Collaborative Preference: The Role of Homophily, Multiplexity, and Advantageous Network Position across Small and Medium-sized Organizations

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The purpose of this paper is to examine collaboration between individuals across organizations. While both for profit and not-for-profit organizations utilize collaborative efforts, the factors that are important for bringing individuals and businesses together for collaboration still remain somewhat unresolved. In this paper, colleague similarity, the quality of pre-existing relationships, and the relative power of the other colleague are all examined for their correlation with the desirability of collaboration with that individual. In a study of pastors of small and medium sized churches in a southwestern protestant conference, we examined these areas through the lenses of homophily theory, multiplicity theories, and network positioning theories and found support for each of our hypotheses. Implications for management as well as future research directions are also presented.

Keywords: *homophily, small business, networks, collaboration*

INTRODUCTION

Teams are used increasingly in the modern workplace, and their study continues to be an area of high research interest (Mathieu & Rapp, 2009; Mesmer-Magnus & DeChurch, 2009). While research into team performance suggests that diverse teams outperform homogenous teams (Shaw, 1983), homogenous teams achieve trust faster than diverse teams (Spector & Jones, 2004) and have higher levels of process effectiveness early in the life of the team (Watson, Kumar, & Michaelsen, 1993). We also know that self-selection to teams and self-managed teams heighten team commitment (Cummings, 1978; Goodman, DeVadas, & Hughson, 1988).

Very little is known about the formation processes for teams. Perhaps one explanation for this paucity of research into self-selected teams is the difficulty inherent in studying the phenomenon. If the focus is only on existing teams, we eliminate potential teams that failed to form. One path towards addressing the needed research is to examine work preferences between co-workers. Identifying factors which correlate with desirability (or lack thereof) to collaborate addresses one key component in self-selected teams. While other factors, such as task opportunity to collaborate and organizational cultures that foster collaboration, play a role in whether teams form, preference to work together with a specific colleague should help explain membership in the team formation process.

The purpose of this paper is to identify factors that correlate with a colleague's interest in working with another colleague within small and medium-sized organizations. This research examines the extent to which co-worker similarity, the quality of pre-existing relationships, and the relative power of the colleague correlate with the desirability of collaboration with that colleague. The sample included 39 pastors in a southwestern protestant conference examined using a network analysis of dyadic differences (666 dyads) which tested dyadic and organization-wide correlates with work preference.

LITERATURE REVIEW

Research on team performance suggests that team diversity influences team performance (Watson, Michaelsen, & Sharp, 1991). When team formation is influenced by outside forces, it is easier to assure that team composition metrics optimize the performance potential of the team (Nielsen, 2009). However, in self-selected teams, such external forces are not present and the decision to collaborate is entirely at the behest of the potential team members.

Work Preference

While there is little direct research into the work-preference of individuals forming teams, studies that examine the formation of self-selected teams suggest that performance optimization may not be a significant factor in determination of membership in self-selected teams (Boschini & Sjogren, 2007). Similarity between teammates, proximity, and pre-existing relations between colleagues may dominate formation of self-directed teams (Forbes, Borchert, Zellmer-Bruhn, & Sapienza, 2006). Unfortunately, these same factors are likely to produce relatively homogenous team composition, which, research suggests, leads to underperforming teams.

It is evident that, in the case of self-selected teams, teams form when the members choose to work together. Lacking external directives, it follows that work preference determines whom a colleague will choose to work with when an opportunity to collaborate emerges. This study examines colleague similarity, relational quality, and the colleague's power—each of which likely correlate with the desirability to work with that colleague.

Colleague Similarity

The degree of similarity between two parties influences a number of relational outcomes between those two parties. For instance, both ethnic and gender similarities explain affiliation patterns in MBA cohorts (Mehra, Kilduff, & Brass, 1998). In a similar university setting, pair similarity also correlates with the likelihood of affiliation (Kossinets & Watts, 2009). In a study of voluntary membership in civic associations, homophily was linked to the creation of teams less diverse than their representative population and also for reduced diversity in communication patterns (Weare, Musso, & Kyu-Nahm, 2009). Additionally, in a study of voluntary organizations, similarity of age, education, and gender decreases the diversity in within-group affiliation patterns (McPherson & Smith-Lovin, 1987). Age, education, and gender diversity play a role in both the dissolution of entrepreneurial ventures and the break-up of entrepreneurial teams (Hellerstedt & Aldrich, 2008). Finally, another study found that in the male-dominated field of economics, female Ph.D.'s are less likely to have collaborative research opportunities and more likely to engage in sole-research than their male counterparts (Boschini & Sjogren, 2007).

The reasons for these findings stem from our understanding of homophily—the concept that similarity breeds connectivity. Research has long suggested that people evidence affiliation preferences towards those most similar to themselves (McPherson, Smith-Lovin, & Cook, 2001). The tendencies towards homophily manifest in both dominant and minority elements of a population, thus, in this sense, the homophily function extends beyond discrimination (Mehra, Kilduff, & Brass, 1998). Even so, the consequences of homophilous behavior result in dramatically reduced opportunity sets for minority populations (Brass, 1985). Since individuals exhibit affiliation preferences for similar others, we expect that homophilous tendencies will explain a manifestation of work-preference in an organization.

> **Hypothesis 1:** An individual's preference to work with a colleague will positively correlate with that colleague's similarity to the individual (e.g. age, ethnicity, education and gender similarity).

Relational Quality

Relational quality arguments suggest that individuals tend to increase types of affiliations with those for whom they already have other pre-existing affiliations. Here the argument turns toward the social network concept of multiplexity (Verbrugge, 1979), the tendency for existing relationships to deepen and become multi-layered over time (Granovetter, 1973). These existing relationships and common identity lead to more similar feelings and expectations in others (Weisenger & Salinpante 2007). In part, this tendency is related to the inherent trust existing in pre-established relationships, and, in part, this is tied to the emotional support gained from continuing connections with established relationships (Brass, 1985).

Much research exists on the value of these relationships. In terms of emotional support, co-workers who had friendship and advice network ties within their work teams were more likely to experience a sense of fulfillment at work and were less likely to experience depersonalization (Kruger, Bernstein, & Botman, 1995). Friends are more likely to engage in and receive organizational citizenship behaviors for coworker friends (Bowler & Brass, 2006), and employees who report higher levels of friendship opportunities at work are more likely to describe themselves as satisfied and involved with their jobs (Riordan, Griffith, & Weatherly, 2003). Both the emotional support obtained from friendship circles and the strategic advice obtained from advisory circles were positively related to workplace performance in a sales setting (Verbeke & Wuyts 2007). Having friends within one's team is linked to increased performance and positive leadership ratings for financial executives (Mehra, Dixon, Brass, & Robertson, 2006). Reflecting the support and trust of within-team friendships, such relations positively relate to students' satisfaction with team-based learning outcomes after controlling for factors such as grade on project and within-project conflict (Baldwin, Bedell, & Johnson, 1997). Heightened levels of initial communication, trust, and cooperation allow friendship teams to outperform acquaintance teams (Jehn & Shah, 1997). Past relationships with other team members as well as current linkages to other team members each positively correlate with the effective influence of an individual director (Stevenson & Radin, 2009), more so than the director's actual human capital or experience.

In terms of colleague work preference, the emotional support and trust associated with pre-existing relationships is likely a strong determinant. An individual might expect that prior knowledge of a colleague, particularly those associated with friendship and advice exchange, facilitates trust. Further, lacking such pre-existing ties, a potential colleague is largely an unknown commodity. While a colleague not directly linked to the individual may be a good fit for other reasons, lack of existing ties leaves the potential collaborator an unknown commodity. From this, we expect that individuals will prefer to work with those whom they already share other exchange relationships and for those they hold in high regard.

> **Hypothesis 2:** An individual's preference to work with a colleague will positively correlate with the existence and strength of previously established relationships (e.g. friendship, advice and esteem).

Strategically Advantageous Partners

Hypothesis three suggests that a colleague's potential contribution plays a role in potential partner selection processes. Previous research shows that the human capital a partner brings to a project influences their desirability (Stevenson & Radin, 2009; King 2004). However, the value of human capital is contingent upon the tasks associated with the team task. A potential partner valued highly for one project could be less useful on another project.

Many sources of power are simply perceptual. Specifically, one is powerful to the extent others perceive him or her as powerful (French & Raven, 1959). Within advice networks, highly central individuals are considered repositories of expert power. Since these individuals are frequently sought for advice on myriad topics, they have the ability to influence the behaviors of coworkers (Brass, 1984; Friedkin, 1993; Ibarra, 1993; Sparrowe, Liden, Wayne, & Kraimer, 2001). Advisors who occupy structural hole rich positions (Burt, 1992; Burt 2001) are considered to hold network positions advantageous to receive rich, new, or novel information.

Research suggests that network position within friendship networks shapes outcomes for individuals and teams. Specifically, the presence of structural hole rich teams—based on friendship network data—were positively related to performance amongst both operational and staff support teams (Balkundi, Kilduff, Barsness, & Michael, 2007). Further, leaders with high friendship centrality—both within team and within organization—lead teams that outproduce their less central counterparts (Mehra et al., 2006).

There are three reasons why this partnership might be useful. First, structurally advantageous partners' influence might lead to better resource acquisition for the team. Structurally advantaged individuals wield greater levels of power, and if these individuals are able to leverage this influence, it is beneficial to attempt to partner with them. Second, partners who occupy structural hole rich positions are less likely to become bogged down in repeating old processes and are more likely to know (or have access to) information otherwise unavailable to their partners (Burt, 1992; Burt, 2001). Thus, those who are able to bring new and novel ideas to the table are likely preferential to those more inclined to remain tied to the status quo. Finally, since network position is routinely correlated with influence,

creating and maintaining ties to such influential others offers the potential to bask in the reflected glory of one's advantageous colleagues (Cialdini, Borden, & Walker, 1976). We thus expect an individual's preference to work with a colleague to correlate positively with the colleague's network position.

> **Hypothesis 3:** An individual's preference to work with a colleague will correlate positively to the network centrality and brokerage potential of a potential partner (e.g. advice and friendship centrality and structural holes).

METHODS

Sample

This study investigates the network affiliation patterns of pastors from an evangelical protestant conference in the Southwestern United States. Each of the respondents is the head of an independent evangelical church in the region. We use survey data from the 39 members of the conference and engage in a dyadic analysis of the resulting 666 pairs of pastors (Marsden, 1990). The conference has a relatively flat structure without fixed, formal leadership. Those in hierarchical positions are there because their peers placed them there.

Because of the relatively weak hierarchical power in this setting, there are few circumstances where collaborative work would be assigned or delegated. Rather, the principality of collaboration between pastors would be self-select-ed, self-directed, and based on individual preferences for project and partner selection. Additionally, pastors routine-ly collaborate on projects. This includes para-ministry activities (feeding programs, homeless programs, etc.); prepa-ration in community projects (in many of these communities, the church is the "large entity" providing celebratory fireworks and facilities for major holidays, the costs for which are often jointly distributed); participation in confer-ences; governance boards (both for the church and related social activities); collaborating in speaking engagements; developing camps, retreats and trips, collaborating in development of mentoring associations; generation of best-practices, including publication of such; and collaboration for complementary expertise topics (e.g. tax preparation, financial planning, etc.). As such, this conference represents an ideal setting to investigate collaborative preferences.

The governing committee of the conference approved the study and the instrument used for data collection. Partici-pants were sent the survey instrument utilizing a roster format common to network studies (Bowler & Brass, 2006; Labianca, Brass, & Gray, 1998; Marsden, 1990). Each respondent to the survey answered network questions pertaining to all other members of the conference regarding dyadic friendship, work preference, advice seeking frequency, and how highly they held the colleague in esteem.

The pastors studied in this network average 59 years of age and have been in their conference nearly eleven years. Ten of the pastors are female and 5 of the pastors are minorities. The pastors lead smaller churches with an average attendance of 51 members. Twenty-one of the pastors have educations below the undergraduate level, ten have Bachelors level degrees, and six hold advanced degrees.

Measures

Our survey instrument contained four network questions pertaining to friendship, work preference, advice seeking frequency, and esteem. Respondents were instructed to not answer questions for any conference member they were not familiar with. The friendship question asked, "How closely do you consider this person a friend?" and allowed for three levels of response ranging from *acquaintance* to *close friend*. Work preference asked, "To what degree do you prefer to (or not to) work with this person?" and allowed three levels of response ranging from (1) *prefer not to,* (2) *neutral* or (3) *prefer to*. Advice seeking asked, "How often do you go to this person for advice?" and allowed four frequency responses ranging from (1) *annually* to (4) *daily*. Esteem asked, "How high of esteem do you hold this person?" and allowed three levels of response ranging from (1) *moderate* to (4) *very high*. Respondents also provided demographic data pertaining to ethnicity, gender, education level, and tenure. The conference provided annualized information on attendance levels for each congregation.

Our dependent variable used for all hypotheses is the transpose of the work-preference matrix (Bowler & Brass, 2006; Contractor, Wasserman, & Faust, 2006; Labianca, Brass, & Gray, 1998; Marsden, 1990), which provides return informa-

tion from each of the colleagues and indicates the extent to which each of the column colleagues wishes to work with the row actor. Because our independent measures provide information on the actions of a respondent, and our dependent measures represent the returned attribution of a different individual, network analysis offers the ability to triangulate work setting attitudes across each of the n-respondents.

Hypothesis 1 explores the extent to which actor similarity predicts collaborative desirability. To measure age, education, gender, and ethnicity similarity (Hellerstedt & Aldrich, 2008; Kossinets & Watts, 2009; McPherson & Smith-Lovin, 1987; McPherson, Smith-Lovin, & Cook, 2001; Weare, Musso, & Kyu-Nahm, 2009), this study used the age (or education level) of a respondent and generated a matrix tracking the age (or education) difference between that respondent and all other members of the conference. For Ethnicity Difference and Gender Difference, a '1' was used if the row respondent was the same ethnicity (or gender) as the corresponding column colleague and a '0' if the pairing was mixed ethnicity (or gender).

Hypothesis 2 investigates the extent to which relational quality between a pair of colleagues influences the corresponding work preference using responses from the advice, friendship, and esteem matrices. The matrix interpretation is the extent to which the respondent (a) went to the colleague for advice, (b) maintained a friendship relation with the colleague, or (c) held the colleague in esteem.

To test hypothesis 3, network position measures of centrality and constraint calculated in UCINET 6 were used for the advice and friendship matrices. Our centrality measures use the normalized in-degree centrality score for each respondent. As with our dependent variable, the in-degree measure places an individual central in a network only to the extent that their colleagues report them so. In-degree centrality measures are commonly used as indicators of expertise in network studies (Borgatti & Cross, 2003; Bunderson, 2003; Hinds, Carley, Krackhardt & Wholey, 2000; Klein, Beng-Chong, Saltz & Mayer, 2004). For brokerage, we utilized the constraint measure for structural holes (Burt, 1992; Burt, 2001). Burt's constraint measure focuses on the extent to which one's advice or friendship networks are open or closed, and controls for size of ego network. In this case, the constraint measure increases as structural holes decrease. Thus we would anticipate a negative correlation between constraint measures and our work preference measure.

In addition to the above items, age, education, gender, and ethnicity of the pastor were examined, as well as organizational tenure and the attendance level of the pastor's congregation as each of these potentially impact the level of personal influence for an individual pastor.

Analysis

UCINET 6 was used for all analysis. Descriptive statistics and correlations appear in Table 1. The transposed work-preference matrix reveals some interesting results. The homophily measures used for Hypothesis 1 evidence weak and largely insignificant correlations with work preferences. The ethnicity difference measure ($r = .13, p < .05$) is significantly correlated, suggesting that pastors have a higher work preference for colleagues of the same ethnicity. This suggests that the homophily hypothesis H1 is not supported. Two of the relational measures have strong positive correlations with work preferences. Pastors who seek advice from their colleagues are more likely to be considered desirable work partners ($r = .33, p < .01$), as are the colleagues considered a friend of the pastor ($r = .44, p < .001$). Thus, H2 is supported. Finally, the measures associated with attractive network positioning are all significantly correlated with work preferences. Pastors who occupy central positions in the friendship ($r = .4, p < .001$) and advice networks ($r = .36, p < .001$) are more likely to be considered desirable collaborative partners. Further, colleagues who occupy structural hole rich positions in the advice ($r = -.24, p < .001$) and friendship networks ($r = -.28, p < .001$) are more desirable collaborative partners than colleagues situated in closed networks. These correlations suggest strong support for H3.

Inter-correlation among our measures is low. Specifically, examining correlations between advice, esteem, and friendship matrices indicates a few correlations and none at a concerning level. Pastors are likely to seek advice from friends ($r = .38, p < .001$) and generally hold their friends at a higher esteem than non-friends ($r = 41, p < .001$). There is no significant relationship between advice seeking frequency and esteem. Even with these positive, significant correlations, there is evidence that our respondents differentiate their friendship, esteem, and advice relationships (Zagenczyk & Murrell, 2009). There is a strong replication of centrality and brokerage patterns in the advice and friendship

networks. Pastors who are central in the advice network are also typically central in the friendship network ($r = .91$, $p < .001$) and pastors who broker the advice network are also likely brokers in the friendship network ($r = .41$, $p < .001$). This suggests that actors occupying advantageous positions in one network tend to have structurally similar positions in other networks. However, given the weaker correlations in the dyadic comparisons (e.g. advice to friendship), these advantaged actors are reaching their central positions through different mixes of contacts.

Table 1. Means, Standard Deviations, and Correlations

Variable	mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1 Work Preference	0.93	1.27																	
2 Age	58.94	11.41	.03																
3 Education	2.89	1.57	.15 *	.09															
4 Gender	F = 10	M = 29	.07	.12	.16														
5 Tenure	10.87	14.75	.01	.54 ***	-.18	.13													
6 Ethnicity	Min = 5		-.10	-.30 *	-.07	-.06	-.10												
7 Attendance	50.7	45.69	.16 **	-.18	.27 *	.14	.01	-.03											
8 Age Difference			-.03	.72 ***	.07	.09	.39 ***	-.22 *	-.26										
9 Education Difference			-.06	.07	.72 ***	.11	-.13	-.05	.37 *	.09									
10 Gender Difference			-.03	-.05	-.07	-.43 ***	-.06	.03	.00	.00	.00								
11 Ethnicity Difference			.13 *	.17 *	.04	.04	.06	-.60 ***	.00	.00	.00	-.04							
12 Advice	1.27	0.44	.33 **	.20	.29	-.05	.22	.22	.13	.09	.14	.08	-.10						
13 Esteem	2.3	0.77	.10	.00	.24	-.05	.02	.18	-.01	.04	.06	.03	-.10	.28					
14 Friendship	1.61	0.7	.44 ***	-.04	-.04	-.05	.02	-.08	.04	-.01	-.13 *	.02	.12 *	.38 **	.41 ***				
15 Advice Centrality	7.24	13.88	.36 ***	-.14	.37 *	.15	-.11	-.27 *	.49 ***	-.10	.27 *	-.06	.16 *	.20	.13	.13			
16 Advice Brokerage	0.77	0.35	-.24 ***	.23	-.11	-.04	.31 *	.12	-.27 **	.17	-.08	.02	-.07	-.14	-.11	-.07	-.64 ***		
17 Friendship Centrality	19.97	13.97	.40 ***	.04	.35 *	.19	-.01	-.25 *	.48 ***	.03	.25 *	-.08	.15 *	.23	.11	.13	.91 ***	-.64 ***	
18 Friendship Brokerage	0.29	0.13	-.28 ***	-.09	-.31 *	-.16	.08	.24	-.30 **	-.07	-.22 *	.07	-.15	-.12	-.07	.01	-.53 ***	.41 **	-.68 ***

Notes: * p<.05, ** p<.01, *** p<.001

The matrix regression analysis can be seen in Table 2 below. The hypotheses were tested using Multiple Regression Quadratic Assignment Procedure (MRQAP) regression preformed in UCINET 6. MRQAP regression uses a standard ordinary least squares regression procedure with a bootstrapping function to produce estimates for regression predictors. The MRQAP procedure then compares the regression parameters against randomly generated matrices of similar dimensions to produce p-values for the model and predictors. This technique produces coefficients robust to gross violations of normality assumptions and autocorrelation common in network data (Kilduff & Krackhardt, 1994).

A regression of the dependent transposed work preference matrix was run against the control measures of age, education, gender, tenure, ethnicity, and attendance. While our control test, Model 1, is significant, the variance explained is low ($R2 = .05$, $p < .001$), and only congregation attendance is a significant predictor of work preference ($\beta = .13$, $p < .05$). Further in our full test of hypothesis, Model 3, attendance is no longer a significant predictor, although pastors with higher education are generally more desirable colleagues ($\beta = .27$, $p < .001$).

Following Model 1, a block of measures appropriate for a specific hypothesis was added. Thus Model 2 includes controls and predictors for H1, Model 3 adds in predictors for H2, and Model 4 adds predictors for H3. While Model 3 was used for evaluation of the hypothesis, this iterative procedure provides some indication of the additional variance explained by each block of measures. Ultimately, Model 4, which includes tests of all hypotheses, explains roughly 28% of the variance in colleague work preference.

Table 2. MRQAP Regression Analysis for Dyadic Work Preference

	Model 1	Model 2	Model 3	Model 4
Controls				
Age	.01	.03	.04	.03
Education	.1	.37**	.37**	.27**
Gender	.03	.02	.03	.00
Tenure	.01	-.01	-.01	.01
Pastor Ethnicity	.12	.05	.04	.02
Attendance	.13*	.23***	.20***	.03
Homophily (H1)				
Age Difference		.03	.01	-.05
Education Difference		-.42**	-.38***	-.32**
Gender Difference		.01	.01	.02
Ethnicity Difference		.05	.04	.02
Dyadic Relations (H2)				
Advice			.03	.01
Esteem			-.08*	-.09***
Friendship			.27***	.25***
Power (H3)				
Advice Centrality				-.05
Advice Brokerage				.00
Friendship Centrality				.38***
Friendship Brokerage				-.03
R^2	.05***	0.13***	0.2***	.28
ΔR^2		0.08	0.07	0.08

Notes: Standardized Coefficients reported. * p<.05, ** p<.01, *** p<.001

Hypothesis 1 predicted that homophily would explain colleague work preference tendencies. While the addition of the similarity measures adds roughly 8% variance explained, only education difference is a significant predictor (β = -.32, p < .001). This suggests that pastors do not like to work with more educated colleagues. Interestingly though, higher education as a control is positively related to higher levels of colleague preference (β = .27, p < .001). Collectively, this suggests that education homophily is at play. Pastors seek collaborative work with colleagues of similar level, as indicated by the education difference measure. However, more educated pastors are more likely to show an interest in collaborative work than less educated pastors, as indicated by the education measure. The education difference measure is a strong predictor suggesting support for H1; however, none of the other homophily measures approach significance. As our analysis examines over 650 dyadic relations, power to detect is reasonably strong, suggesting that a homophily impact is, at best, weak.

Hypothesis 2 predicts that the strength of pre-existing relationships will positively predispose work preference tendencies. Collectively, these measures contribute roughly 7% to the overall variance explained in our model. Our multiplexity hypothesis evidences some support in examination of the friendship network (β = .25, p < .001). However, opposite of what we might expect, there is a tendency for colleagues reporting lower work preferences towards pastors who hold them in high esteem (β = -.09, p < .05). While contrary to our expected results, this relationship may reflect manifestations of negative social capital, which we explore in our discussion section. As with H1, we find moderate overall support for a multiplexity argument: pastors indicate a desirability to work with those they already consider friends.

Hypothesis 3 predicts that colleagues will indicate higher work preferences towards pastors who occupy strategically advantageous network positions. Inclusion of network positions contributes roughly 8% of the variance explained in our models. Here we find supporting evidence for friendship, but not for advice network positioning. Pastors who are highly central in the friendship network (β = .38, p < .001) are more desirable colleagues. However, advice network positioning and friendship brokerage evidence no significant impact on colleague work preference. As with our two previous hypotheses, we find a single strong predictor in line with this hypothesis. However, with several predictors not reaching significance, we list only moderate support for H3.

DISCUSSION

This study anticipated that homophily, multiplexity, and network positioning would each predict tendencies for colleague work preferences. Supporting homophily theory, pastors indicate a dislike in working with colleagues whose education is superior to their own. Supporting theories of multiplexity, pastors are more likely to indicate a work-preference towards a colleague that expresses friendship towards them. Finally, supporting network positioning theories, pastors are likely to indicate desired work preferences towards pastors who are central in the friendship network.

One common theme is the importance of friendship in this network. Most of the reported relations in our study were near the '2' friend level (mean = 1.67) and above the '1' acquaintance level. Further, both friendship and friendship centrality had strong correlations with work preference. Finally, coefficients for both friendship and friendship centrality were positive significant predictors of colleague work preference. Effectively, both the strength of dyadic friendship as well as the overall friendship relationships of a pastor positively correlate with their colleagues' reported work preferences. While it is not unusual for friendship to shape organizational outcomes (Kruger et al., 1995; Mehra et al., 2006), it is also not uncommon for the friendship network to be subordinated to the importance of the advice network in some studies (Ibarra, 1993).

While advice networks are commonly used in studies of organizational power and influence (Brass & Burkhardt, 1993; Ibarra 1993), this study found advice has little to do with work preference. This might suggest that people opt against collaboration with powerful individuals in favor of friendly or popular individuals. The advice seeking measure indicated infrequent advice seeking interaction within this network. The mean for advice seeking is a 1.27, indicating that the average advice seeking relationship occurs somewhere between the '1' annual and '2' monthly level. Pastors in this sample do not frequently turn to each other for advice. While the dyadic advice relationships and advice network positioning each correlate strongly and in anticipated directions with work preferences, the coefficients for these predictors simply do not reach significance once controlling for other factors (most specifically friendship).

There was also an interesting, and unexpected, negative relationship between the esteem level reported by a respondent and the corresponding work preference of that same colleague. In other words, where one pastor reported a slightly higher esteem level, their colleague indicated a lower predisposition to work with that same colleague. Given that the correlation between dyadic esteem and work preference was positive, but weak, our significant negative regression findings are likely the remaining variance after controlling for an overlapping concept (again the friendship effect).

Reflecting on the strong findings for friendship and education similarity and the absence of findings for advice, it is believed that the nature of this organization plays an important role. Specifically, in this disaggregated organization, most communities have only a single church from this conference and many of these pastors are separated from each other by miles and cities. The governing body is self-elected and, at the church level, each pastor is the Chief Execu-

tive Officer of their operation. Further, the opportunities for collaboration in this type of organization favor those of voluntary cooperation. Given these combinations of circumstances, interest in collaboration intuitively links with those the individual is already comfortable with (dyadic friendship) or for those who carry a reputation of friendliness (friendship centrality).

It is interesting that our measures for age, ethnicity, and gender homophily did not produce results. Specifically, these forms of homophily have been linked to relationship development in other studies (Hellerstedt & Aldrich, 2008; Kossinets & Watts, 2009; McPherson, Smith-Lovin, & Cook, 2001; Weare, Musso, & Kyu-Nahm, 2009). Martin Luther King, Jr. once referred to Sunday mornings as the most segregated hour in the United States, and the practice of religion today maintains observed ethnic homogenization (Emerson & Smith, 2001). The vast majority of Christian churches in the United States are mono-ethnic, and even in multi-ethnic churches, individual services are often mono-ethnic (DeYoung, Emerson, Yancey, & Kim, 2004; Emerson & Smith, 2001). However, while the practice of religion seems to sustain ethnic divide, those at the head of religious services have long been a source of reducing ethnic distance (DeYoung et al., 2004; Emerson & Smith, 2001). The documented awareness of ethnic distance within Christianity likely fosters a resolve amongst its priests, pastors and ministers to take steps to reduce ethnic distance. This resolve might explain our lack of gender and ethnic homophily findings even when other studies of not-for-profit organizations typically finds homophily induced affiliations.

There are three principal limitations in our study. First, because this study uses a single time-frame survey, we cannot address issues of causality. Second, the uniqueness of our sample may limit the generalizeability of our findings. Specifically, we draw upon a rural, religious conference for our data. It is possible, therefore, that our results may be specific to pastors of religious conferences. Given that our results are in line with prior studies, generalizeability of our findings is not necessarily limited. Indeed, there are specifics to our sample which have not been studied previously, and our study thus extends our knowledge of affiliation patterns. Pastors in this sample operate autonomously with minimal hierarchical distinction between colleagues. Finally, for those unfamiliar with network analysis, our sample size appears small, limited to 39 pastors. However, given that our analysis occurs at the dyadic level, our models actually analyze 666 unique dyadic relationships and take into account multi-directional attributions. Additionally, because of our use of network analysis, we are able to utilize all possible dyadic relations, both those present and absent, in our investigation.

CONCLUSION AND IMPLICATIONS

There are important strengths to our study. First, because of the use of social network analysis, this study is able to identify multi-level factors in our analysis (Contractor, Wasserman, & Faust, 2006). Specifically, we are able to control for individual attributes while testing dyadic (H1 and H2) and organizational status (H3) variables. While the theories generally recognize the interplay of factors at multiple levels of analysis, network analysis represents one of the limited numbers of techniques able to simultaneously examine across levels. Second, it is difficult to study potential teams and collaborations. While our theories recognize the importance of group composition, it is difficult to study teams and collaborations before their existence.

The primary implication in this study lies in the importance of friendship networks. In settings where collaborative opportunities exist and for which collaboration is purely voluntary, friendships appear to serve as a driver of potential future collaboration. Specifically for organizations, the importance of fostering community interconnection cannot be understated. If friendship is a precursor to collaboration, opportunities to foster such friendships must be developed. Within the duties of organizational life, it can sometimes be too easy to forgo socializing in favor of getting things done. Our results suggest that, for hierarchically level colleagues, socialization opportunities today create willingness for future collaboration. For individuals, there are implications for managing networking activities. For junior colleagues, it is often difficult to remember the relational aspects of work in the face of the apparent need to focus on the task nature of work. However, since assistance on tomorrow's tasks is most likely to come from today's friends, it is important to remember to take time to develop and maintain friendships.

All organizations need to be flexible and adaptable in order to develop successful relationships. While large organizations often invest significant resources to develop more formal processes, the practices of small and medium-sized enterprises, such as the ones featured in this study, may be less refined and focus on personal connections and com-

munication sources (Morrissey & Pittaway, 2006). As suggested by Li and Qian (2007), strong alliances are built on sharing information and resources as a way to reduce potential risks. Similarly, Redondo and Fierro (2007) found that small and medium sized organizations are generally more reliant on trust, collaboration, and personal communication to create effective professional networks. Greater levels of communication may allow members of these organizations to refine their own collaborative capabilities and develop more professional associations outside their own friendship network.

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