

SOCIAL CAPITAL, THE SOCIAL LEDGER,
AND SOCIAL RESOURCES MANAGEMENT

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ABSTRACT

This paper explores the role of social capital in human resources management. We suggest that the recent interest in social capital has neglected the possibility that social networks may contain negative ties, and that attention to these negative ties may provide additional insights into understanding relationships and social networks in organizations. Research focusing on the antecedents and consequences of social networks in organizations is reviewed. We consider the effects of the "social ledger" (social capital and negative relationships) on "social" resources management outcomes such as recruitment, selection, socialization, training, performance, career development, turnover, job satisfaction, power, and conflict.

INTRODUCTION

Although the origin of the term "social capital" has been the topic of much recent discussion, there is little question that the idea that capital can result from social relations has gained a strong foothold in the study of organizations. Nowhere is the idea of social capital more welcome yet resisted than in the traditional American individualism of personnel and human resources management in organizations. Beginning with Cattell and Binet, human resources management has persistently defined its task and focused its energy on developing methods of measuring human capital. To focus on the individual in isolation, to search in perpetuity for the elusive personality or demographic characteristic that defines the successful employee is, at best, failing to see the entire picture. At worst, it is misdirected effort continued by the overwhelming desire to develop the perfect measurement instrument.

Of course, we are continually reminded of the need for an interactionist perspective; that is, that the responses of actors are a function of both the attributes of the actors and their environments (cf. Schneider, 1983). Although our research sometimes seems to ignore this dictum, the predominant model in human resource management has been one of matching the characteristics of the worker with the characteristics of the organization (Betz, Fitzgerald, & Hill, 1989). The characteristics of the organization, or more recently, the organization's strategy (Wright & McMahan, 1992; Snell, 1992), defines the relevant individual attributes to be considered in recruitment, selection, training, appraisal, and compensation and promotion. Even with this "matching model," the environment is little more than a context for individual interests, needs, values, motivation, and behavior.

We do not mean to suggest that individuals do not differ in their human capital, their skills and abilities and their willingness to use them. Nor do we mean to

suggest that individuals are merely the "actees" rather than the actors (Mayhew, 1980).

Rather, we will try to nudge the study of human resources management toward the study of social resources management; from human capital toward social capital. We will adopt a social capital perspective, one that does not focus on attributes of individuals (or of organizations). The perspective of social capital and social networks instead focuses on relationships rather than actors (the links rather than the nodes). We assume that actors (whether they be individuals, groups, or organizations) are embedded within a web (or network) of interrelationships with other actors. It is this intersection of relationships that defines an individual's role, an organization's niche in the market, or simply an actor's position in the social structure. It is these networks of relationships that provide opportunities and constraints, that make up the social capital of the actor and the larger system.

In the process, we also hope to expand the notion of social capital by adding to it the role of negative relationships. Although relationships create opportunities and benefits, the current focus on social capital emphasizes only the positive aspects of social networks while neglecting the potential costs that may be associated with negative relationships. Although the early social exchange theorists and network researchers considered both the positive and negative aspects of relationships (e.g., Homans, 1961; Tagiuri, 1958; Thibaut & Kelley, 1959), recent network research has focused almost exclusively on the positive aspects of social capital, with little exploration of any possible negative aspects. The question of where and when the potential benefits outweigh the potential costs of expanding one's network has been left largely unanswered. Rather than solely investigating "social capital," we attempt to consider the "social ledger" - both the potential benefits as well as the potential costs of social relationships (Labianca & Brass,

1997). We also suggest that this side of the social ledger, negative relationships, may have greater explanatory power than positive relationships.

We begin with our basic assumptions, followed by consideration of the antecedents and consequences of social networks. Throughout we take a broad view of human resources management, including topics and issues that might more appropriately be labeled organizational behavior. We attempt to note the research that has been done and suggest directions for future research.

SOCIAL NETWORKS AND SOCIAL CAPITAL

Because the notion of social capital is inextricably linked to social networks, we begin by defining a network as a set of nodes and the set of ties representing some relationship, or lack of relationship, between the nodes. In the case of social networks, the nodes represent actors (i.e., individuals, groups, organizations). Often included in this definition is the assumption that these linkages as a whole may be used to interpret the social responses of the actors (Mitchell, 1969). The links often involve some form of interaction, such as communication, or represent a more abstract connection, such as trust or friendship, which implies interaction. Although the particular content of the relationships represented by the ties is limited only by the researcher's imagination, typically studied are flows of information (communication), expressions of affect (friendship), goods and services (workflow), and influence (advice). We consider ties that are repeated over time, thus establishing a relatively stable pattern of network interrelationships.

The basic building block of social network analysis is the relationship. That is, the focus is on the link, or lack of a link, rather than the actors. Although measures can be used to

describe a particular link between two actors, the measures can be aggregated and assigned to a particular actor or used to describe the entire network. Social network measures assigned to individuals are not attributes of isolated individual actors; rather, they represent the actor's relationship within the network. If any aspect of the network changes, the actor's relationship within the network also changes.

As Wellman (1988) noted, social networks have been often synonymous with the structural paradigm in anthropology and sociology. Social networks have been often equated with, or used to represent, social structure. Behavior, attitudes, norms, status, and so forth, have been interpreted in terms of the structure rather than the inherent properties of the actors. Similar structures produce similar outcomes. At the extreme, "the pattern of relationships is substantially the same as the content" (Wellman, 1988, p. 25). Without adopting this extreme position, it is nevertheless appropriate to look to a theory such as structuration (Giddens, 1976) to provide a general basis for understanding networks.

We begin with the simple observation that people interact and communicate, and assume that all interaction involves communication, be it intended or unintended. Interaction can be purposeful, coincidentally random, or forced or constrained by factors external to the actors. Various reasons have been offered for why people interact (e.g., to satisfy social as well as other needs, to obtain desired outcomes, and so forth.) In a general sense, we summarize these reasons by assuming that people interact in order to make sense of, and successfully operate on, their environment. When the interaction is pleasant and helpful in this regard, the interaction continues and a relationship is formed. When the interaction is harmful or unpleasant, a negative relationship is formed, and continued interaction is typically avoided. Although initial interaction may be random, repeated interaction is not. Repeated interaction

and inaction leads to social structure.

People behave within this social structure as if it were external to, and a constraint upon their interaction. The constrained behavior in turn underwrites and reinforces the observed, and socially shared structural patterns. These shared structural patterns also facilitate interaction, just as language facilitates communication. Interactions which occur within the constraints of structure can gradually modify that structure. Individuals break relationships and build new ones. In suggesting the emergence and modification of social structure via human behavior, we do not ignore individual agency nor the structural constraints which may at times render it useless. We hesitate to view actors as solely "actees" (Mayhew, 1980), whose behavior, attitudes, values, and so forth, are determined by their positions in the social structure. Rather, structure and behavior are intertwined, each affecting the other.

SOCIAL CAPITAL

Linked to these social network assumptions is the notion of social capital. The origin of the term has been attributed to several different authors (i.e., Bourdieu, 1972; Coleman, 1988, 1990; Hannerz, 1969; Loury, 1977; Schlicht, 1984), but all refer to social relationships that can potentially confer benefits to individuals and to groups. We rely primarily on Coleman (1988) and Burt (1992) who note that individuals can acquire at least four kinds of capital: financial capital (money), physical capital (physical property such as land, buildings, machinery), human capital (one's knowledge, skills, and abilities), and social capital (one's beneficial relationships with others). Social capital can be combined with other forms of capital to affect different system-level behavior and different outcomes for individuals. Coleman (1988: S98) noted that, "unlike other forms of capital, social capital inheres in the structure of relations between actors and among actors. It is lodged neither in the actors themselves or in physical implements of

production."

Coleman suggests three forms of social capital: 1) obligations and expectations, 2) information, and 3) norms and effective sanctions. Obligations and expectations, and the trust that facilitates them, arise when actors are willing to do something for other actors because they expect and trust that the recipients will honor the obligation to reciprocate in the future. In this form of social capital, the more social credit extended and obligations due, the more social capital that exists in the network, and, consequently, the more productive the network will be (compared to a network lacking this form of social capital).

The second form of social capital refers to the potential for information inherent in social relationships. That is, actors obtain information that may be useful to them from others, indirectly taking advantage of others' knowledge, skills and other forms of human capital. The third form of social capital, norms and sanctions, allow for the reduction of transaction costs. Norms result from relationships with others.

We expand Coleman's notion of social capital by considering negative relationships as well as the positive relationships normally ascribed to social capital. For example, social network researchers have found that strong and weak positive ties in one's social network relate to promotions in organizations (e.g., Brass, 1984; Burt, 1992). The underlying assumption is that an actor's friends and acquaintances help the actor obtain promotions by providing such forms of social capital as critical information, mentorship, and good references. However, it is also likely that an actor's negative relationships with others in an organization might prevent promotion, particularly if those with whom an actor has negative ties are in influential positions. Those people may withhold critical information or provide bad references in order to prevent promotion. Thus, it may be equally important to consider the negative side of the social ledger.

We define negative relationships as relationships in which at least one actor has a negative affective judgment of the other actor. Prior research has viewed the negative aspects of personal relationships in two ways. We can assume that "like" and "dislike" are opposite ends of a continuum (e.g., Berscheid & Walster, 1969; Newcomb, 1961; Tagiuri, 1958), or we can assume that every relationship contains both positive and negative aspects and that these aspects are independent (e.g., Bradburn, 1969; Diener & Emmons, 1985; Russell, 1979; Watson & Tellegen, 1985). For our purposes, we assume that people form a global judgment of other persons that can be captured by such terms as "like," "dislike," "friend," and "enemy."

The inclusion of negative relationships provides a more complete picture of the effects of social relationships in organizations. We begin with a brief review of the research and theoretical rationale suggesting the importance of negative relationships. This review suggests that negative ties may have greater explanatory power than positive ties.

NEGATIVE RELATIONSHIPS

Much of the research conducted on the negative aspects of interpersonal relationships has been in the area of social support in health care. Negative interactions have been found to have a disproportionately greater effect than positive interactions on such outcomes as life satisfaction, mood, illness, and stress (e.g., Hirsch & Rapkin, 1986; Rook, 1984; Pagel, Erdly, & Becker, 1987). For example, Rook (1984) found that the number of problematic relationships, not the number of supportive relationships, was related to psychological well-being. Pagel, Erdly, and Becker (1987) found that problematic relationships were related to depression, but supportive relationships did not lower depression. Adding to the health care results, Burt and Knez (1995) found that third parties amplified the effects of gossip, and that the amplification effect was stronger for negative gossip than positive gossip. In an

organizational field study, Labianca, Brass, and Gray (1997) found that negative relationships increased perceptions of intergroup conflict, but strong positive relationships had no counterbalancing effect.

Taylor (1991) notes that evidence from a number of diverse psychological literatures indicates that negative events elicit greater physiological, affective, cognitive, and behavioral activity and lead to more cognitive analysis than neutral or positive events. Although Taylor did not deal directly with negative relationships, a great deal of evidence supports the notion of "negative asymmetry" (see also Labianca & Brass, 1997, for a review).

Why do negative events and relationships have more impact than positive events and relationships? Evolutionary psychologists explain the negative asymmetry by noting that it is adaptive to respond quickly to negative events in order to enhance survivability (cf. Cannon, 1932). Developmental psychologists suggest that negative events are discriminated and evaluated earlier by children than are positive events because negative events are more likely to interrupt action. Children learn the rules governing negative behavior before those governing positive behavior; children are punishment oriented (cf., Piaget, 1932). Nature and nurture combine to make humans risk averse (Kahneman & Tversky, 1984).

In seeking to theoretically explain negative asymmetry, Skowronski and Carlston (1989) summarize a number of theories. For example, negative events dominate social judgment because of the contrast effects with positive and moderate events that people typically experience and expect. Since people expect positive, moderate information, negative, extreme information is weighted more heavily in impression formation. In addition, negative information is attended to because it is more unambiguous than positive information; it allows actors to make judgments more easily.

Once a negative interaction occurs, the physiological, cognitive, and affective negative asymmetry creates a negative cognitive framework through which future interactions are viewed. This biased negative framework increases the possibility that future interaction will also be perceived negatively, thus confirming the negative mental framework and generating additional negative reactions. At this point, even a relatively positive interaction is unlikely to change the negative social judgment.

In addition to direct interactions, indirect social information can also result in negative relationships. Like information in general, negative gossip about a third party is more closely attended to than positive information. In addition, third parties who know of an actor's dislike for another are more likely to confirm that social judgment by passing on negative information (Burt & Knez, 1995). In the event that the actor does not know the third party, it is possible that negative information about that third party will create perceptions that are even more negative than those based on direct interaction. Second-hand information is filtered and simplified so as to be unambiguous, and amplification of negative aspects is often more pronounced than positive information (Burt & Knez, 1995).

In reviewing the literature on negative asymmetry, we hope to expand the explanatory power of social networks regarding outcomes of interest in human resource management in organizations. We have focused on negative relationships because of their importance, and relative neglect, in discussions of social capital. We now turn our attention to the antecedents and consequences of social capital, with our attention directed toward "social resources management."

ANTECEDENTS OF SOCIAL RELATIONSHIPS AND SOCIAL CAPITAL

Although previous discussions of social capital have focused on the outcomes, in particular, the beneficial outcomes of social relationships, it is important to understand the antecedents of social relationships and how they might affect social capital. We cannot simply assume that networks exist; thus, our previous discussion has emphasized the process of forming both positive and negative relationships. We now consider the factors which affect social relationships, social capital, and social resources management in organizations.

Actor Similarity

Social psychologists and sociologists are quite familiar with the tendency for similar people to interact. A good deal of research has supported this proposition, and it is a basic assumption in many theories (Homans, 1950; Davis, 1966; Granovetter, 1973; Blau, 1977). Similarity has been operationalized on such dimensions as age, sex, education, prestige, social class, tenure, and occupation (Ibarra, 1993; Lazerfeld & Merton, 1954; Marsden, 1988; McPherson & Smith-Lovin, 1987; Coleman, 1957; Laumann, 1966; Carley, 1991). Similarity is thought to ease communication, increase predictability of behavior, and foster trust and reciprocity.

Brass (1985a), Ibarra (1992), and Mehra, Kilduff, and Brass (1997) have found evidence of homophily (i.e., interaction with similar others) in organizations. In distinguishing types of networks, Ibarra (1992) found that women had social support and friendship network ties with other women, but they had instrumental network ties (e.g., communication, advice, influence) with men. Men, on the other hand, had homophilous ties (with other men) across multiple networks, and these ties were stronger. Perceived similarity (religion, age, ethnic and racial background, and professional affiliation) among executives has been shown to influence interorganizational linkages (Schermerhorn, 1977; Galaskiewicz, 1979).

Although social network measures were not included, research on relational and organizational demography (Tsui, Egan, & O'Reilly, 1992; Tsui & O'Reilly, 1989; Wagner, Pfeffer, & O'Reilly, 1984) have shown that relational differences on such demographics as age and tenure are related to commitment and turnover. Ease of communication and social integration are the assumed mediating variables in these studies (Zenger & Lawrence, 1989).

In combination with age, sex, status, etc., we would expect similarity of human capital characteristics such as personality and ability to be related to the interpersonal network patterns of interaction and social capital. We also would expect the characteristics of the links between actors to be related to the degree of actor similarity. Communication between two dissimilar actors is likely to be infrequent, not reciprocated, less salient to either, asymmetric, unstable, uniplex rather than multiplex, weak, or even negative. Similarity of actors also may be positively related to the density or connectedness of the network.

Similarity may be a necessary precondition to social capital that results from all three forms noted by Coleman (1988). Individuals are more likely to trust similar others in reciprocating obligations and expectations, similar others are more likely to share information, and dense networks of similar others are more likely to develop and maintain norms and sanctions. For example, Coleman has argued that "closure" of the network is essential for the effectiveness of norms. We emphasize actor similarity, and later, attitude similarity, because both are key to such human resources practices as recruitment and selection.

It is important to note that similarity is a relational concept; an individual can only be similar with respect to another individual, and in relation to dissimilar others. That is, interaction is influenced by the degree to which an individual is similar to other individuals relative to how similar he or she is with everyone else. Due to culture, selection and

socialization processes, and reward systems, an organization may exhibit a modal demographic or personality pattern. Kanter (1977) has referred to this process as "homosocial reproduction." Thus, an individual's similarity in relation to the modal attributes of the organization (or the group) may determine the extent to which he or she is central or integrated in the interpersonal network, and the extent to which he or she acquires social capital or benefits from the social capital of the organization.

Conversely, actor dissimilarity may be a source of negative relationships and exclusion from the benefits of social capital. Actors are less likely to trust dissimilar others, share information with them, or include them in the norms of the system. Although all people possess some similarity, and some capacity to identify with others, research on "moral exclusion" suggests that dissimilar others may be excluded from social relationships and the targets of unethical behavior (Brass, Butterfield, & Skaggs, 1997; Opatow, 1990; Smith, 1966).

The exclusion of individuals from the social network can be detrimental to the overall social capital of the system, as Coleman (1988) has emphasized. The diverse, non-redundant information that may come from relationships with dissimilar others is lost (Burt, 1992), and the overall creativity and productivity of the collective may be diminished (Brass, 1995). Thus, exclusion of dissimilar actors, or negative relationships with dissimilar others, decreases the amount of system-level social capital that is available to anyone.

Attitude Similarity

In addition to noting the propensity for similar actors to interact, theory and research have also noted that those who interact become more similar in their attitudes (see Krackhardt & Brass, 1994 for a detailed discussion). Just a actor similarity (or dissimilarity) may affect social capital,

attitude similarity may have similar effects.

Erickson (1988) provides the theory and research concerning the "relational basis of attitudes." She argues that people are not born with their attitudes, nor do they develop them in isolation. Attitude formation and change occur primarily through social interaction. As people attempt to make sense of reality, they compare their own perceptions with those of others, in particular, similar other. For example, Kilduff (1990) found that M.B.A. students made similar decisions as their perceived friends regarding job interviews with organizations.

We build upon Erickson's ideas by suggesting that negative relationships may foster attitude dissimilarity. The dislike of another actor may prompt one to take opposing positions on issues. Disagreements can be attributed to dissimilarity, and may even be used to reinforce one's own attitudes. Thus, our understanding of attitude similarity may be enhanced by accounting for negative relationships as well as positive relationships.

Social network research has suggested two possible approaches to explain social influence and attitude similarity: cohesion and equivalence. Research comparing the two approaches has found mixed results (see Brass, 1995 for a summary), some supporting the cohesion approach, others finding stronger results for equivalence. The cohesion approach suggests that attitude similarity is a function of proximity. Directly linked individuals will likely have more similar attitudes than indirectly linked individuals. The underlying process is social influence, the more frequent and empathic the communication between two actors, the greater the likelihood of each adopting the attitudes or values of the other.

An alternative approach, structural equivalence, suggests that individuals compare themselves with, and adopt similar attitudes and behavior of, those others who occupy equivalent positions in the network. Equivalence does not hinge on direct interaction or

communication among actors. Rather, similarity in attitudes stems from actors occupying similar positions or roles in the network. The underlying process is social comparison (Burt, 1987). An actor uses the equivalent other as a referent, and attempts to maintain or improve his image or outcomes vis-avis the other. This comparison to a similar role occupant, or an structurally equivalent other, occurs despite the fact that the two occupants may not be directly linked, and each may have strong ties to nonequivalent others. However, some awareness of the equivalent other, perhaps through indirect ties to the same superior, is necessary. Thus, managers' attitudes and values are typically more similar to other managers' than to the attitudes and values of subordinates (Lieberman, 1956).

Because attitude similarity results from social relationships, it may be considered an outcome of social capital (a benefit resulting from social relationships) as well as an antecedent to social capital. As with actor similarity, the trustworthiness of similar expectations and obligations, as well as norms and sanctions, may depend upon similar attitudes among organizational members. Negative relationships may interfere with attitude similarity and disrupt social norms and expectations and obligations, especially when several negative relationships exist in a network. The presence of a relative few negative relationships and dissimilar attitudes may actually strengthen group norms, just as the overt intolerance of deviant behavior reinforces norms.

Organizational Structure

The above discussion implies that interaction in organizations is emergent and unrestricted. However, organizations are by definition organized. Labor is divided. Positions are formally differentiated both horizontally (by technology, workflow, task design) and vertically (by administrative hierarchy), and means for coordinating among differentiated

positions are specified. Because communication and interaction are fundamental means, and results, of coordination, it follows that social relationships, and social capital, are influenced by the prescribed vertical and horizontal differentiation and the resulting need for coordination. Formally differentiated positions locate individuals and groups in physical space, as well as temporally, and at particular points in the workflow and hierarchy of authority, thereby restricting their opportunity to interact with some, and facilitating interaction with others. Festinger, Schacter, and Back (1950) established the link between physical proximity and amount of interaction. Although the use of telephones and electronic mail may moderate the relationship between proximity and interaction, proximate ties are easier to maintain and more likely to be strong, stable links (Monge & Eisenberg, 1987). The "informal" social network shadows the formal structure of the organization. Studies by Tichy and Fombrun (1979) and Shrader, Lincoln, and Hoffman (1989) have found support for this idea in comparing networks in organic and mechanistic organizations.

The restrictions on social interaction imposed by the formal organizational hierarchy and workflow requirements are particularly important when considering negative relationships. In everyday, non-work activities, actors can easily avoid or decrease interactions with others whom they dislike. However, the formally prescribed, required interactions in organizations create the possibility of required negative relationships; relationships with disliked others that cannot be avoided. Thus, the effects of negative relationships on social capital and the social ledger may be particularly relevant in organizational settings.

Coleman (1990: 313) notes that organizational structure is a form of social capital. In creating an organization, financial capital is transformed into physical capital (plant, tools), social capital (a social structure of positions), and human capital (the skills of actors occupying

those positions). We view the emergent interaction patterns that result from the more prescribed differentiation and coordination of activities as the social structure of an organization and a potential form of social capital. Whether the social structure results in beneficial social capital may be contingent upon the extent to which relationships are positive or negative.

Size

The size of an organization (number of employees) may also affect the social relationships and social capital. The number of possible ties greatly increases ($n(n-1)/2$) with increases in size (n). For example, a network of five actors contains 10 possible links, whereas a network of 50 actors has 1,225 possible links. Thus, as the size of the network increases, density naturally decreases (assuming that actors can maintain only a limited number of ties). Decreased density may make it more difficult to maintain the "closure" needed for effective norms and sanctions (Coleman, 1988), and the trust necessary for obligations and expectations may be more difficult to establish in larger systems.

As the size of a network increases, the possibility of fragmentation (individuals forming sub-groups) increases (Shaw, 1971). Similarity and increased interaction result in strong ties forming among sub-group members, resulting in what network researchers refer to as strong cliques - densely connected sub-groups of reciprocated ties within the network (Doreian, 1979).

Dense connections within a group may decrease the probability of strong, positive connections across groups. There is a rich history of research on group membership and its effects on intergroup conflict, stereotypes, and in-group/outgroup biases (Simmel, 1955; Tajfel & Turner, 1985; Coser, 1956; see Pruitt & Rubin, 1986 for review). In general, in-group strength and density may promote positive in-group biases, and negative out-group biases.

Thus, as size increases, dense, strong connections within groups may be positively related to social capital within the group, but negatively related to social capital shared across groups.

SOCIAL CAPITAL: THE BENEFICIAL OUTCOMES OF SOCIAL RELATIONSHIPS

We now turn our attention to the consequences of these social relationships that, when beneficial, are considered social capital. We begin with job satisfaction and power and politics because explanations of these consequences are relevant to the discussion of human resources practices that follow.

Job Satisfaction

One of the possible individual benefits of social relationships with others is job satisfaction. Despite the attention to job satisfaction in the small-group laboratory network studies of the 1950's (see Shaw, 1964, for review), there have been surprisingly few social network studies addressing job satisfaction in organizations. The early laboratory studies found that central actors were more satisfied than peripheral actors in these small (typically 5-person) groups. In one of the few organizational studies, Roberts and O'Reilly (1979) found that relative isolates (zero or one link) in the communication network were less satisfied than participants (two or more links). However, Brass (1981) found no relationship between centrality (closeness) in the workflow of workgroups or departments and employee satisfaction. Centrality within the entire organization's workflow was negatively related to satisfaction in this sample of non-supervisory employees. Brass (1981) suggested that this latter finding may be due to the routine jobs associated with the core technology of the organization. He found that job characteristics mediated the relationship between workflow network measures and job satisfaction. Similarly, Ibarra and Andrews (1993) found that centrality in advice and friendship networks was related to perceptions of autonomy. Moch

(1980) also found that integration in the work network (two or more links) was associated with job characteristics and internal motivation.

Kilduff and Krackhardt (1993) found a negative relationship between centrality (betweenness) in the friendship network and job satisfaction. They reasoned that mediating the relationships between actors (betweenness centrality) who are not themselves friends may create conflicting expectations and stress. Thus, these central (betweenness) actors may not enjoy the common expectations and obligations of social capital.

The Kilduff and Krackhardt (1993) findings, coupled with the lack of significant relationship noted by Brass (1981), point out the fact that interaction is not always positive. Since Durkheim (1897) argued that social integration promotes mental health, there has been a long history of equating social interaction with social support (Wellman, 1992). Yet we have all experienced the obnoxious co-worker, the demanding boss, the uncooperative subordinate, or the annoying neighbor. When possible, we tend to avoid interaction with these people, thereby producing a positive correlation between interaction and friendship. However, as previously noted, antecedents such as physical proximity and vertical and horizontal differentiation and coordination place constraints on the voluntary nature of social interaction in organizations. The possibility that such "required" interaction may involve negative outcomes suggests the need for further research on the negative side of social interaction.

Although more research is needed, these limited results suggest that there may be a optimum degree of centrality in social network that is neither too little nor too great as regards satisfaction. Isolation is probably negatively related to satisfaction; isolated employees may not be able to share in the system-wide benefits of social capital. A high degree of centrality may lead to conflicting expectation, communication overload, and stress, thus negating the possible

benefits of social capital on job satisfaction.

It is also likely that negative relationships will have important effects on job satisfaction. As the previously cited literature on negative asymmetry indicates, negative relationships may overwhelm the job satisfaction resulting from positive social relationships.

Power

A structural network perspective on power and influence has been the topic of much research, and much of this research has centered on the social capital of information. The finding that central network positions are associated with power has been reported in a variety of settings (see Brass, 1995b for a review).

Theoretically, actors in central network positions have greater access to, and potential control over relevant resources, in particular the social capital of information. Just as information is a type of social capital for the entire system, individual actors can benefit from access to information. Actors who are able to control relevant resources, such as information, and thereby increase others' dependence on them, acquire power. In addition to increasing others' dependence on them, actors must also decrease their dependence on others. They must have access to relevant resources that is not controlled or mediated by others. Thus, two measures of centrality, closeness (representing access), and betweenness (representing control) correspond to resource dependence notions (Brass, 1984). Both measures have been shown to contribute to the variance in reputational measures of power, and promotions in organizations (Brass, 1984, 1985a). In addition, simple degree centrality measures (number of direct links) of the size of one's ego network have been associated with power (Brass & Burkhardt, 1992, 1993; Burkhardt & Brass, 1990).

Knoke and Burt (1983) have emphasized the distinction between symmetric and asymmetric

ties, arguing that being the object of the relation rather than the source is an indication of superordination, and a possible source of social capital. They refer to measures that distinguish between source and object as measures of prestige. The difference between symmetric measures of centrality and asymmetric measures of prestige may be the difference between leaders and followers. Although their analyses showed the symmetric centrality measures to be highly correlated with the asymmetric prestige measures, Knoke and Burt (1983) found that only the prestige measure predicted early adoption of a medical innovation. Similarly, Burkhardt and Brass (1990) found that all employees increased their closeness centrality (symmetric measure) following the introduction of new technology. However, the early adopters of the new technology increased their in-degree prestige and their power significantly more than the later adopters.

Studying an interpersonal network of non-supervisory employees, Brass (1984) found that links beyond the workgroup and workflow requirements (prescribed vertical and horizontal coordination) were related to influence. In particular, closeness to the dominant coalition in the organization was strongly related to power and promotions. The dominant coalition was identified by a clique analysis of the interaction patterns of the top executives in the company. Thus, the social capital of information may depend on who an actor has relationships with. Brass (1985a) also found that men were more closely linked to the dominant coalition (composed of four men) and were perceived as more influential than women. Assuming that power positions in most organizations are dominated by men, women may be forced to forgo any preference for homophily in order to build connections with the dominant coalition.

Brass (1985a) found further evidence of the effects of organizational structure (antecedent) on social relationships and power. Women who were part of integrated formal workgroups (at least two men and two women) and who were linked (closeness) to the men's

network (only male employees considered) were perceived as more powerful than women who were not. Interestingly, men who were closely linked to the women's network (only women employees considered) were also perceived as more influential than men who were not.

Blau and Alba (1982) found that ties linking different work groups increased one's power. Similarly, Brass (1984) found that centrality within departments was a better predictor of power than centrality within subgroups. Both studies (Blau & Alba, 1982; Brass, 1984) and Ibarra (1992) found that group membership was related to individual power.

None of the above studies considered the possible effects of negative relationships on power. It is likely that an actor's enemies, friends of those enemies, and the enemies of that actor's friends, determine the amount of power an actor holds in an organization. These enemies might actively attempt to thwart an actor's efforts by withholding, or distorting important information in the hope of diminishing that actor's power.

Recruitment

The application of social networks to the traditional human resources practices of recruitment and selection begins with the simple assumption that both parties (i.e., the individual and the organization) must know of each other. As most people assume, the use of networks, as contrasted with employment agencies or job listings, can be a valuable aid in both job search and recruitment, particularly for high paying, high responsibility jobs such as managerial positions (Granovetter, 1982). In a classic example of the strength of weak ties, people were able to find jobs more effectively through weak ties (acquaintances) than strong ties or formal listings (Granovetter, 1982). Granovetter argued that an actor's acquaintances (weak ties) are less likely to be linked to one another than are an actor's close friends (strong ties). An actor's set of weak ties will form a low density, high diversity network, one rich in non-redundant information. A

set of strong ties will be densely interconnected and will likely represent a high degree of redundant information. Thus, individuals have greater access to more and different job opportunities when relying on weak ties.

Later findings (Lin, Ensel, & Vaughn, 1981) modified and emphasized the notion. They found that weak ties used in finding jobs were associated with higher occupational achievement when the weak ties connected the job seekers to those of higher occupational status. Thus, the effectiveness of weak ties rests in diversity and nonredundancy of the information they provide.

Although weak ties may be effectively used to cross occupational statuses, strong ties may be the mechanism behind homosocial reproduction in organizations (Kanter, 1977). As previously noted, actor similarity can be a powerful influence on the development of social networks, and repeated interaction can lead to attitude similarity. Strong ties (friends) are likely to be related to both. Organizations may establish recruiting networks based on actor and attitude similarity. Previous hires act as links that facilitate recruiting and likely promote homosocial reproduction. That is, recruiters seek out those whom they believe will "fit in" well in the organization. Fit is often based on actor similarity.

Selection

In adopting a political perspective on human resources, both Pfeffer (1989) and Ferris and Judge (1991) noted that selection is not entirely the result of human capital (abilities and competences). In moving beyond the rationality assumption, Pfeffer (1989) suggested that credentials and hiring standards are often the result of political contests within organizations. Those in power seek to perpetuate their power and further build coalitions and alliances by setting criteria and selecting those applicants most like themselves. Thus, as in the case of recruiting via the use of networks, selection may also largely depend on network ties. This is

particularly true when the qualified applicant pool is large, or when hiring standards are ambiguous. In such cases, similarity between applicant and recruiter may be an important basis of the selection choice.

Burt (1992) provided an interesting analysis of hiring practices in an organization. He used the archival data provided in the application forms of current employees to trace the historical pattern of hirings. The social network data came from questions on the application forms of 1721 current employees asking them (a) if they knew anyone (i.e., friends, acquaintances, or relatives) working for the firm, (b) how they learned about the job opening, and (c) names of references. Added to the network analyses were the addresses of employees. Analyses of the social connections show how a manager had virtually taken control of the company years earlier by hiring family, friends, and friends of friends, almost exclusively from a particular geographical location (Burt & Ronchi, 1989).

Just as positive relationships may prove helpful in recruitment and selection, negative relationships may be particularly harmful. When applicant pools are large, any negative information, or any dislike of a applicant may eliminate him or her from further consideration. Thus, applicants are well advised to be risk adverse with interviewing for jobs. Negative asymmetry is particularly apparent in letters of reference. Because typical letters are positive, any negative information is attended to and weighted more heavily in diagnosis and decision making.

Socialization

Two related studies dealing with the socialization of new employees (Jablin & Krone, 1987; Sherman, Smith, & Mansfield, 1986) indicate that network involvement is a key process in assimilation of new employees. Eisenberg, Monge, and Miller (1984) found that network

participation was related to organizational commitment for salaried employees, but only high involvement was related to commitment for hourly employees. However, due to the cross-sectional nature of these studies, it is impossible to know whether integration into the network leads to commitment, or vice versa. Position in the network and socialization and commitment are likely to be reciprocally causal. It is likely that early connections in the organizational network lead to socialization of expectations, obligations, and norms, and enhanced social capital. It may be especially important that new employees do not form negative relationships early in their employment tenure, because such relationships may deter socialization and lead to turnover.

Training

Training is typically designed to increase human capital. If we view training as acquiring new and innovative ideas and skills, a social capital perspective on training might focus on the process of innovation and the role of social networks in adoption and diffusion of innovations (cf., Rogers, 1971; Tushman, 1977; Tushman & Anderson, 1986; Burt, 1982). It is generally agreed that innovation requires diverse and novel information. If so, an actor is more likely to get that novel information via weak ties. A member of a closely knit, dense clique of strong ties is less likely to be exposed to diverse, novel perspectives than an actor with weak ties to a number of different social groups. Thus, Burt (1992) argued that the size of one's network is much less important than the diversity of one's contacts. Supporting this theory are the findings that cosmopolitans (i.e., actors with external ties which cross social boundaries) are more likely to introduce innovations than are locals (Rogers, 1971). Likewise, central actors, sometimes identified as "opinion leaders" are unlikely to be

early adopters of innovations when the innovation is not consistent with the established norms of the group (Rogers, 1971).

As with an innovation, once training is introduced or adopted, the diffusion of the training (or the spread of new ideas and skills) can be predicted by social network relationships. Some controversy exists over whether diffusion is best predicted by a relational cohesion (direct interaction links) approach or a structural equivalence perspective. The relational, cohesion approach suggests that the most central actors be the first to experience training. However, Burt (1987) has argued that persons occupying structurally equivalent roles in the network are likely to similarly adopt the innovation regardless of whether they directly communicate with each other. His re-analysis of the classic adoption of tetracycline by doctors supports his arguments.

Burkhardt and Brass (1990) investigated the introduction, training, and diffusion of a major technological change in an organization. They found that centrality in the existing network was not related to early use of the new system. Those who were early adopters increased both their centrality and power in the organization as the technology was implemented. The diffusion process closely followed the network patterns following the change, with structurally equivalent employees adopting at similar times. In a similar study of the introduction of a new computer technology, Papa (1990) found that productivity following the change was positively related to interaction frequency, network size, and network diversity (i.e., number of different departments and hierarchical levels contacted). Frequency, size, and diversity also predicted the speed at which the new technology was learned (time to reach 110% of past productivity). Papa argued that training programs can provide basic operating information, but that much of the learning about a new technology occurs after training as

employees attempt to apply the training. His results supported the idea that learning is an active process of information exchange, and an important outcome of social capital.

An alternative social perspective on training would be to view it as an opportunity to build social connections among participants. For example, if we consider college as a training experience, the advantage of network connections made as cohorts proceed through the college experience become obvious. Deep and lasting connections develop as people go through the rites of transition together (Trice & Morand, 1989). In some cases, such as police forces and military units, training is intentionally designed to develop strong ties among participants (Van Maanen, 1975). Likewise, corporations have recently emphasized teamwork and building strong, trusting relationships among team members in intensive training programs such as "Outward Bound," where executives spend prolonged periods of time in the wilderness. Even when training involves only short periods of time, network connections are formed. Organizations may wish to use training to build connections across diverse, heterogeneous groups in anticipation of the future formation of cross-functional teams (Krackhardt & Hanson, 1993). In the context of training, connections may be based on similar training experiences, rather than actor similarity on attributes such as race, sex, or age.

Performance

The human resources management literature has focused on methods of increasing accuracy and reliability of appraisal of individual performance. The social capital perspective on performance invites us to analyze the pattern of relationships rather than view individuals' performance in isolation. As is the case with interdependent tasks in organizations, relationships

with others affects performance. For example, Roberts and O'Reilly (1979) found that participants (i.e., two or more links to others) were better performers than isolates (i.e., less than two links). Although Brass (1981) found no significant correlations between centrality in the workflow and performance, he found that job characteristics (e.g., task variety and autonomy) mediated this relationship. That is, centrality in the workgroup's workflow was positively related to job characteristics, which in turn were positively related to both satisfaction and performance. In a later study, Brass (1985b) used network techniques to identify pooled, sequential, and reciprocal interdependencies within workgroups. He found that performance varied according to combinations of technological uncertainty, job characteristics, and interaction patterns. The results suggest that the relationship between social networks and performance is a complex one dependent upon horizontal differentiation and coordination requirements (i.e., tasks, technology, workflow).

This conclusion is consistent with small group laboratory network studies of the early 1950's (see Shaw, 1964 for a review). Although these early laboratory studies were highly controlled and simplistic, some consistent findings emerged. Centralized communication networks resulted in more efficient performance when tasks were simple and routine. Decentralized networks were better at performing complex, uncertain tasks. That is, performance is better when the communication structure matches the information processing requirements of the task. As Coleman (1988) has noted, the social structure of organizing work can result in social capital.

Career Development

Getting ahead in organizations has often been said to be a matter of "who you know, not what you know." This statement is typically made in a

cynical, derogatory way because it emphasizes the importance of social capital as compared to human capital (Burt, 1982). Likewise, the "old boys' network" has received much negative attention, especially in relation to the careers of women and minorities. The emphasis on social capital is contrary to the individualistic values of western cultures such as the United States. That is, most of us believe that achievement and rewards should be contingent on individual effort and abilities (human capital). These are the same values that drive much of the research in human resources management. The focus is on the identification and measurement of individual attributes. Despite the individualism apparent throughout our system of education, most managers' careers are contingent on what they can effectively accomplish in connection with others. As Mintzberg (1973) has noted, the myth of managerial work is that it occurs in isolation. Most of a manager's roles involve social relationships.

To the extent that acquiring power and influence is related to upward mobility and success, much of the previous discussion of social networks and power applies. For example, in one of the few longitudinal studies of social networks, Brass (1984, 1985a) found that network indicators of power also related to promotions of previously non-supervisory employees over a three-year period.

The popular press has noted the importance of "networking" as well as the advantages of having mentors in organizations. The intuitive advantages of building a large network have seldom been questioned, although little systematic research has actually addressed this prescription. Rather than simply building relationships randomly, two strategies (a weak tie and a strong tie strategy) are possible given the constraints of organizational structure.

We assume that all relationships require maintenance time, and that strong, close relationships require more time than weak (acquaintance) relationships. Should actors develop close personal relationships with mentors or highly connected others (i.e., a strong tie strategy) or attempt to develop many weaker relationships with disconnected others (i.e., a weak tie strategy)? The strong tie strategy allows an employee to be central by virtue of a few direct links to others who have many direct links. The employee has access to resources such as information via the indirect links of the highly connected other (mentor). Assuming a limit to the number of direct links that an employee can maintain, having links to central others is more efficient than links to peripheral others. However, the reliance on indirect links creates a dependency on the highly connected other (mentor) to mediate the flow of resources.

Adopting the weak tie strategy, Burt (1992) has argued that the size of one's network is not as important as the diversity of one's contacts. He has argued that structural autonomy can be obtained by managers taking advantage of "structural holes." A structural hole is defined as the absence of link between two contacts who are both linked to an actor. Burt (1992) has noted the advantages of the "tertius gaudens" (i.e., "the third who benefits"). Not only does the "tertius" gain non-redundant information from the contacts (i.e., the strength of weak ties argument), but the tertius is in a position to control the information flow between the two (i.e., broker the relationship), or play the two off against each other. The tertius profits from the disunion of others.

Using the criterion of early promotions, Burt (1992) found the weak tie strategy (presence of structural holes) to be more effective for a

sample of 284 managers in a large, high-technology firm, except in the case of women and newly hired managers. For women, the strong tie strategy worked best. However, because the network data were not longitudinal, it is impossible to discern whether the networks were the result of early promotions or the cause of early promotions.

Kilduff and Krackhardt (1994) demonstrated the power of strong ties. They found that a friendship link to a prominent person in an organization tended to boost an individual's performance reputation. In comparing the cognitive maps of the network with the actual network, they found that the perceived network, rather than the actual network, significantly predicted reputations. Thus, it appears that individuals may acquire power by "basking in the reflected glory" of prominent others. Likewise, Brass (1984, 1985a) found that links to supervisors and closeness to the dominant

coalition were related to promotions.

While being closely linked to a powerful other may result in "basking in the reflected glory," it may also result in being perceived as "second fiddle." In the latter case, one's own talents are diminished in the presence of a powerful other (i.e., one is perceived as "riding the coattails" or "second fiddle"). The difference in perceptions, and the difference in career advantage, may be the result of the stage of one's career, boundaries to entry, and/or the type of organization. Early in one's career, strong connections to a mentor are perceived as an indication of potential success. However, later in one's career, one is expected to successfully perform on one's own, and to mentor others. Early in a career, the mentor provides access to the network. As Burt's (1992) analyses and our previous discussion of actor similarity

suggest, women or newly hired managers may face barriers to entry in established networks, and the social capital of such networks. Thus, a strong connection to a powerful, well-connected mentor may overcome such barriers. This idea is consistent with Brass' (1984) results in a non-supervisory sample, links to the dominant coalition were related to promotions.

Avoidance of negative relationships may be equally, if not more important to career development. As in the case of selection, negative asymmetry may overwhelm any of the social capital of either strong or weak tie strategies. It is likely that an actor's negative ties within an organization will prevent promotion, particularly if those ties are with influential others. Others may withhold critical information that worsens an actor's performance or they may provide bad references in order to prevent a promotion. Employees adopting a strong-tie, mentor strategy must also be aware of any negative relationships between the mentor and others. Conversely, forming the many diverse connections involved in a weak-tie strategy may increase the possibility of negative relationships. Avoiding negative relationships may be particularly for women and minorities in organizations. Any evidence of negative relationships may confirm negative stereotypes and quickly interrupt career development.

Turnover

In a study of fast-food restaurants, Krackhardt and Porter (1986) found that turnover did not occur randomly, but in structurally equivalent clusters in the perceived interpersonal communication network. That is, turnover was a function of the social network context. In a related study, Krackhardt and Porter (1985) looked at the effects of turnover on the attitudes of those who remained in the organization. In this longitudinal study, the closer the employee was to those who left, the more satisfied and committed the remaining employee became. The authors argued that remaining employees cognitively justified their decision to stay by increasing their satisfaction and commitment.

Research on relational and organizational demography (Tsui et al., 1992; Tsui & O'Reilly, 1989; Wagner et al., 1984; Zenger & Lawrence, 1989) has shown that similarity in age and tenure among group members is related to turnover. In combination with our previous review of the similarity/attraction literature, we can predict that similarity leads to increased communication which, in turn, is negatively related to turnover. McPherson, Popielarz, and Drobnic (1992) supported this prediction. In voluntary organizations, they found that network ties within a group were associated with reduced turnover, while ties outside the group (weak ties) increased turnover.

When turnover occurs in large numbers, such as layoffs connected with downsizing in organizations, social networks, and any of the benefits of social capital, may be disrupted or destroyed. Shah (1996) examined survivor's networks and reactions following downsizing in a firm where 42% of the workers were discharged. Although the advice network was restored in six months, the friendship network remained depleted. Survivors responded negatively to the loss of the social capital provided by friendships, but responded positively to the promotional opportunities

provided by vacancies due to the layoffs of structurally equivalent others. Conflict

In a study of intergroup networks in twenty organizations, Nelson (1989) found that low-conflict organizations were characterized by a high number of strong ties (measured as frequency of communication) between

members of different groups. Analyzing the overall pattern of ties, Nelson argued that the interaction networks were significantly different for high and low conflict organizations.

Similarly, Krackhardt & Stern (1988) found that strong ties (friendships) were the conduits during crisis for effective coordination between groups in a simulated organization. However, Labianca,

Brass, and Gray (1997) found that strong friendship ties between members of different groups in an organization had no significant effect on perceptions of intergroup conflict. Rather, they found that negative interpersonal relationships between member of different groups strongly predicted perceptions of intergroup conflict. The findings illustrated the effects of negative asymmetry; strong positive relationships did not dampen, or counterbalance the effects of negative relationships.

CONCLUSIONS

Much of the progress in human resources management research and application has been achieved via the traditional emphasis on the identification and measurement of individual attributes. Yet, it has been estimated that the average adult maintains more than 1000 informal ties (mutually recognizable others). Research on the "small world" phenomenon (Travers & Milgram, 1969) has shown that two randomly selected people can "reach" each other through a path of a surprising few number of links. We are a network of social interdependencies. Yet, little attention has been given to the benefits of social relationships, what we have referred to as "social capital." In attempting to move toward a focus on "social resources management," we have outlined some of the important antecedents of social networks, and tried to show how social networks may affect such human resource practices as recruitment, selection, training, socialization, performance, careers, and turnover.

We have also attempted to expand the focus on social capital by resurrecting attention to the negative relationships noted by earlier social network theorists such as Homans (1961) and White (1961). It appears that the negative asymmetry of negative relationship may destroy the possible benefits of social capital for individuals. Negative

relationships may likewise deter the system wide benefits of social capital. Negative relationships within a system may destroy the trust necessary for common expectations and obligations, and the closure necessary for norms and sanctions. In addition, negative relationships may prevent information sharing and even lead to intentional distortions of information in a system. Negative relationships cannot always be avoided in organizations where workflow and hierarchy require interactions. Thus, it is important that we expand our research on social capital to include

negative relationships and a consideration of the entire social ledger. What does the future hold for organizations and "social" resources

management? Those who see increased acceleration of change in the environment, increased uncertainty, and increased information processing requirements, have suggested the emergence of a new organizational form - the "network" organization (Miles & Snow, 1986; Baker, 1992; Nohria & Eccles, 1992). Managing human resources in a network organization may involve identifying, locating, and organizing employees across organizational and international boundaries. Social resource managers will likely become human capital "brokers," bringing together the right mix of people to successfully offer a product or service. And that mix may be used only temporarily as environments and technologies rapidly change. Needed resources are contracted for through an ongoing network of extra-organizational connections. Social resource management will require identifying and nurturing potential relationships, which may change with each product cycle. The network organization places additional importance on relationships, and the social structure needed for social capital. As one network organization executive said (Week, 1986, p. 64).

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