 2003) , can markedly improve their employment prospects by accessing a more advantaged network. This exposure to networks and opportunities through the university has the potential to level the playing field for these students relative to their

classmates from more privileged backgrounds since all students presumably have the same access to these institutional (ie. school-based) contacts. Intuitively, we would expect that some advantages would be retained by middle and upper class students due to their familial and pre-college personal ties. However, Granovetter and others have found that familial ties are typically less valuable than other types of personal contacts (Granovetter 1974; Granovetter 1995 (1973)), but this research was not focused specifically on entry-level job searchers. Little is known about the utility of institutional (school-based) contacts, in general or vis-à-vis other methods in obtaining desirable entry level positions.

Rosenbaum et al. (1999) have conducted one of the few studies looking specifically at the use of school based contacts on job outcomes for a sample of high school graduates. Using the High School and Beyond database, Rosenbaum and his colleagues examine the types of contacts that students used to find their jobs and examined the effect of these contacts on earnings in the short (first job) and long term (9 years from high school graduation). Black and female students were significantly more likely to use school based contacts to obtain their first jobs then their male and white counterparts. Further, the use of these institutional contacts for the first job yielded significantly higher earning for these students nine years post-graduation, although initial earnings differences were negligible (Rosenbaum, DeLuca, Miller, and Roy 1999). Their findings highlight the importance of institutional contacts for groups that are traditionally disadvantaged in the job market, specifically minorities and females.

Simon and Warner (1992) also look at the effects of institutional contacts on job characteristics using data from a survey of Scientists and Engineers which asked detailed questions about the respondent's current and previous two jobs. After eliminating from the sample pre-professional and academic jobs, they found that the most common source for

information about first jobs for this sample came from college placement services (31%) (Simon and Warner 1992). Nearly as many (29%) were recruited into their first job, while personal contacts were used to find about 19% of first job. Starting salaries were higher for those who used college placement (ie. institutional contacts) to find their first job.

The current study makes several unique contributions to the literature. First, this study provides valuable information about how college students find summer jobs, a process about which we know little. The longitudinal nature of this study means that the findings on how students find summer jobs and the jobs they held can eventually be compared to the mechanisms students use to obtain employment post-college. This study also sets up a different type of test of the effects of contacts on job search strategies for different race/ethnic groups by examining the summer employment of college students, who by definition are sharing a common institutional setting and should theoretically have similar outcomes when using contacts from this setting. A positive finding in this regard would lend further evidence that the social context of ties is of primary importance in determining the usefulness of such ties in obtaining desirable outcomes (job placement, salary, etc.). Finally, this study suggests that there are benefits to attending selective institutions beyond the actual degree conferred in the contacts that students make in college. The use of school based contacts in obtaining employment may be particularly beneficial to minority and female students, who typically have lower returns to their education in the job market than their white and male counterparts (England, Christopher, and Reid 1999; Jencks et al.1979).

DATA AND MEASUREMENT

The data used in this study come from the National Longitudinal Survey of Freshmen (NLSF), a probability sample of students who entered 28 selective U.S. colleges and universities as freshmen in the Fall of 1999. Some 35 schools were asked to participate in the study, including all of the institutions studied by Bowen and Bok (1998) plus the University of California at Berkeley and all but seven (Duke, Hamilton, Morehouse, Spellman, Vanderbilt, Wellesley, and Xavier) agreed and were able to participate, yielding an institutional response rate of 80%[1]. The students in the sample are both racially and socio-economically diverse, which makes this an ideal sample for comparing job search strategies within the context of a common institutional setting.

Among institutions that agreed to participate, NLSF investigators contacted 4,573 randomly selected students and completed 3,924 face-to-face interviews, for an overall response rate of 86% (Massey, Charles, Lundy, and Fischer 2003). The baseline sample included 998 whites, 959 Asians, 916 Latinos, and 1,051 African Americans. The survey gathered extensive information about respondents prior to their entering college and measured in some detail their initial attitudes, motivations, and perceptions. A detailed description of the sampling methodology and questionnaire is contained in Massey et al. (2003).

The baseline survey was followed by a series of shorter telephone surveys designed to determine how respondents had fared since the first interview. Follow-up surveys were administered each spring from 2000 through 2003. The current study draws upon data compiled in the follow-up surveys of 2000 through 2002 when most respondents were finishing their

[1] The participating institutions were Barnard, Bryn Mawr, Columbia, Denison, Emory, Georgetown, Howard, Kenyon, Miami (of Ohio), Northwestern, Oberlin, Penn State, Princeton, Rice, Smith, Stanford, Swarthmore, Tufts, Tulane, University of California at Berkeley, University of Michigan at Ann Arbor, University of North Carolina at Chapel Hill, University of Pennsylvania, Notre Dame, Washington University, Wesleyan, Williams, Yale.

freshmen, sophomore, and junior years. The respective response rates for these waves were 96%, 90%, and 84%. In addition to a standard battery of questions, each follow-up survey has contained unique sets of questions addressing more specialized areas of interest. The majority of the variables in this paper are drawn from the wave 4 survey, which was conducted in the Spring of the junior year and had a special section devoted to summer employment. Students were asked first if they had held a job in the summer between their freshman and sophomore years. If they had, the students were asked whether the job was full-time or part-time, and if it was an internship whether it was paid or unpaid. The focal variables for the current analyses come from the next set of questions where students were asked whether they had been employed the previous summer (between their sophomore and junior year). They were asked what job they held, how they found this job, and how much they earned. In addition to this information on summer jobs, students have been asked in each spring survey about any work activities during the school year.

Table 1 shows the college work experience for the all students by race/ethnicity. For all groups, working in the first year of college is less common than in the second year, but the prevalence of working varies across groups. Slightly less than half of white and Asian students report working their first year of college, compared to a little over 60% of Hispanic and black students. During the second year of college, employment for all groups increased substantially, with 59% of Asians, 65% of whites, and over 70% of blacks and Hispanics reporting having worked. Summer employment shows a somewhat different pattern. In both the summer before the sophomore year and before the junior year, whites had the highest prevalence of employment with about 70% of students reporting having worked over the summer. This compares to about 60% of all other groups (Hispanics were slightly more likely to be employed during the summer

before the junior year at 65%). Because this summer before the junior year is in the middle of the typical four year college experience, a valuable internship or job experience would allow students to either cement or re-adjust their academic trajectory in college toward a particular post-graduation career. This job may also lead directly to post-college employment. The focus of this paper is on the characteristics and job search strategies related to the summer job prior to the junior year, therefore only those students will be included in subsequent tables.

** Table 1 about here **

Measuring Job Search Strategies

Students who held summer jobs between their sophomore and junior years were asked how they found their job. I categorized their responses into a seven part typology. **Institutional (school) based contacts** include finding a summer job through career services or a professor at school. Students may also find jobs through personal networks, which I have broken down into three categories: school based, non-school based, and family. **Personal school based contacts** include finding a job through friends from college or through the parent of a college friend, while **non-school personal contacts** include finding a job through a coworker from a previous job, friend or neighbor, or through word of mouth. A student was said to have used **family contacts** if they reported finding a job through parents or other relatives. **Traditional methods** include responding to an ad, posting a resume on the internet, or walking in to apply for a job. The **foot in the door method** refers to students who obtained their summer job through previous employment or internships in that establishment or for whom a job was created (indicating some sort of 'in' to employment). There were miscellaneous other responses to the job networks question that did not fall into the abovementioned categories and were instead assigned to a residual 'other' category. This coding scheme is shown in more detail in Appendix A.

** Table 2 about here **

Table 2 shows the means for each of these methods by race/ethnicity, as well as the means for all other variables in the analysis. For all groups, summer employment is most commonly obtained by traditional methods, which includes responding to ads, posting resumes online, and walking in to apply. Asians were the most likely to use this method (37%), compared to 33% of Hispanics, and about 30% of black and white students. Family contacts and institutional based contacts were the next most commonly used strategies, with their relative importance varying by race/ethnic group. Blacks and Asians were the most likely to utilize institutional based contacts, with about 20% of both groups reporting that their summer job was obtained in this manner. This compares to about 15% of whites and about 14% of Hispanics. Family contacts, on the other hand, were more commonly used by whites (24%) and Hispanics (23%). Only about 17% of black and Asian students used family contacts to obtain their summer jobs. The other methods were less utilized, with only about 11% of students of all race/ethnicities obtaining employment through personal school-based contacts, 7 to 10% obtaining jobs through non-school personal contacts, and 4 to 9% using a prior connection to the employer. It was relatively more common for Hispanic, black, and white students to get their summer job because of their previous connections to the employer (8 to 9%) than for Asians (4%).

Measuring Job Characteristics

I examine the effect of job contacts on three job outcomes: earnings, job type, and occupational prestige. The earnings measure was calculated based the students report of the dollar amount they were paid (including 0 if the job was unpaid, only 8% of cases) and a unit of measurement, such as per hour, week, monthly, or for the whole summer. Given the variety of

metrics in which students reported their earnings, I converted the units into two measure-earnings per hour and for the whole summer[2]. The mean values for these measures are shown in Table 1. The average hourly and cumulative summer earnings are remarkably similar across groups, with black and Hispanic student reporting slightly higher earnings than Asians, and whites reporting the lowest average earnings. I also created a dummy variable to indicate whether the summer job was unpaid, which will be used as a control variable in the models predicting outcomes other than earnings. About 12% of Asian students and 9% of black students worked in unpaid positions, which was significantly higher than the 7% of white students reporting no earnings. About 5% of Hispanic student worked unpaid positions.

It is possible that maximizing earnings is NOT the goal of all students taking summer jobs, since many students use summer jobs as an opportunity to try out a career or organization that they may want to pursue after college. Therefore, to understand student's summer job choices we must have ways to characterize the quality of these jobs. The survey asked students to list their job title and main duties. Based on this information, the summer jobs were coded into Bureau of Labor Statistics (BLS) occupational categories. Using these categories, I characterized the quality of summer jobs in two main ways. First, I collapsed the more specific BLS job categories into nine broader job types, as shown in Table 2. Here we see that majority of students held jobs in either managerial and professional specialties or administrative support. There were a sizable percentage of Asian students employed in technical jobs (26%), while whites and Hispanic students had higher representation in service jobs than did other groups (22

[2] Certain assumptions needed to be made to perform such conversions so that earnings are in a common metric across students. This was accomplished by converting to the two most commonly used metrics (summer earnings and hourly wages), which also provides a check on the consistency of the findings. Students who reported working full-time were assumed to have worked 40 hours per week, while students who reported working part time were assumed to have worked 20 hours per week. Because results were similar for both measures, only summer earnings are reported in this paper.

and 17% respectively). Second, I converted the BLS occupation categories into occupational prestige scores using the Nakao and Treas measure (1994). Using this measure, Asian students had the highest average occupational prestige in their summer jobs (51.2), followed by black students (49.4), Hispanic students (47.0) and white students (46.1). Prestige scores have a theoretical range from 0 to 100, but the actual range for BLS coded categories is 12.6 (two results: miscellaneous food preparation or housekeeper) to 94.6 (physician). Examples of jobs in the middle ranges of prestige include bank tellers (47.0) and data entry (51.0). By looking at the job type as well as the occupational prestige of the job, as well as earnings, we get a more comprehensive view of the effects of contacts on a range of outcomes.

Control Variables

I include two measures of social involvement in college to examine whether those who form more connections on campus are more likely to find their summer job through institutional networks. Social involvement is divided into formal and informal involvement. Formal social involvement refers to the degree to which students were active in extracurricular and volunteer activities on campus during their first two years of college. This scale is based on items that measure the hours spent in these activities, as well the number of activities they reported in their sophomore year. Each item is standardized to range from 0 to 1, thus with three items the scale ranges from 0 to 3. As can be seen in Table 2, black and Asian students exhibit higher levels of formal social involvement in college than do whites and Hispanics. Social life on campus also has a more informal component, which is measured by the number of the student's closest friends who live on campus, time spent partying and with friends. The scores of whites, Asians and Hispanics were similarly high on this measure, while blacks scored significantly lower.

Because current earnings and job status is often dependent on prior experience, I include dummy variables indicating whether the student worked during the school year in the freshman and sophomore year or during the previous summer to measure this experience. These are the same variables reported in Table 2, but the mean values in Table 2 only refer to those students who held a summer job prior to the junior year. About half of white and Asian students worked in their first year of college, compared to 65% of Hispanic students and 69% of black students. Employment during summer after the first year was high for all groups, with white students being the highest at 90% and Asian students have the lowest prevalence of employment at 78%. Working during the school year became more common for all groups in the sophomore and junior years, with over sixty percent of all groups reporting some employment over time this period. Black and Hispanic students continued to have greater representation in paid employment during the school year with between 73 and 79 percent of students reporting having worked in each of these years. Family background characteristics are also controlled for in the models, including whether either parent was foreign born, the number of post-graduate degrees held between the two parents, and the percent of college expenses that are personally financed by parents or savings[3].

PREDICTORS OF JOBS SEARCH METHOD

Since a major debate in the job contacts literature is whether there is selectivity in the types of contacts job searchers use, I first turn to an analysis of potential predictors of job search methods. In these models, shown in Table 3, job search methods are regressed on a set of individual characteristics, including race, gender, previous work experience, family background,

[3] The correlation between the percent of college personally financed and the indicators of parents' education is .06 for one college degree, .04 for two college degrees, .19 for one advanced degree, and .25 for two advanced degrees. Correlations of this magnitude should not present a problem with multicollinearity in the models.

and college involvement. There are few differences by race in the use of different job search methods, with two exceptions. First, black and Asian students are significantly *less* likely than white students to use a family contact to obtain their summer job. However, Asians are more likely than whites to use traditional search method to find their jobs (such as responding to an ad or posting a resume on the internet). Females are also more likely than males to use these traditional methods to find their summer jobs, and are less likely to use personal contacts than males.

** Table 3 about here **

The last rows of Table 3 show the effects of student involvement in school on the usage of various job search methods. For each one point increase in involvement in formal school activities, there is a 1.4 times increase in the probability of using a school based contact to find their summer job. In previous work, I have found that involvement in formal school activities leads to better grades and a lower probability of dropping out of college (self identifying reference). This new finding shows a way in which school involvement yields benefits beyond the walls of the institution. Those who have more formal involvement in school are also marginally *less* likely to use family contacts to obtain summer employment between the sophomore and junior years. Finally, those who take unpaid jobs or internships over the summer prior to the junior year are more 1.6 times more likely to have used institutional contacts, while those using non-school based methods are 59% less likely to have unpaid positions.

NETWORKS AND JOB OUTCOMES

Thus far, we have seen that there are some differences in the characteristics of students who use various search methods to find their summer jobs. Now we turn to an examination of

whether job search methods are related to differences in three types of job outcomes: job type, earnings, and occupational prestige. Table 3 examines predictors of each major type of summer job held as a function of job search strategy, family background, major, and prior work experience. There are some differences by race and ethnicity in the type of jobs that students hold over the summer, especially for students in jobs in technical, administrative, or service occupations. Black and Asian students are more likely than white students to hold jobs in technical fields, as are students with foreign born parents or who have two highly educated parents (also interesting). Black students are somewhat more likely than to hold administrative jobs. Service jobs appear to be more prevalent among whites controlling for other factors (as all other groups are significantly *less* likely than whites to be in these fields). Gender differences are also pronounced for certain types of jobs. Females are significantly more likely than males to be employed in service and administration jobs, while they are significantly less likely than males to hold jobs in technical occupations. Some of the administrative jobs that females were likely to be employed in include administrative support, general office clerks, data entry, and secretarial positions, while the dominant service positions were in food preparation.

TABLE 4 ABOUT HERE

There are distinct differences in the type of contacts that students used in obtaining different types of jobs. Those who use institutional contacts to find their summer jobs are significantly more likely to be employed in professional or technical fields, while those using institutional ties are significantly *less* likely to be employed in sales, service, and 'other' occupations. In addition, students who were more involved in formal activities at school were more likely to be employed in professional occupations, net of job search method and other factors. It is difficult to characterize these jobs in terms of their potential for post-graduation

employment opportunities. However, we can speculate that since employment in professional/managerial and technical occupations are among the most desirable post-graduate positions, students who have summer placement in these types of jobs may have some advantage in obtaining permanent positions in these fields upon graduation. A clear picture is emerging from these data showing that students who are more involved in school are more likely to use institutional contacts to obtain their summer jobs and that the use of these school-based contacts yields desirable jobs in professional and technical occupations.

Students who found summer employment in sales jobs were significantly less likely to have used personal contacts (school-based or not) or institutional contacts to find their job compared to using more traditional methods like responding to newspapers ads. Students in sales jobs also tended to have a lower proportion of their tuition covered by personal finances. This apparent lack of savings and parental resources for college may have provided the impetus to take a summer job in sales, since these jobs often are commission based and therefore have the potential to pay better than other temporary jobs that are typically held by college students (such as jobs in the service sector). It is also interesting to note that there are no significant differences in the majors of students holding sales jobs or in their racial/ethnic background.

Table 5 summarizes the results from models predicting two other job outcomes, summer earnings and occupational prestige[4]. There are a few demographic differences that are notable. Blacks earn on average $212 more than whites over the course of the summer. There are also gender differences in earnings, with female students earning on average $147 less over the course of the summer than males even after controlling for job contacts, major, and family background. This disappointing finding is consistent with previous research by Marini and Fan

[4] Models predicting hourly wages were similar to those for summer earnings and were therefore cut from the presentation for brevity.

(1997), who find that there are significant wage gaps in earnings by gender even at career entry. As we will see in the next model, there are no significant gender differences in occupational prestige. This earnings disparity appears to be evidence of the beginnings of the earnings gap that persists for women throughout their working life (Marini and Fan 1997).

Institutional contacts are significantly related to summer earnings, with an average earnings advantage of $297 over the course of the summer than those using traditional methods.. Because all students presumably have access to this type of capital, it is encouraging to see the consistently positive impact of using these contacts on job outcomes. Family contacts, personal contacts outside of school, and having a previous connection to an employer (foot in the door method) also yielded significantly higher summer earnings than those using traditional method[5].

TABLE 5 ABOUT HERE

Students who worked the previous summer reported significantly higher summer earnings net of other factors, but interestingly working during the semester had no discernable impact on earnings. College major also had a large impact on summer earnings. Students in engineering majors, as well as those in computer science and math reported much higher summer earnings than students from social science majors.

The results from the model predicting occupational prestige is also shown in Table 5. The occupational prestige of the job is important to consider because some students may trade off earnings for experience in field that may position them for a better job following graduation. Evidence of this tradeoff is seen in the positive effect of holding an unpaid summer position on occupational prestige. Those who reported no earnings in their summer position held jobs that

[5] Note that the correlation between the foot in the door method and having a job the previous summer is very low, R=.032.

were on average 8.4 points higher in occupational prestige than their counterparts in paid positions.

As we have seen for the other job outcomes, the use of institutional based contacts yields significantly better outcomes with a 12.0 point increase in the occupational prestige scale compared to students using traditional methods. None of the other search methods held any statistically significant advantage over traditional methods in terms of occupational prestige, including family contacts (which *did* have a positive impact on earnings). There are also significant direct effects of formal social involvement in school on occupational prestige, providing evidence that school involvement has spillover effects on outcomes outside of college. This formal involvement is also operating indirectly through use of institutional contacts (recall findings from Table 3).

Finally, there are some demographic differences of using school based contacts. Black students report summer jobs with occupational prestige scores that are on average 3.2 higher than those reported by whites. Students who have at least one foreign born parent also land summer job with higher occupational prestige. It is also notable that there is *no* significant effect of gender on the occupational prestige of summer jobs. So while on average female students are not holding jobs with less occupational prestige than male students, they are earnings less.

CONCLUSIONS

This paper has examined the contacts that students use to find summer jobs and the effect of using various contacts on job outcomes, focusing in particular on the utilization of institutional contacts. While the utility of personal and family based sources of job information are dependent on having a resource rich network (which would likely advantage high SES and non-Asian minority students), institutional contacts such as professors and career services are

available to all students in the university. There are no significant differences by race/ethnicity, gender, or socioeconomic status in the use of these contacts in the multivariate models, which suggests that that this type of capital is indeed both accessible and accessed by a wide range of students.

Institutional contacts are more likely to be used to find summer jobs by students who are more involved in the extracurricular and volunteer activities at school. Formal involvement in school has been shown by previous research to elicit greater attachment to the institution and result in better outcomes in terms of college satisfaction, grades, and reduced attrition. The current findings suggest that this formal involvement has positive implications that extend beyond the walls of the institution through the increased likelihood of using institutional contacts to obtain the summer job that may position students better to take advantage of post-college opportunities.

Students who used institutional contacts to find their summer jobs were more likely to hold executive or technical positions and less likely to be employed in sales or service positions, net of other factors. Jobs found through institutional contacts also yielded higher average earnings over the course of the summer than those found using traditional methods, such as answering newspaper ads or posting resumes online. Students using non-school based personal contacts, family contacts, or had some prior connection to a position also had higher average earnings over the summer.

Summer jobs are often used by students as a way to explore potential careers for after college or to try out working in a particular company. Given this unique characteristic of such jobs, students may choose to earn less or even take an unpaid position in order to gain valuable experience in a company or field. Therefore, I also looked at predictors of the occupational

prestige of the summer job, controlling for whether the position was unpaid. Institutional contacts again have a large and significant impact, raising occupational prestige of 12 points. Students holding unpaid positions also landed jobs with higher occupational prestige, providing evidence of a trade-off between earnings and experience.

Beyond the consistently positive effect of institutional contacts on summer job outcomes for students, there were other interesting findings regarding gender. Although female students held summer positions that were not statistically different from male students in terms of occupational prestige, they did earn significantly less over the course of the summer. It is disturbing to see such disparities in earnings occurring so early, since at this point neither group has much labor market experience or family circumstances that might interfere with earnings progression. In a separate paper, I am undertaking a more comprehensive examination of these gender differences.

One of the shortcomings of the current research is that we do not know anything about the firm in which students are working. This could lead to underestimates of the quality of certain jobs. For instance, some students may take a low level position in a firm in which they hope to work in a more professional role after graduation. A more specific example might be an aspiring business analyst who is working in an administrative summer position in a financial firm. This summer position would give the student exposure to people in the firm and some understanding of the day to day operations. Since I only have the characteristics of the actual position held, I cannot distinguish an administrative job in a desired firm from administrative position taken simply for pay. Of course, there is often an element of serendipity in the job search process. The student in the latter hypothetical job may have opportunities in that firm open up to them, even though he or she had taken the job simply for summer pay.

The findings presented in this paper points to several promising directions for future research.

Black and Hispanic students in this study do not appear to be disadvantaged in terms of summer employment, in fact they on average earn *more* than white students. It would be interesting to see what differentials, if any, exist at the point of taking the first job and to what extent any differences are related to job search strategies. The results from this study would suggest that outcomes should be similar to the extent that institutional contacts are used. Another avenue to explore is the extent to which summer jobs are connected to post-college employment or shape students' plans for the future. The students in this sample will be surveyed again in a few years, which should provide some insight into these questions.

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Table 1. Prior work experience in college for complete sample by race/ethnicity

	White	Asian	Hispanic	Black
School Year Employment				
Worked during sophomore school year	64.51	59.62	71.99	73.01 [a,b,c]
Worked during freshman school year	46.31	46.30	61.30	62.54 [b,c]
Worked both school years	39.95	36.31	52.4	54.97 [b,c]
Summer Employment				
Worked summer before junior year	70.34	61.11	61.35	60.61 [a,b,c]
Worked summer before sophomore year	71.54	60.06	64.41	61.94 [a,b,c]
Worked both summers	63.23	47.55	51.53	51.47 [a,b,c]
N=	998	959	916	1051

[a] significant difference in means between whites and Asians; [b] significant difference in means between whites and Hispanics; [c] significant difference in means between whites and blacks

Source: National Longitudinal Survey of Freshmen

Table 2. Means by Race/Ethnicity for Job and Related Characteristics for Students Holding Jobs the Summer Before the Junior Year

	White	Asian	Hispanic	Black
Family Background Characteristics				
Foreign-Born Parent	9.69	61.26	50.89	20.67 [a,b,c]
Neither Parent Went to College	10.11	15.19	30.25	30.17 [a,b,c]
One Parent Has BA	36.32	36.01	32.92	32.83
Both Parents Have BA	14.96	16.04	12.10	11.83 [c]
One Parent Has Advanced Degree	33.62	33.96	24.20	23.67 [b,c]
Both Parents Have Advanced Degrees	31.05	25.43	15.66	15.50 [a,b,c]
Percent of College Personally Financed	62.45	64.10	43.29	32.25 [a,c]
Student School Based Characteristics				
Formal Social Involvement	0.60	0.64	0.60	0.67 [a,c]
Informal Social Involvement	1.19	1.16	1.20	1.04 [c]
Academic Major (Sophomore Year)				
Engineering	7.42	9.58	4.41	5.66 [b,c]
Business	5.91	7.00	5.94	6.32
Health	3.48	3.68	3.83	3.83
Education	1.52	1.66	1.34	1.33
Computer Science/Math	5.15	6.26	4.02	5.16
Physical Sciences	11.82	13.81	6.32	7.82 [b,c]
Communications	5.00	2.76	6.13	5.49 [a]
Social Sciences	20.45	19.89	23.37	25.62 [c]
Humanities	11.67	5.16	10.73	8.65 [a,c]
Arts	4.55	4.79	4.98	2.00 [c]
Other	0.61	0.00	0.57	1.00 [a]
Undeclared	22.42	25.41	28.35	27.12 [b,c]
Type of Contact (Summer Prior to Junior Year)				
Institutional Based Contact (professor or career services)	14.96	19.97	13.52	19.94 [a,c]
Personal School Contact	10.68	11.60	10.50	11.15
Non-School Personal Contact	9.54	7.34	8.90	9.42
Family Contact	23.50	17.06	22.78	17.11 [a,c]
Traditional Method (walk in, responded to ad, etc.)	30.48	37.03	33.10	30.46 [a]
Foot in the Door (previous job there, job created for r, etc.)	8.83	5.46	9.07	9.89 [a]
Other Methods	1.99	1.54	2.14	2.04
Type of Job (Summer Prior to Junior Year)				
Occupational Prestige of Job	46.10	51.16	47.03	49.45 [a,c]
BLS Occupational Categories				
Managerial and Professional Specialty	22.40	22.98	23.35	24.25
Technical	15.12	26.42	15.33	17.80 [a]
Sales	9.13	9.26	13.90	10.87 [b]
Administrative Support	24.39	25.73	25.49	32.60 [c]
Service	22.25	12.86	17.47	10.39 [a,b,c]
Agriculture	2.00	0.34	0.71	0.47 [a,b,c]
Production and Craft	1.14	0.86	0.89	0.79
Operators, Fabricators, and Laborers	3.57	1.37	2.67	2.68 [a]
Military	0.00	0.17	0.18	0.16
Earnings				
Unpaid Job or Internship Summer Before Junior	6.96	11.52	8.70	4.78 [b,c]
Hourly Wage Summer Before Junior Year	9.15	9.41	9.70	9.98 [b,c]
Total Summer Earnings Before Junior Year	2928.48	2961.57	3050.21	3066.16 [c]
Wages in junior year (for those who worked)	9.25988	9.657268	9.475025	8.982045
N=	701	583	562	637

[a] significant difference in means between whites and Asians; [b] significant difference in means between whites and Hispanics; [c] significant

Source: National Longitudinal Survey of Freshmen

Table 3. Logistic Regression Models Predicting Type of Summer Job Contact

	Institutional		Personal School		Non School Personal		Family Contact		Traditional Method		Foot in the Door		Other Method	
	B	SE	B	SE	B	SE	B	SE	B	SE	B	SE	B	SE
	(1)		(2)		(3)		(4)		(5)		(6)		(7)	
Personal Characteristics														
Black (ref. White)	0.274	0.170	-0.009	0.206	0.106	0.225	-0.327 *	0.166	0.045	0.141	-0.060	0.217	-0.257	0.449
Hispanic	-0.156	0.190	-0.062	0.219	0.132	0.236	-0.043	0.165	0.127	0.146	-0.034	0.235	-0.078	0.464
Asian	0.073	0.178	0.192	0.209	-0.112	0.246	-0.402 *	0.169	0.309 *	0.142	-0.362	0.258	-0.382	0.512
Female (ref. Male)	0.013	0.121	-0.096	0.145	-0.706 ***	0.160	-0.092	0.114	0.369 ***	0.100	0.123	0.165	-0.400	0.325
Family Background Characteristics														
Foreign-Born Parent	0.159	0.136	-0.171	0.167	-0.161	0.189	0.254 +	0.130	0.029	0.111	-0.422 *	0.198	-0.425	0.404
One Parent Has BA	0.054	0.155	0.043	0.188	-0.282	0.206	0.027	0.151	0.050	0.128	0.018	0.201	-0.274	0.410
Both Parents Have BA	-0.045	0.199	0.087	0.237	-0.608 +	0.310	-0.055	0.196	0.295 +	0.162	-0.215	0.278	-0.050	0.534
One Parent Has Advanced Degree	-0.144	0.163	-0.081	0.199	0.220	0.217	-0.126	0.158	0.096	0.134	0.024	0.213	0.413	0.426
Both Parents Have Advanced Degrees	-0.195	0.191	0.053	0.228	0.123	0.245	-0.016	0.180	0.108	0.155	-0.050	0.255	-0.241	0.541
Percent of college personally financed	-0.120	0.195	-0.086	0.234	-0.085	0.263	0.386 *	0.184	0.046	0.158	-0.321	0.267	-0.728	0.529
Student School Based Characteristics														
Formal Social Involvement	0.355 *	0.147	-0.095	0.183	-0.300	0.211	-0.217	0.149	-0.018	0.122	0.057	0.201	0.599	0.375
Informal Social Involvement	-0.079	0.126	0.252 +	0.148	-0.346 *	0.168	-0.149	0.117	0.118	0.101	0.130	0.165	0.057	0.337
Academic Major (Sophomore Year)														
Engineering	0.725 **	0.234	-0.048	0.336	-0.551	0.342	0.062	0.238	-0.153	0.206	-0.327	0.367	-1.214	1.055
Business	-0.098	0.295	0.698 *	0.296	-0.465	0.369	0.025	0.254	-0.140	0.218	0.070	0.346	-0.411	0.785
Health	-0.652	0.418	0.789 *	0.339	-0.751	0.538	-0.217	0.330	0.198	0.250	-0.021	0.410	0.547	0.674
Computer Science/Math	0.933 ***	0.250	0.087	0.361	-0.522	0.385	0.095	0.268	-0.424 +	0.248	-0.587	0.453	-0.299	0.788
Physical Sciences	0.883 ***	0.202	0.132	0.284	-0.482	0.305	-0.212	0.221	-0.335 +	0.185	-0.259	0.315	0.252	0.524
Communications	0.063	0.312	-0.173	0.426	-0.505	0.425	-0.139	0.295	-0.065	0.239	0.501	0.325	0.657	0.604
Humanities	-0.049	0.240	0.354	0.273	-0.591 +	0.319	0.180	0.208	-0.001	0.179	-0.194	0.301	0.047	0.552
Other	-0.224	0.306	0.362	0.315	0.244	0.305	-0.181	0.269	0.207	0.207	-0.667	0.422	-1.008	1.054
Undeclared	0.123	0.173	0.394 +	0.208	-0.362 +	0.214	0.188	0.158	-0.184	0.135	-0.048	0.217	-0.616	0.493
(ref. Social Sciences)														
Prior Work Experience														
Summer job previous summer	-0.276 +	0.154	-0.126	0.194	0.428 +	0.253	0.174	0.160	0.025	0.133	0.080	0.239	-0.424	0.399
Worked freshman year	0.118	0.134	0.115	0.161	-0.199	0.177	0.022	0.126	-0.083	0.108	0.095	0.182	-0.271	0.358
Worked sophomore school year	0.087	0.141	0.146	0.172	0.067	0.185	-0.472 ***	0.127	0.095	0.113	0.355 +	0.203	0.174	0.383
Summer Job Is Unpaid	0.452 *	0.205	-0.346	0.295	-0.898 *	0.429	0.069	0.206	0.174	0.175	-0.716 +	0.400	0.263	0.549
Constant	-1.835 ***	0.331	-2.522 ***	0.406	-1.197 **	0.444	-0.985 **	0.312	-1.330 ***	0.271	-2.473 ***	0.455	-3.032 ***	0.848
Likelihood Ratio Chi2	77.13		22.29		57.26		52.36		44.97		40.57		20.87	
Prob>chi2	0		0.6191		0.0002		0.0011		0.0084		0.0255		0.6999	
Psuedo R2	0.0385		0.0149		0.0446		0.0244		0.0167		0.0319		0.0504	
N=	2148		2148		2148		2148		2148		2148		2148	

Source: National Longitudinal Survey of Freshmen

*** p<.001, ** p<.01, * p<.05, + p< .10

Table 4. Logistic regression models predicting type of summer job (BLS major category) as a function of job contacts, school characteristics, and background variables

	Professional		Technical		Sales		Admin		Service		Other	
	B	SE	B	SE	B	SE	B	SE	B		B	SE
	(1)		(2)		(3)		(4)		(5)		(6)	
Personal Characteristics												
Black (ref. White)	0.069	0.155	0.508	0.180	0.051	0.216	0.277 +	0.148	-0.914 ***	0.190	-0.308	0.324
Hispanic	0.106	0.164	0.245	0.195	0.303	0.219	-0.043	0.159	-0.359 *	0.182	-0.319	0.328
Asian	0.104	0.162	0.460	0.182	-0.026	0.230	0.161	0.156	-0.648 **	0.190	-0.695 +	0.366
Female (ref. Male)	0.045	0.111	-0.384 ***	0.124	0.226	0.158	0.214 *	0.107	0.378 **	0.135	-1.640 ***	0.256
Family Background Characteristics												
Foreign-Born Parent	-0.042	0.124	0.331	0.138	-0.089	0.171	-0.021	0.119	-0.129	0.153	-0.192	0.290
One Parent Has BA	0.149	0.142	0.040	0.166	-0.146	0.188	-0.208	0.134	0.195	0.168	-0.010	0.318
Both Parents Have BA	0.146	0.188	0.216	0.212	-0.147	0.238	-0.276	0.174	0.014	0.218	0.331	0.384
One Parent Has Advanced Degree	0.219	0.148	0.225	0.172	-0.194	0.202	-0.167	0.142	-0.131	0.175	0.088	0.332
Both Parents Have Advanced Degrees	0.311 +	0.173	0.367	0.195	-0.440 +	0.244	-0.251	0.163	-0.199	0.207	0.344	0.366
Percent of college personally financed	-0.268	0.176	0.279	0.201	0.076	0.246	-0.039	0.170	0.156	0.208	-0.270	0.372
Student School Based Characteristics												
Formal Social Involvement	0.314 ***	0.082	0.175	0.096	-0.344 **	0.123	-0.150 +	0.082	-0.085	0.101	-0.335 +	0.195
Informal Social Involvement	0.022	0.076	-0.266 ***	0.089	0.032	0.104	0.013	0.073	0.128	0.088	0.127	0.155
Type of Contact												
Institutional Based Contact	0.619 ***	0.148	1.108	0.166	-1.694 ***	0.306	-0.165	0.159	-1.371 ***	0.260	-1.001 *	0.467
Personal School Contact	-0.108	0.191	0.252	0.220	-0.594 *	0.243	0.215	0.172	0.055	0.197	-0.119	0.390
Non-School Personal Contact	-0.008	0.207	0.507	0.227	-1.080 **	0.322	0.188	0.190	0.096	0.214	-0.614	0.445
Family Contact	-0.224	0.159	0.206	0.183	-0.578 **	0.199	0.457 **	0.140	-0.400 *	0.176	0.669 *	0.274
Foot in the Door	0.143	0.199	0.234	0.248	-0.151	0.235	0.036	0.193	-0.246	0.228	-0.395	0.472
Other Method	1.189 ***	0.334	-0.091 ***	0.510	-	-	-0.458	0.430	0.209	0.398	-	-
(ref.Traditional Method)												
Academic Major (Sophomore Year)												
Engineering	0.268	0.220	1.179	0.231	-0.499	0.366	-1.220 ***	0.280	-0.300	0.290	0.502	0.408
Business	0.231	0.236	-0.761 ***	0.399	0.273	0.299	0.376 +	0.212	-0.965 **	0.361	-0.385	0.583
Health	-0.011	0.296	0.482	0.346	0.249	0.340	-1.121 **	0.344	0.614 *	0.286	-0.697	1.051
Computer Science/Math	0.034	0.256	0.973	0.262	-0.106	0.375	-0.475 +	0.261	-0.276	0.343	-0.812	0.656
Physical Sciences	-0.559 *	0.224	1.405	0.208	0.018	0.275	-0.656 **	0.208	-0.392	0.261	0.085	0.457
Communications	0.128	0.263	-0.903 ***	0.485	-0.384	0.388	-0.052	0.247	0.545 *	0.275	0.054	0.654
Humanities	0.193	0.197	0.054	0.261	-0.261	0.284	-0.162	0.189	0.184	0.223	-0.624	0.530
Other	-0.058	0.248	0.148	0.309	-0.346	0.335	-0.290	0.229	0.254	0.255	0.920 *	0.434
Undeclared	0.014	0.152	0.456	0.182	-0.306	0.208	-0.107	0.138	-0.205	0.181	0.271	0.320
(ref. Social Sciences)												
Unpaid Summer Job	0.915	0.177	0.146	0.225	-1.222 **	0.432	0.019	0.190	-1.102 **	0.341	-2.028 *	1.022
Prior Work Experience												
Summer job previous summer	0.130	0.151	0.083	0.164	-0.430 *	0.193	-0.080	0.142	0.128	0.188	0.177	0.359
Worked freshman year	0.212	0.122	-0.122 ***	0.135	0.238	0.170	0.047	0.116	-0.296 *	0.141	-0.515 *	0.254
Worked sophomore school year	-0.212	0.127	0.098	0.143	0.200	0.182	-0.064	0.122	0.103	0.149	0.349	0.261
Constant	-1.609	0.277	-2.979 ***	0.329	-1.423 ***	0.367	-0.825 **	0.261	-1.183 ***	0.325	-2.230 ***	0.596
Likelihood Ratio Chi2	-1120		-908.6		-671		-1196		-854.3		-323.3	
Prob>chi2	113.29		244.99		110.51		98.12		164.59		115.5	
Psuedo R2	0.0482		0.1188		0.0761		0.0394	-	0.0879		0.1515	
N=	2148		2148		2106		2148		2148		2106	

Source: National Longitudinal Survey of Freshmen

*** p<.001, ** p<.01, * p<.05, + p< .10

Table 5. OLS regression models predicting summer earnings and occupational prestige as a function of job contacts, school characterstics, and background variables

	Earnings			Occupational Prestige		
	B		SE	B		SE
	(1)			(2)		
Personal Characteristics						
Black (ref. White)	211.916	*	90.40673	3.153	*	1.316
Hispanic	115.475		95.06105	1.107		1.385
Asian	-56.407		93.74486	2.615	+	1.367
Female (ref. Male)	-147.963	*	64.55693	-1.214		0.941
Family Background Characteristics						
Foreign-Born Parent	72.326		72.81167	2.226	*	1.060
One Parent Has BA	139.679	+	82.69324	0.933		1.204
Both Parents Have BA	58.562		106.8304	1.753		1.556
One Parent Has Advanced Degree	26.711		86.83658	1.560		1.264
Both Parents Have Advanced Degrees	65.484		100.1857	2.544	+	1.462
Percent of college personally financed	-120.882		102.8731	-0.152		1.500
Student School Based Characteristics						
Formal Social Involvement	-7.459		49.17607	2.750	***	0.717
Informal Social Involvement	19.131		44.30345	-0.824		0.646
Type of Contact						
Institutional Based Contact	297.294	**	91.84791	12.044	***	1.339
Personal School Contact	116.110		106.8179	1.559		1.559
Non-School Personal Contact	292.871	*	117.2278	0.851		1.707
Family Contact	310.772	***	87.88524	1.392		1.280
Foot in the Door	351.303	**	117.359	2.380		1.708
Other Method	180.261		225.5645	4.330		3.280
(ref.Traditional Method)						
Academic Major (Sophomore Year)						
Engineering	885.406	***	133.7649	9.240	***	1.951
Business	208.525		142.1693	1.082		2.074
Health	99.990		170.8639	1.420		2.485
Computer Science/Math	743.254	***	151.5885	9.772	***	2.216
Physical Sciences	117.044		118.2265	2.467		1.725
Communications	-68.888		157.9462	-2.331		2.297
Humanities	31.218		118.7723	1.047		1.729
Other	-24.500		141.3581	-2.507		2.056
Undeclared	300.982	**	88.69723	1.838		1.293
(ref. Social Sciences)						
Unpaid Summer Job				8.350	***	1.716
Prior Work Experience						
Summer job previous summer	546.311	***	86.40358	2.416	+	1.266
Worked freshman year	31.060		70.35418	1.859	+	1.026
Worked sophomore school year	50.492		73.85843	-0.932		1.077
Constant	1842.720	***	159.3213	37.424	***	2.334
R2	0.078			0.102		
N=	2148.000			2140.000		

Source: National Longitudinal Survey of Freshmen

*** p<.001, ** p<.01, * p<.05, + p< .10

Appendix A. Coding of Job Contacts for Summer Before Junior Year Jobs

	White	Asian	Hispanic	Black
Institutional Based Contacts				
Career services at school	10.54	14.33	11.03	16.8
Professor from college	4.42	5.63	2.49	3.14
	14.96	**19.97**	**13.52**	**19.94**
School Based Personal Contact				
Friend from college	9.54	10.58	9.96	10.83
Parent of a college friend	1.14	1.02	0.53	0.31
	10.68	**11.60**	**10.50**	**11.15**
Non-School Personal Contact				
Parents' coworker or boss	1	1.19	1.07	0.94
Coworkers from a previous job	1.28	1.02	1.25	0.78
Friend/Neighbor	3.7	3.58	4.27	2.67
Coach/Counselor/Mentor/Teacher/Advisor	1.14	0.68	1.07	2.67
Networking/Word of mouth	2.42	0.85	1.25	2.35
	9.54	**7.34**	**8.90**	**9.42**
Family Contact				
Parent or friends of the family	22.22	15.36	20.82	14.76
Relative	1.28	1.71	1.96	2.35
	23.50	**17.06**	**22.78**	**17.11**
Traditional Methods				
Responded to an ad (newspaper or internet)	14.96	17.58	17.08	13.97
Posted resume on internet job matching site	2.28	6.31	3.74	2.83
Job placement service (not school related)	1.85	4.78	3.56	6.59
Walk in/Applied	11.4	8.36	8.72	7.06
	30.48	**37.03**	**33.10**	**30.46**
Foot in the Door				
Previously worked there	6.55	3.58	7.3	7.54
Internship lead to job	0.85	0.68	0.89	0.94
Created job	0.14	0	0.53	0.16
Recruiter came to you	1.28	1.19	0.36	1.26
	8.82	**5.45**	**9.08**	**9.90**
Other				
High School	0.28	0.17	0.36	0.78
Summer Camp	0.71	0	0.36	0.16
Other (No Specific Code)	1	1.02	1.42	1.1
Don't know	0	0.34	0	0
	1.99	**1.54**	**2.14**	**2.04**

Source: National Longitudinal Survey of Freshmen