

Organizational Reference Groups: A Missing Perspective on Social Context

Barbara S. Lawrence

Anderson Graduate School of Management, University of California Los Angeles, 110 Westwood Plaza, Box 951481,
 Los Angeles, California 90095-1481, barbara.lawrence@anderson.ucla.edu

This paper introduces and empirically explores the concept of an organizational reference group: the set of people an individual perceives as belonging to his or her work environment that defines the social world of work in which he or she engages. The concept is proposed to fill a gap in studies of social context. Scholars tend only to infer, not identify, the people an individual is aware of at work. This surmise creates no problem in groups or small organizations where everyone knows everyone else. However, it becomes troublesome in large organizations where the set of people one individual discerns may vary considerably from that of another. Social network studies of large organizations examine people an individual perceives, but focus on interpersonal communication through salient relationships. They tend to neglect the many distant others who populate an individual's social context: those known only through company newsletters or office gossip, those with whom the individual never has contact, and those who carry little immediate salience. Data from a large organization are used to explore whether organizational reference groups provide distinct, useful information about individuals' perceptions of their social context at work. The findings replicate those showing individuals' preferences for similar others, but also note previously unobserved systematic differences in the composition of close associations compared to the broader ones of organizational reference groups. Distant associations are considerably more homogeneous than close ones. Moreover, the results show that organizational reference groups illuminate career referent selection and expected achievement beyond what would be learned from a typical social network analysis.

Key words: organizational reference groups; reference groups; social context; perception; cognition; social networks; career referents; career achievement; career expectations

This paper introduces the concept of an organizational reference group: the set of people an individual perceives as belonging to his or her work environment that defines the social world of work in which he or she engages, including people with whom the individual does and does not communicate and those with whom awareness is the only connection. The concept emerged serendipitously from a study designed for another purpose. My original intent was to explore how an individual's career perceptions at work are influenced by the others he or she knows. Based on previous work, this information seems to accrue through direct communication such as interpersonal exchanges at meetings and lunches, and through indirect sources such as observation and stories overheard at the coffee pot (Lawrence 1990). In large organizations, however, each individual has a different set of others, so I was curious to identify work and friendship connections as well as more distant, potentially non-communication-based associations. I asked subjects to name the people they knew and hoped for long lists that captured both kinds of connection. What follows is the theoretical and empirical result of exploring this phenomenon.

That people are influenced by social context is engraved in organizational studies. Scholars analyze dyads,

such as supervisors-subordinates (Kacmar et al. 2003, Shore et al. 2003) or mentors-mentees (Kram and Isabella 1985, Tepper 1995); groups, including R&D project groups and top management teams (Ancona and Caldwell 1992, Hambrick and Mason 1984); and organizations defined by hierarchical structures or organizational culture (Martin 1992, Schein 1992, Scott 1987). Each social context shapes individual behavior and is viewed as an entity with specific and observable boundaries. While these definitions remain relevant, the scope of, and interdependencies required by, current organizational relationships extend this perimeter. In the 1980s, companies began replacing conglomerate structures, in which organizations maintained clear boundaries, with network forms of organization lacking stable boundaries (Davis et al. 1994). Individuals also followed this trend, with a move from organizational careers that transpire within a single organization to careers in which only skill sets remain stable as careers cross organizations, industries, and occupations (Arthur and Rousseau 1996).

These changes are recasting the meaning and nature of social context for individuals who work. Astronomers, for instance, used to collaborate primarily within their own institutions because telescopes were available only to affiliates of the institutions that built, owned, and

operated them. However, even in a basic research area like astrophysics, a dramatic increase in the complexity, scale, and cost of instrumentation means that large collaborations frequently replace small autonomous groups. The Spitzer Space Telescope, an infrared observatory launched in August 2003, cost \$700 million dollars. Numerous organizations were involved, including the University of Arizona, Cornell, the Harvard-Smithsonian Astrophysical Observatory, Caltech, NASA, JPL, the Goddard Space-Flight Center, Ball, and Lockheed-Martin. Scientists and engineers contributed several thousand work years over a 20-year period getting it ready for launch. Thus, an astronomer's relevant social context is now likely to extend considerably farther beyond the home institution than it did in the mid-20th century.

The American movie industry provides a similar example (Faulkner and Anderson 1987). From the 1930s through 1948, Hollywood was run by eight studios that functioned as the primary social context for movie producers, directors, actors, and technical personnel. Studios might lend their contracted employees to others, but a film worker's studio was his or her primary social context. Following divestiture in 1948 and subsequent increases in the costs and risks of producing films, making movies became a conglomerate affair. Several studios may now put up the money, distribution and marketing may be farmed out to other firms, and the "organization" is cobbled together from whatever talent the producers think is cost effective given the risk. As a result, the studio is no longer the social context for people in that industry. Instead, it is a constellation of relationships that governs who knows the workers and values their reputation.

These illustrations portray large, multiorganization work communities, but changes in the nature of social context are not endemic to such settings. Increasing size, geographic dispersion, and project complexity within traditional organizations are also making social context problematic. Managers' escalating use of knowledge management systems, for example, signals a recognition that they can no longer keep track of who has the requisite experience and information for a given task (Ofek and Sarvary 2001). When organizations expand beyond an individual's cognitive ability to assimilate knowledge of all members, his or her social context becomes unstable. Dyads, groups, and organizations are still relevant entities, but they do not address how individuals construe their organizational frame of reference at work when it is not possible to know all potentially relevant others.

Answering this question requires an approach that examines social context from the individual's perspective. The social network literature has produced the largest group of such studies, where subjects identify their context by cataloging ties: the specific others with

whom they have salient, communication-based relationships. Burt (1992) characterizes these connections as strong or weak. "Strong ties are your most frequent and close contacts. Weak ties are your less frequent less close contacts. Between these two categories, you have a few strong ties and many weak ties" (1992, p. 28). Thus, ties are contacts. As relationships characterized by communication and delineated by the individual, they appear well suited for research on social context. However, network studies in large social systems exhibit two limitations: They do not include distant, non-communication-based associations, and the average sample contains only eight. Thus, these studies include few if any people the subjects may know about but with whom they do not communicate. A curious silence prevails over the individual's definition of who populates his or her social context in such large social settings.

This silence holds potential implications. The data presented here will show that distant associations appear more homogeneous in composition than close ones. This finding challenges the belief that weak relationships provide diverse information and may explain why one executive obtains better strategic information than another when scanning the social environment. If executives' distant associations tend to become uniform, those who successfully maintain disparate networks may gain significant competitive advantage. This may also help untangle why managers genuinely concerned about diversity do not perceive their own biased decision patterns. Managers who work closely with diverse employees are likely to assume that their distant associations also remain dissimilar. They may be unaware that in extending beyond close associations to make appointments for prestigious task forces or jobs, they will select from a more homogeneous group. In both cases, the answer to "why?" depends on social context, yet we know little about how individuals construe their social environment in jobs where they cannot know everyone. What do these social contexts look like? How do individuals manage their changing social boundaries?

In the next section, I develop a theoretical framework for studying this phenomenon. The discussion expands the organizational reference group definition, compares the concept to related theoretical constructs, and proposes the process by which it influences individual behavior. I then explore these ideas using the original data that induced them. My career perceptions study was not designed to elicit organizational reference groups, but the data are well suited to explore two questions. First, do such groups differ from those studied in social network studies? Second, does knowing an individual's organizational reference group extend our knowledge beyond what would be learned in more conventional studies? Finally, I explore theoretical implications of organizational reference groups for organizational studies.

What Is an Organizational Reference Group?

The idea that individuals have a group of organizational referents originates from studying reference groups. Reference groups or those by which individuals orient themselves regardless of actual membership (Singer 1981) have been recognized as crucial ties between individuals, action, and social systems (Merton 1968). Although referents are often thought of as similar others (Festinger 1954), the criteria used to define a referent vary greatly. Scholars have studied many kinds of referents, including groups to which individuals aspire, to which individuals belong, to which individuals have only loose connections, and those whose perspective the individual acquires (Siegel and Siegel 1971).

Perhaps the most rudimentary definition of “reference,” and the one used here, is information that one individual has about another. If an individual has information about others in his or her work environment, even the simple knowledge of their existence, they are members of his or her organizational reference group. They cannot be consciously excluded. Such interpersonal visibility represents the basic condition for reference group behavior (Marsden and Friedkin 1993). This condition possesses an important feature from social cognition theory: It separates an individual’s awareness of others from his or her evaluation of them. “Attention and encoding are the first steps in social information processing. Without them, nothing else can happen: attributions cannot be made; schemas cannot be applied” (Fiske and Taylor 1991, p. 245), and, by extension, social comparisons cannot be made. Thus, without this distinction, one cannot distinguish the processes underlying awareness of others from those through which meaning accrues, inferences are drawn, and social comparisons are made. Individuals select social comparisons from the members of their organizational reference group, but not all members of that group are also social comparisons.

Despite diverse definitions of referent others, scholars generally agree on how reference groups work. All involve a *group* of people from whom individuals *collect information* used to *interpret* and *act* in everyday life. These interpretations and the actions they engender connect individuals with social systems and make reference groups powerful.

A Group of Referent Others

An organizational reference group is a *group* because it includes everyone the individual thinks of when answering the question: Who populates my world at work? The awareness criterion incorporates the individual’s coworkers, friends, enemies, and acquaintances as well as people with whom the individual has no direct contact, like those seen in the next building or known only through stories, reputation, and e-mail. These others constitute the social frame of reference (Merton 1968) through

which he or she receives information, interprets work-related experiences, and decides to act. An individual’s organizational reference group may not include the entire organization and may even involve others outside conventional boundaries, but the people it does include largely generate his or her view of work. They delineate the social context from the individual’s perspective.

In small work units, an individual’s organizational reference group encompasses everyone—a complete population. It is difficult to imagine a start-up, for instance, in which anyone is unaware of everyone else. However, as organizations get larger, knowing everyone becomes difficult because the individual perceives only a sample of possible others. Even in a single organization, these samples may vary a great deal. At one extreme, two individuals in a small, independent business unit of a large organization may have identical organizational reference groups. As with a start-up, everyone is aware of everyone else. At the opposite extreme, if one of the two individuals works in a different business unit of that organization, the members of their reference groups may completely differ. Few employees of whom one individual is aware are known by the other.

Such *differences* between individuals’ samples of perceived others make organizational reference groups potentially important. When two individuals have different reference groups, the information to which they are exposed may vary. As a result, the meanings and interpretations they construe from that information and the opportunities they experience may also vary. Research on social networks is consistent with these ideas. Differences in close communication-based relationships limit or facilitate an individual’s social capital (Burt 1982), personal sources of scanning information (Aguilar 1967), and power and status (Ely 1994; Ibarra 1992, 1995). Thus, it would not be surprising if differences in an individual’s more distant associations also influence his or her organizational fortune.

Several features of an individual’s organizational reference group distinguish it from related concepts. First, similar to many other types of reference groups, an individual’s organizational reference group is not technically a “group.” Its members are not necessarily perceived by others or by themselves as a “unit,” and they may or may not work together or even know one another (Merton 1968). This distinguishes organizational reference groups from psychological groups, which require sufficient salience for an out-group to emerge (Turner 1985). The general recognition of distinct in-groups and out-groups by organizational members suggests that an individual’s psychological or in-group is a subset of those of whom he or she is aware.

Second, the awareness criterion means that distant, peripheral associations differ from weak ties defined earlier as “less frequent, less close contacts” (Burt 1992). It is true that weak ties are more distant than close

ones, but they still denote relatively strong relationships, having been identified by explicit requests for contact-based associations such as “With whom do you talk frequently about work-related topics?” (Brass 1985) and “Who do you go to for informal discussion and socializing?” (Burt 1992, 1997). As a result, the weak ties in large organizations studied by social network scholars represent the weakest in a set of strong ties. They do not include truly distant associations. The awareness criterion also adds a missing component to social information processing (Salancik and Pfeffer 1978). This theory shares with organizational reference groups the idea that social context plays a large role in individual behavior by “providing cues which individuals use to construct and interpret events” (p. 226). It describes the enactment and social reality construction through which individuals turn social information into attitudes, needs, attributions, choices, and actions. Thus, social information processing describes how an individual’s social context influences his or her behavior, yet it says nothing about the people from whom this social information comes.

Third, group membership is defined by the individual’s perspective. This internal definition separates organizational reference groups from most other reference groups. Scholars typically define reference units externally: by specifying organizational roles such as jobs (Singh 1994); social categories, such as gender or ethnicity (Terry et al. 1999); or social locations, such as inside or outside the organization (Goodman 1974). Such definitions easily exclude many people of whom an individual is aware. The individual’s perspective also distinguishes organizational reference groups from organizational culture. Here, scholars frequently aggregate individual observations to define a socially shared whole lacking orientation to any one individual (e.g., Chatman and Jehn 1994, Rentsch 1990). Instead the focus is on what is the same about individual perceptions. In contrast, organizational reference groups focus on what differs across such perceptions. Observers may guess the composition of an individual’s organizational reference group, but can never know it precisely without asking. The criterion of an individual perspective makes organizational reference groups a type about which little is known.

Collecting Information

Individuals are avid *information collectors* when it comes to their organizational frame of reference. These data come in many guises. Much immediate, salient information flows through close, communication-based, person-to-person associations (Krackhardt 1992). For instance, studies about power, influence, and information diffusion (Burt 1997, Ibarra and Andrews 1993) are based on responses to questions such as: “indicate up to five people with whom you feel especially willing or able to discuss your ideas for a new business or

your ideas about running your current business” (Aldrich et al. 1989). Such communications serve two purposes. They identify the individual’s recurrent, habitual information sources and specify the type of information likely to pass through them.

However, much of the data individuals collect does not come from such close, communication-based associations. Observation, for example, is a component of learning (Wood and Bandura 1989) that influences the meanings people attach to and derive from objects and actions. Pratt and Rafaeli (1997) found that hospital nurses use their uniform to express complex, sometimes conflicting, information about their social identity to themselves and others. Organizations teem with examples of such nonverbally based information. The cc: and to: list of an e-mail provides relevant data through sins of omission. Individuals observe who comes in early in the morning, and watch a committee discussion for shifts of power. They hear gossip about who got promoted and read about who-did-what in the corporate newsletter. Several years ago, the cover of Dataproducts’ annual report featured a photograph of its top executives wearing yellow slicker raincoats. For those with little prior knowledge, this photograph provided information about who the top executives were and whom the company thought most important. It was also symbolic, generating inferences such as “We’re confident of our ability to weather the storm.” In all these examples, the individual has no direct interaction with the persons about whom he or she is receiving information.

Interpreting and Acting

It is what individuals *do* with the information collected that affects behavior. Whenever situations are ambiguous, individuals use information acquired from reference groups for sense making and guidance (Marsden and Friedkin 1993, Salancik and Pfeffer 1978). Psychological contracts (Rousseau 1989, 1990), for example, develop when an individual perceives “consistent patterns of inducements and contributions over time” that result in “beliefs about the reciprocal obligations between employees and employers.” Identifying these patterns requires observation. Because individuals’ organizational reference groups may differ, this process may produce distinct views of the patterns and thus the obligations of the psychological contract. Consider a large organization in which programming is a low-status job. One programmer is moved temporarily from the programming office in the basement to the executive office on the top floor for a special task force. He or she meets many new people and learns, for the first time, how the organization rewards managers with perks and preferences. As the composition of this programmer’s organizational reference group expands to include a broader range of employees, he or she may become less satisfied with a psychological contract previously accepted.

The people in an individual's organizational reference group thus provide many types of information that the individual uses to interpret his or her relationship with the organization. Because individuals base action on perceptions, their observations of and experiences with an organizational reference group may prove important. They define social context as the individual notes exchange relationships with the organization (Blau 1964), interprets the organization's culture (Martin 1992), and decides when to engage in citizenship behaviors (Organ 1990). In essence, individuals use their organizational reference group to answer the question: How can I understand what is happening to me and decide what I should do by observing and interacting with others? Any theory that involves individuals, their perceptions, and their social context—where social context involves more than direct relationships at work—also involves organizational reference groups.

That individuals use information collected from others to interpret and act in everyday life resonates with any study of social context. From this perspective, the function of an organizational reference group is hardly new. It has been many years since Shibutani (1955) observed that "The concept of reference group summarizes differential associations and loyalties and thus facilitates the study of selective perception. It becomes, therefore, an indispensable tool for comprehending the diversity and dynamic character of the kind of society in which we live." In similar fashion, the concept of an organizational reference group focuses on the vibrant character of an individual's perceptions and experiences at work, a useful focus as the diversity and dynamic processes characterizing today's business environment alter individuals' work boundaries.

An Exploratory Study of Organizational Reference Groups

Given this definition, I now return to the study that led to these ideas. The data are used to compare the composition and effects of organizational reference groups with those of the social networks typically studied in large organizations. Such networks were selected for comparison as the most similar existing concept. Two questions are explored. Does the composition of organizational reference groups differ from that of the social networks studied in large organizations? If it does, does it matter—that is, do organizational reference groups extend our understanding of how social context influences individual behavior beyond what would be learned from a typical social network study?

My data are not ideal for examining these questions, as the original study was not designed for this purpose, but they contain several useful features. First, subjects gave me an average of 50 names rather than the eight observed in a review of 21 frequently cited social network studies in large social systems (Citations available

from author; see also Marin 2004). This six-fold increase in names suggests that they include close associations similar to those in social network research as well as distant associations usually absent. Second, the name-generation question separated the request for names from that for strength of association. Subjects produced their lists before answering any questions about the listed people. Thus, unlike traditional ego network studies, the relationship questions exerted little influence on which names a subject selected. Third, all demographic information about the subject and his or her associations was obtained from company records. This reduces potential response bias because subjects are not primed by the attributes of individuals they select (see, for example, Smith 2002). Moreover, no additional error is introduced into the data through the inaccurate or incomplete demographic information subjects may supply about people they know. Finally, these data include an unusually diverse group of managers, making it possible to separate the analyses for women, black, Hispanic, and Asian subjects. Previous studies often compare either women and men or racial minorities and others because small, homogeneous samples make meaningful analysis difficult (cf. Williams and O'Reilly 1998).

Description of the Data

The data were collected from a large organization with over 9,000 employees. The study was limited to managers and ready-for-management employees because my research questions required a career with formal, clearly defined levels where all career participants agree on what each level means. In the past, managers enjoyed long, stable careers in this firm, but then faced uncertain futures as the company responded to dramatic changes in the market environment. During the five years prior to data collection, employees experienced several major reorganizations and reductions in force. Independent of these changes, managers moved frequently throughout the firm: Their average time in one position was under two years. Managers thus had ample opportunity to develop work and friendship associations with a large, diverse group.

Demographic data were obtained from company records on management and ready-for-management employees ($N = 2,685$), of whom 32% ($N = 848$) are women. The distribution by ethnicity is: white, 62.1% ($N = 1,668$); black, 9.8% ($N = 263$); Hispanic, 15.9% ($N = 428$); and Asian, 12.1% ($N = 326$). The average age of these employees is 44 (range = 23–74) and their average organizational tenure is 17 years (range = 0–50). Sixty-five percent hold a college degree. There are 14 levels in management careers formally defined by the organization. Ready-for-management employees work in the union and are viewed by the company as one level below the first level of management. As a result, ready-for-management employees were coded as

Level 1, while the remaining 14 were coded as Levels 2 through 15.

Surveys were mailed to a 20% systematic, stratified sample ($N = 537$) of management and ready-for-management employees. Four hundred and twenty-three surveys were returned (79%). Twelve surveys were deleted because they were completed by employees outside the sampling frame, leaving 411 (77%) usable surveys. The survey sample is similar to the population on all six stratification dimensions: age ($t = 1.11$, $p = 0.27$), organizational tenure ($t = -0.31$, $p = 0.75$), career level ($t = 0.79$, $p = 0.43$), gender ($\chi^2 = 0.23$, $p = 0.63$), ethnicity ($\chi^2 = 1.02$, $p = 0.91$), and hire type ($\chi^2 = 0.12$, $p = 0.73$). This last category indicates whether the employee was in a professional or nonprofessional job when hired.

Surveys were not anonymous. Subjects were requested to provide their social security number on an identification page that was perforated and easily detached from the survey booklet. Two envelopes were provided for returning each survey: one for the identification page and one for the completed survey. Subjects' sealed responses could not be identified without opening the envelopes and matching the codes, thus giving subjects greater confidence that their responses would not be examined by others inside the firm.

Obtaining the List of Names

The original research questions concerned how individuals' career perceptions are influenced by others they know. Thus, I wanted to identify as many of the people in each subject's social context as possible. This is difficult in large organizations. I considered providing subjects with a list of names from their own departments. However, based on preliminary interviews, the high rate of interdepartmental and interdivisional mobility in the company would have made the results meaningless. Managers in this organization typically know many people outside their own departments. As a result, I turned to name generation, the standard social network technique for identifying an individual's relationships when the social system exceeds about 100 to 150 people. I asked subjects to "copy the names of employees you know." This question follows those recently developed by Hampton and Wellman (2000) and McCarty et al. (1997) for generating lists that include people with whom a subject has no direct communication. As is typical of such studies, subjects were given a complete roster of all 2,685 management and ready-for-management employees to remind them of names they might want to include but forgot.

However, name generation in any research is cumbersome and tiring for subjects. They are asked to generate a new list of names in response to each question, and, given the time involved, the incentive is for the lists to shrink. As a result, social network studies in large social systems tend to involve a relatively small number of

close associations. Because a long list of subjects' close and distant associations was critical to my research questions, I redesigned the standard survey format to make it easier. The new survey was constructed like an old-fashioned gradebook. After opening the booklet, subjects found 28 lines on the left side of the inside cover page and 28 on the right side of the inside end page. This provided a total of 56 lines, the maximum number that fit comfortably. The name-generation question was printed on the top of the inside cover page so that subjects completed the list before seeing any questions.

The questions themselves were printed on a set of inside pages narrower than the booklet. Thus, after writing down a set of names, the same set was used for all questions. Subjects would answer a question for all names listed on the left, and then for all names listed on the right. Subsequently, the subject turned the inside page to the next question. There was no need to rewrite the list. The employee identification numbers of each name provided by each subject, totaling around 20,000 names, were coded by hand using the company's personnel data. This allowed me to match each subject with the demographic data of all the individuals on his or her list. Subjects provided me with an average of 49.86 names (range: 0–56).

While these data represent an improvement over previous studies, they exhibit several limitations for work on organizational reference groups. We have little experience with name generators that do not specify salient, communication-based relationships; thus, it is unknown how subjects interpreted the request to list the people they know. The meaning of "know" may vary from one person to the next, and this may affect the comparability of subjects' lists. Also it seems likely that organizational reference groups are larger than the limit of 56 names on the survey. Multiple-interview studies suggest that people may generate several hundred names of acquaintances inside and outside work (de Sola Pool and Kochen 1978). As a result, while the names included here extend well beyond the samples typically studied in social network studies, it is unlikely that they capture subjects' entire organizational reference groups. However, this conservative test still provides a reasonable first sample.

Question 1: Do Organizational Reference Groups and Social Networks Differ in Composition?

The large number of names I received allowed me to compare the composition of organizational reference groups and social networks, as typically studied in large organizations. If their composition is similar, then there is little to be learned from a new concept. Size would be their only distinguishing feature. However, if they differ, then each defines a distinct portion of an individual's social context. The key theoretical difference

between the two is their inclusion criteria. There are no absolute boundaries between close and distant associations. Instead, these loosely defined associations represent two ends of a continuum. Social network studies tend to focus on close associations that are salient, bidirectional, and communication based. Organizational reference groups include close associations, but add distant ones that are unidirectional, non-communication based, and not salient.

Burt's research on structural holes (1992, 1997) illustrates the social network focus on close associations. In an organization of over 100,000 employees, he obtained an average of 12.6 names per subject from 284 employees. Names were generated by nine questions about salient relationships. Seven questions explicitly requested names of people with whom the subject has communicated, for instance: "If you look back over the last six months, who are the four or five people with whom you discussed matters important to you?" (1992, p. 123). Only two of the nine questions may have included distant associations, for instance: "At the other extreme, who among the people working for [THE FIRM] has made it the most difficult for you to carry out your job responsibilities?" And, while the names from these two questions may involve little communication, they are still salient to the individual providing them. Making the conservative assumption that *all* names generated by these two questions represent distant associations, the maximum average number of distant associations per subject is 2.5 names (1992, p. 123). Thus, Burt's study includes a relatively small number of close associations, and few if any distant associations. For the most part, the weak ties he studies are but the weakest in a set of close associations.

This emphasis on close ties suggests that comparing the composition of an individual's close and distant associations highlights the empirical distinction between social networks and organizational reference groups. Close associations are common to both. However, the explicit inclusion of distant associations makes organizational reference groups differ from social networks. Although the types of people in close and distant associations can be characterized in many ways, I examined their demographic composition, because such attributes are important to interpersonal interaction. Their chronic accessibility (Fiske and Taylor 1991) makes them good candidates for capturing attention in social settings. Moreover, they acquire salience as indicators of power, status, similarity, and difference in social systems, signaling an individual's ability and competence (Spence 1973). Although the meanings they acquire differ across cultures (e.g., Earley 1999, Phinney 1996), demographic attributes have been shown by a tremendous number of studies as key to human interaction (Tsui and Gutek 1999).

Why does this occur? The salience of demographic attributes results from common features of social structure. Building on structural and expectation-states theory (Berger et al. 1974, Blau 1977), Ridgeway (1991) notes that status differences result when social systems distribute valued resources unequally across demographic categories. Members of any demographic category that disproportionately holds such resources acquire higher status than members of other categories. This then influences the meaning these categories hold within the social system. A second explanation emphasizes individuals' needs and motivations as providing the basis for salience. From this perspective, demographic attributes become powerful because they facilitate self- and other-categorizations that reduce social uncertainty and maintain positive self-identity (Hogg and Terry 2000). Their utility as social categories makes them good anchors for in-group and out-group prototypes that simplify individuals' classifications of others. Thus, from both the macro and micro perspectives, demographic attributes are key players in interaction.

Both approaches predict homophilous preferences, a widely scrutinized explanation for relationship selection (Singer 1981). Homophily is the tendency of people to communicate with similar others more frequently than would be expected if their associations were randomly acquired (Lazarsfeld and Merton 1954). Homophilous relationships result because individuals who share similar status or values also share common experiences. These overlaps make associations with similar others appealing by reducing the costs of establishing and maintaining relationships (Zenger and Lawrence 1989). Studies of close work and friendship associations consistently show that individuals tend to associate with others of similar demographic attributes such as education, gender, age, and ethnicity (Ibarra 1992, Lincoln and Miller 1979, Mehra et al. 1998). However, individual awareness of distant associations has not been studied in large organizations where organizational reference groups may differ.

In addition, homophilous preferences that produce close associations may well influence how people first become aware of one another. When presented with a large group of unknown people, individuals probably become aware of demographically similar others before they become aware of dissimilar others. Consequently, demographic attributes provide relevant predictors for the composition of close and distant associations in this exploratory study. I could find little theory suggesting how homophily might differ in both associations; however, Granovetter (1973, 1992) predicts that if individuals care about similarity, they will exercise their preferences more frequently in close, not distant, associations. Thus, it seems reasonable that the relationship between an individual's demographic attributes and

those of close associations in his or her social network will be stronger than their relationship with those of distant associations in his or her organizational reference group.

Question 2: Do Organizational Reference Groups Influence Career Perceptions Beyond Social Networks?

If the composition of close and distant associations differs, perhaps an individual's organizational reference group defines a social context distinct from the social networks typically studied in large organizations. The next concern is whether this difference matters. My original question was whether an individual's social context influences his or her career perceptions. Thus, my data include career-related questions. Based on past research in the network literature (Shah 1998), I compare the predictive validity of organizational reference groups and social networks in two situations where differences in social context may influence individuals' perceptions: their selection of career referents and their expected achievement. Does knowing the composition of an individual's organizational reference group improve our understanding of how he or she selects career referents or projects his or her expected achievement beyond what we would learn from social networks?

Research on social comparisons suggests the mechanism by which this might occur. Social comparison has been defined as "thinking about information about one or more other people in relation to the self" (Wood 1996). By definition, social referents, the people an individual chooses for such comparisons, are selected from his or her organizational reference group. They comprise a reference group within a reference group. Despite the importance of social comparisons for assessing ability and achievement (Kulik and Ambrose 1992), we know little about how individuals select referent others (Shah 1998, Wheeler et al. 1969, Wood 1989) and less about how their social context influences these choices (Wood 1989). Existing organizational theories acknowledge contextual effects (Kulik and Ambrose 1992), but empirical studies concentrate on the individual as decision maker, not on how his or her social context affects referent selection (Crosby 1982, Goodman 1974, Levine and Moreland 1987, Oldham et al. 1986; although see Shah 1998 for an exception).

Research suggests that perceived social context may play an important role in how individuals define "up" when making status-based comparisons (Nosanchuk and Erickson 1985, Wheeler et al. 1969). Individuals commonly make upward comparisons to others of higher status for self-motivation and self-enhancement (Collins 1996). However, these comparisons are risky. If individuals see the top status as inaccessible, comparisons with that pinnacle may generate feelings of inadequacy and

failure (Wheeler and Miyake 1992, Wood 1989). Individuals appear to mitigate this risk by anchoring their social referents within their social context (Wheeler et al. 1969). First, they identify the distribution of available others. Then, they use the distribution to select a referent slightly higher in status than they are (Wheeler et al. 1969, Wood 1989) rather than one at the highest. This both fulfills a desire for self-motivation and limits the risks of inaccessibility. A key feature of this argument, which has not been studied in organizations, is that individuals use the status distribution of available others to define what is somewhat higher than themselves and what is impossibly high (Nosanchuk and Erickson 1985).

In organizations, a manager's position in the hierarchy of possible career levels indicates his or her status. A bank supervisor has lower status than a vice-president. A partner at a consulting firm has higher status than a consultant. An individual's perception of the average career level of others in the organization is likely to be influenced by those in his or her organizational reference group. If the career levels in two individuals' organizational reference groups differ, then their perceptions of the organization's average career level are also likely to differ. Research suggests that individuals develop different perceptions of organizational distributions, which then influence attitudes. For instance, managers who see themselves as ahead of schedule in their careers have more positive work attitudes than those who see themselves behind, even when both are on schedule, based on company records (Lawrence 1984). Thus, individuals' definitions of how-high-is-up may differ, depending on how they see the status distribution of career levels within their organizational reference group.

The data are used to examine whether the average career level in an individual's close and distant associations is related to his or her career referents and expected achievement. Career referents are others the individual identifies as having careers similar to his or her own. A social network definition of context would focus on the career levels of an individual's close associations. Previous research indicates that employees select close associations to identify performance referents (Shah 1998). Thus, including the distant associations of an organizational reference group may add no additional explanatory value. However, Shah's study was conducted in a small organization with little opportunity for different organizational reference groups and the performance measure includes no distinction of up or down. If individuals in large organizations do use a broader web for anchoring referent selections, then an organizational reference group definition of context, including an individual's close *and* distant associations, may better estimate how-high-is-up than would a social network including only close associations.

Method

Measures

Individuals' Demographic Attributes. Subjects' demographic attributes were obtained from the company's employment records. Six demographic attributes were used: gender, ethnicity (white, black, Hispanic, Asian), age, organizational tenure, education, and career level. These attributes were selected because they frequently influence the relationship between the individual's demographic attributes and those of the people he or she knows (Ibarra 1995, Smith-Lovin and McPherson 1993). Moreover, they are believed to shape the selection of referent others (Shah 1998).

Demographic Composition of the Organizational Reference Group. The demographic composition of each subject's organizational reference group is measured using the same six attributes, each of which is a group-level variable: proportion women, proportion ethnic minorities (black, Hispanic, and Asian), average age, average organizational tenure, average education, and average career level. The demographic characteristics of subjects' organizational reference groups were obtained from the company's employee records.

Close and Distant Associations. The closeness of work associations is measured using subjects' responses to the question: "How often do you discuss work with the individuals on your list?" Frequency of interaction was used to measure closeness because it is commonly used in social network research. Work associations are defined as "close" if subjects indicate that they communicate with the person once every day or once every week. Work associations are defined as more or less "distant" if subjects indicate they communicate with the person once every two weeks, less than once every two weeks, or not at all. Although there is no theoretical demarcation between close and distant, this cutoff was selected because it produces an average of 7.13 close associations per subject: comparable to the average number of eight names per subject generated in the social network studies discussed earlier. For distant associations, this cutoff produces an average of 40.51 names per subject.

Career Level of Close and Distant Associations. The career level of close associations is the average level of those whom the subject identifies as "close." Similarly, the career level of distant associations is the average level of those identified as "distant."

Career Level of Career Referents. Subjects' career referents are identified using the subjects' answers to three questions. For each person listed as known to the subjects, subjects were asked: (1) "How similar are you to each person on the list in the *types of jobs* you have held during your career?" (2) "How similar are you to

each person on the list in the *pace of your advancement* during your career?" and (3) "How similar are you to each person on the list in *your future work opportunities* at [THE FIRM]?" These questions measure three factors considered important for choosing social comparison referents (Festinger 1954, Goodman 1974, Kulik and Ambrose 1992, Shah 1998): the degree of perceived similarity, availability among others they know in the firm, and relevance in types of jobs and future work opportunities.

Subjects were given five response categories (0 = *I Don't Know*, 1 = *Very Dissimilar*, 2 = *Somewhat Dissimilar*, 3 = *Somewhat Similar*, and 4 = *Very Similar*). Each person whom a subject rated as similar to him or her with a value of 3 or 4 on all three questions is considered a career referent. The career level of each referent was identified through company records. The variable *Career Level of Career Referents* then averages these career levels across a subject's set of referents ($\alpha = 0.96$). This measure improves on previous organizational studies of referent selection (e.g., Crosby 1982, Goodman 1974, Oldham et al. 1986, Shah 1998) in which the hierarchical levels of referents are not explicitly identified. The average number of career referents cited by subjects was 19.

Expected Career Achievement. Expected career achievement is measured using the subjects' answers to the question: "By the time you leave [THE COMPANY] what salary level do you *expect* to attain?" Salary level is the formal term the company uses to define an individual's hierarchical career level, and this designation is understood by all employees in management and ready-for-management careers. Consequently, a single-item measure is preferable over a multiple-item measure. Adding additional scale items would not increase, and might decrease, the validity of subjects' responses (Wanous et al. 1997).

Relationships Among Variables and Distribution Tests

Table 1 shows a correlation matrix of the variables. Because many of the independent variables are significantly correlated, a collinearity analysis was conducted. For the variables involved in the first question, the highest variance inflation factors are for age ($VIF = 3.09$) and organizational tenure ($VIF = 3.62$). For the variables involved in the second question, the highest variance inflation factors are for average career level of close associations ($VIF = 2.23$) and average career level of distant ones ($VIF = 2.50$). These values are well below the suggested cutoff of 10 (Chatterjee and Price 1991). Thus, collinearity may attenuate the estimates for these variables, but does not appear harmful.

Because proportions are naturally censored at zero on the lower boundary and one on the upper, I examined the potential impact of censoring on the results for

Table 1 Means, Standard Deviations, and Correlation Matrix (N = 411)

Measures	Correlation matrix																													
	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25			
Individual's attributes:																														
1. Women ^a	0.30	0.46																												
2. Black	0.10	0.31	0.05																											
3. Hispanic	0.16	0.37	0.04	-0.15																										
4. Asian	0.13	0.34	0.17	-0.13	-0.17																									
5. Age	43.08	8.32	-0.09	0.07	-0.07	-0.16																								
6. Organizational tenure	17.22	9.81	-0.18	0.05	0.00	-0.28	0.81																							
7. Education	2.74	1.07	0.02	-0.08	-0.11	0.30	-0.29	-0.43																						
8. Career level	7.42	2.86	-0.23	-0.03	-0.16	0.00	0.10	0.05	0.34																					
Organizational reference group composition																														
Close associations:																														
9. Proportion women	0.28	0.26	0.54	0.07	-0.01	0.14	-0.06	-0.17	0.15	0.01																				
10. Proportion black	0.10	0.16	0.14	0.44	-0.02	-0.02	0.03	0.02	0.03	0.01	0.17																			
11. Proportion Hispanic	0.15	0.18	-0.03	-0.03	0.21	-0.17	0.01	0.08	-0.13	-0.06	-0.02	-0.03																		
12. Proportion Asian	0.12	0.20	0.20	-0.05	-0.06	0.44	0.26	-0.40	-0.26	-0.04	0.33	-0.14	-0.17																	
13. Average age	43.90	5.19	-0.06	0.06	-0.03	-0.24	0.52	0.54	-0.37	-0.11	-0.17	0.03	0.07	-0.31																
14. Average org. tenure	18.01	6.59	-0.12	0.03	-0.02	-0.29	0.51	0.60	-0.46	-0.11	-0.24	0.04	0.12	-0.38	0.88															
15. Average education	2.64	0.65	0.16	0.00	-0.07	0.28	-0.25	-0.37	0.44	0.27	0.31	0.01	-0.11	0.44	-0.44	-0.56														
16. Average career level	11.50	1.43	-0.03	-0.07	-0.11	0.04	0.07	-0.03	0.34	0.60	0.00	0.00	-0.18	0.03	-0.03	-0.07	0.45													
Distant associations:																														
17. Proportion women	0.32	0.18	0.64	0.11	0.03	0.19	-0.12	-0.24	0.19	-0.16	0.56	0.21	0.03	0.24																
18. Proportion black	0.10	0.09	0.15	0.64	0.05	-0.10	0.09	0.09	-0.16	-0.19	0.19	0.43	0.05	-0.02	0.09	0.05	-0.07	-0.21	0.25											
19. Proportion Hispanic	0.15	0.08	0.13	0.03	0.40	-0.20	0.04	0.14	-0.28	-0.24	0.03	0.17	0.21	-0.14	0.06	0.14	-0.18	-0.23	0.04	0.16										
20. Proportion Asian	0.12	0.13	0.21	-0.07	-0.06	0.61	-0.33	-0.50	0.43	0.02	0.27	-0.01	-0.05	0.59	-0.42	-0.53	0.44	0.02	0.43	-0.12	-0.23									
21. Average age	44.24	3.42	-0.12	0.07	0.00	-0.39	0.65	0.73	-0.47	0.00	-0.15	0.07	0.06	-0.44	0.57	0.64	-0.43	-0.03	-0.27	0.11	0.19	-0.67								
22. Average org. tenure	18.81	4.77	-0.17	0.07	0.02	-0.45	0.58	0.75	-0.54	-0.05	-0.21	0.04	0.08	-0.49	0.56	0.67	-0.50	-0.11	-0.35	0.12	0.28	-0.75	0.94							
23. Average education	2.69	0.44	0.16	-0.02	-0.05	0.33	-0.23	-0.42	0.58	0.39	0.31	0.00	-0.11	0.37	-0.38	-0.51	0.62	0.48	0.36	-0.13	-0.32	0.57	-0.54	-0.66						
24. Average career level	11.78	1.05	-0.10	-0.13	-0.10	0.03	0.10	0.01	0.37	0.63	-0.07	-0.07	-0.12	-0.04	0.10	-0.15	-0.37	0.67	-0.10	-0.28	-0.38	0.00	-0.02	-0.10	0.60					
Career perceptions:																														
Average career level of																														
25. Career referents	11.41	1.52	-0.22	-0.11	-0.15	0.00	0.11	0.02	0.37	0.77	-0.03	-0.05	-0.20	0.01	-0.03	-0.06	0.32	0.75	-0.18	-0.27	-0.34	-0.04	0.03	-0.03	0.48	0.86				
26. Expected achievement	12.85	2.53	-0.15	-0.02	-0.03	0.05	-0.24	-0.30	0.42	0.54	-0.13	-0.12	-0.09	0.01	-0.22	-0.25	0.33	0.51	-0.05	-0.17	-0.18	0.08	-0.23	-0.25	0.46	0.56	0.67			

Notes. Values > 0.096 = $p < 0.05$.
^aVariables 1–4, 9–12, and 17–20 are dummy coded with minority category = 1.

Question 1. Four of the eight dependent variables are proportions: proportion women, proportion black, proportion Hispanic, and proportion Asian. In each analysis, the predicted values of these variables were computed. None are lower than zero or greater than one. This suggests that no information is lost from censoring. Tests for multivariate normality show that the data are not normally distributed. As a result, all structural equation models are reported with adjustments for nonnormality: robust standard errors, the Satorra-Bentler (S-B) scaled chi-square, and a χ^2 difference test adjusted for the S-B statistic (Satorra and Bentler 1999). All regression models are reported with robust standard errors.

Results

Question 1: The Composition of Organizational Reference Groups and Social Networks

Analytical Approach. The demographic compositions of subjects' close and distant associations were compared for each of six attributes: gender, ethnicity (white, black, Hispanic, Asian), age, organizational tenure, education, and career level. Two tests were used to assess this similarity: a χ^2 difference test that evaluates the likeness of an individual's attribute to others with that attribute in his or her close and distant associations, and an R^2 difference test that examines whether the composition of close associations is more systematic and less random than that of distant associations.

The following description of the analysis of a subject's age provides an example (see Table 2 continued, Columns 1–3). For the first test, a structural equation model was estimated with two dependent variables: the average age of his or her close associations and the average age of his or her distant ones. The subject's age is the independent variable, and the five remaining demographic attributes operate as controls. This test produced one estimate for the relationship between the subject's age and the average age of his or her close associations ($b = 0.19$, $p < 0.001$), and one for this relationship in his or her distant associations ($b = 0.09$, $p < 0.001$). Next, a nested structural equation model was estimated. This model was identical to the first except that the estimate for the relationship between the subject's age and the average age of his or her distant associations was constrained to be equal to the estimate for close associations obtained from the first model. A χ^2 difference test comparing the fit of the original ($\chi^2 = 18.99$, $df = 1$) to that of the nested model ($\chi^2 = 30.89$, $df = 2$) showed that the relationship between the subject's age and the average age of his or her close and distant associations differs ($\Delta\chi^2 = 12.40$, $df = 1$, $p < 0.001$). The relationship was stronger for close associations. For the second test, the R^2 from the regression of an individual's six attributes on the average age of his or her close associations ($R^2 = 0.37$) was compared with the R^2 from the

same regression on distant associations ($R^2 = 0.61$). An R^2 difference test showed that the systematic patterns observed in the average age of close and distant associations differ ($\Delta R^2 = -17.03$, $p < 0.001$). The systematic patterns were stronger for distant associations.

Results. Table 2 shows the results for the first question: Does the composition of close associations studied in typical social network studies differ from that of distant associations included in organizational reference groups? The results partially support Granovetter's contention that the relation between an individual's demographic attributes and those of close associations in his or her social network outweighs the relationship with those of distant ones in his or her organizational reference group. The χ^2 difference test shows that the coefficients for demographic attributes differ significantly in the expected direction for women, black, age, and career level. They do not differ significantly for Hispanic, Asian, organizational tenure, or education. The R^2 difference test shows that the explained variation differs significantly for all eight models; however, the patterns are stronger for *distant* associations in organizational reference groups than for close ones in social networks. This finding opposes the expected result.

A sensitivity analysis was conducted to assess whether these results depend on the operational definition of "close and distant associations." The original measure of distant associations included a middle category: people with whom subjects have work communications once every two weeks. In the sensitivity analysis, these people were removed. This decision maintains the original measure of close associations similar to that used in social network analysis and adds a more conservative measure of distant associations. Analyses using this alternate definition do not change the results.

Several features of these results are worth noting. The first is that the χ^2 difference tests show no consistent pattern. Four show significant differences in the expected direction and four do not. The organizational demography literature is just beginning to consider the differential impact of demographic attributes on behavior (Lawrence 1997, Williams and O'Reilly 1998). One hypothesis from this literature is that visible attributes like gender and race are more salient for self-categorization and more easily discerned in a group of distant others than less visible attributes like education (Jackson et al. 1995; Kanter 1977; Williams and O'Reilly 1998, p. 117). Individuals have little choice about the people they work with every day, but they have unlimited choice when it comes to noticing others. This suggests that visible attributes should exert more influence on distant than on close associations, yet none of the results support this hypothesis. Women and blacks show significant differences in the opposite direction, while Hispanics and Asians show none. Thus, while the

Table 2 Question 1: SEM Analysis of the Relationship Between an Individual's Demographic Attributes and Those of His or Her Close and Distant Associations

	Proportion women			Proportion black			Proportion Hispanic			Proportion Asian		
	Close	Distant	Q1 Tests ^b	Close	Distant	Q1 Tests	Close	Distant	Q1 Tests	Close	Distant	Q1 Tests
Individual attributes ^a												
1. Women	0.30*** 0.54	0.23*** 0.59	$\Delta\chi^2 = 13.86^{***}$	0.04* 0.12	0.02* 0.11		0.00 0.00	0.02* 0.12		0.04 0.09	0.02* 0.09	
2. Black	0.05† 0.05	0.04† 0.07		0.25*** 0.44	0.18*** 0.61	$\Delta\chi^2 = 11.65^{***}$	-0.02 -0.03	0.02* 0.08		0.00 0.00	0.00 0.01	
3. Hispanic	0.02 0.03	0.02 0.03		0.02 0.05	0.03** 0.14		0.08** 0.17	0.08*** 0.37	$\Delta\chi^2 = 0.01$	-0.00 -0.00	0.01 0.04	
4. Asian	0.01 0.01	0.02 0.04		0.01 0.02	0.00 0.00		-0.06** -0.11	-0.02 -0.07		0.19*** 0.32	0.19*** 0.48	$\Delta\chi^2 = 0.02$
5. Age	0.00 0.12	0.00* 0.13		-0.00 -0.03	0.00 0.09		-0.00 -0.08	-0.00 -0.09		0.00 0.08	0.00 0.07	
6. Org. tenure	-0.00† -0.14	-0.00** -0.20		0.00 0.08	-0.00 -0.03		0.00 0.10	0.00* 0.18		-0.01*** -0.32	-0.01*** -0.39	
7. Education	0.02 0.07	0.03*** 0.16		0.01 0.08	-0.00 -0.02		-0.01 -0.05	-0.01† -0.10		0.01 0.06	0.01** 0.11	
8. Career level	0.01* 0.10	-0.00 -0.05		0.00 0.02	-0.00** -0.15		-0.00 -0.01	-0.00† -0.11		-0.00 -0.01	0.00 0.04	
R^2	0.32	0.46	$\Delta R^2 = -9.23^{***}$	0.22	0.42	$\Delta R^2 = -13.85^{***}$	0.07	0.25	$\Delta R^2 = -10.68^{***}$	0.27	0.54	$\Delta R^2 = -33.24^{***}$
SEM Model 1:												
S-B Scaled χ^2			22.60, $df = 1$			9.31, $df = 1$			4.18, $df = 1$			28.68, $df = 1$
B-B Normed Fit			0.98			0.99			0.99			0.97
SEM Model 2:												
S-B Scaled χ^2			37.25, $df = 2$			21.44, $df = 2$			3.00, $df = 2$			24.79, $df = 2$
B-B Normed Fit			0.97			0.98			0.99			0.98

Table 2 (cont'd.)

	Average age			Average organizational tenure			Average education			Average career level		
	Close	Distant	Q1 Tests ^b	Close	Distant	Q1 Tests	Close	Distant	Q1 Tests	Close	Distant	Q1 Tests
Individual attributes ^a												
1. Women	0.14 0.01	0.09 0.12		-0.40 -0.03	-0.40 -0.04		0.20** 0.14	0.16*** 0.17		0.30* 0.10	0.08 0.03	
2. Black	0.12 0.01	-0.34 -0.03		-0.83 -0.04	-0.46 -0.03		0.10 0.04	0.03 0.02		-0.37† -0.07	-0.43*** -0.11	
3. Hispanic	-0.60 -0.04	-0.26 -0.03		-0.89 -0.05	-0.40 -0.03		0.02 0.01	0.08† 0.07		-0.04 -0.01	-0.10 -0.03	
4. Asian	-1.43* -0.09	-1.74*** -0.17		-1.94* -0.10	-2.91*** -0.20		0.25** 0.13	0.19*** 0.15		-0.07 -0.02	-0.10 -0.03	
5. Age	0.19*** 0.31	0.09*** 0.23	$\Delta\chi^2 = 12.40^{***}$	0.11* 0.14	0.34 0.06		-0.00 -0.01	0.01* 0.14		0.02 0.10	0.02† 0.12	
6. Org. tenure	0.12** 0.23	0.16*** 0.45		0.26*** 0.38	0.28*** 0.57	$\Delta\chi^2 = 0.45$	-0.01* -0.22	-0.02*** -0.40		-0.01 -0.07	-0.00 -0.04	
7. Education	-0.60* -0.12	-0.52*** -0.16		-1.21*** -0.20	-0.87*** -0.20		0.14*** 0.22	0.12*** 0.28	$\Delta\chi^2 = 0.98$	0.19* 0.14	0.16** 0.17	
8. Career level	-0.26** -0.14	-0.00 -0.00		-0.25* -0.11	-0.09 -0.05		0.06*** 0.25	0.06*** 0.37		0.28*** 0.56	0.23*** 0.60	$\Delta\chi^2 = 4.76^*$
<i>R</i> ²	0.37	0.61	$\Delta R^2 = -17.03^{***}$	0.43	0.66	$\Delta R^2 = -22.14^{***}$	0.30	0.53	$\Delta R^2 = -18.16^{***}$	0.39	0.49	$\Delta R^2 = -7.90^{***}$
SEM Model 1:												
S-B Scaled χ^2	18.99, <i>df</i> = 1			34.46, <i>df</i> = 1			46.61, <i>df</i> = 1			64.74, <i>df</i> = 1		
B-B Normed Fit	0.99			0.98			0.96			0.95		
SEM Model 2:												
S-B Scaled χ^2	30.89, <i>df</i> = 2			36.47, <i>df</i> = 2			50.94, <i>df</i> = 2			47.96, <i>df</i> = 2		
B-B Normed Fit	0.98			0.97			0.96			0.96		

^aVariables 1–4 are dummy coded with minority category = 1.

Standardized estimates in italics.

^bTest statistics.

† $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

results partially support Granovetter’s prediction, they exhibit a puzzling pattern not well explained by existing theory.

A second feature is the consistent, large difference between the variation explained in close and distant associations. In all eight models, explained variation is greater for distant associations than for close associations. Here, the connection with existing theory is also tenuous. Granovetter (1973, 1992) suggests that close associations are more predictable than distant associations. Thus, explained variation should be higher in the former than the latter. However, this does not consider how an individual’s other attributes fit in the process. The results here suggest that explained variation involves more than single-attribute similarity. For example, career level is the most important information required to predict the career level of a subject’s associations in this company ($b_{\text{close}} = 0.28^{***}$, $b_{\text{distant}} = 0.23^{***}$). However, we can predict better if we know whether the subject is a woman ($b_{\text{close}} = 0.30^*$), black ($b_{\text{distant}} = -0.43^{***}$), and how much education he or she has completed ($b_{\text{close}} = 0.19^*$, $b_{\text{distant}} = 0.16^{**}$).

These multiple-attribute results may represent inter-attribute, rather than single-attribute, connections that exist in this organization. Faultline theory (Lau and Murnighan 1998, Thatcher et al. 2003) suggests that groups split into subgroups based on the salience and alignment of apparent individual attributes and the number of potentially homogeneous groups. Such splits may result from induced homophily, which is homophily produced by the empirical association of one attribute with other demographic attributes in a population (Feld 1981,

1982; McPherson and Smith-Lovin 2001; Ibarra 1992). Individuals’ tendencies to perceive, or not to perceive, similar others may reflect these existing empirical associations. Alternately, they may result from socially constructed meanings that connect one attribute to another in individuals’ minds (Lawrence and Tolbert, forthcoming). This would produce associative bias, in which attributes recalled together with others are more likely to be recalled than attributes without associations (Marin 2004).

Question 2: The Impact of Organizational Reference Groups and Social Networks on Career Perceptions

Analytical Approach. Comparisons of explained variation and relative contribution were used to explore the differential impact of organizational reference groups and social networks on an individual’s career perceptions.

Results. Tables 3 and 4 show the results for the second exploratory question: Does knowing the composition of an individual’s organizational reference group improve our understanding of his or her career perceptions beyond what we would learn from the social networks typically studied in large organizations? The results show that it does. Knowing the average career level of an individual’s close and distant associations provides more information about both the average career level of career referents and expected achievement than knowing the average career level of his or her close associations alone.

For the first career perceptions outcome, career level of career referents, the R^2 for organizational reference

Table 3 Question 2: Regression of Close and Distant Associations on the Career Level of Career Referents

	Control variables	Model 1: Close associations	Model 2: Distant associations	Model 3: Close and distant associations
Individual’s attributes:				
1. Gender	-0.23*	-0.40***	-0.32***	-0.39***
2. Black	-0.44**	-0.24	-0.07	-0.06
3. Hispanic	-0.10	-0.12	-0.07	-0.06
4. Asian	-0.11	-0.10	-0.08	-0.09
5. Age	0.01	0.00	0.00	0.00
6. Organizational tenure	0.00	0.00	0.00	0.00
7. Education	0.25***	0.15***	0.08 [†]	0.05
8. Career level	0.39***	0.25***	0.18***	0.14***
Average career level of:				
9. Close associations		0.46***		0.26*** <i>0.24</i>
10. Distant associations			0.87***	0.71*** <i>0.51</i>
<i>F</i>	71.14***	104.65***	173.23***	184.15***
<i>R</i> ²	0.63	0.75	0.82	0.86

Notes. Variables 1–4 are dummy coded with minority category = 1. Unstandardized estimates. Standardized estimates in italics.

[†] $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 4 Question 2: Regression of Close and Distant Associations on Expected Achievement

	Control variables	Model 1: Close associations	Model 2: Distant associations	Model 3: Close and distant associations
Individual's attributes:				
1. Gender	-0.47*	-0.50*	-0.51*	-0.51*
2. Black	0.30	0.15	0.41	0.35
3. Hispanic	0.52 [†]	0.50 [†]	0.50 [†]	0.57*
4. Asian	-0.41	-0.22	-0.24	-0.10
5. Age	-0.02	-0.02	-0.04 [†]	-0.03
6. Organizational tenure	-0.07***	-0.07***	-0.06***	-0.07***
7. Education	0.35**	0.24*	0.20 [†]	0.17
8. Career level	0.45***	0.37***	0.29***	0.28***
Average career level of:				
9. Close associations		0.41***		0.24** <i>0.14</i>
10. Distant associations			0.80***	0.62*** <i>0.27</i>
<i>F</i>	36.26***	35.81***	42.68***	35.96***
<i>R</i> ²	0.44	0.50	0.51	0.53

Notes. Variables 1–4 are dummy coded with minority category = 1. Unstandardized estimates. Standardized estimates in italics.

[†] $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

groups shown in Model 3 significantly exceeds the R^2 for social networks shown in Model 1 ($R^2_{cd} = 0.86$, $R^2_c = 0.75$; $F = 23.10$, $df = 10, 294$, $p < 0.001$). Comparing the distant associations of organizational reference groups with the close ones of social networks, as typically studied in large organizations, elaborates on this result. The data show that the average career level of an individual's distant associations provides more information about the career level of the individual's career referents than does the average level of his or her close associations. Model 1 shows that the average career level of close associations contributes 12% to the explained variation in career level of such referents beyond that explained by the control variables. In contrast, Model 2 shows that the average career level of distant associations contributes 19% to the explained variation in career level of such referents beyond that explained by the control variables.

While the average career levels of both close and distant associations show a significant, positive relationship with career level of career referents in Model 3, the standardized coefficient for close associations, $B = 0.24$, is half as large as that coefficient for distant associations, $B = 0.51$. This difference is reflected in the independent contributions (squared semipartial correlations) of the average career level of close and distant associations to the explained variation in career level of career referents. Close associations contribute 2.96% toward the explained variation, whereas distant ones contribute 10.38%. These results suggest that distant associations in an individual's organizational reference group more significantly predict the career level of career referents

than do the close associations typically represented in his or her social network.

Table 4 shows a similar analysis conducted for the second career perceptions outcome: expected achievement. This demonstrates similar results. The R^2 for organizational reference groups, including close and distant associations, shown in Model 3 significantly exceeds the R^2 for social networks shown in Model 1 ($R^2_{cd} = 0.53$, $R^2_c = 0.50$; $F = 2.01$, $df = 10, 315$, $p < 0.05$). Comparing the distant associations of organizational reference groups with the close ones of social networks, as typically studied in large organizations, elaborates on this result. The data show that the average career level of an individual's close and distant associations provides similar information about an individual's expected achievement. Model 1 shows that the average career level of close associations contributes 6% to the explained variation in the career level of such referents beyond that explained by control variables. Model 2 shows that the average career level of distant associations contributes 7%.

The average career levels of both close and distant associations significantly predict expected achievement in Model 3; however, the standardized coefficient for close associations, $B = 0.14$, is half as large as the standardized coefficient for distant associations, $B = 0.27$. Finally, the independent contributions (squared semipartial correlations) of the average career level of close and distant associations to the explained variation in expected achievement differ. Close associations contribute 0.99% to the explained variation, whereas distant ones contribute 2.93%. These results are not as

dramatic as the results for career level of career referents. However, they consistently support the observation that distant associations significantly predict an individual's expected achievement beyond that of the close ones in his or her social network.

A sensitivity analysis was conducted to assess whether these results depend on the operational definition of "career level of career referents." The original measure of this phrase is conservative: A name must receive a score of three or four on all three of the career similarity questions for the person to be defined as a career referent. A less conservative measure, defining a career referent as a person receiving a sum of nine or more on the three questions, was assessed. Using this latter definition, a person could be defined as a "career referent" if the subject rated him or her with a four on two questions and a one on the third question. Analyses using this alternate definition do not change the results.

One explanation for these results is that they are congruent with social network studies on career outcomes. Research suggests that weak ties, bridges, and structural holes improve an individual's chances for positive career outcomes such as promotions and getting a job (Burt 1997, Granovetter 1974/1995; however, see Bian (1997) for an alternate view). Thus, the distant associations studied here may be significant because they signal these other effects. To test this possibility, I added two variables frequently connected with organizational status and success: centrality and redundancy. *Centrality* is the number of times a subject is listed by other subjects. *Redundancy* is the number of ties among a subject's listed names. The higher a subject's centrality and redundancy, the lower the probability of bridges and structural holes. Thus, if distant associations provide alternate measures for such structures, adding the two variables to Model 3 should diminish the distant associations' effect on career level of career referents and expected achievement. The results show that this does not occur. Neither centrality nor redundancy influences the career level of career referents. Centrality exerts a positive impact on expected achievement ($b = 0.04$, $p < 0.05$), but redundancy shows no effect. Moreover, adding these variables does not alter the significant influence of either close or distant associations on perceived career outcomes. This suggests there is something specific to the composition of an individual's reference group that produces these results, independent of his or her weak ties. Organizational reference groups thus extend the standard social network explanation for these outcomes.

Discussion

This paper introduces the concept of an organizational reference group: the set of people an individual perceives as belonging to his or her work environment that defines the social world of work in which he or she engages,

including people with whom the individual communicates or does not communicate, and those with whom awareness is the only connection. This concept is proposed to close a gap in organizational studies: scholars' tendency to assume, rather than identify, the people an individual perceives at work. When an organization is small, an individual's social context is easily identifiable. Everyone knows everyone else. However, when organizations grow, the individual's definition of social context is less clear. One individual's perceived social context may differ radically from another's. While much is known about the composition and effects of the close associations that comprise a worker's social context, little is known about distant associations—the people with whom individuals may never have had direct contact and who they may know only through a company newsletter or office gossip.

Empirical data from a large organization were used to explore whether this broader social picture, what I call an organizational reference group, provides information about the composition and effects of an individual's perceived work environment beyond research on social networks. The first question examines composition: Do organizational reference groups include types of people different from the social networks typically studied in large organizations? The second question addresses effects: Do such reference groups illuminate how individuals select career referents and develop career expectations at work beyond what would be predicted by the social networks studied in large organizations?

Results for the study of composition show that organizational reference groups include a distribution of people different from the social networks typically studied. As with previous findings, (McPherson and Smith-Lovin 2001), an individual tends to have close associations with demographically similar others, and this also holds for distant associations, as expected. However, although the tendency to select similar others is stronger for close than for distant associations in four of the eight analyses (women, black, age, and career level), no difference occurs in the composition of close and distant ties for Hispanic, Asian, organizational tenure, and education. Moreover, when all six of an individual's demographic attributes are used to compare the composition of his or her close and distant associations, the results consistently *oppose* the direction expected by previous theory. The strength of systematic patterns is weaker for close associations than for distant ones. Although scholars are beginning to hypothesize about the discrete effects produced by different attributes, these mixed and unexplained results suggest that existing organizational theories do not adequately describe how individuals perceive their social context at work. One explanation may be that similarity effects are overwhelmed by faultlines (Lau and Murnighan 1998), created by subgroups induced through existing relationships among demographic attributes or

by the socially constructed understandings that emerge from these demographic groupings.

The results for the study of effects show that organizational reference groups provide more information about how individuals select career referents and assess their expected achievement. The social networks typically studied in large organizations are less telling. The average career level of both an individual's close and distant associations is positively related to the level of his or her career referents. However, the average career level in the individual's organizational reference group, including both close and distant ties, estimates the level of the individual's career referents better than does his or her social network. Close associations alone are less informative. Similar results are obtained for estimating an individual's expected career achievement in the organization. This suggests that the distant associations that distinguish organizational reference groups from social networks yield distinctive information about an individual's relationship with his or her organization. A social network study focusing solely on close associations would have underestimated how social context anchors these perceived career outcomes. The effects of network composition and structure differ.

From a practical perspective, these results suggest that the people from whom managers obtain information in this organization are not randomly selected. This is not surprising. However, their selections become increasingly *less* random the farther they get from their close work associations. Consequently, the probability that they become aware of or receive information about a representative set of employees decreases with the increasing distance of their associations. If executives in this organization are demographically similar, and analysis not reported here suggests they are, then their organizational reference groups are similarly nonrepresentative. This pattern may make it difficult to increase opportunities for diverse others. Employees who fall outside the demographic profile of the organizational reference groups to which executives belong are less likely to come to their attention than those who fall within. Executives just do not see them.

Limitations

The data for this study come from one organization and some of the results may be, and are even likely to be, organization and community specific. In particular, the mixed results on individuals' tendency to select similar others in their close and distant associations may depend on regional culture. Many employees in this organization come from ethnic communities with strong cultures that regulate their relationships within the community and at work. This may explain why blacks are more likely to select same-ethnicity others for close than for distant associations, and why Hispanics and Asians are not. Because there have been few organizational studies with

sufficient numbers for such ethnic comparisons, it is difficult to do more than speculate here. However, it does support my conclusion that little is known about what produces an individual's perception of social context.

In addition, while the names generated in this research are six times more numerous than the average ego network study, they are unlikely to capture an individual's entire organizational reference group. As noted earlier, multiple-interview studies may generate several hundred names of acquaintances inside and outside work (de Sola Pool and Kochen 1978). Moreover, studies on recall suggest that subjects forget many acquaintances and even their close friends when answering name-generation questions (Brewer 2000, Brewer and Webster 1999). Such additional associations might or might not alter an individual's perceptions of social context beyond what was observed here. For example, they might provide a broader range of career levels for anchoring career referent selection. Alternately, their impact on the composition and effects of organizational reference groups might decrease asymptotically, with additional members exerting little influence on career referent selection after attaining some number.

The composition of organizational reference groups in this study also depends on how subjects interpreted the name-generation question. Although the knowing tie has been deployed to obtain names of distant associations in communities (Hampton and Wellman 2000), it seems uncommon in organizational research. Subjects may have defined "knowing associations" as only those others with whom they have had communication-based relationships at one time. Or, they may assume that knowing associations include only those others outside their formal work group. Finally, although subjects were not limited to naming other managers and ready-for-management employees, they did. This may have resulted because subjects were primed by a managerial career survey they had just completed, and the list of management employees was included with the network questions.

These limitations suggest we need better measures of an individual's organizational reference group. The social network literature has examined several measurement issues related to name generators, including accuracy, date, and type of tie requested (cf. Bernard et al. 1977, Campbell and Lee 1991, Hammer 1984). Developing a more accurate measure probably requires a staged approach, similar to the one used by Marin (2004). First, demographically diverse individuals might be interviewed about what words and phrases they use to indicate awareness of others. These words and phrases could then be used as name generators with a second set of demographically diverse individuals. After completing the survey, these individuals could be interviewed, either once or several times, to find out what they were thinking when they answered the questions,

to add names they forgot, to see how many names could be elicited, and to look for selection patterns explaining why forgotten names were not remembered. These data would provide an improved measure of organizational reference groups and a richer understanding of how individuals become aware of their social context at work.

Questions for Future Study

A comprehensive list of questions for future study is beyond my scope here. However, this section explores organizational reference group composition and effects as two important question categories for further research. First, what processes explain how an individual comes to perceive others in his or her social context? And what consequences of organizational reference groups might be studied? What processes produce these effects?

Composition. It seems likely that organizational reference group composition begins with social cognition (Fiske and Taylor 1991). When faced with a large group of people, an individual perceives and encodes information about those who capture his or her attention. Attention may result from social salience, vividness, or the accessibility of information. In organizations, people may become socially salient to an individual because of status or relevance for his or her goals. Thus, it seems likely that a manager has more managers than staff in his or her organizational reference group and that it will include more people from a higher, not lower, level. People become vivid to an individual when they are “(a) emotionally interesting, (b) concrete and imagery provoking, and (c) proximate in a sensory, temporal or spatial way” (Nisbett and Ross 1980, p. 45). This suggests that people who have had big successes or failures are more likely to be included in organizational reference groups than those who do a merely good job. Other attributes that may influence vividness include physical proximity, friendship, and appearance, including distinctive dress or behavior. Finally, people become accessible to an individual when one or more of their attributes are primed by recently or frequently encoded information. This finding indicates that individuals are likely to perceive others who remind them of people with whom they have worked before, or others whose physical attributes, including gender or age, hold specific meaning. Once a person comes to an individual’s attention, information about this individual is encoded in memory so that it will be accessible.

These processes suggest that the composition of organizational reference groups depends on how work is organized. Work may be accomplished in one location or in many. Organizational boundaries may be clearly defined or blurred by external dependencies. For instance, in the entertainment industry, individuals frequently work as subcontractors and have few long-term affiliations. In contrast to those who work in large organizations where an individual may work with diverse

others because he or she has been told to do so, a subcontractor in the entertainment industry may get work only because similar others are aware of him or her. If systematic, nonrandom selection patterns result from salience and accessibility, the bias toward stronger patterns in close associations may be more pronounced for these employees than for those who work inside a single, large organization. In contrast, organizations with many telecommuters or globally dispersed teams may experience less pronounced systematic patterns because salience is influenced more by the content of a message than by the appearance of the messenger. It is hard to tell how old someone is if you cannot see him or her. In this situation, cultural rules for appropriate communication, including rhetoric and writing style, may become the criteria by which associations are noticed. In such cases, cognition shapes network structure (Ibarra et al. 2005).

Effects. The effects of organizational reference groups begin with social information processes, such as enactment, remembered behaviors, causal attributions, judgments, and choices (Salancik and Pfeffer 1978). Individuals are motivated to make sense of their social environment. They will create patterns, expectations, and behavioral norms out of social information even when such attributes do not exist in reality (Festinger 1954). This socially constructed information becomes increasingly malleable as the uncertainty within a social environment grows. As a result, two individuals may be enacting different versions of social reality in large organizations where social information is ambiguous and organizational reference groups may vary a good deal. Social information processing suggests that this disparity influences an individual’s attitudes and need statements in four ways: through overt communications with coworkers, by structuring his or her attention, through his or her interpretation of environmental cues, and by influencing how he or she defines personal needs (Salancik and Pfeffer 1978, pp. 229–230). For example, organizational reference groups may help describe the process by which a union member’s attitudes alter when he or she becomes a manager. After crossing this status boundary, the individual encounters more managers in the course of everyday work. Moreover, becoming a manager makes other managers more salient. As a result, the proportion of managers in the individual’s organizational reference group increases. The faster this occurs, the more quickly his or her attitudes may change.

Another example comes from social identity theory (Hogg and Terry 2000, Tajfel 1978, Tsui and Gutek 1999). This theory proposes that individuals use their associations with others to enhance their personal self, “the idiosyncratic aspects” and social self “which reflects information about the groups to which people belong” (Tyler et al. 1999). As a result, individuals find it easier

to work with and trust others with whom they share a social identity. While social identity theory specifies that enhancing the social self depends on individuals' perceptions of the groups to which people belong, it does not define "the group." It is easy to imagine individuals identifying with a small group where the defining information comes from all its members or when the defining information is easily visible like gender or ethnicity. It is less easy to imagine the identification process when the group is large and the defining information comes from a sample, not the entire population, of group members. Who is "the group" when an employee identifies with IBM rather than with Apple Computer? Employees never know everyone in such large organizations. Their global perception of the organization depends on some undefined sample of human activity. If two individuals use different samples of others to define IBM, then one individual's identification with the firm may differ greatly from another's.

More specifically, the composition of individuals' organizational reference groups may alter the salience of identity. Take, for example, two black women working in the same organization. One has an organizational reference group in which there are more blacks than women. The other has an organizational reference group in which women exceed blacks. Distinctiveness theory (McGuire and Pawawer-Singer 1976, Mehra et al. 1998) suggests that individuals who belong to two minority categories identify most strongly with the smaller of the two categories. This means that the first individual is likely to identify with other women in the organization, whereas the second is likely to identify with other blacks. Such distinctive identifications may affect how the organization can best provide them with support. The strategy of assigning corporate mentors, for instance, may be ineffective if a white, female mentor is assigned to a woman who identifies more strongly with being black. These examples describe different ways in which organizational reference groups may expand organizational theories involving social context.

The ideas presented here suggest that the concept of an individual's organizational reference group—its definition, causes, and consequences—deserves further attention. I do not argue that organizational reference groups represent a new concept, but rather draw attention to a phenomenon that has been assumed, but not studied empirically or theoretically. Much organizational research invokes rather than defines social context from the individual's point of view. Thomas and Thomas's (1928) famous remark states that "if people view circumstances as real, then they are real in their consequences." An individual's organizational reference group defines the circumstances he or she views as real, and thus the social context that is real in its consequences. Organizational reference groups thus add to our repertoire for exploring how individuals constitute, make sense of, and respond to their social world at work.

Acknowledgments

There is insufficient space here to thank all the people who helped the author to develop the ideas in this article. The author particularly wants to thank Elaine Yakura, Brian Pentland, Candy Jones, and Sigal Barsade for their persistence and *OS* Senior Editor, Deborah Dougherty, who encouraged her to write this inductively. Michael Mitchell and others at UCLA's Statistical Computing Center provided invaluable help with analytical nuances. The author also thanks the *OS* reviewers and seminar participants at UC Irvine, UCLA, Harvard, London Business School, MIT, Wharton, Singapore Management University, and Cornell for their many helpful suggestions.

References

- Aguilar, F. J. 1967. *Scanning the Business Environment*. MacMillan, New York.
- Aldrich, H., P. R. Reese, P. Dubini. 1989. Women on the verge of a breakthrough: Networking among entrepreneurs in the United States and Italy. *Entrepreneurship Regional Development* **1** 339–356.
- Ancona, D. G., D. F. Caldwell. 1992. Demography and design: Predictors of new produce team performance. *Organ. Sci.* **3** 321–341.
- Arthur, M. B., D. M. Rousseau. 1996. *The Boundaryless Career: A New Employment Principle for a New Organizational Era*. Oxford University Press, New York.
- Berger, J., T. L. Conner, M. H. Fisek. 1974. *Expectation States Theory: A Theoretical Research Program*. Winthrop Publishers, Cambridge, MA.
- Bernard, H., P. D. Killworth, L. Sailer. 1977. Informant accuracy in social network data II. *Human Comm. Res.* **4** 3–18.
- Bian, Y. 1997. Bringing strong ties back in: Indirect ties, network bridges, and job searches in China. *Amer. Sociological Rev.* **62** 366–385.
- Blau, P. M. 1964. *Exchange and Power in Social Life*. John Wiley, New York.
- Blau, P. M. 1977. *Inequality and Heterogeneity: A Primitive Theory of Social Structure*. The Free Press, New York.
- Brass, D. J. 1985. Men's and women's networks: A study of interaction patterns and influence in an organization. *Acad. Management J.* **28** 327–343.
- Brewer, D. D. 2000. Forgetting in the recall-based elicitation of personal and social networks. *Soc. Networks* **22** 29–43.
- Brewer, D. D., C. M. Webster. 1999. Forgetting of friends and its effects on measuring friendship networks. *Soc. Networks* **21** 361–373.
- Burt, R. S. 1982. *Toward a Structural Theory of Action*. Academic Press, New York.
- Burt, R. S. 1992. *Structural Holes: The Social Structure of Competition*. Harvard University, Cambridge, MA.
- Burt, R. S. 1997. The contingent value of social capital. *Admin. Sci. Quart.* **42** 339–365.
- Campbell, K. E., B. A. Lee. 1991. Name generators in surveys of personal networks. *Soc. Networks* **13** 203–221.
- Chatman, J. A., K. A. Jehn. 1994. Assessing the relationship between industry characteristics and organizational culture: How different can you be? *Acad. Management J.* **37** 522–553.
- Chatterjee, S., B. Price. 1991. *Regression Analysis by Example*. John Wiley, New York.

- Collins, R. L. 1996. For better or worse: The impact of upward social comparison on self-evaluations. *Psych. Bull.* **119** 51–69.
- Crosby, F. J. 1982. *Relative Deprivation and Working Women*. Oxford University Press, New York.
- Davis, G. F., K. A. Diekmann, C. H. Tinsley. 1994. The decline and fall of the conglomerate firm in the 1980's: The deinstitutionalization of an organizational form. *Amer. Soc. Rev.* **59**(4) 547–570.
- de Sola Pool, I., M. Kochen. 1978. Contacts and influence. *Soc. Networks* **1** 5–51.
- Earley, P. C. 1999. Playing follow the leader: Status-determining traits in relation to collective efficacy across cultures. *Organ. Behavior Human Decision Processes* **80**(3) 192–212.
- Ely, R. J. 1994. The effects of organizational demographics and social identity on relationships among professional women. *Admin. Sci. Quart.* **39** 203–238.
- Faulkner, R. R., A. B. Anderson. 1987. Short-term projects and emergent careers: Evidence from Hollywood. *Amer. J. Sociology* **92**(4) 879–909.
- Feld, S. L. 1981. The focused organization of social ties. *Amer. J. Sociology* **86** 1015–1035.
- Feld, S. L. 1982. Social structure determinants of similarity among associates. *Amer. Sociological Rev.* **47** 797–801.
- Festinger, L. 1954. A theory of social comparison processes. *Human Relations* **7** 117–140.
- Fiske, S. T., S. E. Taylor. 1991. *Social Cognition*, 2nd ed. McGraw-Hill, New York.
- Goodman, P. S. 1974. An examination of the referents used in the evaluation of pay. *Organ. Behavior Human Performance* **12** 170–195.
- Granovetter, M. S. 1973. The strength of weak ties. *Amer. J. Sociology* **78** 1360–1380.
- Granovetter, M. S. 1992. Problems of explanation in economic sociology. N. Nohria, R. G. Eccles, eds. *Networks and Organizations: Structure, Form, and Action*. Harvard Business School, Boston, MA, 25–56.
- Granovetter, M. S. 1974/1995. *Getting a Job: A Study of Contacts and Careers*. Harvard University Press, Cambridge, MA.
- Hambrick, D. C., P. Mason. 1984. Upper echelons: The organization as a reflection of its top managers. *Acad. Management Rev.* **9** 193–206.
- Hammer, M. 1984. Explorations into the meaning of social network interview data. *Soc. Networks* **6** 341–371.
- Hampton, K. N., B. Wellman. 2000. Examining community in the digital neighborhood: Early results from Canada's wired suburb. T. Ishida, K. Isbister, eds. *Digital Cities: Technologies, Experiences, and Future Perspectives*. Springer-Verlag, Berlin, Germany, 194–208.
- Hogg, M. A., D. J. Terry. 2000. Social identity and self-categorization processes in organizational contexts. *Acad. Management Rev.* **25** 121–140.
- Ibarra, H. 1992. Homophily and differential returns: Sex differences in network structure and access in an advertising firm. *Admin. Sci. Quart.* **37**(3) 422–447.
- Ibarra, H. 1995. Race, opportunity, and diversity of social circles in managerial networks. *Acad. Management J.* **38** 673–703.
- Ibarra, H., S. B. Andrews. 1993. Power, social influence, and sense making: Effects of network centrality and proximity on employee perceptions. *Admin. Sci. Quart.* **38** 277–303.
- Ibarra, H., M. Kilduff, W. Tsai. 2005. Zooming in and out: Connecting individuals and collectivities at the frontiers of organizational network research. *Organ. Sci.* **16**(4) 359–371.
- Jackson, S. E., K. E. May, K. Whitney. 1995. Understanding the dynamics of diversity in decision-making teams. R. A. Guzzo, E. Salas, eds. *Team Decision-Making Effectiveness in Organizations*. Jossey-Bass, San Francisco, CA.
- Kacmar, K. M., L. A. Witt, S. Zivnuska, S. M. Gully. 2003. The interactive effect of leader-member exchange and communication frequency on performance ratings. *J. Appl. Psych.* **88**(4) 764–772.
- Kanter, R. M. 1977. *Men and Women of the Corporation*. Basic Books, New York.
- Krackhardt, D. 1992. The strength of strong ties: The importance of Philos in organizations. N. Nohria, R. G. Eccles, eds. *Networks and Organizations: Structure, Form, and Action*. Harvard Business School, Boston, MA.
- Kram, K. E., L. A. Isabella. 1985. Mentoring alternatives: The role of peer relationships in career development. *Acad. Management J.* **28**(1) 110–132.
- Kulik, C. T., M. L. Ambrose. 1992. Personal and situational determinants of referent choice. *Acad. Management Rev.* **17** 212–237.
- Lau, D. C., J. K. Murnighan. 1998. Demographic diversity and faultlines: The compositional dynamics of organizational groups. *Acad. Management Rev.* **23**(2) 325–340.
- Lawrence, B. S. 1984. Age grading: The implicit organizational timetable. *J. Organ. Behavior* **5** 23–35.
- Lawrence, B. S. 1990. At the crossroads: A multiple-level explanation of individual attainment. *Organ. Sci.* **1** 65–86.
- Lawrence, B. S. 1997. The black box of organizational demography. *Organ. Sci.* **8**(1) 1–22.
- Lawrence, B. S., P. S. Tolbert. Structure, norms and outcomes: Organizational demography and individual careers. M. Peiperl, H. Gunz, eds. *Handbook of Career Studies*. Sage Publications, Thousand Oaks, CA. Forthcoming.
- Lazarsfeld, P. F., R. K. Merton. 1954. Friendship as a social process: A substantive and methodological analysis. M. Berger, T. Abel, C. H. Page, eds. *Freedom and Control in Modern Society*. Van Nostrand, New York, 18–66.
- Levine, J. M., R. L. Moreland. 1987. Social comparison and outcome evaluation in group contexts. J. C. Masters, W. P. Smith, eds. *Social Comparison, Justice, and Relative Deprivation: Theoretical, Empirical, and Policy Perspectives*. Lawrence Erlbaum, Hillsdale, NJ, 105–127.
- Lincoln, J. R., J. Miller. 1979. Work and friendship ties in organizations: A comparative analysis of relational networks. *Admin. Sci. Quart.* **24** 181–199.
- Marin, A. 2004. Are respondents more likely to list alters with certain characteristics? Implications for name generator data. *Soc. Networks* **26** 289–307.
- Marsden, P. V., N. E. Friedkin. 1993. Network studies of social influence. *Soc. Methods Res.* **22** 127–151.
- Martin, J. 1992. *Cultures in Organizations: Three Perspectives*. Oxford University, Oxford, UK.
- McCarty, C., H. R. Bernard, P. D. Killworth, G. A. Shelley, E. C. Johnsen. 1997. Eliciting representative samples of personal networks. *Soc. Networks* **19** 303–323.
- McGuire, W. J., A. Pawawer-Singer. 1976. Trait salience in the spontaneous self-concept. *J. Personality Soc. Psych.* **33** 743–754.

- McPherson, J. M., L. Smith-Lovin. 2001. Birds of a feather: Homophily in social networks. *Annual Rev. Sociology* **27** 415–444.
- Mehra, A., M. Kilduff, D. J. Brass. 1998. At the margins: A distinctiveness approach to the social identity and social networks of underrepresented groups. *Acad. Management J.* **41** 441–452.
- Merton, R. K. 1968. Contributions to the theory of reference group behavior. R. K. Merton, ed. *Social Theory and Social Structure*. Free Press, New York, 279–334.
- Nisbett, R. E., L. Ross. 1980. *Human Inference: Strategies and Shortcomings of Social Judgment*. Prentice-Hall, Englewood Cliffs, NJ.
- Nosanchuk, T. A., B. H. Erickson. 1985. How high is up? Calibrating social comparison in the real world. *J. Personality Soc. Psych.* **48** 624–634.
- Ofek, E., M. Sarvary. 2001. Leverage the customer base: Creating competitive advantage through knowledge management. *Management Sci.* **47**(11) 1441–1456.
- Oldham, G. R., C. T. Kulik, L. P. Stepina, M. L. Ambrose. 1986. Relations between situational factors and the comparative referents used by employees. *Acad. Management J.* **29** 599–606.
- Organ, D. W. 1990. The motivational basis of organizational citizenship behavior. B. M. Staw, L. L. Cummings, eds. *Research in Organizational Behavior*. JAI, Greenwich, CT, 43–72.
- Phinney, J. S. 1996. When we talk about American ethnic groups: What do we mean? *Amer. Psych.* **51**(9) 918–927.
- Pratt, M. G., A. Rafaeli. 1997. Organizational dress as a symbol of multilayered social identities. *Acad. Management J.* **40** 862–898.
- Rentsch, J. R. 1990. Climate and culture: Interaction and qualitative differences in organizational meanings. *J. Appl. Psych.* **75** 668–681.
- Ridgeway, C. 1991. The social construction of status value: Gender and other nominal characteristics. *Soc. Forces* **70**(2) 367–386.
- Rousseau, D. M. 1989. Psychological and implied contracts in organizations. *Employee Responsibilities Rights J.* **2** 121–139.
- Rousseau, D. M. 1990. New hire perceptions of their own and their employer's obligations: A study of psychological contracts. *J. Organ. Behavior* **11** 389–400.
- Salancik, G. R., J. Pfeffer. 1978. A social information processing approach to job attitudes and task design. *Admin. Sci. Quart.* **23** 224–253.
- Satorra, A., P. M. Bentler. 1999. A scaled difference chi-square test statistic for moment structure analysis. B. O. Muthén, L. K. Muthén, eds. *Chi-Square Difference Testing Using the Satorra-Bentler Scaled Chi-Square*. <http://www.stat.ucla.edu/papers/preprints/260/>.
- Schein, E. H. 1992. *Organizational Culture and Leadership*, 2nd ed. Jossey-Bass, San Francisco, CA.
- Scott, W. R. 1987. *Organizations: Rational, Natural, and Open Systems*, 2nd ed. Prentice-Hall, Englewood Cliffs, NJ.
- Shah, P. P. 1998. Who are employees' social referents? Using a network perspective to determine referent others. *Acad. Management J.* **41** 249–268.
- Shibutani, T. 1955. Reference groups as perspectives. *Amer. J. Sociology* **60** 562–569.
- Shore, L. M., J. N. Cleveland, C. B. Goldberg. 2003. Work attitudes and decisions as a function of manager age and employee age. *J. Appl. Psych.* **88**(3) 529–537.
- Siegel, A. E., S. Siegel. 1971. Reference groups, membership groups, and attitude change. A. Doob, D. T. Regan, eds. *Readings in Experimental Social Psychology*. Appleton-Century-Crofts (Educational Division of Meredith Corporation), New York, 391–398.
- Singer, E. 1981. Reference groups and social evaluation. M. Rosenberg, R. H. Turner, eds. *Social Psychology and Sociological Perspectives*. Transaction, New Brunswick, NH, 66–93.
- Singh, P. 1994. Perception and reactions to inequity as a function of social comparison referents and hierarchical levels. *J. Appl. Soc. Psych.* **24** 557–565.
- Smith, T. W. 2002. Measuring inter-racial friendships. *Soc. Sci. Res.* **31**(4) 576–593.
- Smith-Lovin, L., J. M. McPherson. 1993. You are who you know: A network approach to gender. P. England, ed. *Theory on Gender/Feminism*. Aldine de Gruyter, New York, 223–251.
- Spence, M. 1973. Job market signaling. *Quart. J. Econom.* **87**(3) 355–374.
- Tajfel, H. 1978. *Differentiation Between Social Groups: Studies in the Social Psychology of Intergroup Relations*. Academic Press, London, UK.
- Tepper, B. J. 1995. Upward maintenance tactics in supervisory mentoring and nonmentoring relationships. *Acad. Management J.* **38**(4) 1191–1205.
- Terry, D. J., M. A. Hogg, J. M. Duck. 1999. Group membership, social identity, and attitudes. D. Abrams, M. A. Hogg, eds. *Social Identity and Social Cognition*. Blackwell, Oxford, UK, 280–314.
- Thatcher, S. M. B., K. A. Jehn, E. Zanutto. 2003. Cracks in diversity research: The effects of diversity faultlines on conflict and performance. *Group Decision Negotiation* **12** 217–241.
- Thomas, W. I., D. S. Thomas. 1928. *The Child in America: Behavior Problems and Programs*. Alfred A. Knopf, New York.
- Tsui, A. S., B. A. Gutek. 1999. *Demographic Differences in Organizations: Current Research and Future Directions*. Lexington Books, Lanham, MD.
- Turner, J. C. 1985. Social categorization and the self-concept: A social cognitive theory of group behavior. *Adv. Group Processes* **2** 77–121.
- Tyler, T. R., R. M. Kramer, O. P. John. 1999. *The Psychology of the Social Self*. Lawrence Erlbaum, Mahwah, NJ.
- Wanous, J. P., A. E. Reichers, M. J. Hudy. 1997. Overall job satisfaction: How good are single-item measures? *J. Appl. Psych.* **82**(2) 247–252.
- Wheeler, L., K. Miyake. 1992. Social comparison in everyday life. *J. Personality Soc. Psych.* **62**(5) 760–773.
- Wheeler, L., K. G. Shaver, R. A. Jones, G. R. Goethals, J. Cooper, J. E. Robinson, C. L. Gruder, K. W. Butzine. 1969. Factors determining the choice of a comparison other. *J. Experiment. Soc. Psych.* **5** 219–232.
- Williams, K. Y., C. A. O'Reilly. 1998. Demography and diversity in organizations: A review of 40 years of research. *Res. Organ. Behavior* **20** 77–140.
- Wood, J. V. 1989. Theory and research concerning social comparisons of personal attributes. *Psych. Bull.* **106** 231–248.
- Wood, J. V. 1996. What is social comparison and how should we study it? *Personality Soc. Psych. Bull.* **22** 520–537.
- Wood, R., A. Bandura. 1989. Social cognitive theory of organizational management. *Acad. Management Rev.* **14** 361–384.
- Zenger, T. R., B. S. Lawrence. 1989. Organizational demography: The differential effects of age and tenure distributions on technical communication. *Acad. Management J.* **32** 353–376.