

# Mentoring and Network Ties

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## Abstract

Using questionnaire data obtained from a sample of state government managers, our study examines social capital foci (network ties) of mentoring relations. Others have shown that network ties are relevant to career development and advance. We begin with the assumption that enhanced network ties are generally beneficial. We investigate variation in mentorships which enhance network ties within the focal organization and within organizations external to the focal organization. We examine a number of factors hypothesized as shaping the relationship between mentoring and the development of network ties, including attributes of the protégé and of the mentoring relationship. Our results show that the sex of the protégé and of the mentor does not affect the quantity of network ties conveyed. However, relationships in which protégé and mentor sex is matched provide more network ties. Counter to our expectations, there is no significant difference in the amount and focus of network ties accruing from formal, organizationally sanctioned mentoring and informal mentoring.

## **Mentoring and Network Ties**

### **Introduction**

Employees have long understood the value of mentoring for their careers. Often similar advantages accrue to the mentor as well (Allen, Poteet & Burroughs, 1997). Protégés develop knowledge and social linkages useful not only for their immediate job or current organization but for their longer-term career aspirations. Mentors, while often intrinsically motivated, understand that their own status is enhanced by high potential protégés.

Mentoring, according to most conceptualizations (e.g. Eby, 1997; Kram, 1985; Ragins, 1997) is multidimensional including psychosocial support, career and job advice, and information about the organization and its history- especially informal aspects. More recently, researchers have begun to focus on the relationships between mentoring and social capital. Seibert and colleagues (2001) note that social capital consists of mentorships and network resources and Bozionelos (2003) notes that mentoring can play a direct role in building network resources which in turn influence career success. The dimension of especial interest in our research is the social capital aspect of mentoring, and how mentors enhance protégé social capital resources through the conveying of contacts, personal introductions, and network ties.

“Social capital” can have different meanings (Bourdieu, 1986; Coleman, 1988; Hanifan 1916; Portes, 1998; Putnam, 2000). After reviewing social capital publications, Adler and Kwon (2002: 23) provide a simple and useful definition of social capital as “the goodwill available to individuals or groups. Its source lies in the structure and content of the actor's social relations. Its effects flow from the information, influence, and

solidarity it makes available to the actor.” This definition encompasses the aspect of social capital most relevant to our study- network ties and social contacts.

A number of researchers have focused particularly on the network ties and contacts dimension of social capital (Burt 1997, 2000; Granovetter, 1983; Lin, 1999). In general, the presumption is that enhanced network ties are beneficial in terms of career development and job opportunities. Those with extensive professional and business contacts are likely to have more information about opportunities, more likely to acquire information at an earlier point, have a larger pool of potential reference providers and “career brokers,” and more likely to be known to those who control or affect jobs. As Burt argues, “[P]eople who do better are somehow better connected” (2000: 3). Putnam (1993) reinforces this notion, defining social capital as “features of social organization, such as trust, norms, and networks that can improve the efficiency of society by facilitating coordinated action” (167). Nahapiet and Ghosal (1998) note that social networks can be characterized as the number of people in the network or the number of ties or pattern or ties between individuals. If we accept that “Better connected people enjoy higher returns” (Burt, 2000: 3), mentoring can potentially increase network ties and ultimately individual and perhaps organizational effectiveness.

The goal of this study is to understand one of the social capital aspects of mentoring – network ties. While mentoring is complex and multidimensional, our focus is necessarily more limited. We concern ourselves with whether making new contacts and network ties has been a focus of the mentorship and, if so, whether the focus has been on contacts within the protégé’s organization, outside the organization, or both. Our focus on personal introductions, although a limited focus on social capital, is a feasible starting

point. We examine a number of factors hypothesized as determining the network ties emerging from mentoring, including attributes of the protégé and of the mentorship. We are especially interested in whether there are differences in network ties owing to the origins of the mentorship, the duration of the mentorship, the role of protégé motivation, the sex of mentors and protégés, and whether or not the mentor works at the protégé's organization.

### **Mentoring Activity and Network Ties: Related Studies**

While researchers have documented many benefits of mentoring (Allen et al. 2004; Baugh, Lankau, & Scandura, 1996; Bozionelos, 2004; Kram, 1985; Ragins & Scandura, 1994; Young & Perrewé, 2000), only recently has much attention been given to the potential benefits pertaining to social capital (Bozionelos 2003, 2006; Seibert et al., 2007). In 1997, McManus and Russell's survey of the mentoring literature identified no studies focusing directly and empirically on social contacts, networks, or social capital variables. Since then, studies of mentoring and social capital have become more common. In recent years, mentoring and career researchers have examined, among other topics, the role of social capital and mentoring in legal careers (Dinovitzer, 2006), workplace mentoring and formation of social capital (Eby et al., 2006; Hezlett & Gibson, 2007), gender differences in social capital formation in networks (van Emmerik, 2006), and the use of social capital and mentoring in enabling entrepreneurial behavior (Davidsson & Honig, 2003). Despite some attention to social capital and mentoring, it is still the case, as Hezlett and Gibson (2007) note in their recent literature review, that the topics of mentoring and social capital tend to proceed along separate paths.

Studies of mentoring in science (e.g. Neumark & Gardecki, 1998; Stephan & Levin, 2001) have led the way in examining the social capital functions of mentoring. Outside of science studies, research examining social capital activities in mentoring was until recently uncommon. Eby's (1997) conceptual analysis considers network ties as one of several elements of a typology for alternative forms of mentoring. Dansky (1996) argues that professional organizations, acting as mentors, can help to build communication networks and diverse social networks. Though we prefer conceptualizing mentoring as dyadic, we appreciate Dansky's recognition that networks increase the protégé's exposure and visibility to networks external to the protégé's organization.

Although there is relatively little research on the social capital aspects of mentoring, there is much more research investigating the relationships between social capital and career outcomes. Social networks and social capital resulting from both formal and informal contacts, in particular contacts with people in higher positions in an organization's hierarchy, can provide individuals with information and influence (Granovetter 1974; Lin, 1999; Marsden & Hurlbert 1988). More important, this information and influence gathered through social networks is generally easier, quicker, and cheaper than information and influence gathered from other means (Aguilera, 2002). Social networks, resources, and job contacts positively affect labor market outcomes such as information about job openings, effective job matching, and job prestige, income, and wages (Burt, 1992; Lin, 1999; Simon & Warner, 1992). More specifically, studies indicate that social capital contributes to the income and position level of managers (Meyerson 1994).

### **Determinants of Network Tie Foci in Mentoring Relations**

We can understand the network ties imparted in a mentorship as a function of these interrelated terms: the attributes of the protégé, the mentor, and the means by which the relationship is initiated. Thus, the network ties emerging from the relationship are dictated in part by the attributes of the protégé; in particular, high demand protégés will receive more network tie opportunities. However, the relationship between the protégés' perceived potential and mentor choice is mitigated by an important variable, the type of mentor relationship.

The role of quality and choice in matching a protégé and mentor will be shaped by whether the mentor relationship is formal, usually implying the assignment is not entirely at the discretion of the individuals, or informal. If the latter, it likely makes a difference whether the mentor or protégé takes primary initiative. These factors interact with the location of the mentor. The status of the mentor as either inside or outside the organization will, of course, affect the network ties focus inasmuch as outside mentors may be presumed to have a lesser role in introducing the protégé to influential persons within the latter's organization and perhaps more likely, all else equal, to introduce the protégé to influential persons outside the protégé's organization.

## **Hypotheses and Measures**

### **Formal Mentoring**

Mentoring emerges from informal relationships among people, but also as a result of design by organizations and institutions. Kram's (1985) early work on mentoring predicted that formal and informal mentoring would result in different outcomes because assigned relationships lack the personal chemistry and commitment necessary for success. Subsequently, many research studies have examined the outcomes from formal

and informal mentoring (e.g. Ragins & Cotton, 1999; Ragins, Cotton, & Miller, 2000; Scandura & Williams, 2001).

Studies of formal and informal mentoring have focused on, among other topics, differences in socialization and organizational commitment (Heimann & Pittenger, 1996; Chao et al., 1992), psychosocial support, career guidance, role modeling, communication (Fagenson-Eland, Marks, & Amendola, 1997; Noe, 1988), job satisfaction, and salary (Chao et al., 1992). Some studies have confirmed Kram's concerns about formal mentoring, which may lead to mentor-protégé mismatch, uncomfortable relationships with minimal communication (Mullen, 1994), and increased protégé turnover and stress (Eby & Allen, 2002). Informal mentorships seem to produce socialization and training that increase the protégé's ability to communicate with superiors (Tepper, 1995) and increase the frequency of communication with mentors (Fagenson-Eland et al., 1997). More recently, researchers have begun to go beyond simple comparisons of formal and informal programs to look at specific characteristics. For example, Allen and colleagues (2006) examine such features as whether formal programs are voluntary and whether they included a required training element.

There is no research investigating the relationship between network ties and informal and formal mentoring, thus we draw from existing research on homophily and social capital to hypothesize about these relationships. In their review of homophily in social networks, McPherson and colleagues (2001) conclude that shared demographic characteristics such as race, sex, social class, religion, and values - are critical to building social networks because social connections and friendships are not random, but are based on social processes and personal preferences. If we think of informal mentorships as

nonrandom matches, we would expect homophily and increased outcomes, compared to formal mentorships that are assigned by the organization.

It is quite plausible that formal mentoring is more advantageous with respect to some goals and outcomes and informal mentoring is more advantageous for others. Certainly the diversity of findings from empirical research suggests as much. Our study considers only one aspect of informal and formal mentoring, the extent to which there is a social capital focus in the mentorship.

While we are agnostic about the relative value of formal and informal mentoring, we expect that informal mentorships, compared to those formally assigned by the organization, will tend to be more focused on external (outside the focal work organization) network ties. The same factors that attract the mentor and protégé to the relationship likely shape their networks. One reason is that the affinity that helped stimulate the mentorship in the informal case will carry over to some extent in the nature and desirability of social capital brought to the relationship. Strivers are likely attracted to strivers and at the same time may be more likely to be involved in career boosting organizations. Similarly, do-gooders are likely attracted to other do-gooders and may be more likely to be involved in do-gooder organizations. As McPherson and colleagues (2001) note, similarity breeds connection. In the case of formally assigned mentorships, if there is an affinity between the mentor and protégé, it seems likely that each party will invest more in the relationship generally and particularly in one another's networks.

*H1: Mentoring relationships originated in informal relationships will tend to provide more external (outside-the-organization) network ties than do mentoring relationships that are formal in origin.*

Since formal mentoring is more likely to be based on particular attributes chosen by the organization rather than mentor and protégé preferences in informal mentorships, we can expect that formal mentoring will be more oriented to interests internal to the organization. For example Siebert and colleagues (2001) focus on how networks within the focal organization develop through mentorships. We can expect that formal mentoring will be more oriented to specific objectives of the organization, including perhaps development of network ties within the organization.

*H2: Mentoring relationships originated in formal programs will tend to provide more inside-the-organization network ties and less outside-the-organization network ties.*

### **Duration**

In general, most empirical mentoring research controls for duration of mentoring, but few analyze this as a variable of interest (Godshalk & Sosik, 2003; Ragins & McFarlin, 1990). For example, Bozionelos (2004) limited his sample to mentoring relationships of at least two years with the explanation that other researchers (Chao, 1997; Fagenson-Eland et al., 1997) argue this is the base time needed for a mentorship to produce measurable outcomes, while Godshalk and Sosik (2003) included all mentorships ranging from one to 15 years in duration. The relationship between mentorship duration and outcomes is not well understood. Fagenson-Eland and colleagues (1997) find that relationship duration is significantly related to psychosocial outcomes while Ragins and McFarlin (1990) find that longer mentoring relationships do not result in increased perceptions of benefits among protégés.

Despite limited and ambiguous evidence all else equal, time and duration of the mentorship should be related to increased network ties. Longer duration mentorships may

offer more opportunities for increasing the number and intensity of social networks ties as both the protégé and the mentor acquire and share new network ties. Mentorships that last for a longer period of time represent relationships that both the mentor and the protégé have chosen to continue, most likely because they continue to receive benefits which outweigh the possible negative aspects of the relationship. Likewise, short term mentorships may represent failed mentoring or lower levels of motivation on the part of one or both members of the dyad since increased negative aspects of the mentorship increase the likelihood of exiting the relationship (Eby et al. 2008). Just as important, it seems plausible that those who are not receiving favorable outcomes would be likely to terminate the relationship. While this is not a logical necessity, it is apparent that some minimal threshold of time is required for network ties to accrue.

Given these mixed results and no consistent relationship between mentoring duration and outcomes, we predict that increased mentoring duration will increase the number of network ties.

*H3: Mentoring relationships of longer duration will provide more network ties.*

### **Protégé Motivation**

Increasingly, research focused on the workplace has examined worker relations in terms of social exchange (Wayne et al., 1997), and social exchange in mentorships (Siebert et al., 2001). Perceived statuses, contemporary and projected, often play an important role in the formation of social relationships and in the currency of exchange. This is as true in mentoring as in other familiar workplace and professional relationships.

We expect that the perception that a protégé is of “high potential” or is highly motivated will increase network tie outcomes. As recent studies have shown, mentors are

more willing to invest in highly motivated protégés and, likewise, protégés with high motivation are more likely to exploit the opportunities available in the mentoring relationship (Allen et al.1997; Allen et al. 2000; Young & Perrewe, 2000). In this study, we investigate the role of job selection in shaping network development. We investigate whether the protégé's desires for career advancement and job security are related to the development of network ties.

Related, protégés with high levels of learning goal orientation, similar to the mentor's, report higher levels of career satisfaction and attained managerial aspirations (Godshalk & Sosik, 2003). One determinant of protégé selection is the likelihood that the protégé will enhance the prestige of the mentor, another factor underscoring the importance of protégé potential (Newby & Heide, 1992). Likewise, protégés that are active in their communities and outside of the workplace may be perceived as being highly motivated or capable of not only taking advantage of network ties but bringing their own social capital to the mentorship. If mentors select protégés based on their apparent quality, potential, or motivation then it seems reasonable to suggest that social capital and network ties will be among the greater investments made in these selected protégés. Further, if we assume that mentors benefit from others' perceptions of the quality of the protégé, then a singular means of reaping that benefit is to initiate the protégé into the mentor's networks and set of contacts. Such expectations are consistent with a social exchange view of mentoring, an approach often used to understand the distribution of psychological and material benefits accruing from mentoring (Allen et al., 2000).

*H4a: Protégé patterns of motivation for taking a job will be positively associated with increased network ties.*

*H4b: An increase in the quantity of external organizational affiliations reported by the protégé will be related to increased network ties provided.*

## **Sex**

Current research indicates that both women and men report benefits from mentorships including greater job success and satisfaction (Riley & Wrench, 1985) and increased self-confidence and use of skills (Reich, 1986). There is considerable disagreement among researchers as to whether men and women differ in their level of benefit from mentoring and in the ways in which they benefit (Young, Cady, & Foxon 2006). Some studies maintain that mentoring is an especially useful tool for advancing female careers (Hennig & Jardim, 1977) and plays a critical role in determining success among top-level managers (Missirian, 1980). Campbell (1988) notes that women's job networks are often less extensive than men's, partly due to child responsibilities and being the "trailing spouse" (for a related argument see Lin, 2000). However, at least some research studies indicate relatively little difference in men's and women's benefits from mentoring. For example, Ragins and Scandura (1994) find that male and female protégés report similar benefits, even within male-dominated occupations such as public accounting and Scandura and Ragins (1993) find that biological sex is not related to mentoring outcomes.

While the jury is still out on male-female differences in mentoring outcomes, our concern here is not with a broad set of mentoring outcomes, but simply network ties. Our expectation is that there will be no significant difference between men and women with respect to the amount and type of network ties imparted. However, we expect that matching by sex will be significant. That is, we expect that in relationships where the

mentor and protégé are of the same sex, more network ties will be imparted. The reasoning here is straightforward. Many studies (e.g. Ibarra, 1992; Ibarra & Smith-Lovin, 1997) have shown that male-dominated networks and female dominated networks differ in their developmental life cycle, network structure, status allocation, core activities and, exit and entry patterns. Given the difference in predominately male and predominately female networks, we expect that the males introducing males into networks and females introducing females will have a closer fit between individual and network attributes (Feeney 2006).

We should note that there are plausible alternatives to this expectation. For example, one study shows that cross-gender dyads report that their protégés used the mentorship more effectively than same gender mentors reported for their protégés (Noe, 1988). Furthermore, it is common for female protégés to pair with male mentors in order to gain entry into the ‘old boy’s network’ in male-dominated occupations (Ragins, 1989; Ragins & McFarlin, 1990). This aligns with social network research which argues that, for women, social ties to men are more valuable than ties to women because, in general, men attain higher labor market outcomes such as status and pay and are in more influential positions than women (Ferber & Spaeth, 1984; Weinberger, 1998).

Despite multiple plausible alternatives, we expect that same sex relationships will be more fertile ground for friendships and social interactions, leading us to predict that while neither the sex of the protégé nor the mentor will be significantly associated with network ties more ties will be generated in same sex mentoring.

*H5: Mentorships where the mentor and protégé are of the same sex, as compared to opposite sex, will be associated with increased network ties.*

### **Internal/External Mentor**

While there are many aspects of social capital that one might consider in mentoring, we are particularly interested in whether network ties developed in mentoring are focused *within* the protégé's employing organization, outside that organization, or both. These respective foci may have quite different implications. The internal and external focus is sufficiently important that Adler and Kwon (2002; 20), in their overview and synthesis of the social capital literature identify major studies in both categories. However, not all researchers make the same distinction that we do. Ours is very simple: if the focus is "inside" it pertains to the protégé's work organization, all else is "external."

Our investigation of mentoring and network ties rests on two assumptions. First, we assume that with respect to positive mentoring outcomes, more ties are better. That is, those who have more extensive social capital, network ties both inside and outside the organization, will have the most positive outcomes. Second, we assume that those with mentors inside the organization will tend to have somewhat higher network ties in the focal organization than those who have an external mentor. Our reasoning is instrumental – mentors will be more likely to further introductions and networks in the focal organization, leading to higher levels of satisfaction and practical use of information for promotion and advancement within the organization.

A plausible alternative is that network ties external to the protégé's focal organization will have effects that are more positive because having an external focus will generally imply a more cosmopolitan career orientation. There is some evidence that external social capital and networks have considerable utility for one's employing organization (Fernandez, Castilla, & Moore, 2000). On the other hand, one would assume that external networks might have the effect of drawing the protégé out of the

organization of employment instead of ensuring promotion within that organization. The social capital literature indicates that diverse networks extend an individual's exposure to non-redundant, novel information (Granovetter, 1974) and increase labor force participation (Aguilera, 2002) and career mobility (Dansky, 1996). More important, in the case of mentoring, a mentor external to a protégé's organization will increase communication networks and diverse social networks, which in turn increase protégé exposure, visibility, and career mobility (Dansky, 1996).<sup>1</sup>

*H6a: If the mentor is outside the protégé's current organization, fewer network ties will be imparted.*

*H6b: If the mentor is outside the protégé's current organization, the network ties developed from the mentorship will tend to be outside the focal organization.*

### **Data Sources, Variables and Statistical Approach**

The study employs data from the National Administrative Studies Project (NASP-III), a survey of 1849 managers in Illinois (937) and Georgia (912). The respondents are 790 state government managers and professionals, 432 respondents from Georgia (47% response rate) and 358 from Illinois (38% response rate). We operationalize the hypotheses with variables developed from the NASP-III questionnaire. NASP-III is a general-purpose database focusing in-depth on two themes: mentoring and career change and advancement. Social capital is not a specific focus of the questionnaire and, thus, it was necessary, at least in some instances, to provide sub-optimal "opportunity" constructions of network tie measures. The Appendix to this paper provides details about the study. The questionnaire defines mentoring as "*a developmental relationship between two colleagues where one person has more experience or authority than the other. Mentoring may include helping another person with improving work skills,*

*understanding the organizational history, providing information about “getting ahead” in the job or profession, and giving personal or emotional support.”* The analysis presented in this paper focuses on the 406 individuals who responded yes to the following questionnaire item: “Have you ever had a mentor?”

### **Dependent Variables**

The four network tie variables are derived from responses to two questionnaire times: (1) *My mentor helped introduce me to influential people in this organization* and (2) *My mentor helped introduce me to influential people outside this organization*. Original responses to the items were based on a four-point scale (Strongly Agree, Agree Somewhat, Disagree Somewhat, Strongly Disagree). The network tie variables are dummy variables indicating if the mentor has helped the protégé to develop: (1) networks inside the protégé’s organization (Network Ties-Inside), (2) networks outside the protégé’s organization (Network Ties-Outside), (3) networks both inside and outside the organization (Network Ties-Both), and (4) networks neither inside nor outside the organization (Network Ties-Neither). These variables ensure that each respondent has a value of one on only one of the four variables (i.e. “Inside” implies only network ties inside the organization, not both types of network ties).<sup>2</sup>

### **Independent Variables**

The variables pertaining to the initiation of the mentorship are based on a questionnaire item asking respondents to “*Please indicate how your relationship with your mentor began.*” The three choices are mutually exclusive dummy variables. The variable, Formal, is coded one if the respondent responded yes to the following questionnaire item: *My mentor was assigned through a formal program*. The variable,

Protégé-Initiated is coded one if the protégé responded yes to the following item: *I was more active than the mentor in initiating the informal mentoring relationship* and the variable, Mentor-Initiated indicates if the mentor was more active in initiating the mentorship.

The variables measuring the duration and end of mentoring are measured in terms of items asking when the mentorship began and ended, measure in months. The variable Duration is the start date subtracted from the end date. The variable Same Sex is coded 1=mentor and protégé same sex, 0=mentor and protégé different sex.<sup>3</sup>

The variable Breadth of Civic Affiliations is an additive index comprised of responses to a series of dummy variables concerning various categories of organizations or groups to which the respondent might belong. We take this variable as a rough index of the respondent's external activities in the community and therefore a form of social capital. We asked respondents: "Please indicate which of the following organizations you are currently a member, if any: church, synagogue; political club or political party committees; professional societies, trade or business association, or labor union; service organizations; youth support groups; etc." We then summed the number of organizations to which the respondent belongs, creating a scale ranging from zero to eight. The Breadth of Civic Affiliations variable is the sum of membership categories and not the number of organizations of each type in which the respondent is active. This information is not available in the NASP-III data.<sup>4</sup>

The items measuring the respondent's motivation for taking the current job are measured in terms of scales developed from a factor analysis. The variables Security Motivation and Advancement Motivation are developed from the following questionnaire

items, all of which use the same four-point scale as reported above. In each case, the response to this directive: *“We are interested in the factors that motivated you to accept a job at your current organization. Please indicate the extent to which the factors below (some personal, some family, some professional) were important in making your decision to take a job at your current organization.”* The items used here include:

- Opportunity for advancement within the organization’s hierarchy
- The organization’s pension or retirement plan
- Desire for increased responsibility
- Benefits (medical, insurance)
- Few, if any, alternative job offers

To construct indices for motivation to take the current job, the factor analysis specified an orthogonal solution and Varimax rotation, resulting in an optimized distribution of variance along resultant dimensions. A maximum likelihood approach was employed. At one eigenvalue (i.e. the criterion that each extracted factor should explain as much variance as any single variable), two dimensions resulted which taken together represent 60.5% of the common variance in the initial correlation matrix. The factor loadings matrix is presented in Table One.

- Table One goes here-

As is customary, we interpreted the factors in terms of their highest loadings, focusing specifically on those equal to or greater than +/-0.50. From this analysis we named Factor One Security Motivation and Factor Two Advancement Motivation. Finally, we developed factors scores relating the respondents to the loadings positions on the factor dimensions, and used these as independent variables.

Descriptive statistics and correlations are provided in Table Two.

### **Statistical Approach**

We test the hypotheses using a series of statistical models, all but one based on multinomial logistical regression analysis (for those unfamiliar with the technique see Long, 1997). Since the dependent variables are categorical, linear ordinary least squares regression is not appropriate. Multinomial logistic regression is especially appropriate because the initial dependent variables, the network ties variables, are mutually exclusive, non-ordinal categories. At the same time the approach permits use of ordinal or categorical independent variables (factors) and interval level independent variables (covariates). Our primary interpretation is based on estimated odds ratios (exponentiated  $\beta$ ), which relate predictor variables for a category in relation to their impact on a reference category (Network Ties-None).

While we ran full factorial models, our analysis is based on a main effects model. The use of the main effects model is the most common approach and the default in many statistical packages and contains the covariate and factor direct effects but no interaction effects. The reason for our reporting a main-effects model is that the full factorial model introduces a level of complexity that diminishes interpretability. Moreover, the simpler model is more appropriate for data having greater construct validity than one would normally expect with even high quality questionnaire-based data.

## **Results**

We consider the results in two stages. First we examine the results for the six hypotheses. Second we examine the results for a model of the determinants of Network Ties. Table Three provides the results for a multinomial logistical analysis (MLA) predicting values for the network ties focus of mentorships. In this case Network Ties-None (i.e. no significant social capital transmitted in the mentorship) is the reference

value. Thus, in each case we are comparing the respective alternative categories (Network Ties-Inside, Network Ties-Outside, Network Ties-Both) to the case in which the respondent perceives that no network ties (i.e. introductions to influential persons inside or outside the focal organization) have been transmitted in the mentorship.

-Table Three goes here-

### **Results for Hypotheses**

Regarding H1 and H2, relating the origins of the mentorship (informal and formal) to network ties, the findings lend no support. The Formal Origins variable is not significant for any of the types of network ties. Apparently, the type and amount of significant network ties provided is independent of the origins of the mentorship, at least when controlling for other relevant variables. The third hypothesis states that an increase in mentorship duration is positively associated with an increase in network ties. We find some support for the duration hypothesis. Those who have longer enduring mentorships are more likely to report both inside and outside network ties.

We find some support for hypothesis 4a which states that a protégé's motivation for accepting the job is related to increased network ties. Those respondents who report higher Advancement Motivation and lower Security Motivation tend to report higher levels of both inside and outside network ties. However, the protégé's external social activities (H4b), measured by Breadth of Civic Activity, have no bearing on the provision of network ties.

The fifth hypothesis, that same sex mentoring would be significantly related to increased network ties, receives some support. We find that same sex mentoring is not significantly related to the dependent variables Inside Network Ties nor Inside and

Outside Network ties, but is strongly positively associated with the development of Outside Network ties (compared to the development of no network ties), though the causal mechanism seems to us obscure (it is not friendship). If the mentor and protégé are of the same sex, then it is six times as likely that the focus will be only on outside network ties. The protégé's sex is not significant.

Finally, we hypothesized (H6a) that if the mentor is outside the protégé's current organization then less network ties (of any sort) would be imparted and that (H6b) the focus would be on network ties outside the focal organization. Hypothesis H6a and H6b receive some support. When the mentor is external, the protégé is more than six times as likely to develop outside (only) networks and is less than half as likely to accrue inside networks from the mentoring relationship.

### **Findings for Determinants of Network Ties**

Turning to the determinants of network ties, let us first compare the extremes. Compared to mentorships where no significant network ties are transmitted, those who report introductions both within and outside the organization, tend to report mentorships of longer duration. This perhaps stems from two quite different factors. If mentorships are of longer duration it is likely that the probability is enhanced, all else equal, that they developed from a previous job and, thus, almost certainly include introductions made in the previous organization (now "outside the [focal] organization"). Second, and more important, longer duration mentorships imply the mentoring relationship has succeeded on some minimal basis - least neither party chose at an early stage to terminate the relationship. Third, it seems, all else equal, that over time there are simply increased

opportunities for introductions and connections to third parties, either as systematic strategy or simply through happenstance.

Those mentorships with both inside and outside network ties tend to be ones in which the protégé reported taking the job due to stronger motivations for advancement, as measured by high scores on the factor dimension Advancement Motivation. Indeed, those high on this dimension are 1.7 times more likely to have had a mentoring relationship that includes both inside and outside network ties as compared to no significant introductions. It is not entirely clear whether protégés' advancement motivation for taking the job is a cause or effect of a mentoring relationship imparting significant network ties from multiple organizations. On the one hand, it is likely that informally originating mentorships based on mentor initiation will select for advancement motivation and, related, those relationships of longer duration (even if formal program in origin) will likely be sustained by the protégé's strong advancement motivation. It is possible that a relationship providing extensive network ties, especially focused on persons both inside and outside the focal organization, can affect the motivation of the protégé. Finally, providing both inside and outside network ties is associated with mentor-initiated relationships. This is not unexpected. If one assumes that mentors have selected the protégé, then it is likely that the mentor would have an especially favorable view of the protégé and more active in providing introductions.

Turning to the measure for introductions outside the organization only, Network Ties-Outside, we see in Table Three one intuitive result and one that is perhaps not so straightforward. When compared to no significant network ties provided (Network Ties-None), the provision of network ties only outside the organization (Network Ties-

Outside) is predicted by the fact that the mentor is not a member of the current organization. Indeed, the provision of outside network ties is six times more likely when the mentor is elsewhere. This is likely a result of the fact that mentors outside one's own organization have no contacts or limited contacts with the members of one's organization and if there is going to be any focus on network ties then it will necessarily be external.

Finally, we consider the results for network ties inside the protégé's organization compared to no reported introductions. The only significant association, again one that accords with intuitive expectations, is network ties associated with mentors elsewhere. If the mentor is elsewhere, the likelihood is less than half (compared to the no social capital imparted value) that there will be only inside network ties accruing from the mentorship.

The general research question for determinants of network ties suggests, *the introductions emerging from mentorships are a function of three sets of attributes: mentor attributes, protégé attributes and attributes of the mentoring relationship*. Since variables for each of these categories are significant with respect to at least one type of network ties, there is at least some support for the most general organizing research question. In the case of the more specific relationships, the results are mixed.

## **Conclusions**

The primary concern of our paper was to determine if differences in the network ties provided in mentorships could be predicted. We feel that we have shed some light on factors affecting the social capital conveyed. Several of the discrete findings from our study seem to have some implications for management and policy. One important implication is that it seems not to make a major difference whether the mentorship emerges organically or from a formal program. Our expectation is that this would be one

of the chief determinants of the type and amount of social capital provided. The reasoning is that in informal mentorships, positive selection effects govern much of the mentoring relationship, including social capital imparted. To a large extent, this expectation was not met. If this (non)finding is deemed valid and generalizable, it may have instrumental value. We have found that on average “arranged marriages” work about as well as “love marriages,” at least with respect to provision of network ties. This does not mean that there are no important distinctions between formal and informal mentoring. There was one important instance where the *type* of informal mentoring seems to make a difference; mentor-initiated relationships are more than twice as likely to focus on both internal and external network ties.

The findings for the Female and Same Sex Mentoring variables also are relevant to policy and management. Those designing mentoring programs often labor over the question of whether to encourage or discourage matching according to sex. Some researchers point to negative effects (Hunt & Michael, 1983; Noe, 1988) while others find sex irrelevant in predicting negative outcomes (Feeney, 2006; Ragins & Scandura 1994, 1997). Our findings suggest that the same sex pairing of mentor and protégé does have one very important effect. If the mentor and protégé are of the same sex, there is a much greater likelihood that contacts with persons outside the organization will occur. While there are several possible explanations for this, it is possible that sex mixed relationships are less likely friendship-based and more focused on joint professional goals. This perhaps suggests further that in those organizations where boundary spanning and external social networks are especially important, sex matched mentoring relations may have greater value. But in many cases, internal social capital is at least as important

and often more important to both employees and to the organization and sex mix seems to have no bearing in these cases.

One of the most important mentoring variables in our study is a simple measure of whether the mentor is in the same organization as the protégé. This factor seems to be important in governing many aspects of network ties developed. It is important enough to warrant further investigation. We provide some provocative findings about the location of the mentor but not conclusive ones. It is important to tease out relationships between mentor location and the number and types of jobs the protégé has held, among other factors. It seems especially important to determine (which we cannot do with our data) whether the mentor and the protégé were once in the same organization. We would expect very different implications for a mentorship that at its beginning involved people in different organizations inasmuch as this would be an indicator that the relationship crossed organizational and spatial barriers, perhaps indicating an especially high level of either attraction or commitment between the mentor and protégé.

It is important to emphasize the many limitations of this research. In the first place, the study draws opportunistically from a database not specifically for social capital analysis. The NASP-III data were not constructed specifically for social capital studies and provide no means of measuring the intensity of affiliations or behaviors related to those affiliations. The network ties measures provide only a blunt instrument and emphasize only some aspects of social capital. Second, the fact that all data are cross-sectional severely limits the ability to provide strong explanation. Much more can be learned from a study designed at the outset to trace the formation of network ties in mentoring and tracing changes on utility over a sufficient career span. In particular,

recent research has shown that the short-term benefits of mentoring differ in important ways from the long-term benefits (Eby et al., 2006).

Our study provides only small steps, but at least suggests needed next steps in carving out research on the social capital imparted in mentoring relationships. One need is to examine the multiple social capital functions of mentoring in relation to other functions of mentoring such as psycho-social support. Are the functions and outcomes complementary? Are they competing? Are there time-based crowding out effects? It is also vital to develop more specific indicators of social capital in mentoring, including identifying dynamic network relationships over time. Finally, it is imperative to consider the social capital contributions of mentorships compared to other possible sources of network ties. Our modest measure of Breadth of Civic Affiliations needs to be supplemented with more sophisticated measures that can compare mentoring-based social capital with community networks (Portney & Berry, 1997) or family-based social capital (Sandefur, Meier, & Campbell, 2006). Ultimately, understanding the social capital impacts of mentoring requires understanding more than network ties and introductions, but different types of social capital, derived in different places and at different times (Bjørnskov, 2006; Bourdieu, 1986). Once mentoring social capital is brought into relief, we can more fully understand its importance.

**Table One: Factor Loadings Matrix for “Security Motivation” and “Advancement Motivation”**

Questionnaire Item	Factor	
	Security Motivation	Advancement Motivation
<b>Advance in organizational hierarchy</b>	.195	.593
<b>Job security</b>	.608	.120
<b>Pension or retirement plan</b>	.751	.202
<b>Desire increased responsibility</b>	-.040	.723
<b>Benefits (medical, insurance)</b>	.816	.192
<b>Few, if any, alternative job offers</b>	.198	-.053

Factor 1: Eigenvalue 2.34; cumulative variance 39.1%

Factor 2: Eigenvalue 1.29; cumulative variance 21.4%

Cronbach Alpha for six variables= .68

Cronbach Alpha for first factor variables loading in excess of +/- .50= .78

Cronbach Alpha for second factor variables loading in excess of +/- .50= .71

The NASP-III questionnaire gave respondents the following directive: *We are interested in the factors that motivated you to accept a job at your current organization. Please indicate the extent to which the factors below (some personal, some family, some professional) were important in making your decision to take a job at your current organization.:* (1) Opportunity for advancement within the organization’s hierarchy; (2) The organization’s pension or retirement plan; (3) Desire for increased responsibility; (4) Benefits (medical, insurance); and (5) Few, if any, alternative job offers. Likert response categories: strongly agree, somewhat agree, somewhat disagree, strongly disagree

**Table Two: Descriptive Statistics and Correlations**

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Formal Origins <sup>a</sup>	0.265	0.442	1												
2. Mentor Initiated <sup>b</sup>	0.408	0.492	-.498**	1											
3. Internal Mentor <sup>c</sup>	0.678	0.468	.003	-.061	1										
4. Mentorship Duration <sup>d</sup>	42	66.24	-.094	-.028	.192**	1									
5. Female	0.46	0.499	-.037	.020	-.085	-.118*	1								
6. Female Mentor	0.34	.475	.050	-.035	-.046	-.083	.343**	1							
7. Same Sex Match	0.325	0.469	.043	.003	-.002	.136**	-.312**	-.033	1						
8. Total Civic Activities	2.670	1.523	-.018	.008	-.110*	-.072	.068	.023	-.032	1					
9. Security Motivation	-0.070	0.920	.109*	-.015	.100*	.065	.034	.068	.003	-.048	1				
10. Advancement Motivation	0.021	0.791	-.025	-.002	.120*	.096	-.023	-.022	.043	.075	.091	1			
11. Social Capital-None	0.561	0.497	.158**	-.148**	.116*	-.006	.075	-.010	.017	-.073	.111*	-.110*	1		
12. Social Capital-Inside	0.363	0.481	-.108*	.169**	.037	-.012	-.085	.014	.037	.059	-.083	.178**	-.853**	1	
13. Social Capital-Outside	0.309	0.463	-.120*	.114*	-.201**	.018	-.075	.037	.010	.077	-.101*	.064	-.757**	.545**	1
14. Social Capital-Both	0.234	0.424	-.066	.141**	-.045	-.001	-.089	.043	.071	.065	-.072	.142**	-.624**	.731**	.824**

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

<sup>a</sup>Formal mentor=1; Informal mentor=0

<sup>b</sup>Mentor initiated=1; Protégé initiated=0 (among informal mentorships only)

<sup>c</sup>Internal mentor=1; External mentor=0

<sup>d</sup>Mentorship duration in months

**Table Three: Multinomial Logit Analysis of Social Capital Focus**

<i>Independent Variables</i>	<b>Inside and Outside Network Ties [NT-BOTH]</b>		<b>Outside Network Ties Only [NT-Outside]</b>		<b>Inside Network Ties Only [NT-Inside]</b>	
	<i>B</i>	<i>ExpB</i>	<i>B</i>	<i>ExpB</i>	<i>B</i>	<i>ExpB</i>
Intercept	40.65		-103.78		12.50	
Mentorship Duration	.079	<b>1.082**</b>	.002	1.002	-.007	.993
Advancement Motivation	.526	<b>1.691**</b>	-.333	.717	.373	1.452
Security Motivation	-.246	.782	-.059	.942	-.240	.787
Breadth of Civic Affiliations	.092	1.096	.246	1.279	.038	1.039
End of Mentorship	-.022	.978	.049	1.051	-.007	.993
SameSex Mentoring	-.006	.994	1.921	<b>6.829*</b>	.648	1.911
Formal Origins	-.467	1.595	-.342	1.408	-.301	1.351
Female	.316	1.372	-.254	.776	.434	1.544
Mentor Initiated	.833	<b>2.300**</b>	-.668	.512	-.100	.905
Mentor Outside Org	.180	1.197	1.909	<b>6.746***</b>	-.886	<b>.412*</b>
<i>Chi</i> <sup>2</sup>	57.569***					
<i>Log likelihood</i>	504.626					
<i>n</i> =	259					

\**p*<.10, \*\**p*>.05, \*\*\**p*>.01; two tailed test of significance.  
 (Reference Value: No Social Capital Imparted)

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## **Appendix**

### **National Administration Studies Project (NASP-III)**

#### **Study Approach**

The population of managers in Georgia was drawn from the Georgia Department of Audits (DoA) comprehensive list of state employees who were on state agency payrolls during the 2003/2004 fiscal year. We removed employees at technical colleges, commissions, authorities, the office of the governor, and institutions from the judicial or legislative branch. In addition we removed employees at institutions with less than 20 employees. The population included any job titles coded as "director" "coordinator" "officials or manager" and "professionals" under the pay grade of 017 (which in that personnel system is the pay grade that can be assumed to be in managerial positions). The resulting population included 6,164 Georgia managers.

The population of managers in Illinois was developed through a Freedom of Information Act request for a list of all state employees designated as either "senior public service administrators" or "public service administrators." This list included information on 5,461 state employees, including name, agency, and county.

#### **Survey Administration**

We selected a sample of 2000 managers (1000 from Illinois and 1000 from Georgia). The survey administration included a pre-contact letter, Wave I survey with letter, follow-up postcard mailing, Wave II mailing, follow-up contacts by phone call and email, and a final Wave III mailing. The survey was closed January 1, 2006. Though we began with a sample of 2000 public sector respondents our sample was reduced to 1849 (912 Georgia, 937 Illinois) because of respondents who had retired (16 cases) or were no longer working for the state (135 cases). The survey was closed with 432 responses from Georgia (47%) and 358 (38%) from Illinois public managers.

Binary Variables		Frequency	Valid Percent	N
<b>Gender</b> (Full Sample)	Female	346	44	786
	Male	440	56	
<b>Gender</b> (Mentored Sample)	Female	187	46	406
	Male	219	54	
<b>What is your mentor's gender?</b>	Female	137	34	400
	Male	263	66	
<b>Mentor – Protégé gender match</b> (Gender Mix)	Match	268	68	397
	Different	129	32	
<b>Have you ever had a mentor?</b> (Full Sample)	No	370	48	776
	Yes	406	52	
<b>Have you ever been a mentor?</b> (Mentored Sample)	No	75	19	395
	Yes	320	81	
<b>Was your mentor a member of your current organization?</b> [Internal/External]	No	129	32	400
	Yes	271	68	
<b>Mentoring has not ended</b>	No	315	78	402
	Yes	87	22	
<b>My mentor was assigned through a formal program</b> [Formal]	No	283	74	385
	Yes	102	26	
<b>The mentor was more active than I was in initiating an informal mentoring relationship</b> [Mentor-Initiated]	No	228	59	385
	Yes	157	41	
<b>I was more active than the mentor in initiating an informal mentoring relationship</b> [Protégé-Initiated]	No	259	67	385
	Yes	126	33	

**Breadth of Civic Affiliations:** Sum of nine dummy variables. Frequencies: No civic activities 20, 5%; 1 activity 73, 18%; 2 activities 104, 26%; 3 activities 110, 27%; 4 activities 50, 12%; 5 activities 27, 7%; 6 activities 16 4%; 7 activities 5, 1%; 8 activities 1, .25%; missing 0, N=406

#### **Mentor Satisfaction Items Used to Construct Social Capital Focus Variables**

1. My mentor helped introduce me to influential people in this organization: strongly agree 142, somewhat agree 143, somewhat disagree 51, strongly disagree 58, Mean 2.94, Median 3, Standard Deviation 1.034, missing 12, N=406.

2. My mentor helped introduce me to influential people outside this organization: strongly agree 122, somewhat agree 109, somewhat disagree 101, strongly disagree 62. Mean 2.74, Median 3, Standard Deviation 1.063, missing 11, N=406.

## Endnotes

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<sup>1</sup> In order to capture the development of internal and external social capital we have a variety of variables in the models, which function as controls. For example, an external social capital focus may imply that the mentor is not in the focal organization, so we include a control for whether or not the mentor is a member of the protégés organization.

<sup>2</sup> The two questionnaire items had the same four-point scale, “strongly disagree”=1, “disagree somewhat”=2, “agree somewhat”=3, and “strongly agree”=4. The dummy variables were created as strongly agree=1 and all else =0. The reason for this approach was partly empirical; truncating at 4 “strongly agree” smoothed skewed distributions and the “agree somewhat” responses behaved in almost all associations more similarly to the “disagree somewhat” responses. Second we are interested in examining high levels of social capital (introductions to influential people). The reasoning was that (1) casual work life results in most acquaintance introducing one another to a few other persons, even if there is no mentor-protégé relationship, and (2) focusing only on the “strongly agree” responses seemed a conservative test, compared to other options.

<sup>3</sup> We chose not to treat the variable as a factorial (e.g. m/f, m/m (43%), f/m, f/f (23%)) because of the low percentage of female mentors matched with male protégés (10%).

<sup>4</sup> Group membership response categories included: Church, synagogue, mosque, or religious organization; Political club or political party committees; Professional societies, trade or business association, or labor union; service organizations such as Rotary or Lions; Youth support groups such as the Girl’s and Boy’s Club, Little League Parents Association; Neighborhood or homeowners’ associations; PTA, PTO, or school support groups; Groups sports team or club (e.g. softball team, bowling league); Other.