**The Ties that Bind: Exploring the Roles of Social Networks in the Emergence of Inclusive Climates**

Quinetta M. Roberson, PhD

Villanova School of Business

Villanova University

800 Lancaster Avenue

Villanova, PA  19085

Email: Quinetta.Roberson@Villanova.edu

Abstract

While research-to-date provides insight into tools that organizational leaders can use to facilitate inclusive work environments, few studies have explored the role of employee interactions in creating or reinforcing exclusion. Drawing upon diversity and social network theories, I examined the role of social network structure and content in the development of inclusive climates. Data from 79 self-managed project teams were used to test the hypotheses. The results indicate that team instrumental network density is positively related inclusive climate strength, operationalized as belongingness, interactional justice and participation within the team. In other words, teams with more dense instrumental networks had greater among members in terms of the extent to which the team was inclusive. In contrast, team expressive network density was not found to be significantly related to the emergence of inclusive climates. Overall, his study advances the current literature by developing and testing theory on how the information transmitted by different types of social relationships – instrumental and affective ties – influence group-level perceptions of inclusion. By examining the effects of social network characteristics on aggregate perceptions of belongingness, fair treatment and influence, it also contributes to the growing literature that seeks to conceptualize climates for inclusion. Further, by demonstrating the unique effects of intra-group network ties on the strength of climates for inclusion after controlling for different types of heterogeneity (i.e., gender and age), I provide an integrative understanding of the relationship between diversity and inclusion in work groups.

Keywords: inclusion, diversity, climate, social networks, teams

Consistent with labor predictions, the workforce of the 21st century may be characterized by increased numbers of women, minorities, ethnic backgrounds, intergenerational workers and different lifestyles (Langdon, McMenamin & Krolik, 2002). Accordingly, organizations have realized that the extent to which these demographic workforce changes are effectively and efficiently managed will impact organizational functioning and performance (Herring, 2009). While common perspectives on managing diversity utilize targeted programs to increase and retain workforce heterogeneity in organizations (Kalev, Dobbin & Kelly, 2006), some organizations have begun to rely on a broader set of strategies to integrate diverse individuals into organizations. Termed inclusion, or the degree to which employees feel like esteemed members of a work group and experience treatment that satisfies their needs for belongingness and uniqueness (Shore et al., 2011), increased attention has been given to the creation of work environments where all employees feel valued and included.

Research has considered inclusion indicators or practices for facilitating inclusive climates in organizations. For example, Mor Barak (2000) identified inclusive work processes as those that provide employees with access to information and resources and allow them an opportunity to participate in and influence organizational decision-making. Similarly, Roberson (2006) distinguished between diversity and inclusion practices, the latter of which was reported to consist of collaborative work arrangements and conflict resolution procedures to involve employees in decision-making processes. More recently, Nishii (in press) introduced the concept of climates for inclusion, which are characterized by: a) fairly implemented employment practices that reduce bias; b) norms that interpersonally integrate diverse employees and allow them to enact aspects of their identity; and c) decision-making practices that generate and integrate diverse perspectives.

While research-to-date provides insight into tools that organizational leaders can use to facilitate inclusive work environments, few studies have explored the role of employee interactions in creating or reinforcing exclusion. Social network research sheds some light on the role of an employee’s peers on feelings of inclusion, as individuals from diverse social and cultural groups have been shown to often be excluded from networks of information and opportunity in organizations (Ibarra, 1993; Pettigrew & Martin, 1989). Similarly, as network research conceptualizes a person’s connectedness as his/her centrality or position within an exchange networks (O’Hara, Beehr & Colarelli, 1994), workplace inclusion has been defined as the extent to which an employee is accepted and treated as an insider by others in the network (Pelled, Ledford & Mohrman, 1999). Given such conceptualizations of inclusion, an examination of social network ties may clarify and extend our knowledge of strategies for integrating diversity into organizations.

This study explores the effects of social network structure and content on the development of climates for inclusion. Specifically, I advance the current literature by developing and testing theory on how the information transmitted by different types of social relationships – instrumental and affective ties – influence group-level perceptions of inclusion. By examining the effects of social network characteristics on aggregate perceptions of belongingness, fair treatment and influence, I also contribute to the growing literature that seeks to conceptualize climates for inclusion. Further, by demonstrating the unique effects of intra-group network ties on the strength of climates for inclusion after controlling for different types of heterogeneity (i.e., gender and age), I provide an integrative understanding of the relationship between diversity and inclusion in work groups.

**Inclusion and Social Network Ties**

In its original conceptualization, Schein (1971) described inclusion as the degree to which an employee is an ‘insider’ within an organization. More specifically, in a discussion of ways to manage internal integration within organizational cultures, Schein (1971) highlighted the function of social values and norms as group boundaries for determining which employees are included or excluded within a culture. To operationalize this construct of inclusion, researchers have devised measures to assess actors’ positions in an exchange network relative to others and in relation to the complete network. Specifically, using measures of the degree to which individual possess influential roles (Bonacich, 1972, 1987) or have social influence on others in their network (Friedkin, 1991), researchers found that such indicators determine employees’ access to resources and influence within organizations (O’Hara et al., 1994). Such findings are consistent with those of social information processing (SIP) theory (Salancik & Pfeffer, 1978), which proposes that people rely upon cues within their social environments to understand and interpret their organizational experiences. In their original model of work motivation, Salancik and Pfeffer (1978) propose that social influence may operate through a number of different mechanisms, including discussion about employees’ needs or important features of work environments, exposure to coworkers’ expressed attitudes and opinions, and others’ constructed meanings of events. Also consistent with the tenets of SIP theory, such research suggests that social interactions based on structural work arrangements are particularly influential to member perceptions, attitudes and behaviors, as group processes impose situational constraints on the flow of social information, thus resulting in shared meanings of work events. Given that relationships between employees may serve as communication channels through which information about their belongingness, respect and contributions may be exchanged, an examination of social environments, or networks, may provide insight into these social influence processes and the development of inclusive climates.

Recent research has conceptualized inclusion as a unit-level variable by exploring climates for inclusion, which represent shared perceptions of the policies and practices used to integrate diverse perspectives into an organization (Lishii, in press). Consistent with organizational climate research, there is an assumption that the emergence of inclusive climates occur through attraction–selection–attrition processes, social interaction, and exposure to similar policies and procedures (Schneider and Reichers, 1983). Accordingly, people who are similar, interact with others, and have consistent encounters with organizational representatives and practices are expected to have similar perceptions of the inclusiveness of their organizational experiences. Such conceptualization also follows the work of Kanter (1977), who described how differences among people creates different interaction contexts for members of majority and minority groups, thus reducing the formation of and similarity in their network relationships. Thus, in less inclusive climates, members are likely to have more divergent perceptions of the degree to which they are accepted and have influenced within a work unit. To capture such variability and following prior climate research, I explore the effects of network characteristics on inclusive climate strength, or dispersion in unit members’ perceptions of belongingness, fair treatment and influence.

Density is a social network characteristic used to describe the structure of a given network. Calculated as the proportion of relationships that exist between network members relative to the total number of relationships that could exist if every member were connected to one another (Burt, 1992), density measures the relative number of social ties within the network. Therefore, a complete network (i.e., density equals “1”) is one in which all members have direct ties to each other. Research suggests that such interconnectedness creates multiple, redundant channels of communication and information exchange, which facilitates the diffusion of values, norms, and knowledge throughout a network (Meyer & Rowan, 1977; Rulke & Galaskiewicz, 2000). Consequently, density increases the accuracy with which network members become aware of and understand each other’s attitudes and behavior (Erickson, 1988). The absence of structural holes also conveys consistent social cues (Burt, 1992), which enables a sense of identity and social support (Podolny & Baron, 1997). Thus, network density enhances cohesion and the likelihood that shared behavioral norms will be established (Coleman, 1988, 1990).

Considering social influence effects that occur through employee interactions, we expect network density to be related to the emergence of inclusive climates. Because relational connections between employees within an organizational work unit may serve as conduits for the transfer of informational resources, network density may provide unit members with access to resources that allow involvement and influence in decision-making, which may lead to greater consensus in members’ perceptions of inclusion. The development of collective behavioral expectations and trust in dense network structures may also constrain individual actions, thereby generating greater consistency in member experiences and perceptions of those experiences. As a result, network density may increase the strength of inclusive climates in organizations.

While the pattern of relationships among members of organizational work units may affect the development of inclusive climates, I also expect the content of such relationships to play a role. Network researchers have primarily distinguished between two types of network content – instrumental and expressive ties (Ibarra, 1995; Ibarra & Andrews, 1993). Instrumental ties are those relationships developed for the exchange of work-related resources, such as knowledge, expertise, and advice. In contrast, expressive ties are reflective of friendships and serve as channels for the exchange of interpersonal resources, such as values, trust, and social support. While I speculate that both types of relationships will affect the amount of variability in member perceptions of inclusion, I reason that the underlying mechanisms will differ due to the type of information transmitted between members through expressive and instrumental social ties.

Expressive ties include friendships and other forms of emotional support, which are not prescribed by the features of a task, but indicate the presence of a social relationship (Ibarra, 1993). Such relationships facilitate the exchange of affect and other interpersonal resources, such as values and trust; thus, dense expressive networks may be characterized by many reciprocal channels through which members garner social support from each other. As employees seek approval and confirmation of their status as valued members of organizations, expressive ties may serve as a source of normative influence that shapes member perceptions, attitudes and behavior. This interpersonal resource exchange may convey that employees are accepted members, or insiders, of an organizational work unit; thus, creating great consistency in their feelings of belonging and respect. Accordingly, I hypothesize:

*Hypothesis 1: Expressive network density will be positively related to inclusive climate strength.*

Instrumental ties facilitate the exchange of work-related information between members of a social network. Accordingly, dense instrumental networks may be characterized by numerous paths for advice and other informational resources. As employees seek to express their unique perspectives and have them appreciated by others, instrumental ties may serve as a source of informational influence that shapes member perceptions, attitudes and behavior. This informational resource exchange may provide employees with access to sensitive information and an opportunity to offer their perspectives, thereby removing obstacles to their full contributions to decision-making process. In other words, the transfer of knowledge-related resources may facilitate greater unanimity in unit members’ perceptions of participation. I hypothesize:

*Hypothesis 2: Instrumental network density will be positively related to inclusive climate strength.*

**METHOD**

**Sample and Data Collection**

We collected data from a sample of 492 MBA students, comprising 79 student project teams (ranging from 4-8 members per team), at a large university in the mid-Atlantic U.S. The sample had an average age of 29 years, possessed 6.2 years of full-time work experience, and 69% were male. Data were collected across two surveys. Survey 1 was administered during the first week of the MBA class when the teams were initially being formed and measured team member’s demographic attributes (e.g., gender and age). Survey 2, administered at the end of the semester, measured team members’ self-reported intra-team network ties and perceptions of group identification, interpersonal justice, and participation. Across the 79 teams, a total of 18 (4%) individuals did not respond to Surveys 1 and 2. However, in no team was there more than one member that did not respond to the surveys. Team measures were calculated excluding the person with missing data.

**Measures**

*Inclusive Climate Strength.* Following Nishii’s (in press) conceptualization, inclusion was measured along the dimensions of belonging, interpersonal justice, and participation. Three belonging items, taken from Bollen and Hoyle (199), asked to what extent team members felt a sense of belonging to, membership in, and part of the team. Interpersonal justice, taken from Colquitt’s (2001) four-item measure, asked members to what extent others treated them in a polite manner, with dignity and respect, and refrained from improper remarks or comments. Three participation items taken from Campion, Medsker and Higgs’ (1993) work group characteristics scale assessed the extent to which members had a say in how the team carried out its work and the chance to participate in decision-making. Participants responded to all measures on a 5-point, Likert-type scale ranging from “strongly disagree” to “strongly agree”.

Inclusive climate strength is defined as dispersion in respondents’ climate ratings (Lindell & Brandt, 2000). Using this measure, members of teams with stronger climates tend to agree more completely on how inclusive their experiences are than do members of teams with weaker climates. In this study, inclusive climate strength represented the variation (or lack thereof) in team members’ ratings of belongingness, interpersonal treatment and participation. Strength measures for each team were created by computing the standard deviation of members’ perceptions on the three dimensions of inclusion.

*Instrumental and Expressive Network Density.* Members of each team were asked to list the names of all of their team members. Instrumental and expressive ties were measured by asking participants to answer two questions about each member of their team. Instrumental ties were assessed using a question adapted from Baldwin, Bedell and Johnson (1997). Participants were asked to indicate “Over the course of this class, how often have you sought school-related help or advice from this person?” using a 5-point scale where 0 = never, 1 = rarely (1-2 times), 2 = occasionally (3-5 times), 3 = frequently (6-9 times), and 4 = very frequently (>9 times). Expressive ties were measured using a question adapted from Podolny and Baron (1997). Participants were asked to indicate “How close is your relationship with this person?” using a 3-point scale 1 = not very close, 2 = reasonably close, and 3 = very close. Using these responses, instrumental and expressive network matrixes were created for each team. Both the instrumental and expressive networks were treated as valued matrixes and were asymmetric, such that within a team, actor A could give actor B a high instrumental tie score but actor B could give actor A a low instrumental tie score. Instrumental network density was calculated by totaling the responses of every team member to the instrumental network question and dividing this by the maximum possible score for a team’s matrix, thus computing the average score across team members to this question. The same procedure was used to calculate expressive network density. The density calculations were conducting using the statistical software package UCINET 6 (Borgatti, Everett, & Freeman, 2002).

*Control variables.* Participants were asked to identify their gender (dichotomously characterized as “male” or female”) and age. While a mean age was calculated, Blau’s (1977) index of heterogeneity was used to develop a measure of gender diversity within each team. The index was calculated as 1- Σ*Pi2*, where *P* is the proportion of individuals on a team in an associated gender category and *i* is the number of categories represented within the team (i.e., the range of this variable was from 0 to 2 although the index can range from 0 to 1).

Given the findings of prior research which suggests that team size may negatively impact procedural justice climate strength (Colquitt et al., 2002), we controlled for the number of members in each team. Because inclusive climate strength may also be influenced by individual team members’ level of interaction prior to joining a team, we asked participants to state for each team member “how well you knew this person prior to the start of class” (1 = “not at all”, 2 = “reasonably well”, and 3 = “very well”). Similar to our treatment of instrumental and expressive ties, I created a team prior interaction network matrix for each team and used UCINET 6 (Borgatti et al., 2002) to calculate prior interaction network density.

**RESULTS**

**Hypotheses Tests**

Because several of the predictors were highly correlated (i.e., greater than *r* = .45), which introduces the possibility that the precision of the regression analyses could be diminished by multicollinearity. Following the procedures suggested by Belsley, Kuh and Welsch (1980), I attempted to rule out this possibility by calculating the variance inflation factors (VIF) of our predictors and comparing them to a threshold of 10. The largest VIF for our set of predictors was only 2.9, suggesting that multicollinearity did not reduce the precision of the regression estimates. Nevertheless, in order to minimize the correlations between the predictors and interaction terms, I used mean-centered variables for the main and interactive terms in the regression analyses (Aiken & West, 1991).

Table 1 presents results of the regression analyses used to test the hypotheses. Hypothesis 1 predicted that expressive network density would be positively related to inclusive climate strength. As shown in Table 2, expressive network density was not significantly related to inclusive climate strength as indicated by belongingness (*β* = .10, *p* > .05), interactional justice (*β* =- .34, *p* > .05), and participation (*β* = .13, *p* > .05). Accordingly, Hypothesis 1 was unsupported. Hypothesis 2 predicted that instrumental network density would be positively related to inclusive climate strength. As shown in Table 2, instrumental network density was significantly and positively related to inclusive climate strength as indicated by belongingness (*β* = .32, *p* < .05), interactional justice (*β* = .56, *p* < .05), and participation (*β* = .33, *p* < .05). Thus, Hypothesis 2 was supported.

*------------------------------------------*

Insert Table 1 about Here

*------------------------------------------*

**Discussion**

Our results demonstrate that different types of network content, or the particular type of resources exchanged between members of self-managing teams, distinctively impact the emergence of inclusive climates. We found that the proportion of instrumental ties between team members, or paths for advice and other work-related resources, were associated with more inclusive climates. Because teams are characterized by interdependence, which requires members to interact for the fulfillment of team tasks and goals, higher levels of interconnectedness in self-managing teams may facilitate the exchange of values, norms, and knowledge throughout the team. However, while such relationships may be vital to the functioning of self-managing teams given responsibility and autonomy for traditional management activities, the results of this study suggest that relationships involving the exchange of expertise and other informational resources, in particular, may serve as important sources of social influence. Dense instrumental team networks may enhance members’ focus on the team context and provide access to others’ evaluations of team processes. Subsequently, within self-managing teams, greater consistency in members’ perceptions of team inclusion experiences may result.

Interestingly, we did not find a significant main effect of expressive network density and inclusive climate strength. Although expressive ties are important for the transfer of interpersonal resources, such as affect and social support, they are not as influential as instrumental ties in shaping how members of self-managing teams understand and interpret team inclusiveness. While the existence of dense expressive team networks may provide members with a sense of identity and information about their standing within teams, such issues may not be sufficient for concentrating members’ attention on the team and driving team-level perceptions of inclusion. In other words, our results suggest that instrumental, relative to relational motives, have a larger impact on the emergence of inclusive climates within self-managing teams.

References

Aiken, L. S., & West, S. G. 1991. *Multiple Regression: Testing and interpreting interactions.* Newbury Park, CA: Sage.

Baldwin, T. T., Bedell, M. D., & Johnson, J. L. 1997. The social fabric of a team-based M.B.A. program: Network effects on student satisfaction and performance. *Academy of Management Journal*, 40: 1369-1397.

Belsley, D. A., Kuh, E. & Welsch, R. E. 1980. *Regression diagnostics: Identifying influential data and sources of collinearity.* New York: John Wiley.

Blau, P. M. 1977. *Inequality and heterogeneity.* New York: Free Press.

Borgatti, S.P., Everett, M.G., & Freeman, L.C. 2002. *UCINET for Windows: Software for Social Network Analysis.* Harvard, MA: Analytic Technologies.

Bonacich, P. 1972. Factoring and weighting approaches to status scores and clique identification. Journal *of Mathematical Sociology*, 2 , 113–120.

Bonacich, P., 1987. Power and centrality—a family of measures. *American Journal of Sociology,* 92, 1170–1182.

Bollen, K. A. & Hoyle, R. H. 1990. Perceived cohesion: A conceptual and empirical examination. *Social Forces, 69*, 61-72.

Burt, R. 1992. *Structural holes: The social structure of competition*. Cambridge, MA: Harvard University Press.

Campion, M. A., Medsker, G. J., & Higgs, A. C. 1993. Relations between work group characteristics and effectiveness: Implications for designing effective work groups. *Personnel Psychology, 46*, 823-850.

Coleman, J. S. 1988. Social capital in the creation of human capital. *American Journal of Sociology*, 94: 95-120.

Coleman, J. S. 1990. *Foundations of social theory*. Boston, MA: Harvard University Press.

Colquitt, J. A. 2001. On the dimensionality of organizational justice: A construct validation of a measure. *Journal of Applied Psychology, 86*, 386-400.

Colquitt, J. A., Noe, R. A., & Jackson, C. L. 2002. Justice in teams: Antecedents and consequences of procedural justice climate. *Personnel Psychology*, 55: 83-109.

Friedkin, N.E., 1991. Theoretical foundations for centrality measures. *American Journal of Sociology*, 96, 1478–1504.

Herring, C. 2009. Does Diversity Pay? Race, Gencer and the Business Case for Diversity. *American Sociological Review, 74*(2), 208-224.

Ibarra, H. 1993. Personal networks of women and minorities in management: A conceptual framework. *Academy of Management Review*, *18*, 56-87.

Ibarra, H. 1995. Race, opportunity and diversity of social circles in managerial networks. *Academy of Management Journal*, 38: 673-703.

Ibarra, H., & Andrews, S.B. 1993. Power, social influence, and sense making: Effects of network centrality and proximity on employee perceptions. *Administrative Science Quarterly*, 38: 277–303.

Kalev, A., Dobbin, F., & Kelly, E. 2006. Best Practices or Best Guesses? Diversity Management and the Remediation of Inequality. *American Sociological Review, 71*, 589-617.

Kanter, R. M. 1977. *Men and women of the corporation.* New York: Basic Books.

Langdon, D. S., McMenamin, T. M.,&Krolik, T. J. 2002. U.S. labor market in 2001: Economy enters a recession. *Monthly Labor Review*, *125*, 3-33.

Lindell, M. K., & Brandt, C. J. 2000. Climate quality and consensus as mediators of the relationship between organizational antecedents and outcomes. *Journal of Applied Psychology*, 85: 331–348.

Meyer, J. W., & Rowan, B. 1977. Institutional organizations: Formal structures as myth and ceremony. *American Journal of Sociology*, 80: 340-363.

Mor Barak, M. E. 2000. Beyond affirmative action: Toward a model of diversity and organizational inclusion. *Administration in Social Work,* 23(3-4)*:* 47-68.

Nishii, L., H. (in press). The benefits of climate for inclusion for gender diverse groups. *Academy of Management Journal.*

O’Hara, K. B., Beehr, T. A., & Colarelli, S. M. 1994. Organizational centrality: A third dimension of intraorganizational career movements. *Journal of Applied Behavioral Science*, *30*, 198-216.

Pelled, L. H., Ledford, G. E., Jr., & Mohrman, S. A. 1999. Demographic dissimilarity and workplace inclusion. *Journal of Management Studies*, *36*, 1013-1031.

Pettigrew, T. F.,&Martin, J. 1989. Organizational inclusion of minority groups:A social psychological analysis. In J. P. Van Oudenhoven& T.M. Willemsen (Eds.), *Ethnic minorities:* *Social psychological perspectives* (pp. 169-200). Berwyn, PA: Swets North America.

Podolny, J. M., & Baron, J. N. 1997. Resources and relationships: Social networks and mobility in the workplace. *American Sociological Review*, 62: 673-693.

Ridgeway, C. 1991. The social construction oi status value: Gender and other nominal characteristics. *Sociai Forces*, 70: 387-386.

Roberson, Q. M. 2006. Disentangling the meanings of diversity and inclusion in organizations. *Group and* *Organization Management,* 31: 212-236.

Rulke, D. L., & Galaskiewicz, J. 2000. Distribution of knowledge, group network structure, and group performance. *Management Science*,46: 612-625.

Salancik, G. R., & Pfeffer, J. 1978. A social information processing approach to job attitudes and task design. *Administrative Science Quarterly*, 23: 224–253.

Schein, E. H. 1971. 'The individual, the organization, and the career: a conceptual scheme". *Journal of Applied Behavioral Science,* 7, 401.

Schneider, B., and Reichers, A. 1983. On the etiology of climates. Pers. Psychol., 36: 19–40.

Shore, L. M., Randel, A. E., Chung, B. G., Dean, M. A., Ehrhart, K. H., & Singh, G. 2011. Inclusion and diversity in work groups: A review and model for future research. Journal of Management, 37, 1262-1289.

**TABLE 2**

**Results of regression analyses predicting inclusive climate strength (betas)**

|  |  |  |  |
| --- | --- | --- | --- |
| Variable | Model 1 Belongingness | Model 2 Interactional Justice | Model 2 Participation |
| Team Prior Interaction Network Density | .12 | .11 | .23\* |
| Team Size | .14 | .18 | -.07 |
| Age Diversity | .20 | .09 | -.03 |
| Gender Diversity | .12 | .03 | .02 |
| Team Instrumental Tie Density | .32\* | .56\* | .33\* |
| Team Expressive Tie Density | .20 | .34 | .13 |
| R2 | .05 | .05 | .06 |
| Δ R2 | .08\* | .13\* | .11\* |

Note. N = 79. \* *p* < .05; \*\* p < .01.