Are They Connected?
Exploring Academic and Social Networks
Among MPA Students at a Chinese University

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ABSTRACT
As a complement to traditional scholarship concerned with the production, transfer, and practical utility of management knowledge in a professional graduate degree program, this paper focuses on relational benefits of MPA learning and education. In this exploratory study, we investigated the extent to which academic, career advice, friendship, and socio-emotional support networks were developed among a cohort of students at a Chinese university's MPA program. We applied a social network approach to examining the structural characteristics of the four networks. We found that MPA students at this study site have developed more extensive academic and friendship than career advice and socio-emotional support networks. Students also strengthened their interactions by building multiple relationships across the different networks.

Over the past 30 years of economic reform, China made giant strides from a planned economy to an increasingly competitive market economy. Government administrative systems play a critical role in state strategic development and governance. These transformations pose great challenges for the new generation of civil servants and call for them to develop new skills to initiate and manage these transformational changes. In responding to these challenges, in 2001, Chinese universities started to offer a Master of Public Administration (MPA) degree program to train executives working in government offices and the social sector. Currently as many as 100 Chinese universities have been granted...
permissions by the Ministry of Education to launch MPA degree programs. These universities enroll about 15,000 to 20,000 students annually to pursue MPA degrees (Jing & Berman, 2008).

The literature on China's MPA education tends to focus on the supply side: program design, curriculum development, and faculty teaching and research. For example, some scholars reviewed the history of China's MPA education and highlighted its Chinese characteristics (Tong & Straussman, 2003). In addition to pinpointing economic and administrative reforms that have driven the emergence of MPA education in China, Yang (2005) argued that the current status of China's MPA education reflected a balance of internationalization and localization. Other scholars conducted comparative studies of MPA education in the United States and China in terms of curriculum design (Wang, Guo, & Ma, 1998) and teaching styles (Infeld & Li, 2009). Competing paradigms of New Public Management, New Governance, and Public Values were found to influence course content and pedagogy of China's MPA curriculum (Wu & He, 2009). By looking into Chinese public administration journal articles, Lu and Chow (2008) pointed to two of the weakest links of China's public administration research: theory building and knowledge advancement. Jing (2008) further demonstrated six inadequacies of China's doctoral dissertation research in public administration: research question, validity, theory relevance, causality, importance, and innovativeness. However, less work to date has been done on the demand side—Chinese MPA students; only one study has examined the training experience of 10 Chinese municipal officials in the United States (Ye, Sun, & Wu, 2009).

This paper addresses this void by exploring the development of academic and social networks among Chinese MPA students. Like any other professional graduate degree programs, students can benefit from a MPA degree program by acquiring and updating their professional knowledge, obtaining an advanced degree, and developing their social networks. For any effective managers—whether in the public, nonprofit, or for-profit sector—to be successful in their careers, they need to develop their networking competency (Kotter, 1982). Given the exponential growth of MPA programs in China, it is of great theoretical and practical interest to examine whether and how these professional public service training programs would help develop students’ academic and social networks.

In this paper, we address this research question: To what extent have academic and social networks been developed among Chinese MPA students? As an exploratory study, we report the findings from a social network survey of 100 students who were enrolled in a Chinese university’s MPA program. By employing a network analytical approach, we examine the structural characteristics of academic and social networks of relationships developed among Chinese MPA students who participated in the survey. How strongly are they connected? Which network is more prevalent, centralized, and cohesive? Does
the pattern of interactions for one network align with that of interactions for another network? In the following sections, we first review the literature on network development through professional degree programs and then focus our discussion on identifying four types of networks—academic, career advice, friendship, and socio-emotional support formed among Chinese MPA students. After describing the data collection and research method, we present our findings; and we conclude by providing directions for future research.

**Building Networks through Professional Graduate Degree Programs**

A key starting point of exploring network building through professional graduate studies involves the social and psychological foundations of human desire for connecting with others. In Maslow's well-known but controversial theory of hierarchy of human needs, social needs at level 3 refer to the needs for love, affection, and belonging to social units and groups (Maslow, 1954). In his theory of human needs, McClelland (1961) pointed to the human need for affiliation—the need to establish and maintain positive affective relations or friendship with others. Similarly, Herzberg (1968) included quality of interpersonal relations among peers, with supervisors, and with subordinates as one of the factors to motivate people.

The recent stream of research on social capital adds a new perspective on the development of social networks through a professional master’s degree program. Social scientists have long used notions of capital (e.g., human capital, cultural capital, and social capital) as organizing concepts to understand the mechanisms that affect life chances of individuals and the well-being of communities. Professional master’s degree programs, such as an MBA or MPA, can increase scholastic, cultural, and social capital for students (Baruch, Bell, & Gray, 2005; Useem & Karabel, 1986). Students who are enrolled in an MPA degree program develop their scholastic capital through acquiring managerial knowledge that is essential for them to function effectively in public and nonprofit organizations. These programs provide students with explicit, theoretical knowledge as well as tacit analytical skills, such as analyzing cases. *Cultural capital* refers to the value of reputation that people within a society attach to a prestigious graduate degree. As a symbol of status, cultural capital helps individuals climb the social status ladder.

Aside from scholastic and cultural capital, students can also benefit from attaining a professional graduate degree by acquiring social capital embedded in their social networks. Social networks are a set of relationships with stable patterns of repeated interactions. Lin (2000, p. 786) defined *social capital* as investment and use of embedded resources in social relations for expected returns. Social capital is conceptualized as (1) quantity and/or quality of resources that an actor (be it an individual or group or community) can access or use through (2) its location in a social network.
The first part of conceptualization refers to the resources embedded in structures of social relations (Lin, 2000). The second part emphasizes positions in a network or network characteristics. It is generally believed that social capital enhances the likelihood of instrumental returns, such as better jobs, earlier promotions, higher earnings or bonuses, and expressive returns, such as friendship and emotional support.

Since social capital is developed through networking, students can increase their personal contacts through professional graduate studies. Development of social capital via participation in academic and social activities is generally encouraged by professional degree programs. The cohort of a specific class, the full alumni of the university, and the overall population of graduates serve as a foundation stone for networking. Being part of these networks is a great asset for individual students. This is especially important in China, given the prominent role of relationships. As a society of acquaintances, Chinese civil servants have long been known for their use of guanxi (“connections”) for career development. In ancient China, those who passed civil servant examinations found it judicious to maintain close ties with their peers. Persons from the same examination district or those who passed the examinations in the same year always felt a fraternal bond among themselves. The successful candidates, as a group, honored their examiners as lifetime mentors. They established their own lines of communication and formed their own informal networks outside formal, hierarchical bureaucratic structures (Huang, 1981).

One of the insights from organizational research is that effective managers go outside the formal chain of command to develop cooperative relationships with others (peers, superiors, outsiders, suppliers, customers, etc.). They rely on networks of relations for the resources, information, and support needed for career success (Coleman, 1988; Lin, 1999; Seibert, Kraimer, & Liden, 2001). They recognize that the larger their network, the greater their chance for successfully carrying out their vision and the goals and objectives that support it. They nurture these relationships by doing favors for others, encourage people to identify with their goals and vision, and seek to develop a feeling of dependence. Successful network managers ensure that all of their goals and objectives receive attention and select the right networks to get the results they desire. Multiple agendas require multiple action networks, and the effective manager is managing his or her influence networks simultaneously (Kotter, 1982).

Empirical studies confirmed the benefits of teaching executives to understand the network structure of social capital. Burt and Ronchi (2007) found that business executives trained in the network structure of social capital showed performance improvement relative to a control group of untrained and yet equally capable peers. By comparing managerial strategies of superintendents in Texas school districts, Meier and O’Toole (2001) discovered that networking activities and behavior enabled public managers to more effectively attract and utilize resources and contributed substantially to the student outcomes.
ACADEMIC AND SOCIAL NETWORKS OF CHINESE MPA STUDENTS

Networks built around professional degree programs are self-organizing and emergent. They are informal, naturally occurring networks that differentiate themselves from formal, imposed, or mandated networks in most organizational settings. Students come from different organizations and do not have either superior-subordinate or coworker relationships. It is preferable to study emergent network structures, independent of students’ current employers, because they better contribute to our understanding of human behavior (Monge & Contractor, 2003).

While the networks themselves are either formal or informal, the nature of relationships between individuals in networks can be treated as either instrumental or expressive. Instrumental ties include exchanges of job-related resources, information, expertise, career direction, and guidance. Expressive ties cover relationships that involve the exchange of friendship and trust (Ibarra, 1993). In this study, we examine the structural characteristics of four types of network relationships formed among Chinese MPA students during their graduate studies: academic, career advice, friendship, and socio-emotional support. These networks revolve around informal exchanges outside the classroom among students. The first two networks carry instrumental ends, while the last two serve more expressive purposes. Research on higher education suggests that students’ academic and/or social networks formed during their studies are important for their degree completion (Tinto, 1993).

Academic Network

One of the tasks any student faces, whether at the undergraduate or graduate level, is to establish personal networks of peer affiliations that provide the academic support—such as exchanging and sharing notes, jointly solving difficult problems, and group study—needed for successful completion of the program. Thomas (2000) argued that the structural characteristics of an academic network could be considered as indicators of measuring the extent to which students are integrated into campus life. The formation of an academic network is also consistent with the idea of “learning community,” in which common understandings of best practices and collective learning can take place (Stassen, 2003). It comes as no surprise that in professional master’s degree training, students are always encouraged to practice group projects and collective learning.

Career Advice Network

Research reveals that when searching for job opportunities, people not only use formal channels (e.g., job ad, head-hunting firms) but also actively mobilize their informal social ties (Granovetter, 1974 & 1983; Lin, 2000). Students in a professional degree program can exchange job-related and career development
information with each other. The career advice network provides students with access to information about possible jobs, business opportunities, and chances for professional achievement. Network members help share career insights and personal experience in their perspective fields. A greater amount of useful information is routinely exchanged and circulated among members. Think of a group of classmates who, during an MPA study, inspires or pushes one of their members to explore alternative career paths—and encourages him or her in the process.

**Friendship Network**

When an individual is related to others to form a social network, the interpersonal ties and their embedded resources constitute the focal individual’s social capital that can help him or her pursue not only instrumental goals but also expressive aims, such as making friends from classmates through an MPA study. The friendship network represents more individual choice and initiative. People have more discretion in the choice of friends from those who have mutual liking or similarity of attitudes. Many social influence processes are carried on between friends. Knowledge about friendship relations is useful in determining who can trust whom, who is more likely to cooperate with whom, and who is likely to go to whose defense in a conflict (Krackhardt, 1992).

**Socio-emotional Support Network**

Another expressive function of an MPA network is to help students cope with personal life crises or emergencies. Sources of socio-emotional support to the focal individual in his or her personal network may include a variety of people or institutions—such as spouse, parent, child, sibling, friend, neighbor, or colleague—as well as the various kinds of professional and work organizations (Wellman & Berkowitz, 1988). Research establishes that Chinese people would prefer turning to non-kin such as friends and coworkers when confronting emotional issues (Ruan, Dai, & Freeman, 1996; Ruan, Freeman, Dai, Pan, & Zhang, 1997). Think of an MPA student who, during a period of insecurity about deserving or being able to achieve a promotion, receives reassurance from her classmates that she is, indeed, worthy of that promotion; receives feedback from and compares herself with another classmate who works in a similar role; and draws comfort from belonging to a community that she can readily access whenever needed.

**Network Data and Methods**

To explore the networks formed among Chinese MPA students, on August 9 of 2009, we conducted a network survey of 100 students in a Chinese university’s MPA program. We did two follow-ups to collect the surveys from
students who did not respond in the first round. As one of the top-ranked research universities in China, this university has a primary focus on the areas of economics, business and management. It is located in the southeast part of the country, and its MPA program was launched in 2006. The participants in this study are a cohort of 100 students who were enrolled in the program in 2007. We surveyed the students when they started to work on their masters’ theses after 2 years of coursework. Typical of many other MPA programs in China, participants in this study are all in-service students, who are working full-time either for the local government or the social sector. Among them, 39% are employed by government, 14% by state-owned enterprises, 12% by quasi-governmental organizations, 12% by educational institutions, 9% by the military, 6% by the health care industry, 4% by law enforcement, and 4% by others. Fifty-six percent of students are male, and 44% are female. Students’ ages range from 27 to 47 with a mean of 32, and 66% of them are less than 30 years old. More than half of the students are in junior-level positions; only 7% of them hold senior-level positions, and 35% hold mid-level positions. As many as 94 MPA students completed the survey, and we had a response rate of 94%.

In the survey, we asked respondents to write down the names of their classmates with whom they have been studying for MPA courses. Respondents were also asked to nominate the classmates they have typically sought career-related information and advice from. The friendship network was measured by asking the question, “Who are your good friends at this MPA class?” Since people may have different definitions of what constitutes a friendship, we defined friends as people with you whom you like to spend your free time, people you have been with most often for informal social activities, such as visiting each others’ homes, having lunch together often, attending concerts or other public performances, going out to bars and clubs, etc. (Kilduff & Krackhardt, 2008, p. 141)

To construct the socio-emotional support network, we asked the respondents to identify classmates whom they have been going to when experiencing anxiety, tension, or emotional pain (Kilduff & Krackhardt, 2008, p. 168).

We entered the survey response data into UCINET for Windows, a software program developed specifically for social network analysis (Borgatti, Everett, & Freeman, 2002). We used NETDRAW, a program embedded in UCINET, to display the network data graphically. UCINET also generated statistical measures of network characteristics, such as individual centrality (in-degree, out-degree, betweenness, and closeness), network centralization, density, and reciprocity.
FINDINGS

We presented our findings in the figures and tables. The graphs, generated by NETDRAW, provide visual representation of network data reported in the tables. In each graph, a node represents an individual MPA student. A line between two nodes indicates the presence of a relationship between two students in the network. Arrows at the ends of each line tell us whether the tie is unidirectional or reciprocal. The size of nodes also varies. The larger the size, the more connected the node. Figures 1 through 4 provide visual representations of academic, career advice, friendship, and socio-emotional support networks.

Figure 1.
Academic Network
Figure 2.
Career Advice Network

Figure 3.
Friendship Network
In looking at these figures, we immediately saw the difference across the four networks. Among them, the academic and friendship networks are the most connected and followed by the career advice network, while the socio-emotional support network is the least connected. In the academic network, there is only one node that is completely disconnected from other nodes, and we call it isolate. Even that isolated node is connected in the friendship network. The nodes with a lot of connections are situated in the middle of the graph. A few nodes are connected to the network by a single tie, and they are called pendants. These pendants are located in the periphery of the diagram. In contrast, there are many isolates and pendants in the career advice network and even more in the socio-emotional support network.

Descriptive statistics in Table 1 confirmed visual inspections. The academic network has the largest number of ties (591). On average, each node has 9.4 ties with a maximum of 23 and a minimum of 0. Although with a mean number of ties of 7.5, all the nodes in the friendship network are connected since the minimum number of tie is 1. The total numbers of ties in the career advice and socio-emotional support networks are 252 and 100 respectively. Comparing to the academic and friendship networks, their average numbers of ties per node are down to 3 and 2.
Table 1.
Descriptive Statistics of Chinese MPA Academic and Social Networks

<table>
<thead>
<tr>
<th>Network</th>
<th>Total # of Tie</th>
<th>Maximum # of Ties</th>
<th>Minimum # of Ties</th>
<th>Mean # of Ties</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Network</td>
<td>591</td>
<td>23</td>
<td>0</td>
<td>9.4</td>
<td>5.0</td>
</tr>
<tr>
<td>Career Advice Network</td>
<td>252</td>
<td>15</td>
<td>0</td>
<td>4.3</td>
<td>3.0</td>
</tr>
<tr>
<td>Friendship Network</td>
<td>482</td>
<td>27</td>
<td>1</td>
<td>7.5</td>
<td>4.9</td>
</tr>
<tr>
<td>Socio-emotional Support Network</td>
<td>100</td>
<td>14</td>
<td>0</td>
<td>1.8</td>
<td>2.0</td>
</tr>
</tbody>
</table>

Individual Positions within the Network

We chose a set of network measures to analyze and compare the four networks. We obtained different network measures at the individual and group levels as well as across the networks. At the individual level, we focused on individual centrality, the extent to which a given individual is connected to others in a network. The construct of centrality is further broken down into out-degree centrality, in-degree centrality, betweenness centrality, and closeness centrality (Hanneman & Riddle, 2005). Table 2 presents average individual centrality scores for each of the four networks.

Table 2.
Mean Individual Centrality

<table>
<thead>
<tr>
<th>Network</th>
<th>Out-degree Centrality</th>
<th>In-degree Centrality</th>
<th>Closeness Centrality</th>
<th>Betweenness Centrality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Network</td>
<td>5.9</td>
<td>5.9</td>
<td>6.2</td>
<td>1.8</td>
</tr>
<tr>
<td>Career Advice Network</td>
<td>2.5</td>
<td>2.5</td>
<td>1.8</td>
<td>1.5</td>
</tr>
<tr>
<td>Friendship Network</td>
<td>4.8</td>
<td>4.8</td>
<td>3.9</td>
<td>1.9</td>
</tr>
<tr>
<td>Socio-emotional Support Network</td>
<td>1</td>
<td>1</td>
<td>1.0</td>
<td>0.02</td>
</tr>
</tbody>
</table>

In-degree centrality counts the number of ties a person received and is an indicator of individual prominence or prestige. Out-degree centrality calculates the number of ties a person sent out and measures how influential a person is in a network. The results in Table 2 showed that the average individual out-degree and in-degree centrality scores within each of the four networks were the same. For example, in the career advice network, on average an MPA student reached out...
to 2.5 classmates for seeking career-related information and advice and shared the information and advice with 2.5 classmates. Across the four networks, the academic network had the highest out-degree and in-degree centrality scores (5.9), the friendship network scored the second highest (4.8), and career advice network scored third (2.5). The socio-emotional support network had the lowest scores on out- and in-degree measures. The results are consistent with our visual observation that the academic and friendship networks are much more connected than the career advice and socio-emotional support networks.

We observed similar patterns across the four networks in terms of closeness centrality and betweenness centrality. Closeness centrality is a measure of how centrally close a person is, meaning that he or she can reach all others more quickly. An individual with a higher closeness centrality score is usually considered as an information disseminator. On average, MPA students in the academic and friendship networks are able to reach other students more quickly than can those in the career advice and socio-emotional support networks. Betweenness centrality refers to the degree that a person lies between the paths connecting other persons. Individuals with high betweenness centrality scores are in a good position to function as gatekeepers or brokers. In a similar vein, on average, MPA students in the academic and friendship networks have more chances to play the intermediary role of gatekeepers or brokers.

Existing literature offers two reasons to explain why MPA students’ career advice and socio-emotional support networks are much sparser than their academic and friendship networks. First, it usually takes more time to develop more personal interactions such as sharing career advice, sharing information, and seeking emotional comfort. Interpersonal interactions of this nature will not occur until a high level of trust can be cultivated after many other interactions are conducted at arms’ length (Sias & Cahill, 1998). Second, the weakest connectedness in the socio-emotional support network is consistent with other empirical findings that social and emotional support is the most difficult to find in Chinese society. A study of personal support network in Beijing concludes that Chinese are more likely to seek socio-emotional support from close family members and coworkers (Lee, Ruan, & Lai, 2005).

Our findings on Chinese MPA academic and social networks also contrast with the findings for undergraduate students in the United States, who usually find social ties to be more numerous than academic ties (Smith, 2010). We expect this due to the nature of a professional graduate degree program. All the students in our study are commuting in-service professionals and studying part-time, while undergraduate students living in a residential campus have many more chances to establish extensive social ties.

Whole Network Measures

At the network level, we examined three structural properties of interaction patterns in MPA students’ academic and social networks: network centralization,
network density, and network reciprocity (Wasserman & Faust, 1994). Table 3 provides the results of our analysis at the network level.

Table 3. 
Network Centralization, Density, and Reciprocity

<table>
<thead>
<tr>
<th></th>
<th>Density</th>
<th>Out-degree Centralization</th>
<th>In-degree Centralization</th>
<th>Betweenness Centralization</th>
<th>Reciprocity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Academic Network</strong></td>
<td>5.9%</td>
<td>9.3%</td>
<td>17.4%</td>
<td>10.2%</td>
<td>41.6%</td>
</tr>
<tr>
<td><strong>Career Advice Network</strong></td>
<td>2.6%</td>
<td>12.7%</td>
<td>8.7%</td>
<td>23%</td>
<td>29.4%</td>
</tr>
<tr>
<td><strong>Friendship Network</strong></td>
<td>4.9%</td>
<td>12.4%</td>
<td>18.6%</td>
<td>21.1%</td>
<td>44%</td>
</tr>
<tr>
<td><strong>Socio-emotional Support Network</strong></td>
<td>1.01%</td>
<td>13.3%</td>
<td>5.1%</td>
<td>0.31%</td>
<td>20%</td>
</tr>
</tbody>
</table>

Density is a measure of network cohesion. It is calculated by the total number of ties in a network divided by the total number of possible ties. Average density scores range from 0 (no cohesion) to 1 (complete cohesion). The higher the density score is, the greater the degree of cohesiveness or connectedness is found in the network. The statistics of density scores are also consistent with our visual inspection on network diagrams. The academic network reflects the greatest degree of connectedness among the four networks, with a density score of 5.9%. The density score of the friendship network is 1% smaller than that of the academic network. The socio-emotional support network is the least connected; only 1% of all possible ties are present.

Centralization refers to how well connected the network members are collectively. Higher centralization scores indicate that a few network members hold highly central positions. Network centralization can be obtained for out-degree, in-degree, and betweenness measures. The results yielded two different patterns. The in-degree centralization scores of the academic and friendship networks are greater than their out-degree centralization scores (17.4% versus 9.3% and 18.6% versus 12.4%). These scores suggest an unequal distribution of academic exchange and friendship. In the academic network, a few well-performing students were sought by many other students to help them academically. In the friendship network, a small number of popular students were identified by many other students as their friends. In contrast, in-degree centralization scores are smaller than their out-degree centralization scores in the career advice and socio-emotional support networks (12.7% versus 18.7% and 13.3% versus 5.1%). These scores indicate that a few students reached out to many other students for career-related information and socio-emotional comfort.

When it comes to the betweenness centralization, the career advice network stands out as having the highest score (23%), followed by the friendship network.
The results demonstrate that a few key actors are able to bridge the relationships among different subgroups in the career advice and friendship networks due to their central positions in the network.

Reciprocity measures the extent to which network relationships are mutually directed. For example, if both A and B consider each other as friend, their friendship is reciprocal. When exchanges are reciprocated, network ties are more reliable and stable. Among the four networks, the friendship network tops the other three networks: 44% of friendship ties are reciprocal. The academic network descends to the second place (41.6%), career advice network ranks third (29.4%), and socio-emotional support network is last (20%). This finding suggests that the academic and friendship networks are more mutually beneficial than the career advice and socio-emotional support networks. It can be attributed to the fact that seeking career advice and information, and socio-emotional support, by their nature, are usually unidirectional behaviors.

Multiple Network Relationships

It is possible for actors in social networks to have engaged in multiple types of relationships. For instance, after studying together for some time, two MPA students began to share job-related information and then became friends. From time to time, friends are often turned to for emotional help or social companionship. The presence of multiple exchange relationships is termed as multiplexity, referring to a structural property of a dyadic relationship that occurs when the two parties are involved in more than one relationship with each other (Wasserman & Faust, 1994; Boorman & White, 1976). Multiplex relationships are signs of strong relations and are associated with high trust and reliability since both parties have the opportunity to interact and get to know each other in a variety of contexts (Ibarra, 1995). We explored the extent to which the pattern of interactions for one network aligns with that of interactions for another network among Chinese MPA students’ academic and social networks.

In Figure 5, we graphically showed the multiplexity by combining the four networks into one diagram. Yet the complexity of the diagram makes it difficult to see the patterns of multiple exchange relationships. To further examine the extent to which multiplexity was present among the same cohort of MPA students, we applied quadratic assignment procedures (QAP) in UCINET to produce Pearson correlation coefficients. QAP also developed standard errors to test for the significance of association. Table 4 reports the result of our statistical analysis.
We did find an overlapping of multiple relationships across the four networks since all the correlation coefficients were statistically significant ($p < 0.01$). However, the magnitudes of correlations vary. The friendship network is highly correlated with the academic network (0.60). In other
words, when two MPA students are engaged in academic exchange, there is a 60% chance that they will become friends. Although statistically significant, the correlation coefficient between the socio-emotional support network and academic network is moderate (0.34). It may be because academic exchanges and socio-emotional support are distinctively different functions for most MPA students in this study. Increasing academic exchanges do not necessarily mean an increasing probability that a socio-emotional support relationship will develop. The flow of academic support and information can serve mostly academic purposes and lack exchanges on the more emotional level.

Many may wonder why the friendship network is not highly correlated with socio-emotional support network (0.37). Though no theoretical literature on social network research can explicitly address this intriguing result, the finding is compatible with other empirical research. In studying an organizational emotional helping network, Toegel, Anand, and Kilduff (2007) found that the friendship network was positively related to the emotional helping network at a coefficient of 0.25. In a study of formal and informal intra-organizational networks (Chen & Krauskopf, 2010), the two networks correlated with each other at 0.35. Anecdotal evidence from MPA students in our study confirms that career advice and socio-emotional support are considered as more personal, private, and in-depth interactions. It is much easier for students to reach out to others for academic advice and friendship ties than for career advice and emotional comfort.

**Conclusion**

In this paper, we empirically explored the extent to which the academic, career advice, friendship, and socio-emotional support networks were developed among a cohort of third-year MPA students at a Chinese university. After examining the structural characteristics of the four networks, we found that MPA students at this study site have developed more extensive academic exchanges and friendship ties than career advice and socio-emotional ties. Students also strengthened their interactions by building multiple relationships across the different networks.

As an exploratory study, this paper is more descriptive than hypothesis testing. We should be cautious about generalizing the findings from a single case to the general population of Chinese MPA students. Yet we affirmed the importance of informal networking activities among MPA students and called for attention to the extent and scope of such networks in meeting a variety of students’ needs, whether they are academic or social. In the future, researchers should investigate the relationship between an individual student’s personality and his or her network building activities, and the relationship between a student’s network position and his or her satisfaction with the program. It is also important to recognize the role of these networks in creating students’ perceived identity associated with the program and their cohorts. More important research questions worth probing are whether well-connected students perform better in
the MPA program. Are students with extensive social networks more successful in their future career path? If networking is an important part of students’ experience with MPA program, we need to further investigate the determinants of scope and scale of these networks. The answers to these questions hold practical relevance for MPA program administrators, instructors, and participants. All can benefit from recognizing and understanding why network development is one of important motivations for—and for some individuals a paramount aspect of—attending a MPA program.

FOOTNOTES
1 This research is supported by the National Natural Science Foundation of China, Project Number 71003013.
2 Some network survey instruments were adapted from literature in English. Two authors did translations independently and then compared their versions. To ensure that it was culturally competent and linguistically appropriate for the targeted study subject, the Chinese version was then critically reviewed by other Chinese researchers and pretested by eight Chinese MPA students.
3 The persons from whom he or she seeks career-related information and advice may not be necessarily the same person with whom he or she shares the information.
4 Closeness centralization measure cannot be calculated for a network with unconnected actors.

REFERENCES


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