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Social Networks and the Employment Problem of the Urban Poor

David A. Reingold

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Summary. This paper investigates the link between social networks and the ability to find a job through a personal contact among adult inner-city residents. Using data collected by the National Opinion Research Center that interviewed 2490 adult inner-city residents, the impact of network structure and composition on finding a job through word-of-mouth is estimated. Ethnic differences in the rate of finding jobs through word-of-mouth were found, as well as interesting ethnic and racial differences in the way social networks operate to connect job-seekers and job vacancies. Overall, the findings suggest that social networks account for some of the employment problems that many inner-city residents face.

Introduction

The employment problem of the urban poor has been and continues to be a central concern for policy-makers, academic scholars and members of the business community. One of the central themes in this discussion is the role social networks play in explanations of why some residents of poor urban communities are able to find stable employment, while others must turn to friends, family, welfare or the underground economy to meet basic needs. Whether the focus is the out-migration of more affluent ghetto residents over the past several decades and the disconnection of remaining residents from critical job networks (O'Regan and Quigley, 1991; 1993; O'Regan, 1993; Wilson, 1987, 1996), the use of informal recruitment practices by employers who need low-wage labour (Kirschenman and Neckerman, 1991a, 1991b; Holzer, 1996; Kasinitz and Rosenberg, 1996) or the lack of vertical networks among disadvantaged workers which provide access to the world of 'good jobs' (Newman, 1995), social networks are an important part of the current urban poverty debate.[1]

Much of the urban poverty literature focuses on the role that social networks play in excluding unskilled urban workers, particularly blacks, from employment opportunities which flow through word-of-mouth (see, for example, Patterson, 1998). The implicit assumption in this literature is that individuals tend to know people who resemble themselves, and that the transmission of informal

David A. Reingold is in the School of Public and Environmental Affairs, Indiana University, SPEA 243, 10th and Fee Lane, Bloomington, Indiana 47405–2100, USA. Fax: 812-855-7802. E-mail: dreingol@indiana.edu. *The survey on which this research is based was conducted as part of the Urban Poverty and Family Life Structure project directed by William Julius Wilson at the University of Chicago. This project received funding from the Ford Foundation, the Carnegie Foundation, the Department of Health and Human Services, the Lloyd A. Fry Foundation, the Rockefeller Foundation, the Institute for Research on Poverty, the Spencer Foundation, the William T. Grant Foundation, the Joyce Foundation and the Woods Charitable Foundation. This research was also supported by the Center for the Study of Urban Inequality at the University of Chicago's Irving B. Harris Graduate School of Public Policy. The author gratefully acknowledges their support.*

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information about a job opening is likely to pass between people with very similar demographic and socioeconomic characteristics (for a discussion of the homophily or 'like-me' principle, see Homans, 1950). To paraphrase Holzer (1987), since a greater proportion of inner-city residents are non-white female welfare recipients, and members of these groups have higher unemployment rates, lower representation in skilled blue-collar positions and less confidence in the recommendations of employed inner-city residents by white male employers, residents of poor urban communities may be less likely to know people who are effective informal job-brokers. This may reduce their employment opportunities and shut them out of positions that are largely filled through word-of-mouth.[2]

While social networks may create barriers to employment for certain disadvantaged groups, others have used this form of job acquisition to secure employment opportunities for their members. This is certainly the case in New York's garment and hotel industries where new immigrants, mostly Hispanic and non-native-born blacks, have secured economic opportunities for members of their group at the expense of native-born blacks (Waldinger, 1996).

Despite this emerging literature on the role that social networks play in the employment problem of the urban poor, many questions remain unanswered. Among the more basic issues that have yet to be examined include whether social networks actually differ across ethnic groups in poor urban areas, and whether these differences (if they exist) account for variation in job-finding through word-of-mouth. Establishing the nature and extent of ethnic differences in social networks and determining whether these differences influence employment outcomes are important steps in understanding whether (and how) social networks contribute to the employment problem of the urban poor.

To address these questions, this paper investigates the relationship between social networks and job-finding in poor urban communities by conducting a secondary analysis of unique cross-sectional data known as the Urban Poverty and Family Life Survey. Based on face-to-face interviews with 2490 adult residents of Chicago's inner city, this analysis provides a systematic investigation of workers' social networks and their impact on finding a job through word-of-mouth. This analysis compares and contrasts social networks across different racial and ethnic groups, identifies the structure and characteristics of social networks that are good at connecting inner-city job-seekers with job vacancies, and tests whether particular characteristics of social networks limit access to word-of-mouth employment opportunities among the urban poor.

Background

The sociological study of social networks has focused on their function as a socialising agent, as well as a mechanism for distributing information about scarce resources (for a review of the social science literature on social networks and economic life, see Powell and Smith-Doerr, 1994). In the case of employment, social networks are thought to operate in combination with individual attributes of human capital, such as educational attainment, to facilitate the job-finding process (at a particular point during the life-course), as well as the social mobility process (over the life-course).[3] The two features of social networks that are particularly important in this context are network structure and network composition. Attributes of network structure typically include network size, as well as the relationships that exist among members of a network. In contrast, network composition usually refers to the characteristics and attributes of individuals in a social network.

The relationship between network structure (namely size) and job-finding is relatively straightforward. More contacts are thought to be an advantage since there are more network members who can potentially broker job vacancies and job-seekers. It is also likely that more contacts provide job-seekers with more information about job

openings, such as alerting a friend or relative of a job opening that is advertised in a newspaper, and this information leads to the filling of a job.

Similarly, the relationships among members of a social network are important for explaining job-finding, as well as social mobility, since the strength of a tie is likely to influence access to information about employment opportunities. Weak ties rather than strong ties are thought to reach better social resources, such as informal employment information, since weak ties enable an individual to reach social circles that are different from his/her own. As a result, network structure is thought to alter the likelihood of finding a job through word-of-mouth, while, at the same time, facilitating the mobility process.

The socioeconomic characteristics of an individual's social network are also thought to affect social mobility by increasing access to people who occupy positions with greater command of social resources. That is, the socioeconomic characteristics of social networks are thought to increase social mobility, since an individual who uses a contact of higher socioeconomic status should find a better job than someone else whose contact has lower status.

However, it is less clear whether (and how) network composition influences finding a job through word-of-mouth. It is possible that higher socioeconomic contacts operate as rolemodels in the job-finding process, assisting with interviewing and job-seeking techniques. This may be important for overall employment prospects; however, it is unlikely that this mechanism would affect the actual method of job-finding.

We might also expect an individual with more contacts of higher socioeconomic status to be more likely to know of employment opportunities that are filled through word-of-mouth, since these contacts are in positions that can more easily access information about job openings, while also influencing the hiring decision. If we assume that jobs filled through word-of-mouth tend to be more desirable than jobs filled through formal recruitment practices, then we would also expect individuals who are more likely to know contacts of higher socioeconomic status to have learned of his/her job through a personal contact. But it is also possible that, in the case of low-wage urban workers, more low-status contacts may produce more opportunities to find a job through a personal contact, since more of these contacts may work for firms that frequently recruit for unskilled positions through word-of-mouth.

Therefore, we would expect inner-city residents with more contacts to be more likely to find work through word-of-mouth. Similarly, we would expect inner-city residents who are embedded in networks with an abundance of weak ties to be more likely to find employment opportunities through word-of-mouth; however, it is less clear whether high-status friends and family increase access to jobs filled through personal contacts among the urban poor.

While there is a broad literature on the relationship between social networks and social mobility, much less is known about network effects on job-finding (see, for example, Granovetter, 1973, 1995; Lin *et al.*, 1978; Lin, Vaughn and Ensel, 1981; Lin, Ensel and Vaughn, 1981; Lin and Dumin, 1986; Campbell, 1988; Marsden and Hurlbert, 1988; Wegener, 1991; Carson, 1992; Sprengers, 1992; Montgomery, 1994). Moreover, much of the social mobility research has studied populations that differ dramatically from those that live in relatively poor urban communities. Since local labour market conditions are likely to influence the job-finding process, it is problematic to generalise these findings to residents of poor urban areas.

For example, low-wage unskilled urban workers frequently operate in labour markets that are characterised by limited employment opportunities and large numbers of job-seekers, and it is more likely that employers under these conditions will be able to find workers without enduring costly recruitment methods. This would suggest that employers would take advantage of costless recruitment methods, such as word-of-mouth, increasing

the relative importance of this job-finding method. Moreover, the likelihood that workers will utilise employment information that they receive through informal channels is increased, given the overall lack of employment opportunities in the local economy.

It is worth noting that there are a few empirical studies that have been conducted in research settings that are relevant for the current inquiry. For example, Johnson *et al.*'s (1996) analysis of female labour force participation in poverty areas of Los Angeles found that the likelihood of employment is significantly increased by the presence of a friend in the respondent's social network who is either employed, a high school graduate or lives outside the respondent's neighbourhood. While these authors found almost no black–white differences in finding jobs through word-of-mouth, Hispanics were almost twice as likely as blacks or whites to have found work through a personal contact.[4] However, it is unclear whether these differences are the result of network variation since this relationship was not investigated.

This research is also limited by fairly crude measures of network characteristics that are dichotomous and, as a result, cannot distinguish between an individual who is situated in a social network comprised of employed college graduates from affluent neighbourhoods and an individual who knows only one person who fits this description. Moreover, this analysis did not control for the level of neighbourhood poverty which has been shown to exert independent effects on the social network structure and composition of inner-city residents, especially for women (Fernandez and Harris, 1992).

In their cross-sectional analysis of a random sample of adult residents from Chicago's poverty areas, Fernandez and Harris (1992) found that neighbourhood poverty (defined as census tracts where 40 per cent or more of the families have incomes below the federal poverty line) tends to constrict the size and structure of social networks among black females, while it limits the number of mainstream friends for both men and women. Moreover, non-working black males and females were consistently less likely to have mainstream friends, and women show a tendency to be cut off from people generally. Unfortunately, it is unclear how these results vary by race or ethnicity, given the need to restrict the analysis to blacks, so that the impact of neighbourhood poverty on network structure and composition could be tested. More importantly, this analysis did not investigate the effect of network structure and composition on job-finding.

To this end, the remainder of this paper will investigate the importance of social networks in mediating word-of-mouth employment opportunities by reanalysing the same data used by Fernandez and Harris (1992). Racial and ethnic differences in network structure and composition will be examined, and the effect of social networks on finding a job through word-of-mouth will be estimated. But before presenting the findings, it is necessary first to discuss the data and research procedures used in this analysis.

Data Sources and Research Procedures

The Urban Poverty and Family Life Survey (UPFLS) was collected by the National Opinion Research Center and is a stratified random sample of parents age 18–47 years who lived in poverty areas in Chicago in 1986. These areas were defined as census tracts where 20 per cent or more of families had incomes below the 1980 federal poverty line. Completed interviews were obtained from 2490 respondents: 1183 black, 364 white, 454 Puerto Rican, and 489 Mexican.[5]

The decision to use these data is based on a number of benefits they provide for the purposes of the current inquiry. First, these data are from a survey that randomly sampled households in poor urban areas and are likely to include a large proportion of workers who are competing for positions at the low-end of the labour market. Secondly, they include white, black, Puerto Rican and Mexican respondents, allowing for racial and ethnic comparisons. Thirdly, egocentric network data for each respondent were collected, and all employed respondents were asked

whether a friend or relative helped them to find their current job.

The UPFLS used a stratified sampling design so that a disproportionate number of non-blacks were interviewed. As is typical with stratified designs, analysis of weighted data produces results substantially equivalent to results of analysis of unweighted data. Because the primary interest of this research is in the parameter estimates of the causal models, the results are based on unweighted data.

Community poverty levels were extracted from the 1980 decennial census. Each respondent was then assigned the characteristic of the tract in which s/he lived. Unfortunately, census data only capture some of the community-level variation, since census tracts are not identical to the ecological boundaries of actual communities. Moreover, the six-year difference between the 1980 census and the 1986 UPFLS data further weakens this measure; however, it was the author's judgment to include this variable, given the alternative of not controlling for neighbourhood poverty.

Variables and Methods

Table 1 presents operational definitions of all variables used in the analysis. Social network measures were constructed from questions that asked respondents information about three kinds of relations: friends, daily social support and crisis support. Respondents were asked to name up to three non-kin and non-spouse or partner friends, up to six people whom the respondent could depend on for everyday favours and daily social support, and up to six people whom the respondent could depend on in the event of a crisis. Following Fernandez and Harris' (1992) methods, counting the total number of relations across all three networks is a measure of volume; the number of people named at least once across all three networks is a measure of range or breadth (a proxy for weak ties); the number of people who appear more than once across all three networks is a measure of depth or multiplexity (a proxy for strong ties). Taken together, these measures reflect the structure of a respondent's social network which is bounded (in most cases) by this name generator.

As for indicators of network composition, respondents were asked to describe their relationships to the people named in the daily and crisis-support networks. This information is the basis for constructing the level of kin support in a respondent's social network. The other network composition variables were constructed from the friend network which asked the respondent to describe each person's race, ethnicity, education, employment status, marital status and whether or not s/he is receiving public aid. The percentage of contacts with each characteristic is used in the analysis, as opposed to the actual number of contacts with each characteristic, since the measure of network volume is thought to capture the number of contacts each respondent can access.

These network data create two important methodological considerations for this inquiry. First, the causal direction is unclear between these indicators and employment opportunities which flow through word-of-mouth. While this analysis assumes that the egocentric social network indicators cause employment opportunities which flow through word-of-mouth, it is also possible that the condition of employment, regardless of job-finding method, alters the structure and composition of social networks. While the UPFLS data contain detailed information about employment history, the network questions did not obtain information from respondents on the length of relationships with each contact. As a result, it is impossible to detect changes in network structure that follow changes in employment.

Secondly, there is some disagreement about the use of these data to answer questions about job-finding. While these data provide important information about support transfers among the urban poor, the names generated in the UPFL survey that make up the social-network data may reveal networks of primarily strong ties, underestimating the extent of weak ties. Although it is true that

Table 1. Definitions of variables used in analyses of social networks and finding jobs through word-of-mouth

Variable	Definition
Background characteristics	
Age	Respondent's age, ranging from 18 to 47 years.
Sex	Equals 1 if male, 0 otherwise.
American-born	Equals 1 if respondent was born in America, 0 otherwise.
Race/Ethnicity	Either Non-Hispanic black, Non-Hispanic white, Puerto Rican or Mexican.
Married	Equals 1 if married, 0 otherwise.
Kids in household	Equals 1 if children live in household, 0 otherwise.
Education	Highest grade completed, ranging from 0 to 17 or more.
Currently employed	Equals 1 if respondent is currently working, 0 otherwise.
Network structure	
Volume	Number of nominations for minor (everyday) social support, major (emergency) support, and friends.
Range or breadth	Number of distinct individuals named across all three networks.
Depth or multiplexity	Number of people cited as multiple sources of friendship.
Network composition	
Married	Percentage of friends with partner.
No friends	Equals 1 if respondent has no friends, 0 otherwise.
Kin support	Percentage of kin in social-support networks.
Employed	Percentage of friends who are employed or in school.
Public aid	Percentage of friends on public aid.
Education	Average level of education of friends.
Black	Percentage of friends who are black.
White	Percentage of friends who are white.
Puerto Rican	Percentage of friends who are Puerto Rican.
Mexican	Percentage of friends who are Mexican.
Job acquisition method	
Personal contact(s)	Found current job through a friend(s) or relative(s).
Formal method(s)	Found current job through formal job-search method(s).
Neighborhood-level characteristics	
Neighborhood	Percentage of poor families in respondent's census tract in 1979. High-poverty areas have rates of 40 per cent or higher and low-poverty areas have rates between 20 and 39 per cent.

Sources: Urban Poverty and Family Life Survey (1987) and US Census (1979).

name generators organised around occupational categories would have been more suitable (see, for example, Lin and Dumin, 1986) and would be likely to provide more reliable measures of weak ties, it remains unclear whether (and how) the structure and composition of personal relations actually vary when using these two different types of name generator within the context of measuring the social networks of the urban poor. Moreover, the current-network data are not unrelated to job-finding since one aspect of an individual's social-support network is helping friends and family to find work. Therefore, the network data used in this analysis may not be ideal, but they do provide a general portrait of the ties held by residents of poor urban communities, and combined with the absence of an alternative data source, these data are appropriate for analysing job-finding in the inner city.

The dependent variable in the analysis is the respondent's method of finding work. Respondents were sorted into one of three categories: those who found their current job through word-of-mouth; those who found

Table 2. Percentage distribution of race/ethnicity by poverty area and gender (unweighted percentages)

	Non-poor areas	Low-poverty areas	High-poverty areas	*N*
Males				
Black	10.0	72.5	17.5	411
White	41.9	50.8	7.3	124
Puerto Rican	10.8	77.7	11.5	148
Mexican	23.2	71.9	4.8	228
Females				
Black	8.1	65.7	26.2	764
White	32.2	63.1	4.7	236
Puerto Rican	12.1	77.1	10.8	306
Mexican	16.5	81.2	2.3	261

Sources: Urban Poverty and Family Life Survey (1987) and US Census (1979).
Notes: Percentages do not add up to 100 because of rounding error. It is also important to note that the sample selection criteria for UPFLS respondents included residency in a census tract with a poverty rate of at least 20 per cent. However, according to the 1980 census data, some respondents lived in tracts with poverty rates below this threshold–i.e. non-poor areas. Given the relationship between race/ethnicity and neighbourhood poverty, the subsequent analysis is restricted to cases from low-poverty areas.

their job through other methods, such as advertisements and employment agencies; and those who are not working. It is important to note that the question used to sort respondents into these categories only asked currently employed respondents whether a friend or relative helped in his/her job-search. Moreover, this information was collected only for the respondent's current job. Subsequent jobs found through word-of-mouth, once s/he has gained initial employment, would not be reported as found through the help of friends or relatives even if they were the direct consequence of a job initially found through word-of-mouth. As a result, it is likely that the measure of job-finding used in this analysis underestimates the actual level of word-of-mouth job-finding.

Those background variables thought to influence job-finding are included as independent variables in the analysis. They are the respondent's age, race, ethnicity, marital status, household composition, educational attainment and immigration status. In addition, the analysis also includes a community-level measure of the percentage of poor families living in the respondent's census tract. Household income was not included in the analysis since the sample selection criteria significantly attenuated variation in this measure.

Table 2 shows the distribution of respondents across the categories of census-tract poverty area and race/ethnicity. Since previous research suggests that 40 per cent poverty corresponds to what most observers would consider highly concentrated poverty, high-poverty areas are defined as those census tracts where 40 per cent of families are below the federal poverty line (Jargowsky and Bane, 1991). The strong relationship between neighbourhood poverty and race has important consequences for the current analysis, especially since Fernandez and Harris (1992) found a modest relationship between neighbourhood poverty and network structure and composition among non-Hispanic blacks. Given the small number of non-blacks in high-poverty areas, it is necessary to separate the effects of race and ethnicity from the effects of concentrated poverty. The potential importance of racial and ethnic differences in social networks and their effect on the ability to find jobs through personal contacts makes it necessary to restrict the analysis to those cases from low-poverty areas.

The first step in the analysis is to sort individuals by race, ethnicity and gender, and

Table 3. Method of job acquisition by race/ethnicity and gender

	Not working	Personal contact(s)	Other method(s)	*N*
*Males***				
Black	31.6	28.2	40.1	294
White	8.1	25.8	66.1	62
Puerto Rican	20.9	42.6	36.5	115
Mexican	6.7	55.8	37.4	163
*Females***				
Black	49.3	14.8	35.9	501
White	52.4	13.6	34.0	147
Puerto Rican	64.0	13.1	22.9	236
Mexican	49.5	31.6	18.9	212

Sources: Urban Poverty and Family Life Survey (1987) and US Census (1979).
Note: Percentages do not add up to 100 because of rounding error.
** = $p < 0.05$ (Chi-squared test).

compare the extent to which each group depends on finding work through word-of-mouth. The second step is to compare respondents who found their jobs through a personal contact with respondents who found their jobs through more formal methods, and examine differences across individual characteristics, as well as dimensions of network structure and composition. The third and final step in this analysis is to measure the effect of individual characteristics and measures of network structure and composition on the likelihood of finding work through personal contacts, as well as the likelihood of not working. Together, this will test the importance of social networks in determining who finds jobs through word-of-mouth.

Findings

Table 3 presents the method of job acquisition by race, ethnicity and gender. The general pattern is that men are more likely than women to have found their current job through a friend or relative, and Mexicans of both sexes are more likely than either blacks, whites or Puerto Ricans to have found their current job through a personal contact. However, when controlling for employment status—i.e. excluding those respondents who are not working, these figures change dramatically for those groups with high rates of weak labour force attachment: namely, women and black men. Under these conditions, roughly 26.7 per cent of black women found their jobs through word-of-mouth in contrast to 28.8 per cent of white women, 35.1 per cent of Puerto Rican women and 61.5 per cent of Mexican women (figures not shown in tables). Similarly, 40.7 per cent of black men found their current job through a personal contact compared with 27.8 per cent of white men, 55.3 per cent of Puerto Rican men and 59.7 per cent of Mexican men (figures not shown in tables).

To determine if these differences are associated with individual-background characteristics and/or network structure and composition, the averages for these variables were computed by race, ethnicity and gender for three different categories of respondents: those who found their current job through a personal contact; those who found their current job through a more formal method(s); and those who are not working. These calculations are presented in Table 4.[6]

In general, those individuals who found their job through a personal contact are, on average, less educated than those who found their job through other methods. This is consistent with the general finding that there is an inverse correlation between socio-economic status and the likelihood of finding jobs through personal contacts. It is

Table 4. Method of job acquisition by average background characteristics and social-network structure and composition by race/ethnicity and gender

	Not working	Personal contact(s)	Other method(s)
Black males			
Background characteristics			
Average age (years)	28.1	31.5**	32.1**
Married (yes/no)	19.4	49.4**	41.5**
Kids in the household (yes/no)	60.2	73.5*	66.1
Average years of education	11.4	**11.7	12.7**
Network structure			
Number of relations	5.6	5.6	5.8
Number of Distinct individuals	3.9	4.3	4.0
Number of multiple ties	1.4	1.2	1.5
Network composition			
Percentage with partner[a]	27.0	52.1**	53.9**
Percentage with no friends	16.7	16.7	13.3
Percentage of kin support[a]	21.3	22.5	19.9
Percentage employed[a]	55.4	76.0**	84.9**
Percentage on aid[a]	22.5	**9.5**	1.7*
Average years of education[a]	11.4	11.9	12.2
Percentage black[a]	97.8	96.9	93.1*
Percentage white[a]	0.67	**0.77	4.1**
Percentage Puerto Rican[a]	0.89	0.00	1.1
Percentage Mexican[a]	0.00	0.00	0.56
Black females			
Background characteristics			
Average age (years)	30.4	32.0*	33.0**
Married (yes/no)	18.3	34.3**	27.2**
Kids in the household (yes/no)	95.1	94.6	92.2
Average years of education	11.3	**12.1**	13.0**
Network structure			
Number of relations	6.1	7.3**	6.8**
Number of distinct individuals	4.4	4.9*	4.5
Number of multiple ties	1.4	1.9**	1.8**
Network composition			
Percentage with partner[a]	33.3	41.9**	41.6**
Percentage with no friends	16.7	7.1**	10.9*
Percentage of kin support[a]	19.9	**13.9**	19.6
Percentage employed[a]	45.0	**64.1**	77.3**
Percentage on aid[a]	38.1	**20.4**	8.7**
Average years of education[a]	10.9	*11.3	12.2**
Percentage black[a]	97.5	99.5*	98.7
Percentage white[a]	0.94	0.52	0.76
Percentage Puerto Rican[a]	0.60	0.00*	0.00*
Percentage Mexican[a]	0.00	0.00	0.54
White males			
Background characteristics			
Average age (years)	32.4	34.6	35.2
Married (yes/no)	100.0	68.8**	73.2**
Kids in the household (yes/no)	100.0	75.0**	82.9**
Average years of education	12.0	12.0	12.5

Table 4. Method of job acquisition by average background characteristics and social-network structure and composition by race/ethnicity and gender— *continued*

	Not working	Personal contact(s)	Other method(s)
Network structure			
Number of relations	7.8	7.3	8.0
Number of distinct individuals	5.0	5.3	5.3
Number of multiple ties	2.8	**1.6*	2.3
Network composition			
Percentage with partner[a]	58.3	65.5	64.8
Percentage with no friends	20.0	6.3	10.0
Percentage of kin support[a]	22.9	12.2	13.0
Percentage employed[a]	66.7	88.9**	84.3
Percentage on aid[a]	0.00	2.2	1.9
Average years of education[a]	9.7	10.7	12.5
Percentage black[a]	0.00	5.6	4.6
Percentage white[a]	100.0	60.0**	75.9**
Percentage Puerto Rican[a]	0.00	8.9*	4.6
Percentage Mexican[a]	0.00	17.8*	10.2**
White females			
Background characteristics			
Average age (years)	31.8	35.7**	34.5**
Married (yes/no)	37.7	75.0**	58.0**
Kids in the household (yes/no)	93.5	95.0	96.0
Average years of education	10.9	12.6**	12.4**
Network structure			
Number of relations	6.3	7.2	7.3*
Number of distinct individuals	4.0	4.6	4.9**
Number of multiple ties	1.9	2.1	1.8
Network composition			
Percentage with partner[a]	58.3	53.5	61.9
Percentage with no friends	9.3	5.0	6.3
Percentage of kin support[a]	17.7	10.1**	10.4**
Percentage employed[a]	47.0	77.2**	69.3**
Percentage on aid[a]	25.5	13.2	8.9**
Average years of education[a]	9.5	11.6*	11.7**
Percentage black[a]	4.2	7.0	10.0
Percentage white[a]	74.0	84.2	75.9
Percentage Puerto Rican[a]	12.3	5.3	6.3
Percentage Mexican[a]	5.6	1.8	5.9
Puerto Rican males			
Background characteristics			
Average age (years)	35.4	34.0	31.9**
Married (yes/no)	70.8	75.5	73.8
Kids in the household (yes/no)	87.5	93.9	90.5
Average years of education	7.8	**9.6**	11.1**
Network structure			
Number of relations	4.6	6.0**	5.4
Number of distinct individuals	4.0	4.4	3.7
Number of multiple ties	0.58	1.4**	1.4**
Network composition			
Percentage with partner[a]	68.4	82.9	74.2
Percentage with no friends	16.7	14.6	21.4

Table 4. Method of job acquisition by average background characteristics and social network-structure and composition by race/ethnicity and gender— *continued*

	Not working	Personal contact(s)	Other method(s)
Percentage of kin support[a]	43.0	23.7**	24.5**
Percentage employed[a]	64.0	85.5**	78.8
Percentage on aid[a]	17.6	4.5*	3.5**
Average years of education[a]	5.9	**7.9	10.5**
Percentage black[a]	1.8	.00	3.0
Percentage white[a]	7.0	4.9	7.1
Percentage Puerto Rican[a]	71.1	77.6	78.8
Percentage Mexican[a]	16.7	13.0	5.1
Puerto Rican Females			
Background characteristics			
Average age (years)	31.9	31.3	32.1
Married (yes/no)	33.1	**71.0**	46.3*
Kids in the household (yes/no)	98.0	100.0	98.2
Average years of education	9.1	11.4**	11.5**
Network structure			
Number of relations	5.1	6.2	6.5**
Number of distinct individuals	3.3	4.0*	4.1**
Number of multiple ties	1.6	1.8	2.0
Network composition			
Percentage with partner[a]	56.6	**75.0**	54.8
Percentage with no friends	27.3	14.3*	14.3**
Percentage of kin support[a]	22.4	*28.6	14.9**
Percentage employed[a]	43.6	75.0**	67.1**
Percentage on aid[a]	31.3	11.8**	11.3**
Average years of education[a]	7.8	8.9	9.9**
Percentage black[a]	2.3	2.1	4.0
Percentage white[a]	3.5	5.6	14.7**
Percentage Puerto Rican[a]	79.6	70.1	65.5**
Percentage Mexican[a]	8.0	11.1	9.1
Mexican males			
Background characteristics			
Average age (years)	33.7	33.2	33.7
Married (yes/no)	81.8	85.7	80.3
Kids in household (yes/no)	100.0	94.5**	93.4**
Average years of education	9.2	6.5**	7.0
Network structure			
Number of relations	4.8	4.3	4.2
Number of distinct individuals	3.8	3.4	3.1
Number of multiple ties	0.91	0.78	0.84
Network composition			
Percentage with partner[a]	61.9	76.7	80.7
Percentage with no friends	11.1	14.6	17.0
Percentage of kin support[a]	25.7	30.7	25.2
Percentage employed[a]	78.6	95.3	98.8
Percentage on aid[a]	0.00	1.4	0.00
Average years of education[a]	7.7	7.9	7.6
Percentage black[a]	0.00	0.48	1.9
Percentage white	12.5	3.8	8.3
Percentage Puerto Rican[a]	20.8	2.4	3.4
Percentage Mexican[a]	62.5	91.0*	82.2

Table 4. Method of job acquisition by average background characteristics and social-network structure and composition by race/ethnicity and gender— *continued*

	Not working	Personal contact(s)	Other method(s)
Mexican females			
Background characteristics			
Average age (years)	30.8	32.7*	31.8
Married (yes/no)	62.9	71.6	65.0
Kids in the household (yes/no)	100.0	98.5	100.0
Average years of education	7.5	*6.6*	8.3
Network structure			
Number of relations	5.3	5.2	5.2
Number of distinct individuals	3.6	3.7	3.6
Number of multiple ties	1.4	1.3	1.3
Network composition			
Percentage with partner[a]	75.1	71.1	74.4
Percentage with no friends	16.3	9.8	18.4
Percentage of kin support[a]	22.4	**29.3	15.5
Percentage employed[a]	46.5	75.6**	72.0**
Percentage on aid[a]	15.4	1.9**	2.8**
Average years of education[a]	8.2	**7.5	10.7**
Percentage black[a]	2.6	0.62	3.2
Percentage white[a]	9.5	5.6	14.5
Percentage Puerto Rican[a]	8.4	9.0	6.5
Percentage Mexican[a]	71.6	*80.5	66.7

Sources: Urban Poverty and Family Life Survey (1987) and US Census (1979).

Notes: Percentages are unweighted; two-tailed *t*-tests; * = $p < 0.10$; ** = $p < 0.05$; asterisks to the left show contrasts with those who found their current job through other method(s); and asterisks to the right show contrasts with those who are not working. All *t*-tests are computed within each ethnic/racial and gender group.

[a] To control for possible selection bias caused by non-response to this set of network questions, these computations were restricted to those who named at least one friend.

important to note that several groups deviate from this pattern. In particular, whites, Puerto Rican women and Mexican men who found their job through a personal contact have rates of educational attainment that are no different from those of their counterparts who found work through other methods.

Surprisingly, none of the other individual-background characteristics consistently vary by method of job-finding. We might expect that older workers are more likely to find work through a personal contact since they have had more time to accumulate contacts over the life-course. However, this does not appear to be true. Similarly, we might expect workers who are married to have access to a greater number of contacts through their spouse, increasing the likelihood of finding work through word-of-mouth. Again, this does not appear to be the case except for Puerto Rican women.

As for differences across the dimensions of social networks, the general pattern is that the network structures of those individuals who found their job through word-of-mouth do not dramatically differ from those individuals who found their job through other methods. Given previous research on the importance of weak ties in matching job-seekers with job vacancies, one would expect to see some differences in network range and depth. Perhaps this is an artefact of survey question wording and the three name generators used to tap respondents' social networks. As noted above, these three name generators are likely to elicit the names of close friends and family rather than names of acquaintances or friends-of-friends.

While there is not much variation in network structure, there are differences in network composition between those who found their job through word-of-mouth and those who did not. Much of this variation is within the non-white groups, especially females. One of the more surprising results is that black women who found their job through a friend or relative have networks with much higher rates of welfare receipt and of unemployment. They also have lower rates of educational attainment than do black women who found their job through some other method. There is also a difference in the percentage of a respondent's network that is on public aid between black men who found their job through word-of-mouth and those who did not. Perhaps these differences reflect the tendency of employers to recruit through informal referrals for unskilled jobs which are more likely to be filled by people who have lower levels of education, and who are embedded in networks composed of less-educated welfare recipients who are not working. It is also possible that welfare recipients and other non-workers pass on to friends and relatives job information acquired through unemployment offices and welfare agencies.

Another important factor that may explain why some workers find jobs through word-of-mouth and others do not is the percentage of kin in the respondent's support network. Puerto Rican and Mexican women who found their current job through a personal contact report much higher levels of kin support than those who found their current job through other methods. In contrast, black women who found their current job through a personal contact report much lower levels of kin support than those who found their current job through other methods. Kin networks appear to operate differently for black, Puerto Rican and Mexican women in terms of informal job-search.

As for the ethnic and racial composition of social networks, the overall pattern suggests that homogeneous ethnic networks are better at matching job-seekers with job vacancies. This is especially true for Mexican women who appear to be situated in ethnic-based networks that facilitate the word-of-mouth job-finding process. However, it is less clear whether blacks are at a disadvantage in finding jobs through word-of-mouth as a result of being embedded in mostly black networks. In Chicago's inner city, the lack of a relationship between black network composition and finding a job through word-of-mouth appears to be the result of very little variation in the racial networks of blacks.

To determine whether social networks impact the chances of finding work through word-of-mouth, a multivariate analysis was conducted and is presented in Table 5. These models estimate the independent effects of network structure and composition on finding a job through word-of-mouth for inner-city residents from low-poverty areas. The most substantive findings of this analysis are summarised in Table 6.

The dependent variable in the analysis is whether a respondent found his/her current job through word-of-mouth, through some other method(s), or is not working. Since this measure is unordered and catagorical, the assumptions necessary for ordinary least squares regression are necessarily violated—for example, it is unreasonable to assume that the distribution of error terms is normal. As a result, a multinomial logistic (or logit) regression is the primary method used.

The multiple polytomous logistic regression model for an unordered categorical dependent variable with M categories is a series of M-1 equations, one for each independent odds, with each equation consisting of an intercept and K predictors. In the current analysis, M equals respondents who are not working, respondents who found their job through a personal contact and respondents who found their job through other methods. Similarly, K equals a set of individual background characteristics, as well as measures of social network structure and characteristics. Assuming that the last, or Mth, category of the dependent variable is the reference category, the equations are of the general form (Demaris, 1992; p. 66):

Table 5. Multinomial logit regression estimates of network structure and composition on use of personal contacts for finding current job by race/ethnicity and gender (standard errors in parentheses)

Contrast group: found current job through other method(s)	Not working	Found current job through personal contact(s)
Black		
Background characteristics		
Age (years)	−0.047**	−0.020
	(0.014)	(0.016)
Male	−0.187	0.844**
	(0.237)	(0.251)
Married	−0.336	0.519**
	(0.246)	(0.256)
Kids in household	0.069	0.161
	(0.290)	(0.319)
Education (years)	−0.424**	−0.252**
	(0.061)	(0.066)
Network structure		
Number of relations	−0.099	−0.036
	(0.133)	(0.138)
Number of distinct individuals	0.044	0.063
	(0.135)	(0.139)
Number of multiple ties	0.045	−0.052
	(0.170)	(0.180)
Network composition		
Percentage with partner	−0.004	−0.001
	(0.003)	(0.003)
Percentage of kin support	−0.006	−0.011**
	(0.005)	(0.006)
Percentage employed	−0.009**	−0.003
	(0.004)	(0.004)
Percentage on aid	0.020**	0.015**
	(0.005)	(0.006)
Average years of education	0.021	−0.009
	(0.043)	(0.046)
Percentage black	−0.0003	0.001
	(0.006)	(0.007)
Percentage white	−0.012	−0.021
	(0.017)	(0.021)
Percentage Puerto Rican	—	—
Percentage Mexican	—	—
Constant	7.548**	2.928**
	(1.012)	(1.099)
N	698	
Chi-*S*quared	236.24**	
White		
Background characteristics		
Age (years)	−0.015	0.036
	(0.033)	(0.039)
Male	−2.705**	−0.197
	(0.685)	(0.474)
Married	−0.703	0.958*
	(0.469)	(0.550)

Table 5. Multinomial logit regression estimates of network structure and composition on use of personal contacts for finding current job by race/ethnicity and gender (standard errors in parentheses)— *continued*

Contrast group: found current job through other method(s)	Not working	Found current job through personal contact(s)
Kids in household	−0.289	−0.669
	(0.854)	(0.736)
Education (years)	−0.174	0.033
	(0.109)	(0.100)
Network structure		
Number of relations	−0.305	0.110
	(0.292)	(0.293)
Number of distinct individuals	0.020	−0.154
	(0.302)	(0.283)
Number of multiple ties	0.960**	−0.194
	(0.407)	(0.381)
Network composition		
Percentage with partner	0.002	−0.006
	(0.007)	(0.007)
Percentage of kin support	0.074**	−0.007
	(0.023)	(0.023)
Percentage employed	−0.010	0.021**
	(0.007)	(0.009)
Percentage on aid	0.011	0.017
	(0.011)	(0.013)
Average years of education	−0.0004	−0.128*
	(0.071)	(0.078)
Percentage black	−0.021	0.005
	(0.014)	(0.015)
Percentage white	0.003	−0.00001
	(0.010)	(0.011)
Percentage Puerto Rican	0.007	−0.0003
	(0.013)	(0.015)
Percentage Mexican	−0.027*	0.007
	(0.016)	(0.016)
Constant	2.916	−2.119
	(1.991)	(2.137)
N	198	
Chi-squared	108.76**	
Puerto Rican Background characteristics		
Age (years)	−0.502*	−0.040
	(0.031)	(0.034)
Male	−2.045**	0.274
	(0.418)	(0.394)
American-born	−0.834*	−0.941**
	(0.426)	(0.469)
Married	0.038	0.585
	(0.368)	(0.428)
Kids in household	0.058	0.026
	(0.834)	(0.868)
Education (years)	−0.357**	−0.145*
	(0.076)	(0.079)

Table 5. Multinomial logit regression estimates of network structure and composition on use of personal contacts for finding current job by race/ethnicity and gender (standard errors in parentheses)—*continued*

Contrast group: found current job through other method(s)	Not working	Found current job through personal contact(s)
Network structure		
Number of relations	−0.070	−0.139
	(0.270)	(0.275)
Number of distinct individuals	0.044	0.219
	(0.262)	(0.269)
Number of multiple ties	0.076	0.336
	(0.345)	(0.356)
Network composition		
Percentage with partner	−0.002	0.006
	(0.005)	(0.006)
Percentage of kin support	0.012*	0.012
	(0.007)	(0.008)
Percentage employed	0.002	0.014**
	(0.005)	(0.006)
Percentage on aid	0.026**	0.019*
	(0.009)	(0.011)
Average years of education	−0.061	−0.078*
	(0.044)	(0.045)
Percentage black	−0.002	−0.034
	(0.015)	(0.025)
Percentage white	−0.009	−0.015
	(0.010)	(0.012)
Percentage Puerto Rican	−0.002	−0.010
	(0.006)	(0.007)
Percentage Mexican	0.011	−0.0008
	(0.010)	(0.011)
Constant	6.670**	1.438
	(1.812)	(1.891)
N	320	
Chi-squared	169.89	
Mexican		
Background characteristics		
Age (years)	−0.016	−0.010
	(0.028)	(0.024)
Male	−2.443**	−0.335
	(0.491)	(0.328)
American-born	−0.812	−1.005*
	(0.575)	(0.516)
Married	−0.063	0.414
	(0.423)	(0.384)
Kids in household	17.646**	−0.107
	(1.131)	(0.900)
Education (years)	0.039	−0.032
	(0.059)	(0.050)
Network structure		
Number of relations	−0.385	−0.134
	(0.357)	(0.265)
Number of distinct individuals	0.562	0.222
	(0.366)	(0.272)
Number of multiple ties	0.538	0.256
	(0.454)	(0.360)

Table 5. Multinomial logit regression estimates of network structure and composition on use of personal contacts for finding current job by race/ethnicity and gender (standard errors in parentheses)— *continued*

Contrast group: found current job through other method(s)	Not working	Found current job through personal contact(s)
Network composition		
Percentage with partner	0.001	−0.010*
	(0.006)	(0.005)
Percentage of kin support	0.003	0.010**
	(0.007)	(0.005)
Percentage employed	−0.013**	0.003
	(0.006)	(0.006)
Percentage on aid	0.045**	0.022
	(0.022)	(0.024)
Average years of education	−0.024	−0.005
	(0.046)	(0.040)
Percentage black	−0.027	−0.023
	(0.023)	(0.028)
Percentage white	0.004	0.002
	(0.011)	(0.010)
Percentage Puerto Rican	0.013	0.013
	(0.013)	(0.012)
Percentage Mexican	0.003	0.010
	(0.008)	(0.007)
Constant	−16.757	0.069
	—	(1.456)
N	319	
Chi-squared	148.13**	

Sources: Urban Poverty and Family Life Survey (1987) and US Census (1979).
Note: two-tailed *t*-tests; * = p < 0.10; ** = p < 0.05.

$$\log O_1 = \alpha^1 + \beta_1^1 X_1 + \beta_2^1 X_2 + \ldots + \beta_k^1 X_k,$$

$$\log O_2 = \alpha^2 + \beta_1^2 X_1 + \beta_2^2 X_2 + \ldots + \beta_k^2 X_k,$$

$$\log O_{m-1} = \alpha^{m-1} + \beta_1^{m-1} X_1 + \beta_2^{m-1} X_2 + \ldots + \beta_k^{m-1} X_k.$$

The superscripts on the parameter estimates serve to distinguish the effects of the first odds—i.e. not working—from those that relate to the second—i.e. found job through personal contact. An equation could be written for the third dependent odds—i.e. the odds of finding work through other methods; however, there is no need to estimate the third equation from the data since its parameter estimates are just the differences between the parameters in the first two equations. All equations were estimated using maximum-likelihood procedures, and the contrast (or reference) group for all models is employed respondents who found their job through other methods.[7]

Overall, these models indicate that job-finding through word-of-mouth operates differently for members of different racial and ethnic groups, depending on various individual background characteristics, as well as on measures of network composition. The most influential background characteristics include sex, immigration status and education.

Taking each in turn, black males are significantly more likely to find work through word-of-mouth, while Puerto Rican and Mexican men are significantly less likely to find work through friends and relatives. For whites, however, the respondent's sex did not substantially influence the informal job-finding process.

Table 6. Summary of results for major determinants of job finding via word-of-mouth by race and ethnicity

	Black	White	Puerto Rican	Mexican
Background characteristics				
Sex (male)	+	N/S	—	—
American-born	≥	≥	—	N/S
Education (years)	—	N/S	—	N/S
Social network characteristics				
Percentage of kin support	—	N/S	N/S	+
Percentage on aid	+	N/S	+	N/S
Percentage employed	N/S	+	+	N/S

N/S = no significant effect on finding current job via word-of-mouth.
+ = increases the likelihood of finding current job via word-of-mouth.
— = decreases the likelihood of finding current job via word-of-mouth.
≥ = relationship not investigated.

As for the impact of immigration and education, Puerto Rican immigrants are significantly more likely to find work through personal contacts than are native-born Puerto Ricans, whereas Mexican immigrants are no more likely than native-born Mexicans to find work through word-of-mouth. More importantly, higher levels of education significantly reduce the likelihood of finding a job through word-of-mouth for blacks and Puerto Ricans, while having no effect on whites and Mexicans.

As for the three measures of network structure, none is a very good predictor of who finds jobs through word-of-mouth, even though non-whites, particularly males, tend to have more constricted networks.[8] However, several measures of network composition are related to finding work through personal contacts, and a number of these measures operate differently for each racial and ethnic group. The most notable findings are as follows:

—The percentage of kin support significantly increases the likelihood of finding a job through word-of-mouth for Mexicans, but has the opposite effect for blacks.
—The percentage of a respondent's social network that is receiving public aid significantly increases the rate of informal job-finding for blacks and Puerto Ricans, but not for whites and Mexicans.
—The percentage of friends who are employed significantly increases the chances of finding a job through friends and relatives for whites and Puerto Ricans, but not for blacks and Mexicans.

It is worth noting that the computations that appear in Table 5 were also performed in a separate analysis restricted only to African-American cases from high-poverty areas (see Table A1 in the Appendix). In general, the parameter estimates from this analysis are consistent with those from the analysis of blacks in low-poverty areas.[9] Another analysis was performed that included black respondents from low- and high-poverty areas with neighbourhood poverty as an independent variable (see Table A2 in the Appendix). The most notable finding from this pooled analysis is that neighbourhood poverty did not significantly affect the likelihood of finding a job through word-of-mouth. However, the direction of this coefficient suggests that there is a positive relationship between neighbourhood poverty and finding work through word-of-mouth. Moreover, when the social network indicators are omitted from the model presented in Table A1, the neighbourhood poverty coefficient becomes statistically significant, while remaining positive. Unfortunately, it is unclear whether this reflects the sorting of

low-skilled workers into poor neighbourhoods who are more likely to compete for jobs filled through word-of-mouth or whether neighbourhood poverty actually fosters informal job-brokering activity.

Lastly, the question of whether there is a relationship between not working and social networks can also be addressed with the preceding analysis. In general, those respondents who are not working tend to be younger, are less likely to be married and have fewer years of education than either those who found their job through personal contacts or those who used some other method(s).

As for network differences, non-working females tend to have more constricted social networks, except for Mexican women; however, non-working male respondents are situated in social networks similar to those in which working male respondents are situated. Not surprisingly, unemployed respondents have social networks with less human capital. That is, their networks have less education, lower rates of employment and are more likely to be on public aid. Unfortunately, it is unclear whether these network differences cause respondents to be disconnected from the labour market or whether not working causes these network differences.

Discussion

Overall, these findings suggest that there are modest, yet important, racial and ethnic differences in the structure and composition of social networks among inner-city residents from low-poverty areas in Chicago. While it does not appear that any particular group is excluded from employment opportunities that are largely filled through word-of-mouth, there are ethnic differences in the rate of finding a job through word-of-mouth, as well as ethnic and racial differences in the way that social networks operate in the labour market.

One important difference is the role that sex plays in the informal job-finding process for different racial and ethnic groups. Employed black men seem to be more dependent on finding jobs through informal methods than are employed men in any other group. This may reflect difficulties some black men experience finding jobs through formal means, either because of discrimination or the perception among black men that they are at a disadvantage when using formal job-search methods. The greater dependence of black men on personal contacts to broker job-seekers and job vacancies may explain why there is a perception that black economic progress depends more on who you know than what you know (Patterson, 1998).

Nevertheless, higher levels of education actually decrease informal job-finding for blacks, as well as for Puerto Ricans. As noted above, this is consistent with the more general finding in the social-network literature that there is an inverse relationship between socioeconomic status and the likelihood of finding jobs through personal contacts. It is surprising, however, that higher levels of education do not substantially reduce informal job-finding for whites or Mexicans. This seems to suggest that white and Mexican workers are able to secure positions that are filled through word-of-mouth even when their educational attainment rises. A likely explanation for these differences is that white and Mexican workers with higher levels of education who live in low-poverty areas of the inner city are situated in networks of social relations that provide greater access to informal employment information.

Another important finding is the higher rate of word-of-mouth job-finding among Puerto Ricans and Mexicans. This is likely to reflect the lower average rate of educational attainment of both Spanish-speaking groups, making them more likely to compete for unskilled positions that employers largely fill through word-of-mouth (Holzer, 1996). Moreover, the vast majority of the respondents in the UPFLS sample are immigrants and have limited English-language skills. This may reduce their ability to use more formal job-search methods, while increasing their dependence on personal contacts for job-finding. This appears to be the case for

Puerto Ricans, but not for Mexicans. Perhaps there is a greater sense of obligation among Puerto Rican immigrants to assist other compatriots in the job market (Waldinger, 1996). Moreover, Puerto Rican immigrants (compared with Mexican immigrants) may be more likely to work in small ethnic immigrant enterprises which have been found to rely heavily on informal recruitment practices (Waldinger, 1986).

Perhaps more surprising is the finding that blacks and Puerto Ricans who are employed are more likely to find work through a personal contact when more of their friends are on welfare. Again, this may reflect the fact that welfare recipients have access to job information from local welfare offices. It may also suggest that participating in such networks makes it harder to find jobs through more formal means or that the jobs for which these individuals are competing are filled through informal recruitment practices.

While networks with greater percentages of friends who receive welfare are positively associated with finding a job through word-of-mouth among employed blacks and Puerto Ricans, the percentage of kin support tends to have the opposite effect for employed blacks. Following Stack's (1974) argument that relying on extended kin networks is a survival strategy for many poor black women and that these relationships often are overburdened by the level of need (Hannerz, 1969; Rainwater, 1970), it is possible that families of black women who bear much of the responsibility for childrearing and housework, as well as for traditional work, may not feel much of an obligation to help relatives to find jobs.

The dynamic between kin-based networks and finding a job through word-of-mouth seems to work very differently for Mexicans. That is, the more kin-based ties in a Mexican respondent's social-support network, the more likely s/he is to have found a job through word-of-mouth. Perhaps there is a greater sense of obligation among this group to assist family members in the job-search process.

While these results are important, they should not overshadow the more general finding that social-network composition and structure do not capture much of the variation in finding jobs through word-of-mouth. There are two explanations that may account for this outcome. As noted above, the questions which were used to generate the social-network indicators are likely to elicit strong ties, whereas job information is more likely to come through acquaintances. It is also possible that finding jobs through word-of-mouth, as well as social mobility in general, has more to do with luck, such as being in the right place at the right time, than with patterns of social relations (Jencks *et al.*, 1972).

Before contemplating the implications of these findings, it is important to discuss whether these results can be used to make inferences about networks and labour force participation outside Chicago's inner city. First, Chicago's notorious reputation as one of America's most racially segregated cities, if not the most segregated, may influence these results. If we assume that some component of network composition is a product of local geography, then these data are likely to underestimate the degree of ethnic and racial integration in egocentric networks. This seems likely given the low level of variation in the ethnic and racial composition of respondents' networks. Perhaps in other cities with less segregation there is more interaction between ethnic and racial groups. If we assume that intraracial relationships are more often than not weak ties, and job information transmitted between individuals from different ethnic or racial groups is better at connecting job-seekers with job vacancies, then the labour market returns to these types of relationship are likely to be underestimated in the current analysis.

Secondly, finding a job through word-of-mouth is probably influenced by local labour market conditions. At the time the UPFLS data were collected, Chicago's unemployment rate was three percentage points higher than the national average and had been consistently higher since the mid 1970s. Under these conditions, employers will probably be

able to find workers without enduring costly recruitment methods. This would suggest that employers would take advantage of costless recruitment methods, such as word-of-mouth. Moreover, the likelihood that workers will utilise employment information that they receive through informal channels is increased, given the overall lack of employment opportunities in the local economy. Therefore, it would not be surprising if some of the network effects presented in this analysis were reduced or eliminated under tighter labour market conditions.

Implications and Limitations

These findings suggest that residents of poor urban communities face a labour market that is organised, in part, by their networks of social relations. These networks can either limit or expand employment opportunities. As a constraint, the lack of social ties which broker employment opportunities presents a structural barrier in the labour market which can be overcome, according to these findings, through increased educational attainment. Higher levels of education, particularly among blacks and Puerto Ricans, create more access to jobs found through formal search methods, and reduce the need for informal job-brokers in the labour market.

In addition, these findings suggest that a critical factor in explaining differences in word-of-mouth job-finding among these racial and ethnic groups is the percentage of employed friends. For whites and Puerto Ricans, the percentage of employed friends does significantly increase access to employment through word-of-mouth; however, for blacks and Mexicans, the percentage of employed friends has no effect on the informal job-finding process. This suggests that employers do not trust the referrals of employed friends of blacks and Mexicans and/or employed friends of blacks and Mexicans are unable and/or unwilling to broker jobs. In either case, these results indicate that higher-status friends are an advantage in the job-finding process for some groups, but not for others.

Since blacks do not seem to benefit from higher-status friends in the job-finding process, attempts to situate inner-city residents, particularly blacks, in networks of gainfully employed individuals will probably increase employment, perhaps through a process of socialisation, but will have no effect on job-finding via word-of-mouth. As a result, these findings indicate that mentoring programmes, as well as dispersal strategies, including Section 8 vouchers and mixed-income housing programmes, that target black inner-city residents, will not be able to achieve one of their primary objectives: reconnecting hard-to-employ inner-city workers to critical informal job networks.

At a more general level, these results suggest that more contacts are not necessarily an advantage in the informal job-finding process. Moreover, there seems to be an inverse relationship between the socioeconomic status of personal contacts and finding work through word-of-mouth. Unfortunately, the limitations of the data prevent any conclusive statements about the effect of tie-strength on informal job-finding.

Before concluding, it is important to mention the limitations of the data used in this paper. First, the need to restrict the sample to low-poverty areas in order to control for the impact of neighbourhood poverty, while allowing for racial and ethnic comparisons, limits our understanding of how concentrated poverty alters networks for different ethnic groups. Secondly, the data used in this analysis are restricted to parents between the ages of 18 and 47; this restriction limits the generalisable nature of the findings. Thirdly, the social-network indicators are largely treated as exogenous variables in this analysis when, in reality, they are the product of numerous selection processes as well as the life-cycle. Fourthly, the measure of whether respondents found jobs through a friend or relative is quite crude and is likely to underestimate the actual rate of finding jobs through word-of-mouth.

Given these shortcomings, future research

should improve on the present effort by using data that overcome a number of these limitations. Just as important, however, is the need to use data collected from numerous locales which will allow for the incorporation of regional economic indicators that may influence the rate of finding jobs through word-of-mouth. Such research should also try to measure changes in social networks as a result of mounting urban dislocations and how these changes affect mobility patterns. While quantitative research may help to address these needs, qualitative methods could help to generate hypotheses that explain some of the current findings, and in turn, could help to generate new hypotheses. Efforts to address these issues will contribute to our very limited understanding of how social networks mediate economic opportunity, while also enhancing our general understanding of the social organisation of poor urban communities.

Notes

1. The role of social networks in explanations of urban joblessness is also closely related to the spatial mismatch hypothesis (for a review of this literature, see Holzer, 1991). This theory states that if discrimination in housing markets limits the residential location of black owners, then it should discourage them from searching for and accepting jobs at workplaces far from black neighbourhoods. This is thought to restrict black employment, particularly among inner-city residents, by increasing commuting expenses and travel times. Housing markets may also constrain the employment opportunities of inner-city residents by clustering individuals with similar socioeconomic characteristics into various communities. If we assume that informal job information flows through neighbourhood ties, then the sorting of individuals and groups into different neighbourhoods may disadvantage residents of poorer areas since they may not be as likely to interact with individuals who have stable work histories and can help them find a job.
2. Informal job-search has been found to account for 90 per cent of the black–white difference in the probability of youth employment (Holzer, 1987).
3. For a more detailed account of the theoretical assumptions of how social networks operate in labour markets see Lin's (1990) discussion of the linkage between social resources and instrumental action.
4. It is important to note that the survey research literature does not consistently show that whites, as compared with blacks, are as likely to find work through word-of-mouth. For example, Corcoran *et al.* (1980) found that black respondents from the 1978 Panel Study of Income Dynamics were more likely than whites to have found their jobs through an informal referral. But Holzer's finding that black youth are less likely to find work through a personal contact is supported by a study of Boston youth that randomly sampled 1200 respondents from three poverty neighbourhoods and found that 51 per cent of whites and 41 per cent of blacks acquired their jobs through word-of-mouth (cited in Granovetter, 1995, p. 140). Unfortunately, it is impossible to tell whether these differences represent actual racial variation in finding work through word-of-mouth or are a result of the respondents' age, local labour market conditions and/or questionnaire wording.
5. These categories are slightly peculiar in that they incorporate both racial and ethnic constructs. The decision to separate the Hispanic category into Puerto Rican and Mexican, while aggregating white and black cases (without distinguishing ethnic categories within these groups), is rooted in an attempt to represent ethnic differences, while maintaining a sufficient number of cases in each category.
6. Since the most isolated individuals—i.e. those that named no friends—did not respond to the network-composition questions, the total number of friends is controlled for in these tables to account for possible selection bias (see Marsden and Hurlbert, 1987).
7. Since there are significant interactions between race, ethnicity and several social-network indicators, separate equations were computed for each racial and ethnic group. The social-network measures where introduced into each model separately, monitoring changes in the other coefficients. While the measures of social networks show a modest correlation, the results do not dramatically change when each variable is introduced separately. However, the absence of Puerto Rican and Mexican friends in black respondents' social networks creates collinearity problems in the model for blacks. To resolve this estimation problem, the percentage Puerto Rican and percentage

Mexican variables are omitted in these models.

8. The analysis of racial and ethnic differences across dimensions of network structure and composition, including the independent effects of race and ethnicity on various measures of social networks, is available from the author upon request.
9. A modified version of the model that appears in Table A1 was calculated to estimate the effect of public housing on finding a job through word-of-mouth (not shown in tables). Since very few public housing tenants in the UPFLS sample are non-black males in low-poverty areas, this analysis was restricted to black women in high-poverty areas. Similarly, since almost all of these respondents had children in the household and most reported no white friends, these variables were omitted. As expected, public housing significantly increased the likelihood of not working. However, for employed respondents, public housing significantly increased the likelihood of finding work through word-of-mouth. These results are available from the author upon request.

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Appendix

Table A1. Multinomial logit regression estimates of network structure and composition on use of personal contacts for finding current job for blacks in high-poverty areas (standard errors in parentheses)

Contrast group: found current job through other method(s)	Not working	Found current job through personal contact(s)
Background characteristics		
Age (years)	−0.092**	−0.027
	(0.030)	(0.038)
Male	−1.313**	0.389
	(0.503)	(0.557)
Married	−0.802	−0.061
	(0.510)	(0.611)
Kids in household	0.755	0.094
	(0.627)	(0.716)
Education (years)	−0.589**	−0.348**
	(0.124)	(0.145)
Network structure		
Number of relations	−0.211	−0.341
	(0.329)	(0.525)
Number of distinct individuals	0.005	0.468
	(0.329)	(0.531)
Number of multiple ties	0.090	0.253
	(0.411)	(0.597)
Network composition		
Percentage with partner	0.007	0.003
	(0.006)	(0.008)
Percentage of kin support	−0.004	−0.001
	(0.009)	(0.013)
Percentage employed	−0.018**	−0.005
	(0.008)	(0.011)
Percentage on aid	0.005	0.001
	(0.010)	(0.013)
Average years of education	−0.036	0.116
	(0.069)	(0.090)
Percentage black	0.022**	−0.011
	(0.011)	(0.013)
Percentage white	0.025	−0.009
	(0.035)	(0.034)
Percentage Puerto Rican	—	—
Percentage Mexican	—	—
Constant	11.103**	3.849
	(2.069)	(2.396)
N	247	
Chi-squared	107.8**	

Sources: Urban Poverty and Family Life Survey (1987) and US Census (1979).
Note: two-tailed *t*-tests; * = p < 0.10; ** = p < 0.05.

Table A2. Multinomial logit regression estimates of network structure and composition on use of personal contacts for finding current job for blacks from low- and high-poverty areas with neighbourhood poverty as an independent variable (standard errors in parentheses)

Contrast group: found current job through other method(s)	Not working	Found current job through personal contact(s)
Background characteristics		
Age (years)	−0.052**	−0.026*
	(0.012)	(0.014)
Male	−0.422**	0.692**
	(0.203)	(0.212)
Married	−0.450**	0.354*
	(0.205)	(0.217)
Kids in household	0.150	0.036
	(0.253)	(0.268)
Education (years)	−0.443**	−0.250**
	(0.052)	(0.056)
Network structure		
Number of relations	−0.057	−0.084
	(0.114)	(0.133)
Number of distinct individuals	−0.010	0.125
	(0.114)	(0.132)
Number of multiple ties	−0.002	−0.019
	(0.146)	(0.168)
Network composition		
Percentage with partner	−0.001	0.001
	(0.003)	(0.003)
Percentage of kin support	−0.005	−0.010**
	(0.004)	(0.004)
Percentage employed	−0.011**	−0.004
	(0.003)	(0.004)
Percentage on aid	0.013**	0.009*
	(0.004)	(0.005)
Average years of education	0.026	0.051
	(0.034)	(0.039)
Percentage black	0.004	−0.004
	(0.005)	(0.006)
Percentage white	−0.002	−0.007
	(0.015)	(0.014)
Percentage Puerto Rican	—	—
Percentage Mexican	—	—
Neighborhood poverty	3.002**	0.977
	(0.713)	(0.861)
Constant	6.823**	2.759**
	(0.905)	(0.994)
N	1026	
Chi-squared	389.91**	

Sources: Urban Poverty and Family Life Survey (1987) and US Census (1979).
Note: two-tailed *t*-tests; * = p < 0.10; ** = p < 0.05.