



How Networks Impact the Search for a Mentor: An Examination of NCAA Basketball Coaches and Their Protégés

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In this paper, we analyze the relationship between an individual's upward career mobility and the size of his or her mentors' networks. We introduce the concept of a protégé network and propose that this concept may be important to career self-managers as they evaluate potential professional relationships with leaders and mentors. The mentors of 318 recently active Division I basketball head coaches were analyzed to determine whether the upward career mobility of these coaches was influenced by the protégé networks of their former mentors. The results of this study indicate that the protégé network sizes of the first and longest mentors are related to an individual's upward career mobility. However, it is the aggregate protégé network size of all mentors that has the strongest relationship with career advancement.

Throughout the last several decades, the constitution of *career* has changed for employees of traditional organizations. The global economy has forced organizations to be more flexible with flatter hierarchies (e.g., Baugh & Fagenson-Eland, 2005; Hall, 1996; King, 2004). Also, this has come to mean that the psychological contracts between employers and employees no longer include guarantees of long-term employment. Now, most individuals will work for more than one organization and cannot rely on a clearly mapped road to career success (Cappelli, 1999; Dobrow & Higgins, 2005; Hall). These changes can make planning a career in today's labor market a complex and often daunting process. As a result, many individuals are becoming career self-managers (Guthrie, Coate, & Schworer, 1998; King), proactively engaging in professional and personal growth activities (Dobrow & Higgins, 2005; Hall) such as finding their own mentors, networking, seeking out new opportunities, and self-marketing (Baugh & Fagenson-Eland). In this paper, we explore what we feel is one of the largest factors that a career self-

manager must consider: how should a career self-manager evaluate a potential leader and mentor?

Leaders (in this paper, we have used the term *leader* to refer to a direct report's supervisor or manager such as a head coach for an assistant coach) play a large part in the success and satisfaction of employees in their roles (O'Driscoll & Beehr, 1994). They are the interface between employees and organizations, thereby helping to shape the cultures and climates experienced by employees (Kozlowski & Doherty, 1989). In many instances, leaders also take on the additional role of being mentors, formally or informally, to their employees (Ragins, Cotton, & Miller, 2000). As mentors, leaders are capable of providing their protégés with access to valuable social capital through their own established professional networks.

Despite the fact that leaders often play important roles in shaping employees' current and future career success, there is relatively little information available to job seekers who wish to measure the mentoring abilities of future supervisors. This paper addresses the importance of assessing the mentoring potential of future leaders as well as suggests one such method of evaluation. Leaders who have engaged in mentoring behavior in the past will likely have former protégés who have subsequently advanced vertically in their careers, achieving traditional career success. We propose that this group of protégés represents an important resource that those leaders can offer potential protégés. Therefore, we introduce the concept of a protégé network, defined as the compilation of a single mentor's protégés who have subsequently experienced upward career mobility. We propose that these networks are meaningful indicators of the mentoring capabilities of leaders and can provide career self-managers with important information that will assist them in making career decisions. Specifically, the existence of a successful protégé network may be an indicator of the value that a leader places on developing the careers of their employees as well as their ability to foster upward mobility. This, in turn, should allow their protégés to gain significant leadership influence. By mentoring people throughout their careers, leaders build unique professional networks over time which can potentially provide greater social capital to all of those located in those networks.

We begin this paper with a review of the mentoring and social network literature to illustrate how the protégé networks of mentors may benefit their protégés. After this theoretical discussion, we develop three exploratory hypotheses that will allow us to test the specific relationships between the mentor's networks and the career mobility of their protégés. Specifically, we utilized data collected from men's collegiate basketball which enabled us to assess which head coaches' (leaders') networks have the strongest relationships with the career mobility of their assistant coaches (protégés). As with employees in other fields, assistant coaches must be effective self-managers in their careers. In the world of collegiate basketball, for example, it would be easy for assistant coaches to set their sights on working for the best-known coaches or the current hot teams. However, we have contended that these choices, in the long run, may not be the most effective strategy for aspiring *future* head coaches (protégés) to develop their own leadership potential. Therefore, an understanding of the relationship between a head coach's protégé network and protégé career mobility may provide important information for making sound career decisions. We conclude the paper with a discussion of the results of the analysis, potential limitations, and the practical implications of our findings.

Mentoring Relationships and Social Network Theory

The importance of mentor–protégé relationships, for individuals and organizations, has been long recognized by both practitioners and organization scholars (e.g., de Janasz & Sullivan, 2004; Kram, 1985) and may be of particular importance given today’s career self-management reality (de Janasz & Sullivan). Empirical research has shown that the relationships protégés form with more experienced colleagues give them access to tools that can improve their career satisfaction as well as their career success (Higgins, 2000; Kram; Whiting & de Janasz, 2004). Identifying and evaluating potential mentors are important tasks. While much of the mentoring literature has offered great insight into the importance of mentoring, it often has stopped short of offering practical information regarding how to identify or evaluate a possible mentor (e.g. Baugh & Fagenson-Eland, 2005; Dobrow & Higgins, 2005; de Janasz & Sullivan).

This paper begins to fill that gap by discussing how protégé networks can be used to evaluate the mentoring potential of a leader. Specifically, we have focused on one important dimension of mentoring—sponsorship, the providing of access to connections and networks (de Janasz & Sullivan, 2004). Often, Kanter (1977) has been credited with developing the concept of sponsors. As she described this relationship, sponsors are those who enable their protégés to bypass traditional hierarchies by giving them “inside information” (p. 182) or advice on how to “short-circuit cumbersome procedures” (p. 182). Protégés associated with certain well respected or powerful sponsors may also benefit from a certain amount of “reflected power” (Kanter, p. 182). Sponsorship also has been defined as the giving of public support (Kram, 1985) and the providing of exposure and access to important professional networks (Wayne, Liden, Kraimer, & Graf, 1999). These networks can serve as a critical resource to protégés.

A fundamental hypothesis of most network theories is that the structure of the group (the pattern of who is connected to whom) is as important as the individual characteristics of each of the individuals in the network (Borgatti & Foster, 2003). Within the study of networks, attention has been focused on the affect of social capital (social resources) within the network. The social capital of an individual has been defined as the wealth, status, power, and social ties of those persons who are directly or indirectly linked to that individual (Lin, Ensel, & Vaughn, 1981). People with access to better social resources may obtain better outcomes (Lin, 1982). That is, the organizational positions that individuals hold, and the leader/mentors that they have relations with, can have a large impact on individuals’ networks and personal reputations. To some degree, individuals inherit networks by virtue of their formal organizational positions. These inherited networks have the potential to directly and indirectly affect careers (Podolny & Baron, 1997). Research has found that networks shape job mobility (Podolny & Baron), personal contacts are the most frequent method used for finding a job (De Graff & Flap, 1988), and the social resources an individual job seeker evokes have a significant relationship with the status of the job attained (Lin et al.). Direct (strong) and indirect (weak) ties or linkages provide access to people who can provide support as well as the resources these people can mobilize through their own network ties (Adler & Kwon, 2002; Burt, 1992). Individuals who are included in the networks of higher status individuals (such as a mentor or leader) have access to broad ranges of indirect ties that may be useful for future career mobility. According to Granovetter (1973), the value of these indirect ties is in the access they provide to new sources of information as they can bridge groups and increase a network’s reach. Accordingly, the more indirect ties people have in their networks, the more valuable those networks are as sources of information (Burt; Podolny & Baron) and as channels through which influences and information may reach individuals (Lin et

al.). Given these benefits of indirect ties, we propose that the ability for individuals to tap into the extended networks via their leaders' protégé networks should help their careers.

With the benefits of access to broad, indirect networks, it is vital for professionals to evaluate potential leaders for their sponsorship potential. Leaders are often very accessible potential sponsors, and prior research has suggested that for those employees who have mentors, direct leaders often play that important role (Ragins et al., 2000). The protégé networks of supervisors are meaningful indicators of their access to important networks and their experience sponsoring past protégés. Mentors with large networks of former protégés who have subsequently advanced in their careers may be considered effective sponsors of those protégés. Further, these mentors typically have ongoing access to their networks of successful former protégés and can make these networks available to their current protégés.

In the following section, we present three exploratory hypotheses that evaluate the impact of mentors' protégé network size on the upward career mobility of professionals. Most individuals have more than one mentor throughout a career (Higgins, 2000; de Janasz & Sullivan, 2004; Kram, 1985). In this paper, we focus on first mentors and longest mentors and, finally, on the total network size for all mentors.

Hypotheses

The first experiences individuals have in new work spheres are likely to have lasting effects on their actions and attitudes. Early experiences in new work situations are often highly stressful, and individuals frequently try to reduce their stress by conforming to the norms and standards they perceive. Many maintain this conformity with early perceptions throughout their careers (Berlew & Hall, 1966). Other literature has shown that early career experiences can dramatically affect later career progress (Rosenbaum, 1979; Sheridan, Slocum, Buda, & Thompson, 1990). As such, the first mentor may provide an important early career experience. While many individuals have more than one mentor over the course of their careers (Higgins, 2000; de Janasz & Sullivan, 2004; Kram, 1985) and each of these mentors may create a lasting impact on a protégé's career, scholars have noted that the first mentor is often particularly important. This first experience can have a significant impact on an individual before that individual experiences broader networks of mentors (Higgins, 2000). As early career experiences, including first mentors, have been shown to have important influences on subsequent career outcomes, we hypothesized that the protégé network size of a protégé's first mentor is positively related to his or her upward career mobility.

H₁: The protégé network size of a protégé's first mentor is positively related to his or her upward career mobility.

Individuals who work under one mentor for a long period of time are more likely to be affected by that mentor than one they worked with for a relatively short period of time. A longer mentor-protégé relationship allows for trust and mutual understanding to develop (Waters, 2004), and it also allows for more time to connect with those within the protégé network of the mentor. Ibarra (1993) found that longer mentor-protégé relationships are stronger and that the stronger the relationships between mentors and protégés, the greater the likelihood that protégés will develop ties to mentors' network contacts. Therefore, there will be a greater likelihood that the protégés will benefit from direct access to those networks. Accordingly, we would expect to

see a positive relationship between the protégé network size of the mentor for whom the protégé has worked the longest and the upward career mobility for the protégé.

H₂: The protégé network size of a protégé's longest mentor is positively related to his or her upward career mobility.

As stated previously, many individuals have multiple mentors. Given the dynamic nature of our new economy, people change organizations often and cannot rely on one dyadic relationship for all of their mentoring needs (Higgins, 2000; de Janasz & Sullivan, 2004). Gathering information is also more complex, and understanding the complexity of one's position in multiple spheres of influence necessitates an increasing reliance on large networks of other people. Most individuals find themselves involved in more interdependent relationships than ever before (Hall, 1996). Research has found that an individual's upward mobility can be enhanced by having a large, sparse network of indirect ties which can provide information and resources (Burt, 1992; Lin et al., 1981; Podolny & Baron, 1997). Because so many people must depend on multiple mentors in order to achieve career success and each of these mentors is likely to provide at least some access to their protégé network, we hypothesized that the total protégé network size of all of a protégé's mentors will have a positive relationship to the upward career mobility of the protégé.

H₃: The total protégé network size of all of a protégé's mentors is positively related to his or her upward career mobility.

Methodology

Data from NCAA Division I men's collegiate basketball were evaluated to test our hypotheses. While the relationships discussed in this paper could be studied in a number of industries, college basketball was selected for initial hypotheses testing for two reasons. First, NCAA men's basketball teams are labor intensive. A team's success relies almost entirely upon the performance of its coaches and players. Although differences in nonhuman resources do exist across schools (i.e., physical facilities), substantial regulation by the NCAA is generally successful in its attempts to equalize those resources. Additionally, collegiate athletics represent an environment where promotions are typically obtained through migration to different institutional employers. Accordingly, career mobility is dependent on cross-organization relationships, making networks crucial.

Sample

Head coaches of 326 NCAA Division I basketball programs during the 2004-2005 season were identified, and their biographical information was gathered from a number of sources. After the data collection process was complete, any coaches with incomplete data were eliminated from the sample. This included situations in which biographies could not be located or information from the data sources did not provide enough background facts about a coach to gather the information needed for our analysis. As a result, a final sample of 318 coaches was established.

Data Collection

This study utilized archival data on Division I basketball programs. Data were collected from university athletic web sites, leveraging historical information about the institutions' basketball programs and biographies of the current coaches. Data regarding coaching results, tenure, and prior histories were retrieved from the website of the NCAA. A third source of data was the media guides of Division I basketball programs for each of the schools. Finally, data were gathered from the Sports Information Directors at the universities as needed. These individuals were contacted to fill in any gaps after the first three data collection steps.

Next, our data analysis process documented the historical protégé networks for all Division I head coaches. The biographies of all Division I head coaches were used to identify all assistant coaching positions that the head coaches had previously held. This allowed us to build a map that would trace the work history of each Division I coach back to previous mentors. These data were combined with additional biographical data to develop the protégé networks for each Division I head coach. As a result, we were able to determine both the protégé network size developed by each Division I head coach (e.g., all Division I head coaches who had previously worked under them) as well as the employment history of each of the 318 coaches in our sample.

Variables Studied

In order to examine the research questions set forth, a number of independent variables were identified related to the protégé network size for each head coach in the sample. We defined a mentor's protégé network as all historical Division I head coaches who had previously worked for the mentor as an assistant coach at the Division I level. We evaluated network size for the first mentor, the longest mentor, and all mentors combined as independent variables. Each of these variables is a continuous variable.

Three additional independent variables were identified that might impact a coach's opportunities for promotion. These variables relate to prior playing and coaching experience. Each of these variables may account for some of the variance in promotions or promotion rate (Nordhaug, 1993; Sagas & Cunningham, 2005) and are therefore included as control variables.

High school coaching experience. Many collegiate head coaches gain head coaching experience early in their career in the high school ranks. Experience as a high school coach may contribute to greater recognition in their field as it reflects diversity in coaching experience. It may also create visibility when other collegiate coaches are recruiting high school players. Their promotional opportunities may be enhanced later, as their high school experience may have helped them to develop broader professional networks. This variable was dummy-coded as a 1 for high school head coaching experience or a 0 if the coach had no high school head coaching experience.

Prior non-Division I head coaching experience. Similarly, a new Division I assistant coach with previous experience as a collegiate head coach at a lower level may receive greater recognition and have access to broader professional networks. This variable was dummy-coded as a 1 for collegiate head coaching experience below Division I and a 0 if the coach had no collegiate head coaching experience.

Alma mater level. An aspiring head coach's visibility and networking opportunities may be affected by the NCAA division level of their alma mater's basketball program. This independent variable assesses whether undergraduate experience as a player or an assistant coach influences their later promotion opportunities. This variable was dummy-coded as a 1 for a Division I collegiate basketball program or a 0 for a program below the Division I level.

The absolute numbers of promotions as well as the promotion rate of head coaches at the Division I level were evaluated as dependent variables in order to study our hypotheses. The rationale for evaluating both the number and the rate of promotions is that the network size variables may contribute to unique and differing outcomes. For example, the size of the first mentor's network may have an effect on how quickly the aspiring protégé obtains the necessary visibility to ascend to a head coaching position. In essence, the first mentor may kick start a protégés career. On the other hand, as we discussed earlier, a longer mentor-protégé relationship may foster the development of a stronger bond and greater trust which may enhance the protégés access to and visibility within the mentor's network. As such, these types of relationships may dictate not only *whether* a coach gets promoted but how *quickly* he ascends to a head coaching position. An understanding of these relationships, therefore, may enable a young coach to understand the impacts and influences of their chosen mentors at various stages of their career evolution.

Dependent variable: promotions. The dependent variable promotions was evaluated in terms of upward career moves in men's collegiate basketball coaching. The approach used by Sagas and Cunningham (2005) and Seibert, Kraimer, and Liden (2001) was adopted here, and promotions were defined as "any increases in level and/or significant increases in job responsibilities or job scope" (Seibert et al., p. 227). Conference strength, which indicates the prestige of a collegiate basketball program, was used as a proxy for comparing job movement between schools within the Division I level of college basketball. Data were obtained from Power Rankings (Greenwell, 2005) and incorporated all the variables included in the rating percentage index (RPI) algorithm as well as additional variables.¹ Accordingly, a promotion was counted if it occurred in the following job transitions:

1. A Division I (DI) collegiate head coach moving to a new DI head coach position in a stronger conference, specifically from a DI nonpower conference to a power conference (i.e., ACC, Big East, Big 10, Big 12, Pac 10, SEC);
2. A non-DI collegiate head coach moving to a DI head coach position;
3. A non-DI collegiate assistant coach moving to a DI assistant or head coach position; and
4. A DI collegiate assistant coach moving to a new DI assistant coach position in a stronger conference (i.e., from a DI nonpower conference to a power conference).

Dependent variable: promotion rate. The dependent variable promotion rate was evaluated in terms of how quickly the numbers of promotions were obtained at the Division I

¹ The RPI is a system used by the NCAA to evaluate teams for seeding and selection into the NCAA tournament. The formula for this ranking system has been published by the NCAA. The Power Ratings developed by Greenwell leverages the RPI system but has also incorporated variables that the NCAA does not take into account in its RPI algorithm: game score, game date, and game location.

level. Therefore, this variable was calculated as the number of promotions obtained divided by the total number of years a coach worked to receive those promotions.

Data Analysis

The descriptive statistics for both dependent variables and all the independent variables are provided in Table 1. Correlations and regression analyses were used to examine the relationships between the variables. The correlations displayed pair wise relationships between dependent variables, promotions and promotion rate, and each of the independent variables related to network size: network size of the first mentor, network size of the mentor of longest duration, and total network size of all mentors. Regression analyses were performed to assess how much variance in the dependent variables could be explained by the independent variables. Alma mater level, high school coaching experience, and collegiate head coaching experience below Division I were included as control variables alongside the network size independent variables (first mentor, longest mentor, and total mentor networks).

Table 1: Descriptive Statistics

Variable	<i>N</i>	Min	Max	<i>M</i>	<i>SD</i>
First mentor network size	318	0	22	3.82	4.31
Longest mentor network size	318	0	22	3.80	4.22
Total mentor network size	318	0	42	9.06	8.02
Alma mater level	318	0	1	0.59	0.49
High school head coaching	318	0	1	0.32	0.47
Non-DI collegiate head coaching	318	0	1	0.30	0.46
DI promotions	318	1	5	1.67	0.79
DI promotion rate	318	0	20	6.07	3.83

Results

Results of the correlation analysis show that the three network size variables were all highly correlated with each other (see Table 2). Accordingly, collinearity diagnostics were performed in a regression analysis which included all independent variables regressed against each dependent variable to assess if there were impacts of collinearity on the model. According to Hair, Anderson, Tatham, and Black (1995), the impact of collinearity can be tested by calculating the tolerance and variance inflation factor (VIF) values. The tolerance value is 1 minus the proportion of the variable's variance explained by the other predictors. Accordingly, tolerance values approaching 0.0 indicate high collinearity between variables, and values approaching 1.0 indicate low collinearity between variables. On the other hand, small VIF values are indicative of low intercorrelation among variables. In the collinearity diagnostics exhibited in Tables 3 and 4, the tolerance values are all very close to 1.0 for the control variables, indicating very low levels collinearity. However, they are not as high for the three network size independent variables. The tolerance/VIF values indicate inconsequential collinearity if no VIF value exceeds 10.0, and the tolerance values show that in no case does collinearity explain more than 10% of any predictor variable's variance (Hair et al.). As shown in Tables 3 and 4, no VIF value even closely approached the important threshold of 10.0; however, according to the

tolerance values, collinearity appears to explain more than 10% for all three network size variables. Therefore, it appears that there are levels of collinearity between the three network size variables that are not inconsequential.

Table 2: Correlation Results

Variable	1	2	3	4	5	6	7	8
1. Alma mater level	-							
2. High school head coach	-.21**	-						
3. Non-DI head coach	-.16**	.02	-					
4. First mentor network	.08	-.10	-.03	-				
5. Longest mentor network	.04	-.05	-.10	.70**	-			
6. Total mentor network	.08	-.12*	-.13*	.52**	.57*	-		
7. Promotions	.01	-.03	-.09	.12*	.19**	.45**	-	
8. Promotion rate	.07	-.15**	-.33**	.12*	.13*	.23**	-.15**	-

* $p < .05$. ** $p < .01$.

Table 3: Regression Model Summary Including All Independent Variables on Promotions

Variable	<i>B</i>	β	<i>t</i> statistic	Collinearity: Tolerance	Collinearity: VIF
(Constant)	1.33		13.94		
Total mentor network size	.05	.54**	8.62	.63	1.58
Longest mentor network size	-.00	-.02	-.25	.44	2.25
First mentor network size	-.03	-.15*	-2.04	.48	2.09
Alma mater level	-.04	-.02	-.47	.93	1.08
High school head coach	.03	.02	-.33	.94	1.06
Collegiate non-DI head coach	-.05	-.03	-.52	.95	1.05

Note. $R = .48$. $R^2 = .23$ ($p < .01$); F statistic = 15.14.

* $p < .05$. ** $p < .01$.

Table 4: Regression Model Summary Including All Independent Variables on Promotion Rate

Variable	<i>B</i>	β	<i>t</i> statistic	Collinearity: Tolerance	Collinearity: VIF
(Constant)	6.51		13.54		
Total mentor network size	.08	.18**	2.67	.63	1.58
Longest mentor network size	-.03	-.04	-.44	.44	2.25
First mentor network size	.03	.04	.49	.48	2.09
Alma mater level	-.16	-.02	-.38	.93	1.08
High school head coach	1.00	-.12*	-2.28	.94	1.06
Collegiate non-DI head coach	-2.58	-.31**	-5.81	.95	1.05

Note. $R = .40$. $R^2 = .16$ ($p < .01$); F statistic = 9.82.

* $p < .05$. ** $p < .01$.

Since this study was intended to be exploratory in nature as an initial attempt to examine relatively new considerations related to mentor–protégé networks and given potential multicollinearity challenges in the data set relative to the primary independent variables, the three network size variables were evaluated independently in three separate regression analyses. Since this study was intended as an early effort to explore preliminary network size relationships, analyzing each network variable on its own merit with the dependent variables was deemed appropriate. The regression analyses, conducted for both promotions and promotion rate, also included the three control variables: level of alma mater, high school coaching experience, and collegiate head coaching experience below the Division I level. As noted earlier, each network size independent variable was evaluated separately, thereby producing three separate regression equations for promotions and three separate equations for promotion rate.

Promotions exhibited an adjusted R^2 of .009 ($F = 1.75, p = .14$) when evaluated with network size of the first mentor, .029 ($F = 3.34, p = .01$) when evaluated with network size of the longest mentor, and .20 ($F = 20.54, p = .00$) when evaluated with total network size (see Tables 5 - 7). Network size of the longest mentor ($\beta = .18, t = 3.25, p = .00$) and total network size ($\beta = 0.45, t = 8.87, p = .00$) were significant positive predictors of promotions individually, with total network size displaying the greatest explanatory power.

Table 5: Regression Model Summary – First Mentor

Variable	<i>B</i>	β	<i>t</i> statistic
(Constant)	1.67		16.95
First mentor network size	0.02	0.12*	2.06
Alma mater level	-0.03	-0.02	-0.35
High school head coach	-0.03	-0.02	-0.32
Collegiate non-DI head coach	-0.15	-0.09	-1.55

Note. $R = .15$. $R^2 = .02$; F statistic = 1.75.

* $p < .05$.

Table 6: Regression Model Summary – Longest Mentor

Variable	<i>B</i>	β	<i>t</i> statistic
(Constant)	1.61		16.27
Longest mentor network size	0.03	0.18**	3.25
Alma mater level	-0.03	-0.02	-0.29
High school head coach	-0.04	-0.02	-0.36
Collegiate non-DI head coach	-0.13	-0.07	-1.28

Note. $R = .20$. $R^2 = .04$ ($p < .05$); F statistic = 3.34.

** $p < .01$.

Table 7: Regression Model Summary – Total Mentors

Variable	<i>B</i>	β	<i>t</i> statistic
(Constant)	1.30		13.62
Total mentor network size	0.05	0.45**	8.87
Alma mater level	-0.05	-0.03	-0.57
High school head coach	0.04	0.02	0.41
Collegiate non-DI head coach	-0.06	-0.03	-0.64

Note. $R = .46$. $R^2 = .21$ ($p < .01$); *F* statistic = 20.54.

** $p < .01$.

The overall regression equation results were somewhat different when promotion rate was evaluated as the dependent variable. Promotion rate (see Tables 8 - 10) produced an adjusted R^2 of .128 ($F = 12.67$, $p = .00$) when evaluated with network size of the first mentor, .126 ($F = 12.42$, $p = .00$) when evaluated with network size of the longest mentor, and .148 ($F = 14.74$, $p = .00$) when evaluated with total network size. Each of the regression equations exhibited significant results, though total network size exhibited the greatest significant explanatory power in predicting promotion rate. Moreover, while total network size was significant as a predictor variable ($\beta = .17$, $t = 3.31$, $p = .00$), the network sizes of both the longest mentor ($\beta = .09$, $t = 1.68$, $p = .09$) and the first mentor ($\beta = .102$, $t = 1.92$, $p = .06$) were not significant as individual predictor variables of promotion rate at the conventional .05 level.

Table 8: Regression Model Summary – First Mentor

Variable	<i>B</i>	β	<i>t</i> statistic
(Constant)	7.00		15.71
First mentor network size	0.09	0.10	1.92
Alma mater level	-0.14	-0.02	-0.34
High school head coach	-1.10	-0.13*	-2.49
Collegiate non-DI head coach	-2.72	-0.33**	-6.16

Note. $R = .37$. $R^2 = .14$ ($p < .01$); *F* statistic = 12.67.

* $p < .05$. ** $p < .01$.

Table 9: Regression Model Summary – Longest Mentor

Variable	<i>B</i>	β	<i>t</i> statistic
(Constant)	7.01		15.48
Longest mentor network size	0.08	0.09	1.68
Alma mater level	-0.11	-0.01	-0.26
High school head coach	-1.14	-0.14**	-2.59
Collegiate non-DI head coach	-2.67	-0.32**	-6.00

Note. $R = .37$. $R^2 = .14$ ($p < .01$); *F* statistic = 12.42.

** $p < .01$.

Table 10: Regression Model Summary – Total Mentors

Variable	<i>B</i>	β	<i>t</i> statistic
(Constant)	6.51		13.72
Total mentor network size	0.08	0.17**	3.31
Alma mater level	-0.15	-0.02	-0.35
High school head coach	-1.02	-0.12*	-2.33
Collegiate non-DI head coach	-2.56	-0.31**	-5.80

Note. $R = .40$. $R^2 = .16$ ($p < .01$); F statistic = 14.74.

* $p < .05$. ** $p < .01$.

Discussion

The importance of career self-management is increasing as the labor market becomes more complex. Careers today are shaped more by individuals than by corporations (Forret & Dougherty, 2001; Sennett, 1998). Those attempting to build meaningful careers with lasting value will find it helpful to be proactive in making contacts and building networks. These networks can provide them with access to the developmental experiences and resources necessary to build successful careers. In this paper, we introduced a perspective on networking that has not been previously explored, that of the protégé networks to which individuals have access through their mentors. These networks can provide protégés with access to important social resources such as the wealth, status, power, and social ties of the successful former protégés of their mentor (Lin et al., 1981). This study empirically analyzed the relationship between the protégé network size of individuals' mentors and the number of promotions and promotion rate in their careers.

As this paper is the first we are aware of to introduce the concept of a protégé network, we chose to take an exploratory approach in our data analysis. Protégé network size was evaluated in three separate regression equations: for individuals' first career mentors, for the mentors they worked for the longest period of time, and in aggregate for all their mentors combined. Additionally, some key prior professional experiences were identified as potential factors affecting promotional opportunities and were included as control variables. These experiences took into account the competitive level of the individuals' alma maters, whether they coached basketball at the high school level, and whether they coached at the college level below Division I. Correlation and regression analyses were conducted to understand relationships between both dependent variables and each network size independent variable. The results provide empirical insights concerning our overall research question as well as support for the general thrust of our hypotheses regarding the relationship between protégé networks and upward career mobility. In fact, protégé networks exhibited a significant relationship with both promotions and promotion rate.

More specifically, the regression results provide evidence that the predictive power of each network size variable varies in its relationship with the dependent variables. After controlling for alma mater level and prior coaching experiences at both the high school and non-Division I collegiate levels, the total network size for all mentors displayed the strongest predictive ability for both promotions and promotion rate. This supports the third hypothesis that the total protégé network size for all an individual's mentors is positively related to his or her career mobility. The protégé network size of the mentors that individuals worked for the longest

was also a strong predictor of career mobility related to the number of promotions, supporting hypothesis 2. However, this association was weaker in relation to promotion rate. In contrast, while there was a strong correlation between network size of the first mentor and the dependent variables, the predictive ability of the protégé network size of an individual's first mentor was not significant in relation to either promotions or promotion rate. Therefore, hypothesis 1 was not supported.

Previous research has found that the more contacts an individual has established at higher organizational levels, the more promotions and salary increases he or she gain from career sponsorship (Seibert et al., 2001). These contacts can be accessed through leaders' networks. The significant results related to total protégé network size are consistent with Podolny and Baron's (1997) findings that an individual's mobility can be enhanced by having a large, sparse network of indirect ties. It is also consistent with Granovetter (1973) who originally established that indirect ties allow people to reach beyond their small, well defined social circles in order to make connections with parts of social structures not directly accessible. The significant relationships of total protégé networks with both dependent variables also show support for Lin et al.'s (1981) view that social resources have an important association with the status of the job attained and De Graff and Flap's (1988) findings that personal contacts are the most frequent method used for finding a job.

The regression analyses, however, indicate somewhat less predictive strength for the network size of an individual's first mentor as well as the mentor an individual worked for the longest. The high correlations of these variables with upward career mobility may exhibit directional support for Rosenbaum (1979) and Sheridan et al.'s (1990) perspectives that early career experiences can dramatically affect later career progress and Ibarra's (1993) hypothesis that longer durations of the mentor-protégé relationship lead to a greater potential for an individual to benefit from access to the mentor's network. However, these variables' lower predictive power may suggest that the primary benefits that a first mentor and/or longest mentor offer are more intrinsic, providing rewards such as experiential and psychosocial development, rather than extrinsic, such as adding to promotion opportunities.

We surmised from the empirical results that a greater breadth of professional networks provides more extensive visibility to a rising protégé. While the experience working for first mentors may developmentally impact protégés, the breadth of a single mentor's protégé network size may provide more limited visibility than the aggregated protégé network size of several mentors. The same likely holds true for mentors that individuals have worked for the longest. Therefore, the results of this study imply that aggregate protégé network size has greater influence on career mobility than the network of a single mentor. We postulate that the first mentor and longest mentor may provide unique and valuable contributions to the professional development and experience of an individual, thereby improving their candidacy for promotional opportunities. However, it is the aggregate network size of all mentors, with broadly enhanced visibility, that actually creates legitimate promotional opportunities. Hence, while increased visibility and access to large protégé networks opens more promotional doors, experiences with individual mentors (i.e., first and longest) prepare the individual to succeed when opportunity knocks.

As with most studies, this research has some limitations. First, our data were specific to men's collegiate basketball. As such, there are limits on the generalizability of our results to other sports, different levels of sports, or to other nonsport organizational settings. However, while the college basketball setting may entail unique features, prior research using sports

organizations as their primary focus of study has provided valuable data useful to corporate practices (e.g., Bloom, 1999; Goff, 2005; Harder, 1992). In the case of college basketball, many aspects of the culture of the organization are not so different than what is found in many other organizations. Collegiate basketball is, in essence, a service organization. One typical goal of teams is to build brand loyalty (a committed fan base) and win market share (win basketball games to bring in money through sponsorships, ticket sales, etc.), especially at the Division I level. It is also a culture that relies heavily on its network for sharing resources and talent, not unlike the role that networks play within and across many corporate, political, religious, or social organizations. Future research should test the effects of protégé network size on the career mobility of protégés in other settings both within and outside of sports.

Second, we have made some assumptions about the values and behaviors of the individuals included in our study. For example, we defined upward career mobility based on the number and rate of promotions. We also only evaluated vertical movement, promotions that advanced an individual's career as measured by increasing job responsibility and prestige in college basketball. We recognize that success in a career has many dimensions; vertical mobility is only one of them. However, promotions often indicate upward progression in an organization or career and are outward signs of success (Hall, 1996). Those attempting to plan upwardly-mobile careers often need to understand how to reach leadership positions where they can make the greatest impact. While we have chosen promotions as the measure for career mobility in our study, it is not intended to be construed by the reader as the only (or even most important) measure of an individual's entire career success.

Future research could also benefit from qualitative examinations of the nature of the interactions between the assistant and head coach. For example, future research might explore the demonstrated behaviors of those leaders whose protégés were later promoted and analyze whether there are specific mentoring or networking activities that can be associated with the ability to better leverage protégé networks. One recent study (Eddleston, Bladridge, & Veiga, 2004) found that career impatience was related to career success. Is it possible that what sets individuals apart who successfully leverage their mentor's network may be the possession of this personal characteristic or other distinct characteristics that increase the likelihood of promotion? More research is needed to better understand the nature of career promotion as related to network size.

We also acknowledge that not all leaders assume the role of mentor to their employees. While those head coaches who created a large network of successful protégés are likely to have engaged in both developmental and sponsorship activities, it is unknown how formalized these relationships actually were. Therefore, future research should explore whether there is additional value in explicitly designating mentor-protégé relationships or if the benefits of protégé networks are present regardless of the depth and formality of mentoring relationships.

Our findings have clear practical implications for individuals seeking to achieve leadership positions as well as for leaders who value development. For many individuals, there are few things as important as their career. Furthermore, given that a typical person will work for an average of eight employers in many different jobs (Inkson & Arthur, 2001), career mobility is a fact of organizational life today. Many individuals cannot rely on organizational support as they develop effective strategies for creating satisfying careers (King, 2004; Sennett, 1998). Leaders play important roles in shaping the future possibilities of their protégés. This study has highlighted a specific way in which leaders can be instrumental by demonstrating the positive relationship that exists between mentors' protégé networks and the upward career mobility of

their protégés. In addition to being related to promotions and promotion rate, protégé network size may provide insight into the value that a leader places on career development and on helping protégés succeed. Yet, there has been little discussion by scholars or practitioners on the importance of assessing leaders' protégé networks. Individuals seeking new jobs would be well advised to inquire about the protégé networks of potential future mentors to help them gauge leaders' experience with and willingness to develop their protégés.

Mentoring can provide significant value to leaders as well. Protégés can provide technical and psychological support that can help leaders improve their job performance and demonstrate their ability to develop talent within the organization (Ragins & Scandura, 1999). As noted, research has shown that leaders' networks will impact the effectiveness of their organizations (Mehra, Dixon, Brass, & Robertson, 2006). Not only do the networks appear to provide leaders access to resources that facilitate group performance, but they also seem to help secure favorable reputations for leaders in the eyes of their subordinates, peers, and supervisors. Mentoring can also provide benefits such as enhanced self-esteem and self-confirmation (Allen, Poteet, & Burroughs, 1997). Scholars have posited that helping to educate and develop those who follow in our footsteps can help satisfy our inner desires to lead meaningful lives (McAdams, Hart, & Maruna, 1998).

Given the strength of the relationship between network size and career mobility, it seems apparent that protégé network size deserves additional attention in future research. Career mobility was positively associated with the protégé network sizes of the first mentor; the longest mentor; and, most significantly, the total network size of all mentors. This research is the first to analyze the impact that mentors' protégé networks can have on current and future protégés. While this study was preliminary and much work in this area remains to be done, the results provide initial support for a new area of scholarly research as well as useful insights for career self-leaders.

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Key words: mentoring, women, basketball, coaches. Introduction. Most Title IX advocates have focused their energy on female athletes, thus creating increased opportunities for women to participate in high school and college sport. Following the enactment of Title IX in 1972, female athletes playing college sports has risen from 16,000 in 1972 to 180,000 in 2006. In addition, the number of women's teams per school has grown from 2.5 in 1970 to the highest number at 8.45 in 2006. Formal mentoring has been linked to increased satisfaction, personal growth and career mobility of many protégés within sport organizations (Pastore, 2003; Sagas, Cunningham, & Pastore, 2006; Weaver & Chelladurai, 2001, 1999). SUBSCRIBE TODAY! Subscribe to Questia and enjoy Wright 1 Statistical Predictors of March Madness: An Examination of the NCAA Men's Basketball Championship Chris Wright Pomona College Economics Department April 30, 2012 Wright 2 1. Introduction 1.1 History. Since its origins as an eight-team tournament in 1939, the NCAA has changed and expanded the basketball championship many times. Also notice how the winner of the West region plays the winner of the South region, no matter which teams win from these regions. 1.4 Bracketology For years, it has been popular to attempt to predict the correct outcomes of all the games before the tournament starts by filling out a bracket, despite the odds being 2⁶³ : 1 against randomly picking the entire bracket correctly (for a sixty-four team field).