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Getting started:
The influence of social capital on the start of the occupational career

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1. Introduction

Public opinion thinks highly of the usefulness of networks as a key to occupational success. 'Networking' has become a verb, it is "... the art of talking to as many people as you can without directly asking anyone a job" (New York Times, November 1991). Yet the quote also echoes an official universalistic ideology that forbids the use of personal contact to get ahead.

At least since the fifties it has been familiar knowledge in the social sciences that many persons find their job through some kind of informal relationship (e.g., Lipset, Bendix & Malm 1955), but its full implications were not immediately realized. Economic job-search theory gave the finding a theoretical meaning. Information is a good that can be bought at a price, the price of search. Since informal search saves on search costs compared to making use of formal channels, it contributes to job-finding (Stigler 1961, 1962). The original assumption that people are fully informed is dropped, since that is too strong an idealization, at least on the labor market.

It is not so much the difficulty of locating each other, but of establishing the quality of an offer. Informal channels provide both: extensive information on many offers and intensive information on a particular offer (Rees 1966). But does it work, networking? Economists did not conduct much empirical research on the precise role of informal social relations in the job finding process (Devine & Kiefer 1991).

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The discussion was given a new twist by sociologists who conducted more detailed studies of the role of networks on the labor market. They replicated earlier findings on the importance of personal relations in the labor market. Many a person does indeed find his job through informal channels. In 1981 34% of Dutch male employees had found their first job through informal channels, as 32% did for their last or current job, numbers that increased to 45% and 52% in 1991 (De Graaf & Flap 1988, Moerbeek, Flap & Ultee 1995). About the same percentages are found for other western industrial societies (Granovetter 1974/'95: 140). Granovetter (1974/'95), Lin, Vaughn and Ensel (1981) and Burt (1992) used such findings to sociologize our view on the labor market by stressing the embeddedness of search and hiring in social networks. They claim that all markets are socially organized by particularistic ties.

This sociological research also showed that networks do not function as job-search theory predicts. For example, there is a sizeable amount of research indicating that informal search does not always bring a better job. Furthermore large networks do not always lead to more informal search, nor does a larger network guarantee that people will find a better job (for reviews see Flap 1991 and Lin 1999).

The issue is to come to a better understanding of the effects of networks of personal relations on labor market outcomes. To this end we add two types of theoretical assumptions to job-search theory. First, we specify the influence of personal relations on job search and labor market outcomes, by conceiving of personal relationships and the resources they give access to as social capital that is instrumental in goal attainment, like getting a job. We take into account the multidimensional character of the concept of social capital, and that receiving information or help incurs reciprocity costs. Secondly, we argue the major social condition that complicates the use of social networks in the job-search process, will be the selection behavior of employers, or better, the conditions that induce them to search for in-depth information. Yet, existing research on networks and labor market outcomes concentrates mainly on the supply side of the labor market.

To inquire more deeply into the job-finding process we used a kind of panel design. Although the size of our sample is not that large, the design is strong. Data were collected on the job-entry process of a group of young people who at time t_1 had almost finished their higher vocational training. At time t_2 the majority of them had entered occupational life. We created a multi-actor data-set by interviewing the employers of the organizations they started to work with and the possible contact person as well¹ (cf. Parcel, Kaufman & Jolly 1991).

2. Theoretical model

We base our explanation of job search, selection behavior and the outcome of their match, on a loosely conceived rational choice model that includes auxiliary assumptions on how the relative attractiveness of each action depends on the social conditions in which the prospective job-candidate or employer finds himself. These auxiliary assumptions on the expected costs and benefits of alternative actions are based on the relevant research literature. We draw freely on a range of insights taken from job-search theory (e.g., McKenna 1985), status-attainment research (e.g., Ganzeboom, Treiman & Ultee 1991) and new structuralism within stratification research (e.g., Farkas & England 1994), social network research and also

add a few assumptions of our own. We use this rational choice sociological model to formulate hypotheses and to organize our argument. The auxiliary assumptions are tested indirectly by looking at the predicted outcomes.

2.1. The employees

We start with the people who are searching for a job. For the sake of simplicity we assume that in searching they have but two alternatives: either using formal channels only, or informal channels as well. We assume that direct costs of informal search as such are very low, so they are not taken into account. However, we assume that informal search does bring reciprocity costs (Grieco 1987). By asking for help, an actor incurs debts to be repaid as future services.

The social capital idea helps to specify the influence of social relations while searching for a job. Social networks are social capital because they are instrumental in goal attainment, e.g., in getting a job. Social capital is the resultant of the size of the network, the structure of the network, the investments in network members, and the resources of these network members (Burt 1992, 2000, Flap 1999, 2001). Prospective job seekers will be more inclined to venture on informal search if they have social capital. Earlier research (Lin *et al.* 1981; De Graaf & Flap 1988; Marsden & Hurlbert 1988) consistently shows that a contact person with a higher status improves one's chances of finding a better job. Social capital is also a characteristic of the structure of ego's personal network: if ego has exclusive relations with his alters (ego is in between his alters and they have no alternative relationships), they will be more prepared to provide information or other help. The reciprocity costs that someone incurs by asking for help will be lower, the stronger the relationship is and the more the exchange rate favours the focal actor.

Several labor market characteristics may be expected to influence the decision to engage in informal job search, like, e.g., the degree of closure in the particular job market in which the person is trying to locate a job. If there are relatively many inside promotions within work organizations within that market, it will be difficult for an outsider to find a job other than through informal means. Moreover, a greater labor supply within the sector in which someone is looking will make it more difficult to make one's qualities visible. Mobilisation of network members will draw the attention from a larger circle of persons to one's qualities. A greater number of personal social contacts between people in different organizations within the sector market should also make it easier to find a job through informal search. Finally, if it is known that an employer recruits through informal channels, those who are looking for a job will adapt by looking through informal contacts because that enhances their chances of finding a job.

Function characteristics like the difficulty with which function requirements can be measured and the necessity of company-specific skills will make it difficult for a candidate to convince an employer of his capacities all on his own or by showing his diploma's. Without a sponsor it will be difficult establish confidence with employer that the person has the capacities needed for the job.

The personal situation will affect the extent of informal job search in a number of ways. One could assume, e.g., that a younger person will value a job relatively higher, because he still has a whole working life in front of him. His life time income depends on

having a good start in his working career. Being a man or a woman might also be a consideration which propels actors to opt for informal search. Although research on the effect of gender on work commitment is not equivocal (Bielby 1992), it is sometimes assumed that women value the worth of a job somewhat lower than males because they can also find satisfaction and social approval in being a good mother and a homemaker. A person's financial situation might influence the value of having a job, e.g., having a partner without a job and children who depend on ego's earning power for a living, puts a greater value on having a job. The human capital people dispose of might also affect the value they place at a job. Those with more human capital value having a job somewhat higher because a job brings them relatively more income and other rewards. Finally, social skills will enlarge the chances of getting a job through informal search.

2.2 Employers

Next we describe the assumptions we made to explain the actions of the employers. Sometimes a distinction is made between two consecutive phases, i.e., those of recruitment and selection. We concentrate on the selection phase as the number of candidates generally was not the issue in West European labor markets at the time we conducted our research. Not too much should be made of this distinction, however, because it is not that easy to separate the two in reality, and methods employed in both phases are rather similar, that is, informal ways of recruitment often entail informal ways of selection (Windolf & Wood 1988).

We also simplify the employer's choice situation. Employers who want to select a good candidate have but two alternatives: selecting candidates on formal criteria, e.g., on education, only, or making an extra effort, by collecting in-depth information on the candidate, e.g., on his capabilities and trustworthiness, through informal relationships or psychological tests. If they are insecure about the quality of an offer, people look for proxy's that signal quality, as is argued by signalling theory, a later development of search-costs theory (Spence 1974, Rosenbaum, Kariya, Settersten & Maier 1990). Several social conditions are expected to influence the attractiveness for employers of in-depth search.

First we look at relevant characteristics of an employer's personal relations. An employer with many contacts with other organizations, particularly with persons in positions similar to his own, will more readily employ these contacts to gather intensive information on potential job candidates. If an employer knows many people from associations and clubs he is a member to, or which he visits, and if he has many friends, acquaintances and family members in positions similar to his own, he also has better access to in-depth information on potential candidates.

Next we consider characteristics of functions, organizations and the labor market. For some functions firm specific human capital is of major importance. Educational certificates do not provide the needed information. Furthermore, employers will place a higher value on finding a good candidate if the productivity of an employee in a particular function is hard to measure. Training costs are another relevant factor, but since we do not have a measurement of these costs, we cannot analyse their influence. A good candidate is of great importance to an employer in functions with career tracks, with a prospect of reaching higher senior positions. Such functions are scarce and it is important to employers that they be fulfilled by persons with growth potential. In all these cases in-depth information would reduce the risk

of a wrong hiring (Windolf & Wood 1988).

A condition of great importance is the damage potential of a wrong hiring: when an employee in a particular position can do a lot of harm to the organization. The potential of doing damage to the work organization (Jacobs (1981) is great if an employee a) can make costly errors because, e.g., the production technology is not robust enough; b) does not inform about his true qualities and after being hired, shows to be not as adequate as thought to be, but is hard to fire; or c) acts opportunistically and employs company's resources for his own private goals at the peril the company and the task he is being paid for. The latter two problems are known in principal-agent literature as that of hidden information and hidden action (Petersen 1995). An employer could also try to diminish the risk of damage potential by an incentive-structure such that employees will 'spontaneously' act according to his plans and wishes. An internal labor market with job ladders and payment schedules is such a device. However, since we have but one straight forward indicator of internal labor markets, i.e., the proportion of internal promotions in work organizations within a particular sector market, we will only touch upon the issue.

Now we consider the influence of organizational characteristics. Existing research suggests that this influence will not be great. Firms usually use a mix of hiring methods that is to a large extent firm specific, in the sense that each firm has a certain mix of hiring methods which it uses in hiring for all its vacancies (Marsden 1994a). We begin with characteristics relating to the size of the work force of organizations. Organizations differ in the way they have organized their personnel department. Especially in small firms human resources management is in the hands of one person only. If organizations grow, frequently specific persons are appointed for selecting and hiring personnel, general human resources policies, job classification or training and education. Organizations with a personnel department are often better able to search intensively, to ask for and check up on referrals or test candidates themselves (Marsden & Campbell 1990: 64, Marsden & Gorman 1999: 194). Larger organizations have more financial means and other overhead to conduct in-depth search. One might also argue that large organizations can afford to select candidates that turn out not to be so good after all, because they have more alternative functions and others can compensate for a wrong hiring.

Moreover, if an organization has decentralized its work activities into separate divisions, the personnel tasks probably will be less formalized and carried out more informally. Moreover within the divisions the chances will be greater for employees to know each other. This increases the chances of someone being around who is able to provide an accurate assessment of a candidate from within or outside the organization. A central position within the network of organizations will also make it easier to acquire in-depth information through informal channels.

Furthermore, to the extent that an organization has formal rules on selection and hiring, it will be more costly to obtain in-depth information through informal channels. A similar argument can be made for the influence of positive action regulations on behalf of minority groups or women (see Marsden 1994b: 293). Selecting on in-depth information is easier for organizations that have personnel on a temporary base, e.g., as a trainee. The candidate shows his capacities and character while being a trainee.

If there is an ample supply of labor employers will prefer to amass information through informal channels, though mainly to restrict the number of applicants.

2.3 The match

Finally, the match: when do better social networks and informal search produce a better job? The returns on social capital in the job search process are conditional upon the fact whether the employer is in need of intensive information on available candidates. The match (from the perspective of a job-searcher) will be better if:

- (a) the person looking for a job has much social capital, particularly if he also has much human capital to make productive;
- (b) the person looking for a job not only has much social capital, but also puts his social capital into action, that is if he mobilizes his network members;
- (c) the employer selects through in-depth information, particularly if the job-searcher has much social capital;
- (d) the contact person has many resources, and particularly if he was mobilized through the informal search activities by the prospective employee;
- (e) the contact person puts in a good word for the job-searcher, particularly if the contact person has many resources; and
- (f) the relationship of the contact person with the employer or employees in the organization where a person applies for a job is strong.

3. The design, data, and measurements

3.1 Design and data

In order to probe the causal relation between social networks and labor market positions and test the implications of the above mentioned hypotheses, a longitudinal study was conducted in which the social networks and job-search behavior of persons who were in the process of finishing their higher vocational training were measured. In addition, recruitment procedures and support of persons with whom job-seekers had contacts were investigated.

In May 1989 our two-wave panel study was started. At the first moment of measurement (t_1 : May 1989) the social networks of 365 persons (197 men (54 %) and 168 women (46 %)) who were about to finish their higher vocational training (economics, engineering and teacher training for elementary education) were charted. The distribution with regard to the sex of the respondents is skewed. Among the respondents with a technical training only 6% is female, while 80% of the respondents who had been educated as a teacher is female. One year later (t_2 : May 1990) 303 of them were re-interviewed about their labor market participation, the type of the job they had obtained and the role of their personal social networks in the job-finding process.

In June 1990 we also investigated the employers' recruitment methods by a mail survey. It concerned the employers the prospective employees worked for or had contact with before they took on their present job ($n=139$). Furthermore, in September 1990 we studied the nature and purposes of help including information supplied by contact persons ($n=88$), again by a mail survey. Finally, in May 1991 experts on labor markets ($n=14$), either working as a manager of a regional job centre, as human resources manager of a large Dutch company

or as job recruiter for a commercial placement service, scaled 68 jobs which were obtained by our respondents according to four job characteristics.

We decided upon this design because (a) it enabled us to examine both network characteristics and labor market behavior of job-seekers, employers, and contact persons in one project; (b) there was no problem as to how to decide on causal order (e.g., do contacts lead to jobs or jobs to contacts?); (c) the duration of schooling of the job-seekers (as an indicator for human capital) was the same for all; (d) the job of entrance (first job) explains a large part of the variance, statistically spoken, in the position ultimately achieved as is shown in existing research; (e) in contrast to most existing research, not only persons who succeed in getting a job were studied, but also those who did not find a job; (f) the population of job-seekers was located in the same geographically circumscribed labor market (same moment of measurement, same region); (g) objections against retrospective questions, especially with regard to the measurement of network characteristics (Bernard *et al.* 1984), were less severe in this design.

The response rate for the interviews on t_1 was 78% and on t_2 83% (not interviewed on t_2 were those who did not finish their vocational training and persons who were not, for other reasons, available for the labor market). Both interviews lasted about one and a half hour.

We used three methods to identify the social capital of the respondents. Firstly, we used the position generator developed by Lin and Dumin (1986), in which respondents were asked whether they knew persons in certain occupations, and if so, whether a person named was a friend, an acquaintance, or a relative. These (40) occupations reflect the whole range of the occupational prestige scale for the Netherlands (Sixma & Ultee 1984). This method provides an indicator of the socio-economic prestige of someone's personal network. Secondly, we used Fischer's 'name generator' approach (McCallister & Fischer 1978), that starts with name generating questions that produce names of network members. Several questions were posed about these persons to interpret these names. We obtained information on 2150 network members. Thirdly, the role approach was used to identify family members and ego's partner if present ($n = 1009$ persons). For the network members who were identified through the last two approaches, we collected data on their personal characteristics, the nature of the tie with the respondent and data on the interconnectedness of ego's personal network. In total we were able to obtain information on 3159 network members.

At t_2 we asked the respondents about their job search, whether they had found a job, qualities of the job and if their network members helped them in searching. Also, we obtained the names of 338 employers from the respondents. They were asked to name the first employer they applied for a job without success, as well as the name of their present employer. These employers were sent questionnaires to find out about their recruitment and selection behavior (response rate 41%, $n=139$). It concerns 103 employers with whom the respondents succeeded in getting a job and 36 employers where the respondents applied for a job without success. Of course the sample of employers is selective in that only employers responded who were named by respondents with a higher vocational training in the field of economics, engineering and teacher training for elementary education. Furthermore, there is an overrepresentation of employers who are a director of a school for elementary education. However this lack of representativeness of the population is less important here because our primary goal was to test our theoretical assumptions. Finally, in the second interview we also

asked our subjects on their contact persons, who acted as a relay or go-between ($n=125$). These contact persons received a short questionnaire. The response rate of the contact persons was 58% ($n=88$).

3.2. Measurements

The key concepts that we used in the description and the testing of the models (see next section) were measured in the following ways:

The job-searchers

Informal search was measured by the frequency (average per month) and the length (average in minutes) of the conversations with other persons about vacancies from the time they left school to the time they succeeded (or did not succeed) in finding a job. We took the product of these (normalised) continuous variables, which thus also is a continuous variable, to be an indicator for the length of time an aspiring job-searcher did search informally. Furthermore, the respondents were asked about their various formal and informal job-search channels and which of them they used over the last 10 months.

As said, to characterize a respondent's social capital relevant for locating and finding a good job, we used both a position- and a name-generator procedure. As to the latter, we asked our respondents (at t_1) to mention names of relevant alters in six name generator questions, e.g., the names of persons they talked to about vacancies or personal problems. We collected information on six of these persons and on their parents, eldest brother and sister and partner, if not already mentioned, that is on their occupation, education, and their relationship with the respondent. In all we had this information on 3159 network members, with a maximum of 11 network members per respondent.

If we want to take serious that social capital is a multidimensional concept, we also need a multidimensional measurement instrument (Flap 1999, Snijders 1999). We used to three measurements of social capital. The first is a combination of the number of persons prepared to help, the extent to which they are prepared to help and the resources of these persons (De Graaf & Flap 1988). As indicators of the willingness of network members to provide support, we used four indicators, i.e., (a) the length of time (in years) the respondent and the network member were acquainted; (b) the frequency of contact with the network member; (c) the intensity of the contact; and (d) the frequency with which the respondent provided services to the network member. These four variables were approximately one-dimensional (Cronbach's $\alpha=.76$). We, therefore, took the unweighted sum of the four variables as an indicator for the strength of the relation with the network member. Moreover, we took this to be an indicator of the extent to which he was prepared to help ego. Resources of network persons (alters) were estimated using the scores of the occupations of the network members on the Ultee and Sixma (1984) occupational prestige scale for the Netherlands, a scale ranging from 13.4 to 89.1. From our measures of the strength of ties and the resources available through the ties we define our measure of social capital as the sum over all network members of the product of strength of the tie and the resources of alter. With regard to the multiplication we transformed the scale values of our measurements of the strength of the tie and the resources of alter to values between 0 and 1.

The second measurement of social capital also includes the structure of ego's

network, i.e., his or her structural autonomy in his own network. As stated above, we gathered extensive data, at t_1 , on six persons mentioned in the 'Fischer-questions'. Also, we asked the respondents whether or not these persons knew each other and to what extent. We got 365 ego centred networks. Using '*STRUCTURE*' (Burt 1989) we computed the relative autonomy of a respondent within his network ('1 minus network constraint'). Our second measure of social capital is analogous to the first measurement with this difference that the strength of a tie is mediated by a person's autonomy.

We also employed Lin and Dumin's position generator which is another multi-dimensional measure for social capital that provides information on the three fundamental dimensions of social capital. Results were rather similar while using this measure in the analyses in stead of the measure that is based on Fischer's way of generating names. Moreover our measure of social capital that includes autonomy and that represents best social capital's multidimensional nature, could only be constructed as an extension of our 'Fischer'-measure.

In the mail survey on the recruitment methods of employers they were asked to estimate the percentage of higher employees within their own organization who got their job via an internal appointment. The closure of the sector markets distinguished was estimated as the percentage of internal appointments, averaged over the employers within such a market. We distinguished 24 sectors in total, apart from agriculture there were four in manufacture, ten in commercial service industry and nine in other types of services, mainly governmental. If a prospective employee searched in more than one market, we took the average closure of these markets. In our sample of employers some sectors were not represented, although some (11%) of our sample of employees had found a job in such a sector. For those employees we assumed them to be in a sector market with a closure that is the average for all sectors, that is 37% internal appointments.

The respondent's estimation of the number of competitors for a vacancy he aspires himself is taken as an indicator for the labor supply within a sector. It is plausible that a job-searcher in choosing a search-strategy reckons with this perceived labor supply and not with the actual labor supply.

The extent to which there are social relationships between employers or organizations in a sector was estimated with information of the employers survey. First we asked in how many organizations the employers knew particular persons who could be contacted for referrals on suitable candidates for a vacancy. Next they were asked if there were personal contacts between - a maximum of four of - the organizations mentioned. For the construction of an indicator of the number of contacts between organizations in a sector we limited ourselves to these four organizations. Thus an employer can have a maximum number of contacts with 4 organizations and a minimum of 0. The four organizations can be interrelated by a maximum of 6 relations and a minimum of 0. We computed the average number of relationships for all the employers within our sample who were within in a labor market sector and attached these scores to the sectors where the job-seekers had searched. When they searched for a job in more than one sector, we again took the average value of these sectors.

Job characteristics like damage potential, measurement of job requirements, company-specific skills and career potential were measured in a small study among 14 specialists of labor markets like directors of labor exchanges and personnel managers. 68 different functions were found by the job-searchers. The four characteristics of these 68 jobs were scaled on five point scales by the 14 specialists. The reliability of the 4 scales are respectively

0.92, 0.86, 0.87, and 0.93 (Cronbach's alpha). A factor analysis of the four job characteristics resulted in two factors which together explain most of the variance in the data. Company specific skills required, and measurability of job-qualifications load high on the first factor (both 0.91), and damage potential and career perspective do so on the second factor (0.94 and 0.75). Using these factors in the analysis did not result in findings that are different from those reported in the next section.

Concerning the personal situation: the measurement of age and sex does not need further explication. The financial situation of a prospective employee was indicated by the fact whether the respondent had a partner with an income of his or her own. Although we know this is an imperfect indicator, we did not have further information on the financial situation like, e.g., the exact size of the household.

Human capital, indicated by the number of years of training, was nearly the same for all of the respondents. Still respondents differ in skills and intelligence. As an indicator for these differences we used the average grade with which the students finished their higher vocational training. Differences between types of education were taken into account only in one analysis, in which using dummies for technical education or other, and economical education or other. Furthermore, if a respondent had a job on the side while being a student, had experience on the board of a voluntary organization, or was a trainee, these were taken (in months) as indicators of human capital too.

To measure the respondent's social skills we used a scale based on two questions hereabout and three judgement questions answered by the interviewers. The scores on these questions met the criteria of a Mokken-scale ($H=0.45$, $\rho=.79$).

The employers

The extent to which the employers used additional methods to select candidates on the basis of in-depth information (a continuous variable) was indicated by four questions. The first question was: 'When you recruit personnel, do you use a psychological test?'. 33% of the employers did sometimes use this method and 9% usually did. Concerning concrete vacancies, the employers were asked whether they had used one or more of the following informal methods in the last twelve months: (1) ask candidates for names of persons who could give referrals; (2) ask referents for actual information on candidates and (3) take into account information provided by referents. The dichotomised scores on these four items (yes, sometimes and often = 1; never and not applying to = 0) form a one-dimensional scale 'selection on the basis of in-depth information' (Cronbach's alpha=0.78; n=103).

As an indicator of the size of the employer's personal network we took the number of his memberships of clubs and voluntary associations. His professional network was estimated by the number of work organisations in which the employer knows persons he could call upon for referrals on candidates. The size of the company was asked directly. As an indicator for the number of temporary contracts and trainees within the work organization we took the number of higher-vocational trainees the employers contracted in a year relative to the total work force of the organization. The extent to which personnel functions were differentiated within the organization was indicated by the size of the personnel department of that organization. Formalisation of recruitment procedures was indicated by the presence of a policy on affirmative action for women. Centrality of personnel functions within an organization was approximated by the fact whether that organization was part of a larger

firm, the assumption being that there would be less centrality within an organization when it is a separate organization. Centrality of the work organization within the network of organizations was measured with a question on the existence of personal ties between persons within other organizations whom the employer could call upon for referrals on job-candidates. The maximum number of organizations that could be mentioned was four. Moreover, for our measure we only selected organizations that were in the same market sector as the employer's own organization. Analogous to the analysis of the networks of the job-searchers we computed the centrality of the employer's organization. Finally, answers on the question how many persons on average apply for a vacancy for which a higher vocational training is the norm were taken as an indicator for the supply of labor an employer can choose from.

The contact persons

Whether a contact person put in a good word or provided references was taken as an indicator for the sort of help given. The occupational prestige of the contact was indicated by the score on the Ultee and Sixma prestige scale. The strength of the tie between a contact person and the employer was indicated by the fact whether or not the contact person was a friend or relative of the employer, or something else. All this information was based on answers provided by the prospective employees.

The outcomes

Income was indicated by gross monthly income in Dutch guilders (fringe benefits not included). Occupational prestige is measured as the average prestige score of the occupations mentioned on the Ultee and Sixma prestige scale.

Since the number of missing values on variables was relatively low, the missing values were replaced in the analyses by the average score of the variables concerned (using list-wise deletion of missing cases did not greatly affect the results).

4. Analysis and Results

4.1 The job-searchers

In this section we test the explanatory model of job-search behavior. Three quarters of the respondents used one or more formal channels (between t1 and t2). A similar percentage (70%) did use informal channels. So, when the questions are asked directly, there is no real confirmation for our assumption that job-searchers always use formal channels. But we are less far of the mark, when we examine the answers on another question: 92% of the respondents did read advertisements on vacancies between t1 and t2.

- Table 1 about here -

We tested the explanatory model of job-search behavior with a standard model: linear regression-analysis. Table 1 contains the estimations of three models. Models M1 and M2 predict the probability of searching informally with all variables implied by the theoretical

model for job-search. The models only differ in the measurement of social capital. Model 3 is obtained via a standard 'forward' selection procedure. Results with 'backward' selection procedure are exactly the same.

The results of Table 1 lead to the following conclusions. Persons more often search informally when they possess more social capital. It does not make a difference whether we use the one or the other of our two measurements of social capital. So, also taking structural autonomy into account, on top of the strength of the ties and the social resources of the alters, does not affect the previous results. The employers' selection behavior influences the search behavior of the job-seekers, selection on intensive behavior by the former does promote informal search by the latter. There are no indications that the characteristics of functions influence the search behavior of job-seekers. Even with functions of which we expect that employers will select and hire new persons very carefully, for example, jobs with relatively high company-specific skills and jobs for which it is difficult to establish whether a candidate meets the job requirements, we did not find that job-searchers use informal contacts more often. Furthermore, the higher the closure of the sector market and the more applicants one has to compete with, the more informal job-search there is. The latter is also true if organizations within the sector market where someone is looking for a job are more connected via personal contacts.

There is only limited support for our hypotheses on the influence of the personal situation on frequency of use of informal search. Contrary to the predictions, elder people do not search more informally than younger ones. Men also do not search more informally than women, nor do persons with a partner with a paid job. Persons with more human capital do not search more informally. Finally, there is no confirmation for the idea that persons with many social skills will search more informally. However, there is a statistically significant positive relationship between social skills and social capital of .13.

4.2 The employers

An OLS-regression analysis was performed to test the extent to which the effects of the choice of the employer how to select job-candidates turned out as predicted. The same was done for the choice of the prospective employee.

- Table 2 about here -

In the first model of Table 2 the probability of selection on the basis of in-depth information was predicted by all of the conditions included in the theoretical model, except the training costs of a function, for which we had no measurement instrument. Models M2 and M3 were obtained via standard sequential selection procedures, respectively backward and forward selection.

None of the network characteristics of the employers do have an effect on the employers selection behavior as was predicted. Job characteristics, on the other hand, do have the expected effects. Agency problems resulting from the character of the jobs induce employers to use additional selection methods. Which of the four job characteristics considered is most important, is hard to decide, because there is a strong correlation among these characteristics. Measurement of job requirements and necessary company-specific

skills appear, not in the complete analysis of the model but in a bi-variate analysis, to have an effect on informal methods of intensive selection.

Internal labor markets as indicated by the extent of internal promotions do not function as equivalents for intensive selection procedures. Note however, that the sign of the effect is indeed negative as the hypothesis would predict. Whether the recruiting organization is an establishment of a larger organization with multiple sites does not have an effect. Organizations with differentiated personnel functions do appear to use more intensive methods. There is, however, a strong relationship between the size of an organization and the presence of a separate personnel division ($r=.66$). Therefore these characteristics when both are included in the analysis simultaneously, do not have an independent effect as predicted.

4.3 The match

When will the match of the search and selection processes be optimal for a job-searcher? Or put otherwise, under what conditions will a job-searcher succeed in finding a job with a high income and a high occupational status? In this section we analyze the predictions on the importance of the different conditions mentioned in section 2.3.

First, however, we give some descriptive information about the way the job-searchers attained their job. When we combine the different job-finding methods into formal and informal channels, 125 (44%) of the 284 respondents found a job through an informal channel. With respect to this there are no significant differences between the types of higher vocational training the respondents received. Nor did we find a significant difference between men and women.

In order to test the assumed effects on income and occupational prestige of different ways in which a match could occur we used OLS-regression. Table 3 presents the results on the predicted effects of human capital, personal situation, informal aspects and selection behavior of the employers, and of characteristics of functions, organizations and labor markets on income and status. It shows, while adding the variables to the analysis step by step, that sex, social capital and job characteristics do have a significant effect on income. Take notice, that the effect of the employer's selection behavior does disappear when job characters are included in model I3 of the analysis. The positive effects of a technical or economical education on income also disappear as soon as job characteristics are included into the analysis.

- Table 3 about here -

With regard to the assumed effects on occupational prestige, effects on status of informal search do remain significant, also when job characteristics are added. Having a contact person of high prestige again shows to be an asset with regard to the prestige attained. Putting in a good word, does in stead of what was expected, have a perverse, negative effect on the prestige of the job attained, which effect is even amplified if the good word is passed by a high prestige contact person (interaction terms were established by multiplying the z-scores of the variables in question). Selection on the basis of in-depth information does not have an independent effect on occupational prestige.

We do not interpret the separate effects of the four job characteristics (career

perspective, company specific skills required, difficulty of measuring job-qualifications and damage potential) on income and status because these characteristics are highly inter-correlated. This means that they explain the same variation in the dependent variable. A strong effect of career perspective on income or status, e.g., does not mean very much in itself because the effects of the other job characteristics are partly hidden in this effect and the other way round.

5. Conclusion and discussion

Our study demonstrates that: (1) it is important to take into account both employer and applicant characteristics in determining whether social capital will be used in the matching process, (2) returns of social capital vary with the kind of job, (3) the explanation for this variation lies on the employer side of the employee-employer match, as the employer tries to minimize risk and damage potential and promote commitment to develop a career with the firm by hiring through informal channels, and (4) as a result of these two-way process it is not good to expect that those applicants who use informal job processes would automatically be better off, e.g., getting better jobs and income.

The design of our study was quite strong, nevertheless our study left some wishes unfulfilled. We mention two points. To start with, we neglected the possible self-selection by our prospective employees for specific jobs and job markets which might have biased our conclusions. We simply assumed that people with a certain type of education will search for jobs in which candidates with their qualifications are sought after.

Furthermore we do not have extensive information on incentive structures within organizations that could be used by employers to guarantee that employees perform contracts. Incentives, like close supervision, efficiency wages, or a high-trust personal relation with the employer may reduce the need for in-depth information on candidates.

Our study also suggests a number of lines for future research. The study concentrated on social capital in the first phase of someone's career. Other research deals with social capital in later job transitions (Lin 1999) and, lately, there also is a growing body of research on the effects of social capital on the mobility within organizations (e.g., Podolny & Baron; for a review see Burt 2000). It would be interesting to combine these literatures, especially in the light of a number of findings. For example, the largest steps in someone's career are set if a person leaves one organization for another, and not one job for another within the same organization (Blossfeld and Mayer 1988). Moreover during one's occupational career one's network becomes less ascribed and more achieved, i.e., family relations becoming less important than work contacts and acquaintances (Moerbeek *et al.* 1995). Finally, later on in someone's occupational career when an individual has built up a network and earned a certain degree of labor experience the interaction between human and social capital seems to become more important (this study, and Boxman, De Graaf & Flap 1991).

Furthermore, contact persons should be integrated explicitly in theory and research on networks and labor market outcomes. Contact persons do not pass on information indiscriminately and without further thought to whoever they are in touch with, they see the provision of information or any other help as an investment, or as the payment of an outstanding debt (Grieco 1987: 41-49). Moreover, they will be made accountable to a certain

degree for the persons they referred to an employer and who were hired by the latter. Employers trust information about a candidate's dependable quality that is provided by referrals provided by their own sitting personnel (Fernandez & Weinberg 1997, Marsden & Gorman 1999). Weak ties work only if there is an acute labor shortage and in sectors where training is linked with formal credentials (cf. Völker & Flap 1999). Research is hampered by the difficulty of getting a complete data-set on triads of employees, possible contact persons, and employers. For example, although we did our best, because of non-response of one or two of the other parties, we only succeeded in completing 20% of the triads that were successfully mobilized by our sample of prospective employees.

A major implication of our study is that particularism is here to stay. Technological developments, growing division of labor, increasing team production, shorter product cycles, more autonomous jobs, less formal hierarchy, and the like, force people to cooperate more with others. These processes create tighter couplings between different pieces of technology and employees which makes it harder to establish the quality of a person's performance as well as that they enlarge the damage potential of a wrong hiring. Our research suggests that present day particularism on labor markets serves to acquire information on the quality of available candidates, and not to do favors to a prospective employee or a third person. Putting in a good word showed to be counterproductive in that one can get a job but not a good one. Particularistic ties are used to further the universalistic goal of finding the best job or candidate available.

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Table 1: Results of regression-analyses of informal job-search by prospective employees (N=303)

Variable	M1 β	M2 β	M3 β
<i>Aspects of social capital</i>			
social capital (version 1)	.24***		.24***
social capital (version 2)		.24***	
<i>Labor market characteristics</i>			
closure of sector market	.18**	.19**	.18**
number of applicants	.23***	.22***	.24***
number of contacts within sector market	.13*	.12*	.14*
selection on in-depth information	.13	.12	.15*
<i>Job characteristics</i>			
measurement of job requirements	-.07	-.01	
company-specific skills	.05	.05	
<i>Personal situation</i>			
age	.03	.04	
sex	.00	-.00	
financial situation (partner with income)	-.05	-.02	
human capital (grade)	.21***	.21***	.21***
social skills	.07	.07	
R ²	.25	.25	.24
F-value	8.03***	8.11***	15.61***

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

Table 2: Results of regression analyses of selection on the basis of in-depth information by employers (N=103)

Variable	M1 β	M2 β	M3 β
<i>Characteristics of network and networkmembers</i>			
number of contacts with colleague employers	.05		
size of network (number of memberships)	.02		
<i>Job characteristics</i>			
company-specific skills	.24	.20*	
measurement of job requirements	-.08		
damage potential	.28*	.27**	
career potential	-.05		.34***
<i>Organization characteristics</i>			
size	-.01		
number of trainees	-.03		
differentiation of personel functions	.34*	.36***	.24**
formalisation of selectionprocedures	-.19	-.18	
centrality within organization	-.03		
centrality within network of organizations	.07		
<i>Labor market characteristics</i>			
number of applicants	.22*	.21*	.21*
closure of sector market	.05		
R ²	.37	.36	.31
F-value	3.74***	10.98***	14.86***

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

Table 3: Results of regression analyses on employee's income and occupational prestige of his human capital, personal situation, search behavior, employer's selection behavior and characteristics of functions, organizations (N=284)

Dependent variable	Income			Occupational prestige		
	I1 β	I2 β	I3 β	P1 β	P2 β	P3 β
<i>Education/human capital</i>						
economical education	.47***	.40***	.12	-.00	-.06	-.27*
technical education	.42***	.38***	.02	.12	.10	-.21
grade	.08	.08	.08	.05	.07	.06
# months trainee	.04	-.00	-.04	.06	-.00	-.03
side-line	-.05	-.02	-.02	-.06	-.03	-.02
# memberships committees	.04	.04	.03	.11	.12*	.12*
<i>Personal situation</i>						
sex (man=1)	.17**	.13*	.18**	-.00	.00	-.04
occupational prestige father	.02	-.00	-.01	-.00	-.01	.01
<i>Informal aspects/selection behavior employer</i>						
social capital		.16**	.12*		.12	.08
soc.capital * human capital		-.00	.02		-.10	-.05
informal job-search		-.12	-.11		-.00	.03
inf. search * soc.cap		.10	.07		.07	.07
occ. prestige contact person		.06	.01		.20**	.14*
good word contact person		-.07	-.06		-.13*	-.13*
inf.search * prestige contact person		-.03	-.02		-.07	-.02
good word * prestige contact person		.04	.03		-.14*	-.16**
references * prestige contact person		-.03	-.01		.13*	.14**
selection on in-depth info		.16*	.14		.05	.00
selection on in-depth info* inf. search		-.09	-.05		-.05	-.04
contact's relationship with employer		.12	.09		.07	.04
<i>Characteristics functions/organizations/ labor markets</i>						
damage potential			.04			.09
career perspective			.26*			.61***
measurement			.10			.07
company specific skills			.22*			-.21
closure of sector market			-.11			-.11
number of applicants			.08			-.08
number of contacts within sector market			.09			.12
size of organization			.00			.04
R ²	.31	.38	.47	.05	.17	.35
F-value	15.70***	7.95***	8.14***	1.69	2.61***	4.90***

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

