Strengthening Network Ties through Mentoring of Alienated Personnel*

Sangyub Ryu and Soo-Young Lee*****

Abstract: This study examines the social network aspects of mentoring in order to suggest ways to manage alienated public employees. It also explores the impact of mentoring that requires closer relationships between mentors and mentees to develop network ties. Networks of trust, respect, and friendship among soldiers in four barracks of the Republic of Korea Army (two experimental groups and two control groups) were measured using a social network survey. Alienated soldiers in the experimental groups were mentored by fellow soldiers with stronger ties, while no such mentoring was conducted in the control groups. After three months of mentoring, changes in network strengths were found among alienated soldiers in the experimental groups, while no significant changes were found among alienated soldiers in the control groups. This study is expected to contribute to human resource management by suggesting ways to strengthen the network ties of alienated personnel through mentoring.

Keywords: mentoring, social network, experiment, Korean Army

INTRODUCTION

Since Kram (1980) first paid attention to mentoring studies (Bozeman & Feeney, 2007), researchers have investigated the significance of mentoring in the field of management. Research has found a positive impact of mentoring on mentees' out-

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comes such as organizational commitment, job satisfaction, job performance, and retention rates (Bass, 1990; Bozeman & Feeney, 2009a; Dreher & Ash, 1990; Klingner & Nalbandian, 1998; Kram, 1985; Orpen, 1997; Payne & Huffman, 2005; Scandura & Williams, 2004; Riccucci, 2006). The literature has expanded on various mentoring issues, and the focus has shifted from mentoring by experienced seniors of inexperienced juniors to mentoring between peers (Bozionelos, 2004). Chao, Walz, and Gardner (1992) identified formal and informal mentoring, while negative mentoring was explored by Eby, McManus, Simon, and Russell (2000).

Some researchers have attempted to link mentoring to networking. Orpen (1997) emphasized closer physical proximity and interaction for mentoring, while Blau (1977) considered time as another critical factor for increasing network ties. Scandura, Tejeda, Werther, and Lankau (1996) found improved networks and productivity to be organizational benefits of mentoring. More recently, Seibert, Kraimer, and Liden (2001) emphasized mentorship and network resources as elements of social capital. Bozionelos (2003) noted that mentees can build network resources through mentoring, which leads them to career success. Despite the growing body of literature on the link between mentoring and network ties, the social network aspects of mentoring are relatively unexplored (Feeney & Bozeman, 2008).

The anticipated contribution of research on mentoring and social networks is significant, especially in the public sector: unlike employees in private organizations, public employees are protected by rules and regulations that make it relatively hard for them to be removed. These civil service protections help employees maintain political neutrality and protect them from external influences, but may prove to be problematic when public organizations deal with employees who perform poorly, because firing poor performers is not an option. This research suggests that social networking aspects of mentoring can help alleviate this problem.

MENTORING IN THE ORGANIZATION

Defining Mentoring

Generally, mentoring in the organization is understood as a process in which seniors or existing employees help subordinates engage in their organizations. However, few researchers have paid attention to conceptualizing and theorizing mentoring (Bozeman & Feeney, 2007). Bozeman and Feeney (2007) considered Kram's dissertation (1980) and her article (1983) as among the initial studies on mentoring.

Kram (1985) defined mentoring as follows: the mentor, who is a senior or more

experienced person, provides the mentee, who is a junior or less experienced person, with assistance for career development and/or personal support such as psychological support. According to Kram (1983), the mentoring relationship has four stages, which are predictable but not clearly distinct. They are (1) initiation, during which the mentoring relationship starts; (2) cultivation, during which a mentor increases the extent of his or her assistance to a mentee; (3) separation, during which an established mentoring relationship changes due to psychological changes in the mentor or mentee or changes in the organizational context; and (4) redefinition, during which the mentoring relationship undergoes a major change or is terminated (Kram, 1983).

After reviewing early research on mentoring, Bozeman and Feeney (2007, p. 723) found that researchers (e.g., Chao et al., 1992; Eby, 1997; Ragins, 1997b; Scandura, 1992; Whitely, Dougherty, & Dreher, 1991) defined mentoring in various ways, but based their definitions mostly on Kram's (1985) conceptualization of mentoring.

Later research expanded the field of mentoring studies by defining mentoring in additional ways. Studies' focus varies from peer mentoring (Bozionelos, 2004) and formal and informal mentoring (Chao et al., 1992) to negative mentoring (Eby et al., 2000). This diversity of definitions and topics may enrich the mentoring literature, but it has also resulted in increased complexity and ambiguity in mentoring research, despite the fact that a variety of definitions of mentoring share the same core conceptualization (Bozeman & Feeney, 2007).

The nature of mentoring—mentors' assistance to mentees—benefits human resource management in certain aspects, such as employee's motivation, job performance, and retention rates (Wilson & Elman, 1990). Orpen (1997) suggested, based on his formal mentoring process model, that close relationships between mentors and mentees allow mentors to provide more support and assistance for mentees, which increases mentees' motivation and commitment, which in turn improves their job performance.

Orpen's model makes two assumptions. The first is that when mentors and mentees have more opportunities to interact, mentees are likely to receive better assistance and support from their mentors (Orpen, 1997). The second is that more interaction between mentors and mentees increases the likelihood of developing positive attitudes such as respect, regard, and mutual enjoyment (Orpen, 1997). Sampling from a medium-size manufacturing company by matching 39 mentors to 39 mentees, he found that the formal mentoring process significantly influenced mentees' motivation and organizational commitment, as he had hypothesized, but he failed to find a link between formal mentoring and mentees' job performance.

Other research has suggested similar impacts of mentoring. Scandura and Williams (2004) empirically found that career mentoring, which is correlated with sub-dimensions of transformational leadership, positively influences mentees' job satisfaction,

organizational commitment, and career expectations. Dreher and Ash (1990) empirically supported positive associations between mentoring and four career outcomes: income, promotion, pay-level satisfaction, and benefit satisfaction.

In sum, conceptual studies followed by empirical studies suggest that mentoring, based on the premises of opportunities to interact and closeness of relationships, should positively influence mentees' outcomes in the organization with mentors' assistance and guidance. Thus, mentoring can be a useful strategy to develop and improve employees' capacities.

Mentoring in Public Administration

Mentoring plays a critical role in human resource management (Chao, 1997; Russell & Adams, 1997), not only in reducing turnover and increasing commitment and satisfaction, but also in promoting diversity among employees (Bozeman & Feeney, 2009a; Klingner & Nalbandian, 1998; Riccucci, 2006). Although private organizations pursue workforce diversity, public organizations are under more pressure to maintain diversity in gender, age, race, and ethnicity (Bozeman & Feeney, 2009a).

According to Ragins (1997a, 1997b), diversified mentoring is a relationship between mentors and mentees of different races, genders, classes, or ages. Bozeman and Feeney (2009a) argued that the public and private sectors have different goals and organizational environments, so diversified mentoring may have different implications for each. They further suggested that even mentoring outcomes such as job satisfaction, organizational commitment, career advancement, and salary may differ between the two sectors.

Despite disagreements on public-private distinctions, a number of scholars have identified different aspects of public and private management (e.g., Bozeman, 1987; Dahl & Lindblom, 1953; Rainey, 2003; Wamsley & Zald, 1973). The distinctiveness of public management implies that mentoring in the public sector may have a different context or different aspects than mentoring in the private sector. However, while much attention has been paid to mentoring in the private sector, few research studies have addressed mentoring in the context of public administration (Bozeman & Feeney, 2008, 2009a, 2009b).

Mentoring and Network Ties of Alienated Public Employees

Managing social capital is a critical issue in public organizations. Generally, civil service protections make it hard for public organizations to hire, fire, and promote public employees regardless of their capability or lack thereof. In particular, rules and regulations restrict public organizations' ability to remove alienated workers, who

engage less in networking.

Public organizations can find effective resolutions to this problem in several studies of mentoring. For instance, Dreher and Ash (1990) noted that traditional mentoring, which matches superiors to subordinates as mentors and mentees, enables mentees to develop network ties that may help them find future success. Eby (1997) argued that networks developed among peers who serve both as mentors and mentees are valuable in mentoring.

The conceptual background that links mentoring to network development was emphasized by Orpen (1997). He argued that mentoring allows mentors and mentees to interact, and greater interaction increases physical proximity among them. In earlier studies of mentoring, Blau (1977) had already proposed that greater proximity and time spent increases the probability of a random connection. His proposal implies that two actors who had yet to form a relationship or who had formed a weak relationship can formulate a new and stronger relationship if they are set to spend more time with less distance from each other. Active and well-administered mentoring satisfies the conditions for closer proximity and more time spent, so that alienated mentees can increase the likelihood of closer relationships with their mentors.

If mentors have strong ties within the workforce, alienated mentees may find better chances to enhance their level of involvement in their work by increasing their own network ties. According to Krackhardt (1992), strong ties play an influential role by aiding the development of trust and reciprocity among actors in social networks. Mentors' strong ties, he argued, enable complex information to be better transferred between mentor and mentee. This allows the mentees to become more involved in the workplace. Thus, this study hypothesizes as follows:

> **Hypothesis:** Alienated public employees who are mentored by colleagues with strong ties are more likely to develop network ties than those who are not mentored.

RESEARCH DESIGN

Sample

The sample was collected from the headquarters of a certain division of the Republic of Korea Army.[1] The headquarters consists of four barracks, each with one or more

1. The authors do not reveal the exact name of the division due to a security reason.

squads. The first and second barracks have soldiers who work for the nine offices of the general staff. Soldiers in the third barrack work mainly on headquarters maintenance, and those in the fourth barrack guard the headquarters.

Soldiers in the sample have two years of mandatory military service. For a more reliable experiment, soldiers who had less than three months of service remaining were excluded from this study, because the experiment was performed for three months. Soldiers who joined the army less than three months before the experiment began were also excluded, because the Army assumes that they need time to adjust to military life and therefore they receive special care from the base.

Networks of Trust, Respect, and Friendship

A survey was designed to investigate social networks of trust, respect, and friendship among the sampled soldiers. Even though the Army is a hierarchical organization, barrack members have informal networks. Due to the characteristics of the Army, soldiers cannot easily share information or emotions, and this leaves them with limited resources when they have a personal problem.

A soldier in difficulty will not necessarily consult a barrack leader or platoon leader. The person chosen to consult varies based on each soldier's relationships. Trust is what helps soldiers in difficulty to frankly share their concerns or feelings with others. Sharing problems with those they trust gives them more chances to solve problems and to prevent accidents that could be caused by them. On the other hand, if soldiers are left alone with no other barrack member to trust, they are more likely to cause problems. Therefore, understanding informal networks of trust is critical to understanding which soldiers may be maladjusted.

Respect is another variable that helps soldiers to avoid problems. Soldiers are likely to regard other soldiers they respect as role models. If a respected soldier gives advice to a soldier in difficulty, the impact can be significant, and the problem of alienation can be overcome. On the other hand, if soldiers in difficulty have no respect for any of the soldiers in their barracks, they will have no role models, and this could lead them to react in an extreme way when they face a problem.

The network of intimacy or friendship plays a significant role in decision making (Krackhardt & Kilduff, 1999). According to Nam Yunyoung, MD, people who attempt suicide always send a signal before such an attempt.[2] Therefore, if they are carefully observed, most of those who are attempting suicide can be identified and saved.[3]

2. Ahn, J. H. (2006, February 02). Suicide prevention is a science. Chosun Newspaper. Retrieved from http://www.chosun.com/national/news/200602/200602210466.html.

His analysis suggests that soldiers in difficulties may, before causing problems, send signals to their friends, who can influence their decisions. Another implication is that the fewer friends soldiers in difficulties have, the more likely they are to become alienated and cause problems.

Survey and Experiment

First Survey

To identify the networks of trust, respect, and friendship, Krackhardt's (1987) cognitive social structure questionnaire form was adopted. It recorded not only individual soldiers' perceptions of their own personal networks, but also other barrack members' perceptions of each individual's personal network. This approach provided more insights into the overall network of the barrack. The survey was conducted for each of the four barracks. All soldiers except those who were on vacation or on guard answered the survey. The survey was conducted on nine out of eleven barrack members in the first barrack, nine out of eleven in the second barrack, seven out of seven in the third barrack, and six out of nine in the fourth barrack.

Analysis of the First Survey and the Mentor-Mentee Assignment

Once the data were collected, the in-degree and the out-degree levels of network ties were measured. In-degree ties are defined in terms of how much other people trust, respect, and are friendly toward the subject of the questionnaire, and out-degree ties are defined in terms of how much the subject trusts, respects, and is friendly toward others. The in-degree and out-degree ties of each soldier's network were calculated using UCINET 6 software.

Soldiers with above-average in-degree and out-degree levels were likely to play key roles in the barracks network because of their strong ties. Soldiers with a lower-than-average level in only one category were not considered problematic. Soldiers with lower in-degree and out-degree levels ("low-low" soldiers) are the focus of this study. Their scores indicate that few other soldiers trust, respect, and form friendships with them, and at the same time, they do not trust, respect, or form friendships with other soldiers. These soldiers have a higher possibility of being alienated and causing a problem.

Table 1 shows soldiers who have low in-degree and out-degree levels of trust, respect, and friendship. The "low-low" soldiers in barracks 1 and 4 were randomly assigned to the experimental group, and those in barracks 2 and 3 were randomly

3. Id.

Table 1. "Low-Low" Soldiers Identified from the First Survey

	Trust	Respect	Friendship	All "low-low" soldiers	Group
Barrack 1	5, 8, 10	5, 8	2, 5, 8, 10	2, 5, 8,* 10	Experimental
Barrack 2	5, 6, 9	5, 13	5, 6, 13	5, 6, 9, 13	Control
Barrack 3	5	5	5, 7	5,* 7	Control
Barrack 4	8, 9	4, 5, 9	4, 8, 9	4, 5, 8, 9	Experimental

* Soldier 8 in barrack 1 and soldier 5 in barrack 3 were transferred to another base, so they were excluded from the research.

Table 2. Mentor and Mentee Assignments

Barrack 1		Barrack 4	
Mentor	Mentee	Mentor	Mentee
1	2	3	4
4	5	6	5
9	10	7	8, 9

assigned to the control group.

The choice of control and experimental groups was randomly made. In the experimental groups, mentoring was conducted for "low-low" soldiers; mentors and mentees were matched as shown in table 2. Mentors and mentees were asked to meet each other once a day to talk about the mentees' routine military life as well as their other concerns.

Second Survey

After a three-month mentorship program, a second survey was conducted using the same survey format. This time, seven out of ten soldiers in the first barrack, seven out of eleven in the second barrack, four out of four in the third barrack, and eight out of eight in the fourth barrack participated in the survey.

RESULTS

Figures 1 through 3 show the change in the "low-low" soldiers' in-degree scores for trust, respect, and friendship over time. In each, the x axis indicates the average in-degree score from the first survey, while the y axis indicates the average in-degree score from the second survey. Diamonds represent those who were engaged in mentoring, and circles represent those who were not mentored. Shapes representing "low-low" soldiers are located based on their first and second in-degree scores. Shapes above the

y=x line show that the in-degree score increased after the three-month period, while those below the y=x line show a decrease in the in-degree score.

As figure 1 shows, "low-low" soldiers in the experimental groups earned a greater in-degree of trust after three months of mentoring, compared to their own earlier scores and to the control group's scores. Statistical analysis supports this change. Table 3 shows the result of the paired t-test of "low-low" soldiers' in-degree and out-degree of trust in both the experimental and control groups. The result is that "low-low" soldiers

Figure 1. Changes of In-degree of Trust

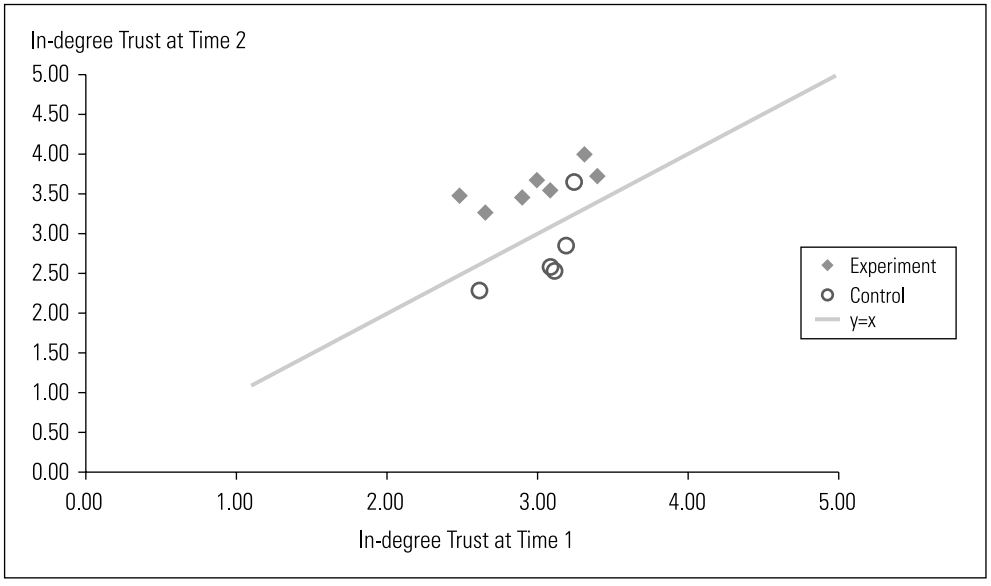

Table 3. Paired T-Test of Averaged In-degree and Out-degree Trust

	Average In-degree Trust				Average Out-degree Trust			
	Experiment		Control		Experiment		Control	
	Average	Observation	Average	Observation	Average	Observation	Average	Observation
Survey 1	2.974 (0.089)	7	3.05 (0.111)	5	1.370 (0.646)	7	3.2029 (0.096)	5
Survey 2	3.581 (0.125)	7	2.764 (0.236)	5	1.604 (0.756)	7	2.8924 (0.209)	5
Difference between Survey 2 and Survey 1	0.607*** (0.080)	7	0.286 (0.178)	5	0.234* (0.113)	7	-0.3104 (0.161)	5
T-statistics	7.624		-1.608		2.067		-1.928	

Standard errors in parentheses; *p<0.10; **p<0.05; ***p<0.01.

in the experimental group showed statistically significant increases in both in-degree and out-degree trust scores. However, neither in-degree nor out-degree trust scores changed significantly among "low-low" soldiers who did not receive mentoring.

This finding supports the previous argument that mentoring enhances mentees' network ties by providing closer physical proximity and more time with a mentor who holds strong ties within the network. In other words, mentoring played a critical role in helping mentees find and form trusting relationships with more people within the network.

Similar findings are reported for networks of respect. Figure 2 shows the change of average in-degree respect among "low-low" soldiers in both experimental and control groups. Both groups of "low-low" soldiers' in-degree respect levels increased compared to their own scores from the first survey. The net change of average in-degree level of respect among "low-low" soldiers who did not receive mentoring changed slightly, but these changes, based on t-test results reported in table 4, were not statistically significant. On the other hand, the increase in the average in-degree scores for respect among "low-low" soldiers in the experimental group, according to t-test results in table 4, were statistically significant. Also, although the significance level is low, results showed that the average out-degree level of respect among "low-low" soldiers in the

Figure 2. Changes of In-degree of Respect

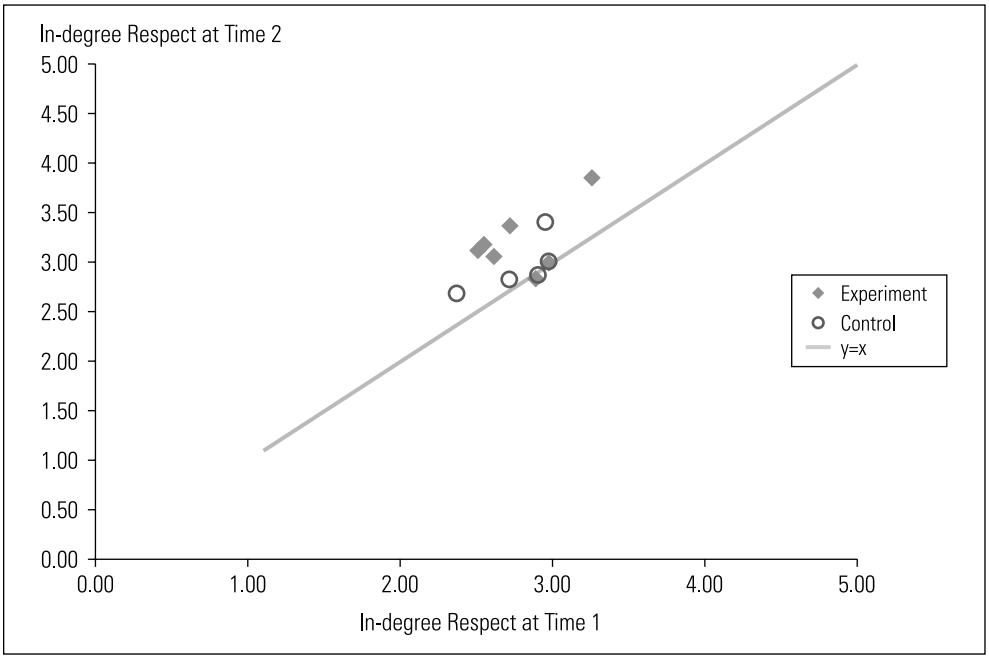

Table 4. Paired T-Test of Averaged In-degree and Out-degree Respect

	Average In-degree Trust				Average Out-degree Trust			
	Experiment		Control		Experiment		Control	
	Average	Observation	Average	Observation	Average	Observation	Average	Observation
Survey 1	2.779 (0.101)	7	2.776 (0.113)	5	1.277 (0.602)	7	3.069 (0.106)	5
Survey 2	3.191 (0.125)	7	2.954 (0.123)	5	1.551 (0.732)	7	3.105 (0.164)	5
Difference between Survey 2 and Survey 1	0.413** (0.113)	7	0.178 (0.092)	5	0.274* (0.134)	7	0.036 (0.152)	5
T-statistics	3.642		1.934		2.050		0.235	

Standard errors in parentheses; *p<0.10; **p<0.05; ***p<0.01.

experimental group increased as well. This also suggests that mentoring helped mentees find people to respect and helped them to be respected by those people.

Figure 3 shows the changes of friendship in-degree scores after the three-month mentoring. Compared to their own scores before the mentoring as well as those in the control group, five of the mentees in the experimental group found more people who

Figure 3. Changes of In-degree of Friendship

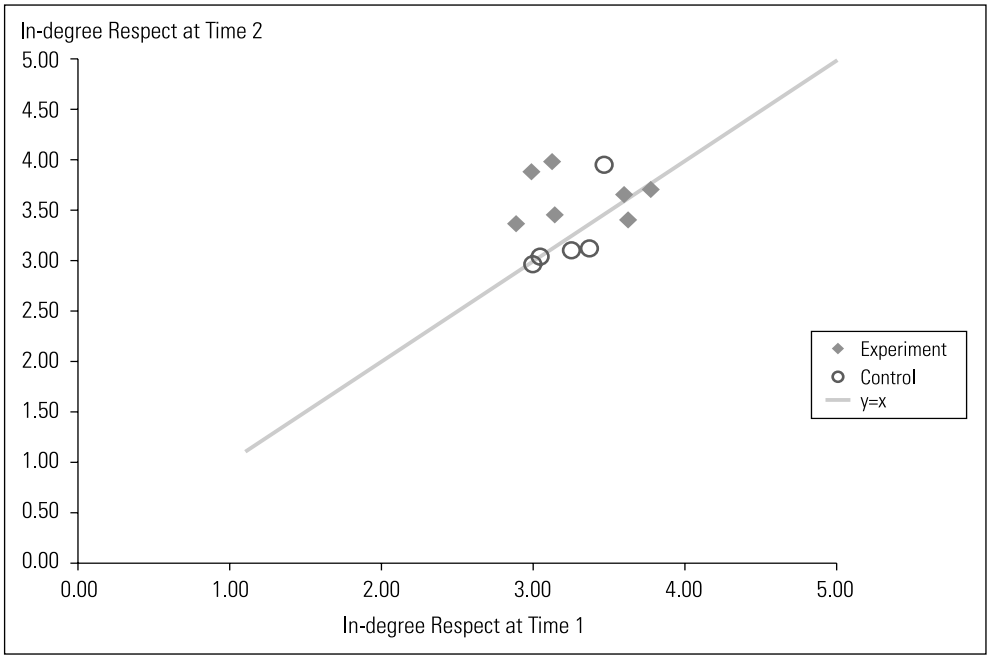

Table 5. Paired T-Test of Averaged In-degree and Out-degree Friendship

	Average In-degree Trust				Average Out-degree Trust			
	Experiment		Control		Experiment		Control	
	Average	Observation	Average	Observation	Average	Observation	Average	Observation
Survey 1	3.309 (0.132)	7	3.228 (0.090)	5	3.372 (0.121)	7	3.233 (0.081)	5
Survey 2	3.639 (0.091)	7	3.240 (0.182)	5	3.652 (0.083)	7	3.189 (0.194)	5
Difference between Survey 2 and Survey 1	0.330* (0.167)	7	0.012 (0.127)	5	0.279 (0.162)	7	-0.044 (0.147)	5
T-statistics	1.982		0.094		1.725		-0.298	

Standard errors in parentheses; *p<0.10; **p<0.05; ***p<0.01.

considered them as a friend, while two of them lost people who considered them as a friend. Among control group members, only one "low-low" soldier had more people who regarded him as a friend. Table 5 reports statistical findings. Average in-degree scores of "low-low" soldiers in the experimental group statistically increased, while no statistical changes were evident among those in the control group. Unlike the results for trust and respect, mentoring did not help mentees increase the number of individuals whom they think of as friends. These results may be explainable in the sense that trust and respect are mental actions, while friendship may require physical action. And three months of mentoring may not be enough time for "low-low" soldiers to socialize more with others. However, it is expected that if mentoring lasts for a longer period, the average out-degree of friendship network ties would increase as well.

CONCLUSION AND DISCUSSION

This study has sought a way to identify individuals who are alienated from the networks in which they are engaged and to help them become more involved in their networks. Blau (1977) proposed that alienated individuals are more likely to interact with others in their networks when they stay closer to and spend more time with them. Blau's proposition applies directly to mentoring relationships. Orpen (1997) proposed the formal mentoring process model, in which he assumed that a greater mentoring relationship enables closer physical proximity and opportunities to interact. Other studies (Feeney & Bozeman, 2008; Higgins & Kram, 2001; Scandura et al., 1996; Seibert et al., 2001) emphasize the importance of social network aspects of mentoring.

In addition to the social network aspects of mentoring, this study pays special

attention to managing alienated public employees who hold relatively secure positions due to civil service protection. In order to identify alienated employees, a cognitive social structure questionnaire was distributed and answered by soldiers in the Republic of Korea Army. By analyzing their in-degree and out-degree levels of trust, respect, and friendship, alienated soldiers as well as soldiers with strong network ties were identified. A three-month mentoring experiment that matched alienated soldiers with soldiers who already had strong ties resulted in the strengthening of alienated soldiers' network ties, while those without mentoring remained alienated. These results suggest that human resource management may use mentoring programs as a strategy for managing alienated employees.

Limitations of this study include a small sample and a simple mean test. Visual graphs and paired t-test results may be satisfactory in revealing the impact of mentoring on social network development, but more refined, systematic experiments with larger samples, controlling for other variables that can influence network development, would increase reliability. Moreover, the mentoring carried out during this study was informal and allowed mentors to conduct mentoring in a relatively subjective manner. The variation of the contents of the mentoring process was not controlled, and future research accounting for the detailed contents of the mentoring would better explain the variation of its outcomes.

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