

Social Networks and Employee Turnover

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Abstract

An important parameter in labor market adjustment depends on the character of employee turnover. Present turnover models provide only a partial answers concerning the antecedents of withdrawal decisions. This research expands on these models by also focusing on variables associated with the employees' social and family networks. The premise here is that social contacts affect the employees' work behavior, including turnover decisions. Since employees are involved in different social environments simultaneously, like family, organization, community, neighborhood, such environments influence their behavior, either at work or in their personal lives. Therefore we conjecture that bonds engendered by social networks formed both *inside*, i.e., coworkers and colleagues, and *outside* the organization, i.e., spouses, friends, neighbors, affect the employees' withdrawal decisions.

To test this argument, a macro level turnover model is proposed encompassing various sets of social networks, along with traditional explanations of turnover. Fourteen (14) measures of social bonds were developed based on examining the "where", with whom" and "intensity" of social bonds inside and outside the work organization. In addition, data was gathered concerning the organization work environment, including perceptions of internal-external labor market, job involvement, work conditions and market characteristics of the employees.

Utilizing a longitudinal study design based on a representative cohort of employees (211), and a follow-up telephone interview of leavers, rates of turnover were calculated. The first step confirmed the relevancy of classical determinants of turnover. This was followed by a factor analysis of the social bonds measures that led to two separate constructs – external and internal organizational social bonds- each containing four separate distinct factors. These factors, along with the traditional market and organizational related determinants of turnover were then introduced into a series of logistic regression models.

Social Networks and Employee Turnover

Introduction:

The movement of labor has long been recognized as having an impact on organizations and labor markets. The shift of labor at the organizational level engenders personnel and organizational costs as well as affects productivity. It has an impact on as well as is influenced by internal and external labor market processes. Like most social phenomenon, this movement, or employee turnover has been traditionally seen from different perspectives. Economists and personnel researchers have demonstrated the relationship between turnover rates and aggregate levels of economic activity, employment levels and vacancy levels (Armekecht & Early, 1972; Forrest, Cumming & Johnson, 1977; Price, 1977). Organizational psychologists emphasized the importance of individual-psychological factors, indicating characteristics like job satisfaction, organizational commitment, and intention to leave, as antecedents of turnover process (Mowday, Porter, Steers, 1982; Mueller, Price, Wallace, 1992). Sociologists have focused on the relationship between structural variables, i.e., characteristics of work setting, social interaction within the workplace, and turnover (Kirschenbaum and Mano-Negrin, 2002; Price, 2001). Overall, turnover models usually reflect these different perspectives thereby providing only partial answers concerning the antecedents of withdrawal decisions. We will focus on a set of antecedents that have rarely been examined in detail that concerns the employees' social environment; specifically their social networks inside and outside the organization. It is our contention that such networks have a significant role to play in a turnover decision. The objective of this study is therefore to build on existing macro-level models of turnover, taking into consideration both the social and the work environment

Social Environment

Most turnover models focus on job and work environment variables as antecedents of actual quitting. This is understandable as employee turnover is a decision that is related to the labor market and workplace. However, we argue that employee turnover is also associated with the employees' social environment; that individuals' behaviors are greatly influenced by the people with whom they have contacts. Models of turnover that have emerged over the last decade have only indirectly considered the importance of employees' social environment on their turnover decisions. March and Simon (1958), who pioneered the first formal theory of turnover, considered turnover decisions as a result of two major factors: perceived desirability of movement, and perceived ease of movement. Accordingly, organization size, job satisfaction, and career prospects, were thought to influence the employee's desirability to stay/leave. In addition, the perception of job alternatives was seen to motivate employees to leave. All these attitudinal behaviors were probably derived from interactions with fellow coworkers. Price (1977), in his groundbreaking model of turnover, considered social integration in the organization as one of the prime factors shaping an employee's satisfaction, and thereby influencing

their turnover decision. This idea was further developed by Price and Mueller (1981) when they introduced the concept that forming close friendships with others at work tend to improve job satisfaction and consequently the desire to stay. It was only later on that personal contacts were considered one of the factors that increased the perception of alternative jobs. According to Hom and Griffith (1995), “Such visibility (of opportunities) among individuals may depend on the heterogeneity of personal contacts, high social status, and individual uniqueness”.

Despite minimally introducing these varied types of ‘social relationships’ into their turnover models, researchers restricted their impact to the work environment alone. The fact is that there is a dearth of research about the influence of social relationships formed outside the organization on employees’ turnover behavior, particularly be it through friends, acquaintances or neighbors. One highly visible exception, however, has appeared along with greater participation of women in the labor market, namely the emphasis on the family and of family responsibilities. For example, the importance of childcare facilities and work/family benefits. Attention has also been focused on the social interaction of spouses in dual-earning families (Kirschenbaum & Mano-Negrin, 1999). Despite these efforts to include external social relationships in the turnover formula, the major explanatory models of employee turnover has continued to focus on social relationships within the organization. (Feeley & Barnett, 1997; Krackhardt & Porter, 1985).

Networks and Turnover

One recent turnover study did break out of the confines of the work organization and labor market. It focused on social networks in the community and actual quitting. (Wellman et al, 1997). From a theoretical standpoint, this approach made a lot of sense, as employees are also involved with their neighbors, community and colleagues outside the workplace. They interact with individuals in non-work environments creating possibilities of being influenced about their job. This can be seen, for example, when friends motivate employees to leave their jobs by recommending them to other employers or pointing out better work opportunities. In contrast, employees might avoid changing jobs, as this would put at risk their ongoing social relationships. For employees, their social and work environments are interdependent. Social networks are developed inside and outside the organization. Each set of such social relationships built through social networks might affect their work based turnover decisions. The social bonds that are created by these networks are, we argue, an important element in an employee’s turnover decision.

Social bonds have their own characteristics and, therefore, each type of bond may affect turnover decisions differently. The intensity of the bond is based on the individuals’ perceptions about how close they feel to “others.” Every bond has its’ own meaning for the employees and therefore each bond has its’ own way of affecting their behavior. Social network researchers have suggested two types of relationships: the strong and the weak ties (Granovetter, 1973; Krackhardt, 1992; Gabbay and Leenders, 1999). The strength of the relationship is a combination of the following three factors: frequency of the relationship, time that the relationship exists and affectivity. In strong relationships,

the close approximation among people fosters more trust, obligation and support (Krackhardt, 1992), while in weak relationships, the lack of approximation increase their chances to interchange different information, which is related to their respective environment. Granovetter (1973) said this simply in his ground-breaking study by arguing that "Whatever is to be diffused can reach a larger number of people, and traverse grater social distance when passed through weak ties rather than strong". If one gives information to all his close friends, many will hear the same information more than once, as close friends tend to share information. Thus, an employee's friends and acquaintances, for example, probably differ in the way they affect his/her behavior. Since trust is a quality intrinsic in friendly relationships, friends can influence employees' behavior by giving them encouragement and support at work. However, acquaintances can affect the employees' behavior by providing them information about better jobs, since they are distributed over a wide social network and have access to different sources and types of information. In essence, social networks serve as a catalyst in forming different types of social behaviors and levels of social bonding, all of which should have an impact on turnover. To unravel how social networks can affect turnover, we classified social networks on the basis of three factors: **place**, where the bonds take place; **people** with whom the social ties are formed; and the **intensity** of the ties, which means the strength of the tie.

Since social networks develop where people meet, we considered "**place**" as both the workplace and the external social environment. This does not mean that they are independent of each other. The opposite is true. This can be illustrated when employees take their socially based work identity (e.g. social, occupational, organizational rank, or prestige) back home in the form of a "social credit." These credits affect the development, form and extent of neighborhood and family social networks. The bonds that are formed from these networks contribute to a host of other competitive factors at the workplace, which are likely to have an impact on the decision to quit. In this study we call *internal social networks* the ties that are formed inside the organization and *external social networks* for the ties that are formed outside the organization.

The second factor is **with whom** the social networks are formed. The place factor is not enough to understand the differences between the social networks, since individuals develop different relationships in a broad spectrum of places. In the workplace, for example, employees can have good friends (colleagues) or only fellow-workers (coworkers). In this study, we consider family (spouse and children), friends, acquaintances, and neighbors as *external* social networks, and colleagues and coworkers (including managers) as *internal* social networks. But, what basically distinguish a friend from an acquaintance? The answer is given by the third factor: **The intensity** of the relationship. It represents the importance that each tie has for the individuals. A friend is perceived as a person intimately involved in the individual's life while an acquaintance is perceived as a person who ones know, but who is not a close friend.

Methodology:

Data Source:

The research strategy to assess the impact of social networks on turnover required that we obtain actual turnover data as well as various types of social bonds initiated by employee networks formed inside and outside the organization. To this end, a 30% representative sample of workers from a HiTech company, located in Israel, was obtained (N = 211). Questionnaires were distributed with the response rate about 50% (111 completed questionnaires). The sample accurately reflected the organization's composition by various departments and occupational levels. The organizations' location, size and occupational diversity provided for internal and the external labor market opportunities. The research design was based on a longitudinal study, which collected turnover data every three months during a period of two years after the distribution of the questionnaire to the initial sample. Since the organization was in a period of growth we had 25% turnover rate only after a period of two years, meaning 26 employees of the 111 employees in the final sample, left the organization by the end of two years. Each respondent was provided with a questionnaire, which included fourteen (14) measures of social bonding.

Variables

The questionnaire was developed on basis of a variety of theoretical models, which postulated relationships between sets of explanatory variables and turnover. The dependent variable "turnover" was measured by matching the response sample list against those who remained at their jobs two years later. Only voluntarily quit was considered. Turnover, a dichotomous variable, was coded as "stayed" or "left".

The independent variables were divided in two groups: (1) work environment and (2) social network variables. *Work environment* variables were selected on the basis of previous turnover models (Prices, 1977; Mobley et al, 1979; Mobley, 1982; Kirschenbaum & Weisberg, 1994; Hom & Griffeth, 1995). These were measured by the following variables: internal and external labor markets, job involvement and work conditions. The *Social network* variables were subdivided into broad types of social bonds (e.g., family, friends, coworkers) and where they took place (e.g., within or outside the organization). A total of 14 questions were formulated to measure these networks (See Table 1).

Table 1 About Here

Results:

The sample was mainly composed of young male married employees with a considerable education and extensive labor market experience. More than half were Israelis and a quarter was from the former Soviet Union. In terms of rates of turnover, young and single employees had greater rates while male and female employees had similar rates. Employees with "matriculation degrees" had the highest turnover rate while respondents with technician degrees had the lowest rate. This result approximates those by occupation with only small turnover differences between various types of jobs, with technicians having the lowest rates.

We also analyzed the sample in terms of work environment variables, which were previously selected for the study. These results and those of the turnover rates confirmed

our choice of traditional explanations of turnover (work environment and market characteristics) that were used in the proposed model. In respect to market characteristics we considered gender, age, marital status, labor experience and economic support. The work environment group was composed of perceptions of internal and external labor market, equity, work conditions and job involvement. We considered perceptions of both internal and external labor market as independent variables, since turnover decisions are also related to the labor market. As proxy of market processes, job opportunities can follow two paths. They can allow employees to compare work conditions with other outside jobs and foster perceptions of better opportunities elsewhere, inducing them to leave. On the other hand, perception of opportunities inside the organization can dampen a move but also restrain searching for better opportunities in the external labor market.

In terms of the sample distribution, the external labor market seemed to offer more opportunities than the internal labor market. Over half of the respondents stated that they perceived many opportunities outside the organization. Conversely, 40% had no clear information about career paths in the organization and a considerable proportion of the respondents (37%) did not perceive chances of getting career promotions in the department. However, leavers seemed to be attracted to both external and internal labor market. Respondents who perceived unlimited opportunities inside the organization had the highest turnover rates. Respondents who perceived they had unlimited opportunities in the external labor market had slightly greater rates than those who did not perceive any opportunities at all. In addition, the turnover *rate* was also high for employees who perceived many opportunities outside the organization.

Another work related variable considered here was job involvement. Although there are controversies about the capability of work attitudes in predicting turnover, we decided to include them in the model. Job involvement was measured as the willingness to invest in the job, the degree of success in the job and the degree of interest in the job. The idea was that employees tend to remain in jobs that are interesting to them, where they can successfully fulfill tasks and which motivate them to invest more than is requested. In terms of the sample, almost all the respondents expressed interest in their work, had success in fulfilling the tasks and were willing to invest in the job above and beyond what was requested. Examining the turnover rates, employees who seemed to be less involved to their jobs had a higher tendency to leave. The rates of turnover were highest for employees who were not interested in their jobs and who were not willing to invest on it beyond than was requested.

In terms of work conditions we considered four different types of variables. One of them was salary, which had impact on turnover decisions. We also chose, equity, children care facilities and leisure conditions, not only from their presence in other turnover models, but also because they were related to social network. Both Equity and Leisure Conditions were related to contact with coworkers. Equity, for example, measured the employees' evaluation of his/her work conditions in comparison to their coworkers. In addition, children care facilities was related to the presence of dual-earning families. Since most of the respondents were married with spouses that worked fulltime we conjectured that the organization support, which could facilitate the coping of family responsibilities, would

be relevant in analyzing turnover. It seemed reasonable to assume that support employees receive from the organization can motivate them to remain in their job.

Regarding the sample, most of the employees seemed to be satisfied with work conditions provided by the organization. Far more than half of the respondents saw considerable equity when comparing their own to their coworkers work conditions, particularly their relationship to the employer, their benefits and salary. However, respondents' opinions were divided in respect to equity of career promotions. In terms of turnover rates, salary conditions and employer-worker relationship seemed to be among the strongest reasons for employees to leave the organization. In terms of salary, employees who perceived low equity had the highest rate and those who perceived high equity had the lowest rate of turnover. In respect to the relationship with the employer, employees who perceived almost no equity had higher rates than those who perceived some or high equity.

The Social Bonding Model

The second phase of the analysis explored the Social Bonding Model. The underlying assumption was that different types of social bonds develop in social networks and that these bonds influence turnover. The classification of the social networks was based on three factors and measured accordingly. The first factor was the **place** where the social network was formed, either inside (internal) or outside (external) the organization. The second consideration was **the type of people** with whom the employees have contact. We considered family, friends, acquaintances and neighbors as a proxy of external organizational social networks and coworkers and colleagues as internal social networks. The third consideration was the **intensity** of the tie, which we classified as strong or weak ties. The strength of the tie reveals the intensity that each employee puts on such interactions. A 'friend', for example, has a different meaning, for the employee, than an 'acquaintance', and therefore they might differ on how they influence the employees' behavior. Thus, "the place" in which social bonding occurs and "with whom", must be understood within the context of its "intensity".

In terms of external social network we considered family (spouse and children) and friends as strong ties and acquaintances and neighbors as weak ties. Family and friends were considered as strong ties since these are bonds that employees voluntarily choose to have and therefore likely to feel close to each other. Conversely, neighbors and acquaintances were considered as weak ties since these are relationships are based on reasons other than affinity. Neighbors, for example, are potential bonds that are created on the basis of area of residence and therefore we considered them as forced relationship. The area of residence enforces neighbors to coexist even if they might dislike each other.

For internal social networks we considered coworkers as the basis for weak ties and colleagues as strong ties. Coworkers are employees that work together. In the same way a residence can force sometimes unwanted relationships among neighbors, an organizations' structure can determine the web of coworkers' networks. Such a network is not organically generated leading us to consider it as representing weak relationships.

Colleagues, however, are those coworkers with whom employees choose to have a friendly relationship, and therefore they were considered as strong ties. We also took into consideration two different spheres of influence of social networks on employees' turnover behavior: a) those related to work matters, for example, when employees ask advice of their friends about their work; and b) related to personal matters, as when employees quit their jobs due to family issues.

Taking these types of social networks into consideration, we grouped the fourteen (14) measures of social bonding and performed a factor analysis. The initial factor analysis generated eight (8) separate and distinct aspects of social bonding. These fell into two major bonding networks: those formed externally and those formed within the work organization.

External Social Networks

The External Social Bonding components were composed of the following four factors: **F1:** Work support from spouse and friends. **F2:** Organizational reputation among neighbors. **F3:** Withdrawal due to spouse & children. **F4:** Involvement in the community. The *first* factor component represented the influence of social networks on work matters; the encouragement that employees receive from friends and spouses. We presumed that if employees discussed work problems with their friends and spouses, it was because they were looking for opinions from people they trust. It also meant that the employees were involving their friends and spouses in their work matters. One critical work matter that would come up would be possibly quitting. A *second* factor represented the employee's perception of his/hers neighbors opinion about the employee's organization. Neighbors' relationships, in general, are less intimate than family and friends but this should not discount their possible influence on turnover visa via opinions about both the organization and job.

Table 2 About Here

The third and the fourth factors were more sensitive measures of social networks on the employees' work behavior. Factor *three* measured the influence of family relationships on turnover decisions, a proxy by the employees' willingness to quit their jobs due to their spouses' employment or to having children in school. Given the fact that dual-earning families are increasing, turnover may be linked to a 'family' rather than individual decision. This would mean taking into account a spouses career as well as the well being of children. The *fourth* factor measured the influence of community involvement on employees' work behavior. Involvement in community tasks can motivate employees to remain at their jobs primarily by creating a social reservoir of opportunities from which to acquire valuable information and skills enhancing their capabilities to fulfill work demands. These factors can positively influence their work behavior as well as help them to buffer frustrations caused by their work. On the other hand, involvement in community tasks can motivate the employee to change their jobs, by providing them opportunities to be involved in more interesting tasks than those at their work. Furthermore, the employees' new friends and acquaintances can motivate

them to leave their jobs by pointing out better opportunities or recommending them to other employers.

Internal Social Networks:

The social bonds that were formed inside the organization were also divided into four factors. **F1:** Coworkers proximity. **F2:** Work support from colleagues. **F3:** Colleagues proximity. **F4:** Involvement in non-work tasks inside the organization. Factor *one* measured contact with coworkers within the work organization. We basically considered two types of coworkers: managers and coworkers in general. In order to understand which kind of relationship existed between the employees and their managers we asked the respondents if they usually discussed their work problems with them. The relationship that developed might motivate employees to stay/leave their jobs. Teamwork, another aspect of this component, provides a basis for friendships with coworkers. Together, both these sets of network relationships can create a potential turnover decision.

The *second* type of social bond is generated through social networks based on the support that employees receive from their network of colleagues at work. Colleagues are people with whom employees have a close relationship enhancing trust that are intrinsic to their relationships. Employees therefore perceive of colleagues as a reliable source of advice. Some of that advice might be to quit their jobs. The *third* factor is related to the physical proximity of and subsequent interaction with colleagues at work. Interactions based on physical proximity engender increased intensity and intimacy and, in its wake, greater influence on work decisions.

Table 3 About Here

The *fourth* factor was related to the degree that an employee engages in non-work tasks inside the organization. The involvement in such tasks can affect employees' turnover decisions for several of reasons. First, it broadens the employees' social network inside the organization. Employees have more opportunities to meet colleagues and make new acquaintances within the workplace. Involvement in non-work tasks can enhance the work environment and motivate them to remain in their jobs. On the other hand, access to a broader range of coworkers can provide the employees with accurate information about what actually happens in the organization, information that can motivate them to leave.

Bonding and Turnover

Given the distinction between internal and external social bonds, each generated through various social networks, we now had a basis to explore if such bonds had a part in explaining actual turnover. This was accomplished in the following way. We ran two sets of logistic regression models. In the first set, two models were regressed employing the social network variables as factors (Model I) and then in their original form as separate variables (Model II), against turnover. The objective was to assess the influence of social bonding on turnover decisions without the intervention of market and work environment variables. Results from the Model II supported the results of the Model I, which revealed family as a relevant factor in making a turnover decision. In the first regression (Model I), factor 2 came out significant focusing on employees' willingness to quit their jobs due

to their spouses' career and due to the issue of their children's schooling. In the second regression model (Model II) one of the family network bonds was significant, namely a willingness to quit a job because of their children's schooling.

Table 4 About Here

In the next set of logistic regression models, social network factors were set in competition with market characteristics and work environment variables. The results did not detract from the significance of family as antecedents of turnover but also added other types of social network variables to the model as well as a few traditional antecedents of turnover.

Table 5 About Here

Market Vs Social Bonds

In Model III, three of the eight factors measuring social networks were significant. Two were related to *external* social networks: Withdrawal due to spouses' job and possibly changing their children's school as well as involvement in the community. A single *internal* social network factors was also significant, namely the involvement in non-work tasks inside the organization. Employees who were involved in such tasks were more likely to leave. In addition, three out of twenty-one the traditional antecedents of turnover, variables were significant, namely salary, marital status and labor experience.

Table 6 About Here

To obtain a finer picture of the role that social bonds play in affecting a turnover decision, an additional regression was generated. Here, six out of fourteen variables measuring various forms of social network were found to be significant: four related to external social network and two related to internal social network. In terms of *external* social networks, spouses, children and community remained significant. For *internal* social network two variables were significant: colleagues' contact outside the organization and work support from managers. Concerning to the *traditional* antecedents of turnover, five of the twenty-one variables introduced, were significant. Marital status, salary and labor experience were joined by perceived opportunities within and outside the work organization.

Table 7 About Here

Conclusions:

Employee turnover has been with us since the dawn of the industrial revolution. It has had a substantial impact on the productivity and structure of organizations and affected the flow of labor within and between labor markets. The many attempts to explain turnover itself and the reasons for an employee making such a decision have found

expression in a number of turnover models. Most of these models focus on the work setting. They have excluded many of the social environmental variables that are inherent in organizations that can be an input into a turnover decision. This exploratory study has presented the argument that we reconsider the adequacy of theoretical models of turnover. Rather than replace them; we have argued to supplement them with explanatory variables related to the social life that is an inherent part of work life. Specifically, that employee's are influenced by various 'others' through social networks within and outside their organization. To do this, we suggested, along with classical determinants of turnover, a macro-level turnover model that included explanatory variables based on social bonds generated through different types of internal and external social networks.

To accomplish this, we offered to look at social networks in organizations in terms of where interactions took place, with whom and the intensity of the interaction. This required the formulation of measures that reflected the various kinds of social networks within and outside the organization. These measures were further refined to highlight the extensive types of networks inside and outside organizations. For example, friendships can be formed both inside the work place as well as outside; with both having a potential impact on making a turnover decision. By factoring the fourteen social bonding variables, which were derived from the various networks, a series of regression models were presented. The final series, which incorporated both the social bonding variables along with traditional measures, clearly showed that both market, organizational and asocial networks have a significant role to play in how employees make a turnover decision.

Overall, the contribution of this study lies in emphasizing the importance of social networks in explaining the turnover process. The results show that both internal and external social network must be considered as determinants of turnover decisions along with work environment and market characteristics. This study also represents an attempt to deal with the problem of defining and measuring various types of social networks that are framed by the work environment. It is clear to us that the world of work cannot be isolated from the social milieu from which it is intimately woven. Both contribute to how employees make turnover decisions.

Table 1: Summary Table External and Internal Social Bonding Measures

External Social Network Measures	Internal Social Network Measures
Withdrawal due to <i>Spouses' Job</i>	<i>Colleague contacts in Organization</i>
Withdrawal due to <i>Children's School</i>	<i>Colleague contact out of Organization</i>
Work support from <i>Spouses</i>	<i>Colleague social network</i>
Work support from <i>Friends</i>	Work support from <i>Colleagues</i>
Job Reputation among <i>Acquaintances</i>	Work support from <i>Managers</i>
Organization's reputation with <i>Neighbors</i>	Workgroups with <i>Coworkers</i>
Involvement in the <i>Community</i>	Do non-work <i>Organizational Tasks</i>

Table 2: Factor Analysis for External Social Bonding Measures

Factors	Work Support	Org. Reputation	Hypothetical Withdraw	Nonwork Tasks
<i>Friends</i>	0.564	-0.330	0.115	0.412
<i>Spouse</i>	0.833	-0.065	-0.006	-0.086
<i>Neighbors</i>	-0.131	0.859	-0.071	-0.065
<i>Spouse</i>	0.071	-0.018	0.842	-0.115
<i>Children</i>	0.494	0.236	-0.600	-0.089
<i>Community</i>	-0.072	-0.052	-0.088	0.903
<i>Acquaintances</i>	0.305	0.413	0.482	0.425
Alpha Cronbach Std	0.455	*	-0.673	*

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 11 iterations. * Based on a single variable

Table 3: Factor Analysis for Internal Social Bonding Measures

Factors	Coworker Proximity	Work Support	Colleagues Proximity	Nonwork Tasks
<i>Managers' Support</i>	0.872	-0.180	0.081	0.092
<i>Workgroups</i>	-0.600	-0.345	0.051	0.356
<i>Colleagues' Support</i>	-0.123	0.863	0.010	0.117
<i>Contact at Work</i>	0.106	0.167	-0.803	0.053
<i>Contact Outside Work</i>	0.155	0.146	0.802	-0.009
<i>Organization</i>	-0.015	-0.079	0.081	-0.914
<i>Colleagues' Network</i>	-0.269	-0.455	0.048	-0.389
Alpha Cronbach Std	-0.6092	*	-0.850	*

Extraction Method: Principal Component Analysis. Rotation Method: varimax with Kaiser Normalization. a. Rotation converged in 10 iterations. * Based on a single variable

Table 4: Logistic Regression: Model I

Logistic Regression			
Dep. Variable - Turnover - (0-stay; 1- leave)			
Variables	B	Sig.	Exp(B)
<u>Social Network Outside the Organization</u>			
<i>F 1: Work Support -- Spouse & Friends</i>	0.131	0.596	1.140
<i>F 2: Hypothetical Withdrawal due to Spouse & Children</i>	-0.671	0.053	0.511
<i>F 3: Involvement in the Community</i>	-0.350	0.134	0.705
<i>F 4: Organizational Reputation - Neighbors</i>	0.091	0.719	1.095
<u>Social Network Inside the Organization</u>			
<i>F1: Colleagues Proximity</i>	0.262	0.283	1.299
<i>F2: Coworkers Proximity</i>	-0.194	0.439	0.824
<i>F3: Work Support – Colleagues</i>	0.187	0.454	1.205
<i>F4: Non-work Tasks Inside the Organization</i>	0.362	0.100	1.436
<i>Constant</i>	-1.381	0.000	0.251

Model: Chi- Square = 12.513; Sig = 0.130; -2LL = 108.331; Overall Percentage Predicted = 78.4

Table 5: Logistic Regression: Model II

Logistic Regression			
Dep. Variable: Turnover - (0-stay; 1- leave)			
Variables	B	Sig.	Exp(B)
<u>Social Network Outside the Organization</u>			
<i>Organizational Reputation - Neighbors</i>	-0.402	0.419	0.669
<i>Job Reputation - Acquaintances</i>	-0.100	0.834	0.905
<i>Involvement in the Community</i>	-0.458	0.466	0.632
<u>Work Support</u>			
<i>Friends</i>	-0.609	0.452	0.544
<i>Spouse</i>	-0.204	0.740	0.816
<u>Hypothetical Withdrawal due to:</u>			
<i>Children</i>	2.212	0.048	9.132
<i>Spouse</i>	-0.427	0.315	0.653
<u>Social Network Inside the Organization</u>			
<i>Non-work Tasks in the Organization</i>	-0.659	0.340	0.517
<u>Colleagues Proximity</u>			
<i>Contact Outside the Organization</i>	0.509	0.367	1.664
<i>Contact Inside the Organization</i>	-0.025	0.937	0.976
<i>Work Support- Colleagues</i>	0.637	0.224	1.891
<i>Colleagues' Network in the Organization</i>	0.554	0.375	1.740
<u>Coworkers Proximity</u>			
<i>Work Support - Managers</i>	-0.125	0.821	0.883
<i>Work in Teams</i>	0.470	0.509	1.600
<i>Constant</i>	-3.725	0.416	0.024

Table 6: Logistic Regression: Model III

Logistic Regression			
Dep. Variable – Turnover - (0-stay; 1- leave)			
Variables	B	Sig.	Exp(B)
<u>Social Network Outside the Organization</u>			
<i>F 1 Work Support- Spouse & Friends</i>	0.288	0.498	1.333
<i>F 2: Hypothetical Withdrawal due to Spouse & Children</i>	-2.077	0.004	0.125
<i>F 3: Involvement in the Community</i>	-1.030	0.032	0.357
<i>F 4: Organizational Reputation - Neighbors</i>	0.232	0.564	1.261
<u>Social Network Inside the Organization</u>			
<i>F1: Colleagues Proximity</i>	0.541	0.165	1.718
<i>F2: Coworkers Proximity</i>	-0.363	0.340	0.696
<i>F3: Work Support- Colleagues</i>	0.153	0.727	1.165
<i>F4: Non-work Tasks in the Organization</i>	0.793	0.039	2.210
<u>External Labor market</u>			
<i>Job Opportunities</i>	-1.182	0.083	0.307
<i>Unemployment Insecurity</i>	-0.271	0.589	0.763
<i>Coworkers' Unemployment Insecurity</i>	-1.143	0.125	0.319
<u>Internal Labor Market</u>			
<i>Job Opportunities in the Department</i>	-1.027	0.129	0.358
<i>Current Salary X Last Salary</i>	0.069	0.840	1.072
<i>Career Path in the Organization</i>	-1.558	0.072	0.211
<u>Work Attitudes</u>			
<i>Interest in the Job</i>	1.100	0.176	3.004
<i>Investment in the Job</i>	-0.332	0.599	0.718
<i>Success in Fulfillment the Tasks</i>	1.456	0.125	4.290
<u>Work Conditions</u>			
<i>Equity – Salary</i>	-0.533	0.376	0.587
<i>Equity - Work Benefits</i>	0.236	0.733	1.266
<i>Equity – Promotion</i>	-0.547	0.340	0.579
<i>Equity - Relation with the Employer</i>	-0.463	0.449	0.629
<i>Salary</i>	0.001	0.029	1.001
<u>Work Facilities</u>			
<i>Children Care</i>	0.072	0.921	1.074
<i>Leisure Trips</i>	0.361	0.616	1.434
<u>Market Characteristics</u>			
<i>Marital Status</i>	-2.093	0.053	0.123
<i>Gender</i>	0.819	0.427	2.269
<i>Age</i>	0.035	0.909	1.035
<i>Economic Support</i>	-0.038	0.970	0.963
<i>Labor Experience</i>	-0.395	0.016	0.673
<i>Constant</i>	10.670	0.108	0.468

Model: Chi- Square = 53.695; Sig = 0.004; -2LL = 67.149; Overall Percentage Predicted = 86.5

Table 7: Logistic Regression: Model IV

Logistic Regression			
Dep. Variable - Turnover - (0-stay; 1- leave)			
Variables	B	Sig.	Exp(B)
<u>Social Network Outside the Organization</u>			
<i>Organizational Reputation –Neighbors</i>	0.553	0.582	1.738
<i>Job Reputation –Acquaintances</i>	-2.854	0.052	0.058
<i>Involvement in the Community</i>	-3.784	0.041	0.023
<u>Work Support from</u>			
<i>Friends</i>	-1.018	0.521	0.361
<i>Spouse</i>	-1.793	0.203	0.167
<u>Hypothetical Withdraw due to</u>			
<i>Children</i>	5.977	0.014	394.346
<i>Spouse</i>	-2.897	0.010	0.055
<u>Social Network Inside the Organization</u>			
<i>Non-work Tasks in the Organization</i>	-2.812	0.110	0.060
<u>Colleagues Proximity</u>			
<i>Colleagues Contact Outside the Organization</i>	3.180	0.047	24.043
<i>Colleagues Contact Inside the Organization</i>	-0.054	0.927	0.947
<i>Work Support – Colleagues</i>	-0.812	0.554	0.444
<i>Colleagues' Network in the Organization</i>	2.469	0.078	11.813
<u>Coworkers Proximity</u>			
<i>Work Support – Managers</i>	-3.274	0.047	0.038
<i>Work in Teams</i>	-2.326	0.171	0.098
<u>External Labor market</u>			
<i>Job Opportunities</i>	-2.147	0.050	0.117
<i>Unemployment Insecurity</i>	-1.321	0.114	0.267
<i>Coworkers' Unemployment Insecurity</i>	-1.576	0.142	0.207
<u>Internal Labor Market</u>			
<i>Job Opportunities inside the Department</i>	-2.375	0.026	0.093
<i>Current Salary X Last Salary</i>	0.329	0.528	1.390
<i>Career Path in the Organization</i>	-2.582	0.065	0.076
<u>Work Attitudes</u>			
<i>Interest in the Job</i>	1.552	0.169	4.719
<i>Investment in the Job</i>	0.188	0.815	1.207
<i>Success in Fulfillment the Tasks</i>	2.483	0.125	11.978
<u>Work Conditions</u>			
<i>Equity – Salary</i>	-1.278	0.160	0.279
<i>Equity - Work Benefits</i>	-0.290	0.712	0.748
<i>Equity – Promotion</i>	0.068	0.937	1.070
<i>Equity – Relation with the Employer</i>	-1.032	0.257	0.356
<i>Salary</i>	0.001	0.011	1.001
<u>Work Facilities</u>			
<i>Children Care</i>	0.056	0.953	1.058
<i>Leisure Conditions</i>	-1.180	0.378	0.307
<u>Market Characteristics</u>			
<i>Marital Status</i>	-4.292	0.025	0.014
<i>Gender</i>	1.402	0.353	4.063
<i>Age</i>	0.491	0.271	1.634
<i>Economic Support</i>	0.352	0.812	1.422
<i>Labor Experience</i>	-0.668	0.014	0.513
<i>Constant</i>	40.506	0.044	4.E + 17

Model: Chi- Square = 65.949; Sig = 0.001; -2LL = 54.895; Overall Percentage Predicted = 87.4

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Table 1: Summary Table External and Internal Social Bonding Measures

External Social Network Measures	Internal Social Network Measures
Withdrawal due to <i>Spouses' Job</i>	<i>Colleague contacts in Organization</i>
Withdrawal due to <i>Children's School</i>	<i>Colleague contact out of Organization</i>
Work support from <i>Spouses</i>	<i>Colleague social network</i>
Work support from <i>Friends</i>	Work support from <i>Colleagues</i>
Job Reputation among <i>Acquaintances</i>	Work support from <i>Managers</i>
Organization's reputation with <i>Neighbors</i>	Workgroups with <i>Coworkers</i>
Involvement in the <i>Community</i>	Do non-work <i>Organizational Tasks</i>

Table 2: Factor Analysis for External Social Bonding Measures

Factors	Work Support	Org. Reputation	Hypothetical Withdraw	Nonwork Tasks
<i>Friends</i>	0.564	-0.330	0.115	0.412
<i>Spouse</i>	0.833	-0.065	-0.006	-0.086
<i>Neighbors</i>	-0.131	0.859	-0.071	-0.065
<i>Spouse</i>	0.071	-0.018	0.842	-0.115
<i>Children</i>	0.494	0.236	-0.600	-0.089
<i>Community</i>	-0.072	-0.052	-0.088	0.903
<i>Acquaintances</i>	0.305	0.413	0.482	0.425
Alpha Cronbach Std	0.455	*	-0.673	*

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 11 iterations. * Based on a single variable

Table 3: Factor Analysis for Internal Social Bonding Measures

Factors	Coworker Proximity	Work Support	Colleagues Proximity	Nonwork Tasks
<i>Managers' Support</i>	0.872	-0.180	0.081	0.092
<i>Workgroups</i>	-0.600	-0.345	0.051	0.356
<i>Colleagues' Support</i>	-0.123	0.863	0.010	0.117
<i>Contact at Work</i>	0.106	0.167	-0.803	0.053
<i>Contact Outside Work</i>	0.155	0.146	0.802	-0.009
<i>Organization</i>	-0.015	-0.079	0.081	-0.914
<i>Colleagues' Network</i>	-0.269	-0.455	0.048	-0.389
Alpha Cronbach Std	-0.6092	*	-0.850	*

Extraction Method: Principal Component Analysis. Rotation Method: varimax with Kaiser Normalization. a. Rotation converged in 10 iterations. * Based on a single variable

Table 4: Logistic Regression: Model I

Logistic Regression			
Dep. Variable - Turnover - (0-stay; 1- leave)			
Variables	B	Sig.	Exp(B)
<u>Social Network Outside the Organization</u>			
<i>F 1: Work Support -- Spouse & Friends</i>	0.131	0.596	1.140
<i>F 2: Hypothetical Withdrawal due to Spouse & Children</i>	-0.671	0.053	0.511
<i>F 3: Involvement in the Community</i>	-0.350	0.134	0.705
<i>F 4: Organizational Reputation - Neighbors</i>	0.091	0.719	1.095
<u>Social Network Inside the Organization</u>			
<i>F1: Colleagues Proximity</i>	0.262	0.283	1.299
<i>F2: Coworkers Proximity</i>	-0.194	0.439	0.824
<i>F3: Work Support – Colleagues</i>	0.187	0.454	1.205
<i>F4: Non-work Tasks Inside the Organization</i>	0.362	0.100	1.436
<i>Constant</i>	-1.381	0.000	0.251

Model: Chi- Square = 12.513; Sig = 0.130; -2LL = 108.331; Overall Percentage Predicted = 78.4

Table 5: Logistic Regression: Model II

Logistic Regression			
Dep. Variable: Turnover - (0-stay; 1- leave)			
Variables	B	Sig.	Exp(B)
<u>Social Network Outside the Organization</u>			
<i>Organizational Reputation - Neighbors</i>	-0.402	0.419	0.669
<i>Job Reputation - Acquaintances</i>	-0.100	0.834	0.905
<i>Involvement in the Community</i>	-0.458	0.466	0.632
<u>Work Support</u>			
<i>Friends</i>	-0.609	0.452	0.544
<i>Spouse</i>	-0.204	0.740	0.816
<u>Hypothetical Withdrawal due to:</u>			
<i>Children</i>	2.212	0.048	9.132
<i>Spouse</i>	-0.427	0.315	0.653
<u>Social Network Inside the Organization</u>			
<i>Non-work Tasks in the Organization</i>	-0.659	0.340	0.517
<u>Colleagues Proximity</u>			
<i>Contact Outside the Organization</i>	0.509	0.367	1.664
<i>Contact Inside the Organization</i>	-0.025	0.937	0.976
<i>Work Support- Colleagues</i>	0.637	0.224	1.891
<i>Colleagues' Network in the Organization</i>	0.554	0.375	1.740
<u>Coworkers Proximity</u>			
<i>Work Support - Managers</i>	-0.125	0.821	0.883
<i>Work in Teams</i>	0.470	0.509	1.600
<i>Constant</i>	-3.725	0.416	0.024

Table 6: Logistic Regression: Model III

Logistic Regression			
Dep. Variable – Turnover - (0-stay; 1- leave)			
Variables	B	Sig.	Exp(B)
<u>Social Network Outside the Organization</u>			
<i>F 1 Work Support- Spouse & Friends</i>	0.288	0.498	1.333
<i>F 2: Hypothetical Withdrawal due to Spouse & Children</i>	-2.077	0.004	0.125
<i>F 3: Involvement in the Community</i>	-1.030	0.032	0.357
<i>F 4: Organizational Reputation - Neighbors</i>	0.232	0.564	1.261
<u>Social Network Inside the Organization</u>			
<i>F1: Colleagues Proximity</i>	0.541	0.165	1.718
<i>F2: Coworkers Proximity</i>	-0.363	0.340	0.696
<i>F3: Work Support- Colleagues</i>	0.153	0.727	1.165
<i>F4: Non-work Tasks in the Organization</i>	0.793	0.039	2.210
<u>External Labor market</u>			
<i>Job Opportunities</i>	-1.182	0.083	0.307
<i>Unemployment Insecurity</i>	-0.271	0.589	0.763
<i>Coworkers' Unemployment Insecurity</i>	-1.143	0.125	0.319
<u>Internal Labor Market</u>			
<i>Job Opportunities in the Department</i>	-1.027	0.129	0.358
<i>Current Salary X Last Salary</i>	0.069	0.840	1.072
<i>Career Path in the Organization</i>	-1.558	0.072	0.211
<u>Work Attitudes</u>			
<i>Interest in the Job</i>	1.100	0.176	3.004
<i>Investment in the Job</i>	-0.332	0.599	0.718
<i>Success in Fulfillment the Tasks</i>	1.456	0.125	4.290
<u>Work Conditions</u>			
<i>Equity – Salary</i>	-0.533	0.376	0.587
<i>Equity - Work Benefits</i>	0.236	0.733	1.266
<i>Equity – Promotion</i>	-0.547	0.340	0.579
<i>Equity - Relation with the Employer</i>	-0.463	0.449	0.629
<i>Salary</i>	0.001	0.029	1.001
<u>Work Facilities</u>			
<i>Children Care</i>	0.072	0.921	1.074
<i>Leisure Trips</i>	0.361	0.616	1.434
<u>Market Characteristics</u>			
<i>Marital Status</i>	-2.093	0.053	0.123
<i>Gender</i>	0.819	0.427	2.269
<i>Age</i>	0.035	0.909	1.035
<i>Economic Support</i>	-0.038	0.970	0.963
<i>Labor Experience</i>	-0.395	0.016	0.673
<i>Constant</i>	10.670	0.108	0.468

Model: Chi- Square = 53.695; Sig = 0.004; -2LL = 67.149; Overall Percentage Predicted = 86.5

Table 7: Logistic Regression: Model IV

Logistic Regression			
Dep. Variable - Turnover - (0-stay; 1- leave)			
Variables	B	Sig.	Exp(B)
<u>Social Network Outside the Organization</u>			
<i>Organizational Reputation –Neighbors</i>	0.553	0.582	1.738
<i>Job Reputation –Acquaintances</i>	-2.854	0.052	0.058
<i>Involvement in the Community</i>	-3.784	0.041	0.023
<u>Work Support from</u>			
<i>Friends</i>	-1.018	0.521	0.361
<i>Spouse</i>	-1.793	0.203	0.167
<u>Hypothetical Withdraw due to</u>			
<i>Children</i>	5.977	0.014	394.346
<i>Spouse</i>	-2.897	0.010	0.055
<u>Social Network Inside the Organization</u>			
<i>Non-work Tasks in the Organization</i>	-2.812	0.110	0.060
<u>Colleagues Proximity</u>			
<i>Colleagues Contact Outside the Organization</i>	3.180	0.047	24.043
<i>Colleagues Contact Inside the Organization</i>	-0.054	0.927	0.947
<i>Work Support – Colleagues</i>	-0.812	0.554	0.444
<i>Colleagues' Network in the Organization</i>	2.469	0.078	11.813
<u>Coworkers Proximity</u>			
<i>Work Support – Managers</i>	-3.274	0.047	0.038
<i>Work in Teams</i>	-2.326	0.171	0.098
<u>External Labor market</u>			
<i>Job Opportunities</i>	-2.147	0.050	0.117
<i>Unemployment Insecurity</i>	-1.321	0.114	0.267
<i>Coworkers' Unemployment Insecurity</i>	-1.576	0.142	0.207
<u>Internal Labor Market</u>			
<i>Job Opportunities inside the Department</i>	-2.375	0.026	0.093
<i>Current Salary X Last Salary</i>	0.329	0.528	1.390
<i>Career Path in the Organization</i>	-2.582	0.065	0.076
<u>Work Attitudes</u>			
<i>Interest in the Job</i>	1.552	0.169	4.719
<i>Investment in the Job</i>	0.188	0.815	1.207
<i>Success in Fulfillment the Tasks</i>	2.483	0.125	11.978
<u>Work Conditions</u>			
<i>Equity – Salary</i>	-1.278	0.160	0.279
<i>Equity - Work Benefits</i>	-0.290	0.712	0.748
<i>Equity – Promotion</i>	0.068	0.937	1.070
<i>Equity – Relation with the Employer</i>	-1.032	0.257	0.356
<i>Salary</i>	0.001	0.011	1.001
<u>Work Facilities</u>			
<i>Children Care</i>	0.056	0.953	1.058
<i>Leisure Conditions</i>	-1.180	0.378	0.307
<u>Market Characteristics</u>			
<i>Marital Status</i>	-4.292	0.025	0.014
<i>Gender</i>	1.402	0.353	4.063
<i>Age</i>	0.491	0.271	1.634
<i>Economic Support</i>	0.352	0.812	1.422
<i>Labor Experience</i>	-0.668	0.014	0.513
<i>Constant</i>	40.506	0.044	4.E + 17

Model: Chi- Square = 65.949; Sig = 0.001; -2LL = 54.895; Overall Percentage Predicted = 87.4