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Understanding team-level career mentoring by leaders and its effects on individual team-source learning: The effects of intra-group processes

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ABSTRACT Team-level career mentoring by supervisors is conceptualized as mentoring that provides career support for all team members. A new model of mentoring and individual team-source learning is presented. Data from 192 individuals in 37 intact work groups in the banking industry were used to examine how intra-group processes might influence the team mentoring process. Team-level leader-member exchange, peer mentoring, and proactive member behavior were examined for their influence on team-level career mentoring by supervisors. Our results suggest that aspects of the team context (represented by mean leader-member exchange and mean peer mentoring) influenced team-level career mentoring. Team-level career mentoring (TCM) had a positive effect on individual team-source learning and had mediating effects on the relationships between the team contextual factors and individual team-source learning. The implications of this research for studying supervisory team-level career mentoring are discussed.

The changing nature of work in organizations with flattened organizational structures and team-based work design, for example, has fuelled calls for research that examines new approaches to employee development. Alternative forms of mentoring have been discussed as a mechanism for developing employee skills in response to a changing workplace (Eby, 1997). In one understudied approach, mentoring theory has begun to emphasize the role of the leader as mentor and asserts that mentoring in teams is a real possibility. Team- or group-level mentoring is a new form of mentoring in need of theoretical and empirical study (Scandura & Pellegrini, 2007). Research by Kaye and Jacobson (1995) and P-Sontag et al. (2007) describe a group mentoring practice that pairs mentors with multiple protégés in a group context. Through a group discussion format, knowledge is exchanged with the objectives of leadership development and improved cross-functional business communication. Although supervisors often mentor individuals whom they believe have abilities that can be developed (Shea, 1995), as work teams have gained popularity as a means for increasing organizational effectiveness, it is important to develop all team members. Despite successful practitioner models of team-level mentoring, more rigorous research is needed that examines employee development in the team context and at the team level.

In the team context, members are clearly identified, stable over time, and there is sharing of the workload (Hackman, 2002); this context is an important influence on member behaviors. The leader as mentor provides a basis for future team effectiveness by creating an orientation toward working as a team (Kozlowski et al., 1996). Team-level career mentoring focuses on the developmental nature of the relationship between the leader and team and the degree to which the team leader provides hands on mentoring that is inclusive of all team members and considers work group outcomes. Team-level career mentoring (TCM) is differentiated from traditional mentoring relationships with the shift in focus from the dyadic relationship, between a member of the organization (mentor) that is at a higher level in the hierarchy than the protégé, to focus on building team-based interaction. Team-level career mentoring is defined here as the provision of mentoring to all members of a team in which the leader provides career support with a focus that is team-based and job knowledge-related. Ideas are exchanged as a group (Kaye & Jacobson, 1995) and bonding occurs as a team, because protégés receive feedback in the team setting, analyze decisions, and evaluate problems as a team. The mentoring literature defines mentoring as a relationship (i.e. connection) and the relational approach emphasizes interdependence and connection (Ragins & Verbos, 2007). A relational context embodies an emphasis on interaction, exchange, and bonding between parties, with

mentoring relationships involving interactions and exchanges between mentors and protégés (Higgins & Kram, 2001). In a team setting the relationships become a network of exchanges. The relational context (which promotes bonding interactions) in which mentoring occurs may support the emergence of TCM because it encompasses relational exchanges between leaders and team members, between peers, and leader perceptions of member behaviors.

The purpose of this research is to explore the importance of team-level career mentoring in organizations and to examine its contextual team-level antecedents as reflected in relationship quality (leader-member exchange; LMX) and peer mentoring across a team as well as leader reports of proactive behavior across the team. We also examine the influence of team-level career mentoring on team members' individual team-source learning. Lankau (1996) defined individual team-source learning as the '. . . acquisition of knowledge and skills from interacting with others in a team that contributes to an individual's effectiveness on the job' (p. 72). We underscore the role of the relational context embodied in team-member perceptions, behaviors, and characteristics in a team setting in creating leader–team interaction that embodies team-level career mentoring (TCM), describe what TCM entails, and the effects on individual learning.

Background

With the need for organizations to develop employees, new approaches to mentoring have evolved including mentoring networks to provide a variety of perspectives to protégés. While calls have been made for work to examine team-level mentoring, very little theory has been written on the topic with the closest reference being to mentoring circles (Higgins & Kram, 2001). The mentoring circle involves one mentor working with a group of protégés to give technical and organizational advice and guidance, however, research has not described the context or the theory behind team-level mentoring or any empirical tests. While traditional mentoring takes a dyadic approach, team-level mentoring takes the approach that there are leader-team interactions that seek to develop the team in a context where leader-member exchange relationships across the team are strong, there is peer mentoring, and proactive behavior across the team. The emphasis on team context is critical to this research because it represents the boundary conditions that should be present.

Given that leadership is a multilevel phenomenon and mentoring is considered a developmental form of leadership (Sosik & Godshalk, 2000),

it can be viewed from a multilevel perspective as well. Research on LMX for example, is now being examined at the team level (Boies & Howell, 2006; Liden et al., 2006) as a means to understand team-based organizations. We share the view of Chen et al. (2005) that we can better understand current theories if their findings are '. . . homologous across levels' (p. 376). Liden et al. (2006), for example, sought to understand the '. . . nature of LMX relationships across leaders' work groups' in order to understand the role of the relational context. In this study, team-level mentoring results from a team-based relational context in which intragroup processes influence the formation of a mentoring group. Where the leader provides mentoring with a team-based focus and emphasizes job knowledge, the interactions are defined as team-level career mentoring. Protégés benefit from the mentor's developmental advice, the exchange of ideas, and receiving feedback as a group. Leaders provide coaching and sponsorship for member development: the '. . . mentor/protégé bond becomes a group bond, emphasizing inter-relationships among all members' (Kaye & Jacobson, 1995: 24).

The process of social exchange in mentoring builds trust, which allows for reciprocating behaviors between the parties involved and within systems to support individual or collectivist goals (Cole et al., 2002). To explore the phenomenon of team-level career mentoring, one must consider the influence of the supervisor and of peers in the team in creating a system in which advice and feedback flow between managers and members as well as among team members. With work teams appearing more frequently in organizations there has been recognition that team experiences facilitate members' personal and professional growth (Eby, 1997). Intra-group processes can influence mentoring effectiveness because the sharing of job and career related skills are shared among peers and transmitted through leader-team interaction. For example, Koberg et al. (1994) found that mentoring increased with group effectiveness and leader approachability. Koberg et al. (1994) described mentors as trusted coaches who can be the supervisor of the employee, and presented a model that identified contexts that may create conditions that support mentoring. Features included trust, leader approachability, departments that emphasize work groups, and, most relevant to the current study, interpersonal interactions among team members and with leaders.

In team-level mentoring a focus on career support is relevant to organizational needs for employee development to promote career success through the provision of sponsorship, exposure and visibility, coaching, protection, and challenging work assignments (Dreher & Dougherty, 1997). Career support is one primary function of mentors (the second being psychosocial support: Scandura, 1992). Team-level career mentoring considers the effects of relationships within the team and the consistency with

which members perceive that the team leader considers the needs of all members. As interactions occur in the team context in the performance of work unit activities, the influence of mentoring by the team leader spreads among team members.

Kozlowski et al. (1996) presented a model of team leadership and development in which they described the leader's role as mentor in prompting the development of the social structure, modeling appropriate behavior, and promoting a team orientation. While our omnibus context is the work setting of teams in organizations, relational characteristics embody the context in which team-level career mentoring occurs. Our research addresses the discrete social context (Johns, 2006) – with team-level career mentoring as a form of leadership that emerges based on the *main effect* of context (Johns, 2006) represented by intragroup processes surrounding mean relationship quality (LMX), mean peer mentoring, and mean proactive behavior. Their indirect or social contextual effects (Johns, 2006) on individual learning occur through team-level career mentoring.

LMX relationship quality across teams and team-level career mentoring

Research has shown both LMX and mentorship to be positively related to commitment, job satisfaction, and performance (Liden et al., 1993). LMX describes the quality of the relationship that exists between a supervisor and subordinate. The literature has indicated conceptual overlap between leadership and mentoring with each having both task and relationship orientations. Career development functions are described in Sosik and Godshalk (2000) as paralleling leadership behaviors in the areas of clarifying objectives and roles, developing, and networking. However, these two managerial process concepts differ in the focus of the leader/mentor, with leadership involving a more short-term performance focus and mentoring more of a long-term relationship development focus. Graen and Scandura (1987) theorized that highly developed supervisor–subordinate relationships may evolve into mentoring relationships where both parties share a similar view of their careers. Scandura and Schriesheim (1994) reported that supervisory career mentoring explains additional variance over LMX in predicting career success – reflecting a long-term commitment to subordinate development.

In relationships characterized by high quality LMX, interaction is likely to be based on the similarity of values held by each party (Liden et al., 1993). Trust evolves based on previous knowledge of one another and characterizes a relationship in which mutual contributions become expected and the mutual obligation grows over time as career-oriented exchanges develop into partnerships (Graen & Uhl-Bien, 1995). Effective LMX

relationships are described as having transformational results (Gerstner & Day, 1997). Bass (1985) noted that supervisors who transform employees by providing mentoring are likely to enhance employee development. The developmental nature of the LMX relationships might be important for the provision of career support in mentoring relationships (Scandura, 1992).

LMX theory examined average leadership styles and more recent research focused on the differentiation in the relationships with various followers. Differentiation has been found to provide benefits to group performance given highly interdependent tasks and low median LMX in groups (Liden et al., 2006). As noted by Cogliser and Schriesheim (2000) differentiation does not preclude interpreting LMX at higher levels of analysis and research indicates that LMX occurs at multiple levels (Schrieshiem et al., 2001). The focus on between team effects is relevant for team-based work units. In teams with high relational quality (reflected through LMX), members '. . . report on average a high quality relationship with their leader' (Boies & Howell, 2006: 247).

In discussing LMX, Liden et al. (1993) suggested that group status (in or out group) is determined quite early in the supervisor–subordinate relationship, however, mentoring relationships may develop over a longer period of time. Graen and Uhl-Bien (1995) also suggest that high quality relationships in the work group develop employees by enhancing their competence network. In-group membership may be a prerequisite for supervisory mentoring (McManus & Russell, 1997) and therefore an examination of relationship quality across the team is critical because high quality relationships may be an important precursor to team-level career mentoring. We propose that the nature of leader-member exchange across the team might be one resource that is important to the development of TCM. In the team setting, LMX relationships may extend beyond contractual exchanges to become developmental (focusing on the strengthening of members' skills and abilities). Although high quality relationships normally exist between mentors and protégés (Kram, 1983), it may be important that the team is marked by, on average, high quality LMX relationships because this is likely to be important to the development of team-level career mentoring. While research has not documented a main effect for LMX differentiation on group performance (Liden et al., 2006), for example, a team in which leader-member relationships are strong (high LMX median/low LMX differentiation) and the leader strives to develop all team members will likely increase leader engagement in alternative forms of mentoring (McManus & Russell, 1997) such as team-level career mentoring.

> *Hypothesis 1*: There is a positive relationship between mean leader-member exchange within a team and team-level career mentoring.

The influence of peer mentoring across teams on team-level mentoring

Team members provide feedback and social support to each other. The peer mentoring that occurs in teams is likely to focus on performance and mutual perceptions (Eby, 1997). Similar to Higgins and Kram (2001) conceptualization of developmental mentoring networks, Kram and Isabella (1985) suggested that peer relationships may be important because the environment can be scanned for a variety of relationships to fulfill various needs. Kram and Isabella (1985) noted that peer relationships may have career enhancing functions similar to mentorships and highlighted peer mentoring as playing a key role in the success of organizational teams (Kram & Isabella, 1985). Peer support may facilitate the development of team mentoring, especially with respect to knowledge sharing because peer relationships offer access to informal learning.

Kaye and Jacobson (1995) noted that the group model of mentoring can only be successful if peers treat the effort as a partnership (reflecting a cohesive work unit) – as occurs in peer mentoring. The findings of Sherony and Green (2002) suggest that LMX and peer relationships are important for influencing work unit climate, which has implications for the development of team-level career mentoring. Hunt and Michael (1983) noted that networks of peers provide complementary support for mentorship. The interaction that occurs among team members is therefore a potential source of development.

The literature on teams highlights the role of the team leader and of peers for encouraging learning, information sharing, and coaching team members (Hackman & Walton, 1986). With the increased openness to knowledge, such as occurs in mentoring circles, there is likely to be heightened openness to leader development (P-Sontag et al., 2007). The team setting may augment these benefits with members forming a network that provides career support in the form of sharing of expertise and organizational information, counseling on career-related issues, feedback on work-related issues, and advice on how to handle problems encountered at work (Eby, 1997; Kram & Isabella, 1985). In the team mentoring model, protégés are more active than they otherwise might be in more traditional mentorship settings as the interactions among team members create a support group for using the advice of the leader. As day-to-day interactions occur with members and the leader, the group becomes more integrated. Thus, peer mentoring within teams should facilitate the development of team mentoring. An examination of network relationship quality among peers within the team is critical to facilitating team-level career mentoring. At the team level, agreement that peers are consistently providing support can create an atmosphere of sharing and partnership that is critical for team-level career mentoring.

Hypothesis 2: There is a positive relationship between mean peer mentoring within a team and team-level career mentoring.

Proactive behavior across teams

Kaye and Jacobson (1995) asserted that team members must take a more proactive role in a group setting than they would in traditional supervisor–subordinate relationships in order to become partners in developing a supportive group atmosphere. Proactive behaviors are personal actions that can improve performance, and they include discussing issues with supervisors, being organized, communicating with team members, viewing difficult situations as learning opportunities, thinking positively, working hard, requesting help from those with power, and actively trying to change policies that cause problematic situations (Ashford & Black, 1996). It appears that these behaviors also describe individuals who are willing to influence the nature of their relationship through interactions with supervisors or leaders.

Quigley (1995) suggested that teams require proactive people who look to every experience as a source of learning. Proactive behaviors include being highly involved in contributing to work (Campbell, 2000). Ashford and Black (1996) found that proactive behavior was positively related to feedback seeking. This may be an important component of successful mentoring relationships, as mentors continuously provide feedback to protégés so they can improve their performance (Kram, 1983). Proactivity involves shaping the environment by seeking information and acting on opportunities for change (Ashford & Black, 1996).

Turban and Dougherty (1994) found that personal characteristics influenced the initiation of mentoring. Highly proactive behavior in teams may facilitate the development of team-level career mentoring. As noted by Chen et al. (2005), group personality is based on social processes. The process of leader observation and perception of personality can lead to attributions of average team personality. This conceptualization is also grounded in the work of George (1990), who stated that 'similarity in global personality orientation within a group is likely to determine, in part, the nature of the group itself' (p. 108). We therefore theorize that when leaders provide consistent reports of team members showing proactivity, the resulting agreement across the team may characterize the team's actions (George, 1990).

Proactivity that occurs at the team level involves future oriented activity that supports effective team outcomes (Griffin et al., 2007). Having a team environment marked by high levels of proactive behavior (indicated by a high mean proactive behavior within a team) will influence leader engagement in team-level career mentoring. Mentors are reportedly more

likely to seek out information from protégés they perceive as competent (Mullen, 1998) and to provide them with more mentoring. Turban and Dougherty (1994) for example, found that protégé personality such as internal locus of control influences their initiation and resulting receipt of mentoring. The research of Higgins and Kram (2001) and Turban and Dougherty (1994) support the view that such indicators of proactive behaviors incorporate 'action taking' as well as 'help seeking' behaviors that lead to interactions with others that influence the mentoring relationship. The perception of consistent proactive member behavior across the team may characterize the team's actions (George, 1990) as proactive. When leaders' observations of team members result in perceptions of proactive behavior, and this proactivity is regarded as characteristic of the team, it can influence the motivation to mentor.

> *Hypothesis 3*: There is a positive relationship between mean proactive behavior within a team and team-level career mentoring.

The importance of team-level career mentoring for employee development

Employers value mentoring as a tool for socializing members and establishing organizational fit (Ostroff & Kozlowski, 1993). Research by Ostroff and Kozlowski (1993) found that employees with mentors learned more about the organization and its practices than those having no mentor. We examine individual team-source learning because it describes individual learning in terms of skill acquisition that occurs in a team as a result of information and relational exchange (Lankau, 1996). If team interactions have a positive effect on the learning experienced by members, then team effectiveness should be enhanced.

Increased learning can occur when leaders communicate their vision for the future and promote effective behaviors for teamwork (Ostroff & Kozlowski, 1993). Learning is promoted by career support as described in the mentoring literature because it involves the provision of coaching, exposure, and visibility. Janssen and Van Yperen (2004) suggested that where employees have a mastery orientation (desire to perform at high levels) and the desire to develop their competence, skills, and abilities, they tend to see supervisors as valuable resources for helping them to learn. Ellinger and Bostrom (1999) noted that mentoring describes a longer-term process than simply coaching by focusing on development that is career focused. The activities highlighted in their research are important for team-level career mentoring because their focus goes beyond traditional coaching to encompass employee empowerment, include being a resource (providing

information), providing feedback, working it out together, setting expectations, and engaging others. Ellinger and Bostrom (1999) clearly described the role of the leader in facilitating learning. A few of these, such as giving advice, taking a personal interest, and engaging in intense feedback sessions (special coaching), describe team-level career mentoring behaviors that we hypothesize support team-based learning for individuals. We therefore propose that a team leader can guide a team in the development of their organizational knowledge, skills, and abilities by providing career support through team-level career mentoring (TCM), which has the effect of influencing individual team-source learning.

> *Hypothesis 4*: Team-level career mentoring by a leader is positively associated with the individual team-source learning of team members.

Where high quality relationships exist across a team, greater levels of learning are likely to occur (Schyns et al., 2005). The process of team-level career mentoring enhances the developmental nature of leader interaction with team members and may provide the mechanism through which greater levels of learning occur. The value placed on team-level interactions that provide team-level career support might provide greater learning opportunities because a wide variety of experiences and points of views are shared in the context of mentoring within the team. Team-level career mentoring focuses on the developmental actions taken by the leader. These actions are likely to influence learning because the leader is directly involved with the work of employees. Thus, team-level career mentoring is expected to have a mediating effect on the association between mean LMX (relationship quality across the team) and individual team-source learning because it provides the mechanism through which perceived leader support is converted into leaders playing an active role in the development of subordinates.

> *Hypothesis 5*: The relationship between mean leader-member exchange within a team and individual team-source learning is mediated by team-level career mentoring.

We expect mean peer mentoring to increase individual team-source learning through the sharing of expertise that essentially provides cross-training for employees (Lankau, 1996). Lankau (1996) and Ostroff and Kozlowski (1993) identified peer relationships as facilitative of learning. When peer mentoring is provided across the team, the learning that occurs spreads among team members and the sharing of ideas creates a learning group (Kaye & Jacobson, 1995). Team-level career mentoring is expected to

mediate the effect of mean peer mentoring within teams on learning within the team owing to the advanced experience of leaders, which influences the sharing of knowledge, which is essential for learning. Peer mentoring across the team provides support for the development of team-level career mentoring that influences individual learning within the team. We therefore expect that peer mentoring will influence team-level career mentoring, which will in turn influence individual team-source learning.

> *Hypothesis 6*: The relationship between mean peer mentoring within a team and individual team-source learning is mediated by team-level career mentoring.

Proactive behaviors appear to be important for skill development (Kasl et al., 1997). Research suggests that developmental relationships promote higher levels of personal learning (Lankau & Scandura, 2002) and this occurs as recipients actively learn new skills. Team members' willingness to take initiative that has an impact on work outcomes may determine the level of mentoring that is received and, thus, the quality of learning that occurs. Teams characterized as proactive are likely to be motivated to undertake a variety of actions with the aim of achieving their goals (Kuhl, 1986). Campion et al. (1993) noted that where team activities occur members learn to work together effectively. Highly proactive behavior across the team is likely to involve the monitoring of the team environment and initiating actions that promote the development of team-level career mentoring. Where leaders view members as sharing proactive characteristics, managers may view the team as proactive and might be willing to provide team-level career mentoring that involves building team members' skills. Team-level career mentoring in turn, promotes individual team-source learning.

> *Hypothesis 7*: The relationship between mean proactive behavior within a team and individual team-source learning is mediated by team-level career mentoring.

Method

Data were collected from employees in two medium-sized community banks in the southeastern United States. For this study, team members' reports describe the extent to which team leaders are 'mentors' to all team members. We also separated related scale items to help eliminate biased responses (Podsakoff et al., 2003).

Setting

The study examined work teams in a banking setting. This is similar to the work of Schaubroeck et al. (2007), who examined team leadership; and other research that views members in a branch or department setting, who work interdependently on similar tasks and have a unit supervisor, as having distinct identities (Schaubroeck et al., 2007). The number of employees in each branch ranged from four to 20. For smaller branches the branch manager was considered the immediate supervisor/team leader. For larger branches supervisory responsibilities were divided among the branch manager, office manager, and head teller/customer service representative. Departments were run by the manager. The two community banks surveyed were team-based, with departments that controlled the operational aspects of business: the main and branch services provided to customers. We specifically surveyed employees in small community banks to ensure that teamwork was emphasized and teams of 15 or fewer were employed. We employed a measure of workload sharing and cooperation (e.g. 'Members on my team contribute equally to the work' and 'Members of my team cooperate to get the work done') and examined the within group agreement on this variable to support the appropriateness of the sample to study the team context. High within group agreement (median r_{wg} of .77) and between group variance [ICC(1) of .22] supported the indication that team context was represented in our sample. In addition, we conducted interviews to further understand the work setting. Kirk and Miller (1986) suggested that interviews provide rich detail about group member behavior and interaction processes. Interviews were conducted with a random sample of 39 employees to provide a better understanding of the team setting. Thirty were branch employees and nine were departmental employees. The interviews revealed that branches and departments were considered work units with employees operating as teams under their immediate supervisors who they considered the team leaders. Approximately 95 percent of respondents to the interviews saw their team leaders as coaches, 74.4 percent considered them to be friends, and 82 percent considered them to be role models. Over 90 percent indicated that they were committed to team goals and all participants valued teamwork.

Sample

Employees completed questionnaires four weeks after the interviews took place. Two hundred and thirty-two surveys were completed. Thirty-seven work teams were captured in 28 work units (25 were branches and three were departments) employing a total of 257 individuals. Eight branches had

two work teams and one branch had three work teams. The average percentage reporting by work unit was 90 percent (ranging from 60 to 100 percent). Supervisory self-reports were excluded from our data analyses, resulting in reports from work teams with members ranging from two to 13 members. The response rate was 100 percent from supervisors and 90 percent from the work units. The average number of respondents reporting to each supervisor was 5.5. After accounting for missing data, 192 matched supervisory–subordinate responses were included in our analyses. We were interested in how employees viewed their work situation and therefore we asked for self-reports on leader-member exchange, peer mentoring, and team-level career mentoring. We collected supervisory reports of member proactive behavior. Individual team-source learning was self-reported to indicate how much each member felt they had learned as a result of having been part of the team.

The average age of respondents was 33.6 years with 82 percent white, 4.3 percent black, and 8.7 percent Hispanic. Approximately 86 percent of respondents were female and the average work experience was 7.6 years. The average organizational tenure was 2.8 years. Average team tenure was 15.2 months with over 60 percent of respondents having team tenure of more than six months. Team leaders had on average team tenure of 20.8 months with over 60 percent having led the team for over six months. Approximately 81 percent were full-time employees and the average team size was 5.5 members (ranging from two to 13 members, excluding the team leader). Sixty-six percent had high school diplomas, 21.2 percent had associates degrees, and 6.7 percent had bachelor's degrees. Fifty-six percent were at the first level in the organization (tellers), 35.1 percent were customer service representatives, and 8.9 percent were office managers. The background variables of age, sex, education, race, level in the organization, tenure, tenure as team leader, work experience, and employment status were tested as covariates in our analyses and none emerged as statistically significant and were therefore not included.

Based on information gleaned in the preliminary interviews, the following instructions and definitions were given for reports on team-level career mentoring: 'Please indicate your agreement or disagreement with the following statements about your team's relationship with the *work team leader* (immediate supervisor). Thus, in general your team feels this way about this person. The team leader is a person who coaches/supports all members of your work team (person who you feel coaches each member of the team rather than selecting one individual to coach).' Having immediate supervisors rate each employee allowed us to match supervisor–subordinate pairs and group each work team according to the supervisor. For reports on peer mentoring, respondents were asked to indicate their level of agreement or

disagreement with statements about their '... peer relationships with members of their team' and were instructed that 'The peer relationship can generally be thought of as a relationship with a colleague (someone who is at your level in the organization) which you feel supports your personal or professional growth.'

Measures

Team-level career mentoring

Team-level career mentoring was measured using an adapted version of the 15-item mentoring scale developed by Scandura and Ragins (1993). This scale represents career support with six items. The scale was adapted by having respondents report on the extent to which 'our' team leader (supervisor) provides support to 'us'. These reports are useful for determining subordinate perceptions of the degree to which the leader provides coaching to all direct reports. Each statement describes the relationship with 'this person' in reference to the team leader and operationalizes team-level mentoring by referring to the team leader with respect to 'mentoring all team members'. The items are presented in Table 1. Responses were on a five-point scale ranging from 'Strongly disagree' to 'Strongly agree'. Team-level career mentoring was measured based on aggregated individual reports because it represents the subjective viewpoint of each respondent's perception of the supervisor providing mentoring to the team. This approach is useful for determining the perceptions that each team member has of the mentoring functions provided to the team; this approach to measuring team-level career mentoring represents a referent-shift consensus construct (Chan, 1998) in that items originally used to assess individual-level career mentoring were altered to assess team-level career mentoring by using the team as the referent, with meaning drawn from within-team agreement about the level of career mentoring. Cronbach's alpha was .93 (Nunnally & Bernstein, 1994) for individual reports.

Mean leader-member exchange

A seven-item scale (LMX-7: Scandura & Graen, 1984) was used to measure leader-member exchange. The original four-point response scales were used to indicate the extent of concurrence with each item. A sample item asks respondents to describe to what extent they feel that their immediate supervisor understands their problems and needs. Mean LMX was employed (Boies & Howell, 2006), representing a direct consensus construct (Chan,

Table 1   Team-level career mentoring (adapted from Scandura & Ragins, 1993)

Items

1. Our team leader takes a personal interest in each of our careers.
2. Our team leader has placed us in important assignments.
3. Our team leader gives us special coaching on the job.
4. Our team leader advises us of promotional opportunities.
5. Our team leader helps us coordinate professional goals.
6. Our team leader has devoted special time and consideration to our careers.

Peer mentoring (Lankau, 1996)
1. My peer/s and I share our expertise with one another.
2. My peer/s and I share organization information with one.
3. My peer/s and I counsel one another on career-related issues.
4. My peer/s and I share technical knowledge about our jobs with one another.
5. My peer/s and I share our perspectives on the department or organization with each other.
6. My peer/s and I provide feedback concerning work-related matters to one another.
7. My peer/s and I share advice on how to handle issues or problems encountered in our job.

Individual team-source learning (Lankau, 1996)
From interacting with other members on this team, I learned . . .
1. how to expand my network of contacts and resources.
2. about other's perceptions about myself and/or my department.
3. how to approach superiors or other managers.
4. how to improve my communication skills.
5. different perspectives on problems.
6. other team members' skills and abilities
7. how my words and actions impact others.
8. more information about the organization.

1998), in which items using the individual relationship as the referent were aggregated within teams, with meaning drawn from within-group agreement about the quality of the relationships. Cronbach's alpha was .86 for this scale.

Mean peer mentoring

Lankau (1996) developed a measure based on Kram and Isabella's qualitative findings (1985) to assess peer mentoring on the dimensions of career and psychosocial support. In this study career support was assessed. Career support was defined as support provided by another person that directly enhanced the career of the individual. A five-point scale ranging from 'Strongly disagree' to 'Strongly agree' was used for responses. The eight items

were adapted to refer to peer relationships in the team rather than reporting on only one specific peer relationship. Sample items from the measure are 'My peers and I counsel each other on career-related issues' and 'My peers and I provide feedback concerning work-related matters to one another'. Aggregated member reports are presented to denote their observed peer mentoring; this represents a referent-shift consensus construct (Chan, 1998) in that items originally used to assess individual-level peer mentoring were altered to assess team-level peer mentoring by using the peer group (team) as the referent, with meaning drawn from within-group agreement about the level of peer mentoring. Cronbach's alpha was .93 for peer vocational support.

Mean proactive behavior

We used Latack's (1986) 17-item scale to measure active strategies representing proactive behaviors. Supervisors rated employees on a five-point scale ranging from 'Hardly ever does this' to 'Almost always does this'. A sample item from this scale is 'Decides what they think should be done and explains this to the people who are affected.' While proactive behavior was measured at the individual level based on supervisory reports, it was conceptualized as a team characteristic that was observed using consensus measures of supervisory perception of member behavior. Consensus indicates that the leader sees team members as very similar in their behavior, thus allowing the mean to be used to characterize the team. Latack (1986) provided preliminary evidence of construct validity. Cronbach's alpha was .91 for this scale.

Individual team-source learning

We employed the eight-item measure of individual team-source learning developed by Lankau (1996) using content adequacy assessment procedures described in Schriesheim et al. (1993). Individual team-source learning was defined as the acquisition of skills from interacting with others in a team that contributes to an individual's effectiveness on the job. A five-point scale ranging from 'Strongly disagree' to 'Strongly agree' was used to measure responses. Sample items from this scale are: from interacting with other members on this team I learned: 'How to approach superiors and other managers', 'How to expand my network of contacts and resources', 'How to improve my communication skills', 'Different perspectives on problems', and 'More information about the organization.' Cronbach's alpha was .86 for this scale.

Aggregation procedure

With the exception of individual team-source learning, all of the study's constructs were theoretically cast at the team level. Because the constructs were measured using individual-level responses, it was necessary to assess the appropriateness of aggregating the individual responses to the team level. To do this, we relied on the r_{wg} (James et al., 1984) as an index of the degree of within team agreement or homogeneity and the ICC(1) as an index of the amount of between-team variance in the measures (Bliese, 2000; Chan, 1998). r_{wg} values were calculated using a rectangular null distribution. Generally, median r_{wg} values above .70 and ICC(1) values in the range of .10 to .20 or higher provide support for aggregation (Bliese, 2000). Thus, we investigated the appropriateness of aggregating the individual-level responses for mean LMX, mean peer mentoring, mean proactive behavior, and team-level career mentoring.

Analytic procedure

With independent variables and a mediator at the team level and the outcome at the individual level, our hypothesized model takes the form of a cross-level main effect model (Klein et al., 1994). Following Mathieu and Taylor (2007), this model can be further classified as cross-level mediation – upper mediator. In testing Hypotheses 1–4, we used a combination of OLS regression and Hierarchical Linear Modeling (HLM: Raudenbush et al., 2000). Specifically, when assessing the relationship between team-level career mentoring and each of mean LMX, mean peer mentoring, and mean proactive behavior, we used OLS regression as all variables reside at the team level. When assessing the relationship between individual team-source learning and team-level career mentoring, we used HLM as the outcome resides at the individual level while the predictor resides at the team level.[1]

When testing Hypotheses 5–7, which involve cross-level mediation, we followed the procedures outlined by Mathieu and Taylor (2007), utilizing the above analyses as well as additional HLM analyses that incorporated individual team-source learning as the outcome and each of the independent variables (mean LMX, mean peer mentoring, and mean proactive behavior) as well as the mediator (team-level career mentoring) as predictors. Following Mathieu and Taylor (2007), who drew heavily upon Baron and Kenny's (1986) rules of evidence for mediation, we first established that there was a significant relationship between the independent variables and individual team-source learning. We next investigated the significance of the relationship between the independent variables and the mediator, team-level career

mentoring. Finally, in equations examining the relationship between each of the independent variables and the outcome (individual team-source learning) in the presence of the mediator (team-level career mentoring), we looked for evidence that the mediator was significantly related to the outcome and the effect of the independent variable on individual team-source learning either became non significant (full mediation) or reduced in magnitude (partial mediation) in the presence of the mediator.[2]

Two other points about our analytical procedure are worth noting. First, in addition to the independent variables (i.e. mean LMX, mean peer mentoring, and mean proactive behavior), we also controlled for within group variance (labeled 'differentiation') in each of these variables by including their r_{wg} values as predictors in all of the above OLS and HLM equations. This follows the logic of Boies and Howell (2006), who examined the effects of mean LMX and within group variance in LMX (which they termed relationship differentiation), via the inclusion of r_{wg} values, on various team-level outcomes. We chose to incorporate differentiation so that we account for within-group variance in our teams. Second, in order to preserve degrees of freedom given our modest sample size relative to the number of predictors, we examined the effects of each independent variable separately rather than simultaneously.

Results

Table 2 presents the means, standard deviations, and inter-correlations of the study variables at the team level, including individual team-source learning. The mean reported in Table 2 for team-level career mentoring was 3.73. This level is consistent with previous research on career support in organizations (Scandura, 1992). Team-level career mentoring, mean LMX, and mean peer mentoring were correlated with individual team-source learning.

Team-level career mentoring and mean LMX were highly correlated. Confirmatory Factor Analysis (CFA) was performed using LISREL 8 (Joreskog & Sorbom, 1993) on the item-level raw data at the individual level ($N = 192$) after generating a covariance matrix through the PRELIS 2 program. The CFA was conducted to test the factor structure of the adapted scale to examine the dimensionality of the measure in the present data and to test for potential common method variance (Schriesheim et al., 1993). Following the recommendations of Medsker et al. (1994), the chi-square and degrees of freedom are reported, along with the root mean square residual (RMSR). The fit indices employed are the Goodness of Fit Index (GFI), Comparative Fit Index (CFI), and Non-normed Fit Index (NNFI). The results

Table 2 Team-level means, standard deviations and intercorrelations of study variables

Measure	Mean	SD	1	2	3	4	5	6	7	8
1. Mean LMX	2.97	0.36	**0.86**							
2. LMX differentiation	0.87	0.31	0.44***	n/a						
3. Mean peer mentoring	3.89	0.37	0.044***	0.34*	**0.93**					
4. Peer mentoring differentiation	0.95	0.05	–0.19	–0.15	0.47***	n/a				
5. Mean proactive behavior	3.68	0.38	0.18	0.14	0.10	–0.05	**0.91**			
6. Proactive behavior differentiation	0.89	0.09	0.41*	0.44***	0.13	–0.15	0.35*	n/a		
7. Team-level career mentoring	3.74	0.49	0.87***	0.46***	0.46***	–0.26	0.25	0.32	**0.93**	
8. Individual team-source learning	3.78	0.35	0.53***	0.40*	0.47***	–0.12	0.37*	0.23	0.67***	**0.86**

Note: Reliabilities are presented in boldface along the diagonal (N = 192); intercorrelations are on the off diagonals (N = 37).
* p < .05; ** p < .01.

indicate support for the two-factor model for team mentoring and LMX (χ^2 = 161.16, d.f. = 60; RMSR = .04; CFI = .96; NNFI = .93). Confirmatory factor analysis procedures indicated that the two-factor model was superior to a one-factor model (χ^2 = 282.83, d.f. = 63; RMSR = .05; CFI = .93; NNFI = .91); the difference in chi-square between models is significant ($p < .001$) and the obtained fit indices indicate that the two-factor model is better supported.

Aggregation statistics for each of mean LMX, mean peer mentoring, mean proactive behavior, and team-level career mentoring provided support for this approach. Median r_{wg} values were .94 for mean LMX, .95 for mean peer mentoring, .89 for mean proactive behavior, and .83 for TCM. ICC(1) values were .17 for mean LMX, .16 for mean peer mentoring, .31 for mean proactive behavior, and .24 for TCM. With all median r_{wg} values passing the .70 recommended threshold and all ICC(1) values in or above the recommended .10 to .20 range, strong support was obtained for aggregating each of these measures to the team level.

Hypotheses 1–3 were tested with separate OLS regressions. In each case, team mentoring served as the outcome while each of the independent variables (mean LMX, mean peer mentoring, and mean proactive behavior) as well as their respective within-team differentiation (indexed by the r_{wg} value) served as predictors. As can be seen from the results in Table 3, both Hypotheses 1 and 2 were supported as each of mean LMX and mean peer

Table 3 Results of regression analyses for team-level career mentoring[a]

Independent variable	Team-level career mentoring		
	Beta	*Beta*	*Beta*
Mean LMX	0.83**	–	–
LMX differentiation	0.09	–	–
Mean peer mentoring	–	0.74**	–
Peer mentoring differentiation	–	–0.61**	–
Mean proactive behavior	–	–	0.16
Proactive behavior differentiation	–	–	0.26
F	55.22**	16.91**	2.41
R-squared	0.77	0.50	0.12

$N = 37$; * $p < .05$; ** $p < .01$.

[a] We conducted two supplemental analyses to those reported in this table. The first substituted median leader-member exchange for mean leader-member exchange. When included with leader-member exchange differentiation as a predictor, identical to the results reported in this table, only median leader-member exchange was significant ($p < .05$). The second included all six predictors from Table 3 in a single regression. In this analysis, similar to the results reported in this table, mean leader-member exchange and peer exchange differentiation were significant ($p < .05$), while mean peer mentoring was marginally significant ($p < .10$).

mentoring, respectively, were significantly and positively related to team-level career mentoring, even after controlling for differentiation. However, Hypothesis 3 was not supported as mean proactive behavior was unrelated to team-level career mentoring.

Prior to testing Hypothesis 4 with HLM, we first ran a null model specifying individual team-source learning as the outcome but allowing for no predictors. This allows the outcome's variance to be partitioned into its within team and between team sources. In doing so, we can calculate the ICC(1) value for the outcome variable and determine whether or not the between team variance is significant. This is often used as a first step to determine whether subsequent team-level analyses are warranted (Hofmann et al., 2000). This null model indicated that the between team variance in individual team-source learning was significant, and accounted for 18 percent of the total variance in the outcome, thereby providing support for subsequent team-level analyses. The results of the HLM model for testing Hypothesis 4 are reported in Table 4 and show that team-level career mentoring was

Table 4   Results of hierarchical linear modeling analyses for individual team-source learning[a]

Independent variables	Individual team-source learning						
	γ	γ	γ	γ	γ	γ	γ
Team-level career mentoring	0.47**	–	0.64**	–	0.36**	–	0.46**
Mean LMX	–	0.48**	–0.31	–	–	–	–
LMX differentiation	–	0.19	0.13	–	–	–	–
Mean peer mentoring	–	–	–	0.64**	0.27	–	–
Peer mentoring differentiation	–	–	–	–3.25*	–1.00	–	–
Mean proactive behavior	–	–	–	–	–	0.27	0.15
Proactive behavior differentiation	–	–	–	–	–	0.29	–0.42
R-squared[b]	0.83	0.50	0.83	0.50	0.83	0.00	0.83

$N = 37$ teams and 192 individuals; * $p < .05$; ** $p < .01$.

[a] We conducted two sets of supplemental analyses to those reported in this table. The first substituted median leader-member exchange for mean leader-member exchange. When included with leader-member exchange differentiation as a predictor, similar to the results reported in this table, only median leader-member exchange was significant ($p < .05$). After adding in team-level career mentoring as an additional predictor, median leader-member exchange was marginally significant ($p < .10$) while team-level career mentoring was significant ($p < .05$). The second included all six predictors from Table 4 (excluding team-level career mentoring) in a single hierarchical linear model. In the model with these six predictors included, only mean peer mentoring was significant ($p < .05$). When including team-level career mentoring along with these six predictors, only team-level career mentoring was significant ($p < .05$).

[b] R-squared is calculated and reported here as the percentage of between-team variance (as opposed to total variance, which includes within-team variance) in individual team-source learning accounted for by the predictor and/or set of predictors.

significantly and positively related to individual team-source learning, thereby providing support for this hypothesis.

The last set of analyses pertains to those assessing the mediation proposed in Hypotheses 5–7. Combined with the above analyses, the testing of these mediation hypotheses draw on additional HLM models – first specifying each of the independent variables and their corresponding differentiation terms as predictors of individual team-source learning and, second, adding the mediator, team-level career mentoring, as an additional predictor of individual team-source learning. The results of these additional HLM analyses are also reported in Table 4. Applying the rules of evidence for mediation, Hypothesis 5 is supported in that mean LMX is significantly and positively related to both the outcome (individual team-source learning from Table 4) and the mediator (team-level career mentoring from Table 3 as per the test of Hypothesis 1). Additionally, after accounting for the effects of the mediator (team-level career mentoring), only the mediator is significantly related to the outcome with the relationship between mean LMX and the outcome becoming non-significant (from Table 4), indicating full mediation. Hypothesis 6 is also supported as mean peer mentoring is significantly and positively related to both the outcome (individual team-source learning from Table 4) and the mediator (team-level career mentoring from Table 3 as per the test of Hypothesis 2). After accounting for the effects of the mediator (team-level career mentoring), only the mediator is significantly related to the outcome with the relationship between mean peer mentoring and the outcome becoming non-significant (from Table 4), indicating full mediation. However, Hypothesis 7 is not supported, as mean proactive behavior is not significantly related to either the outcome (Table 4) or the mediator (Table 3 as per the test of Hypothesis 3).

Discussion

The results of this study suggest that team-level leader-member exchange and peer mentoring influenced team-level career mentoring, and team-level career mentoring was an effective tool for enhancing learning in a team context. Because teams provide a forum for learning new skills and developing information resources (Ostroff & Kozlowski, 1993), the extent to which the team environment provides employees with opportunities for growth may increase the learning that occurs. The results of this study suggest that leader-member relationships and peer mentoring across teams might be important contextual antecedents to team-level career mentoring, which in turn promotes

individual team source-learning. It is interesting that Hypotheses 3 and 7, involving mean proactive behavior, were not supported. While the sample size limited the statistical power to detect relationships, it is also possible that there was range restriction in our sample. We expand on the implications of the non-significant results in our limitations section.

Theoretical implications

A contribution of this study is the examination of mentoring at the team level. To date, this concept has been discussed in the practitioner literature but largely ignored in empirical research. Our research extends research on supervisory career mentoring beyond the dyadic approach. Relationship quality (reflected in LMX across the team) and peer mentoring can encourage team interactions that support and encourage team-level career mentoring. Relationship quality and peer mentoring may be essential to provide the rewards and recognition that Sundstrom (1999) suggested are important to promote positive team functioning; this might facilitate team-level career mentoring. Team leaders who mentor might act to channel individual actions toward team goals by providing all team members with the same information and frame of reference (Morgan, 1998). Actively socializing members to work together using teamwork and mentoring may need to become a strategy that is encouraged in team-based settings.

Our study extends research on supervisory mentoring, which has been conceptualized as a transformational activity involving mutual commitment and as a non-contractual investment of time in the development of employees through the sharing of experience, knowledge, and values (Scandura & Schriesheim, 1994). The current research contributes to the mentoring literature in highlighting the role of relationship quality and peer mentoring across the group in the formation of leader-team interactions (team-level career mentoring). This helps support the isomorphic view that variables involving LMX, peer mentoring, and traditional mentoring operate in a similar manner when represented at a higher level. However, by examining LMX and peer mentoring at the team level as contextual factors influencing leader–team interaction, we have also extended the scope of research on alternative forms of mentoring.

Practical implications

This empirical examination of team-level career mentoring provides support for the practitioner literature that suggests the importance of contextual

relationships and demonstrates potential benefits from this approach to mentoring. Our research suggests areas on which managers may focus their efforts to promote team-level career mentoring. As discussed in the practitioner example of successful group mentoring in P-Sontag et al. (2007), it appears that team-level career mentoring might promote efficiencies in formal settings were the team mentor and protégés are assigned. This might be ideal where team assignments are for a longer term and work outcomes require mutual accountability. This type of setting might actually promote team-level career mentoring when the leader and team members join voluntarily. Such teams may provide conditions that facilitate the mentoring of each team member because relationships may be more stable and predictable. Where managers become mentors, this can encourage increased interactions, building relationships, and encouraging teamwork that also improve employee attitudes and career expectations. Promoting team-level career mentoring in organizations may be best promoted where committed Human Resource practitioners provide resources for success such as early training and socialization.

Study limitations

The design of the study was cross-sectional and causality cannot be inferred. Another limitation is the absence of objective measures of individual team-source learning. However, we measured proactive behavior based on supervisory reports using a standard measure from the literature. These reports are likely to be more objective than member self-reports would have been. The setting of the research also needs to support studying team concepts – certain team contexts may be more favorable than bank settings for an examination of team-level career mentoring, for example, project group settings. This is especially important for future research on leaders applying developmental approaches in work settings. Our small sample size restricts the conclusions that can be drawn. However, the significant results reported in this exploratory study suggest avenues for future research on team-level career mentoring.

In post hoc fashion, we employed the partial correlation technique to examine the potential for bias in our results (the marker variable, age of the leader, has not been linked to mentoring effectiveness), and its inclusion did not change our results (Podsakoff et al., 2003). Same source bias may offer a potential explanation for the results reported. We observed that relationships between self-report measures were statistically significant while the relationship between supervisory reports of proactive behavior and self-reports were non significant. Thus, future research should employ more

measures from a variety of sources to strengthen the conclusions that might be drawn. The Harman one-factor test revealed that there was no single general factor that best represented these data (Podsakoff et al., 2003). It therefore appears that the relationships reported are not likely to be a result of common method variance.

The study measures team member perceptions of the independent variables. However, we operationalized these variables at the team-level by aggregating responses to established measures (Chan, 1998). The decision to aggregate was based on agreement indices computed using r_{wg} analysis (James et al., 1984). This helps reduce the potential for spurious results based on individual-level observed variance. All measures employed in the study were published scales that had demonstrated adequate psychometric properties in previous research.

While the measure of proactive behavior was based on supervisory reports of individual behavior, it may have been more appropriate to obtain direct supervisory reports on perceptions of team proactivity using the team as the referent. We anticipated that the characteristics of the team members were an important contextual factor to consider and drew on George (1990) to theorize that where individual characteristics are highly similar, they can be used to characterize the nature of the team. Future research might need to consider comparing self-reports with leader reports and also compare these with measures that directly examine team proactivity.

Other research has also employed the median rather than the mean, in taking the view that group-level agreement is not expected, especially where there is no measure of agreement (Liden et al., 2006). We used the mean LMX approach and tested for agreement because LMX refers to a relationship and we sought to understand how consensus on the relationship quality with the leader across the team determined team-level career mentoring. The supplemental analyses noted for Tables 4 and 5 indicated no differences when using median LMX; however, when all independent variables are included simultaneously in predicting team-level career mentoring, mean peer mentoring became marginally significant. When included simultaneously for testing mediation, team-level career mentoring only mediated the relationship between mean peer mentoring and learning. This suggests that further research is need that replicates and extends the variables examined in the current study with larger samples in order to better understand the development of team-level career mentoring and its effects. Future research can also extend the current study by accounting for individual-level effects. This might require alternative research designs that tap more cross-level relationships in which for example, relative LMX quality (RLMX: Henderson et al., 2008) is examined and individual-level moderators

(e.g. member boundary spanning behavior) of the team-level mentoring to outcomes relationship are explored.

Conclusions and directions for future research

The present study investigated team-level career mentoring as one reflection of the changing nature of mentoring relationships and highlights the potential positive impact of team mentoring on individual team-source learning. Research that investigates the reactions of those who either feel that they do not receive enough mentoring and those not motivated to participate in teams can further explicate the impact of individual attitudes, personality, and motivations on individual and team development. Certainly the results presented suggest that future research should examine the potential barriers that might be created when relationships within the team are weak (e.g. poor LMX, weak peer mentoring) and reactive team member behavior can also create barriers that may be impossible to overcome in terms of being able to develop all team members. Future research might also extend the examination of within group variance as a potential barrier to employing teams exists where employees are more focused on their self-interest.

An examination of the characteristics of team members, which might characterize team behavior beyond proactive behavior, may uncover more conditions under which team-level career mentoring develops. For example, Eby and Dobbins (1997) found that self-efficacy for teamwork, need for social approval, and positive past experience working in teams were related to self-reported collectivism; and cooperative team behaviors mediated the relationship between team collectivistic orientation and team performance. We did not find support for proactive behavior influencing team-level career mentoring (TCM), but future research that operationalizes proactive behavior or examines other member characteristics that influence team behavior, such as achievement orientation, might reveal important contextual factors that promote TCM.

Training in communication and teamwork skills coupled with rewards at the team level may be needed to prevent the emergence of dysfunction in supervisor–subordinate or mentor–protégé relationships (Scandura, 1998). Research that explores the power dynamics when a team leader acts as mentor also needs to be conducted. Where teams are critical for organizational success, managers and peers might need to learn new skills to help the leader and peers transition from the traditional dyadic approach to a team-based model. In a situation where the manager only mentors a few members of the team, the resulting inequities may disrupt team processes as

proactive members try to take individual action to excel that involves impressing the leader and downplaying the importance of other team members (Scandura, 1998). This might occur in a competitive rather than a cooperative atmosphere and result in dysfunction. Thus, where teams are too large to facilitate TCM, other approaches might be necessary to develop each employee.

Future research should examine factors such as team motivation, value similarity, and team performance as antecedents to team-level career mentoring (TCM) and also investigate other outcomes of team-level career mentoring, such as project success and positive work attitudes and should link learning outcomes with performance outcomes. With changing work environments, there is greater need for innovation, productivity, and customer satisfaction given scarce resources. Research on mentoring has tended to examine more career outcomes than performance outcomes. The role that team-mentoring plays in creating and sharing knowledge may have the potential to impact performance directly or potentially through learning.

In the new organizational cultures that are emerging with the growth of teams, managers and peers at all levels may need to take on the responsibility for developing one another as well as junior employees. Research by Eby et al. (2006) suggests that short-term benefits such as improved performance and recognition predict mentor attitudes while short-term benefits such as a rewarding experience predict intentions to mentor in the future. Research on TCM may need to examine under what conditions supervisors are motivated to maintain team-level developmental interactions and what factors influence leaders to provide higher levels of mentoring functions. TCM can create a culture that promotes the sharing of information and skills. With the increasingly competitive environment that employees work in, the promotion of individual and team development in all areas, at all levels, and by all organizational members, can increase effectiveness at individual, team, and organizational levels.

Notes

1   Rather than use HLM, we could have used OLS regression with mean individual team-source learning serving as the outcome. This would have required us to explicitly aggregate the outcome to the team level. Nonetheless, even in HLM, it is important to note that this is what is implicitly happening. This is because team-level predictors can only explain team-level variance in the individual-level outcome. As such, the HLM results will often parallel OLS results in which the outcome is aggregated to the team level. However, discrepancies can occur because of, among other things, the different estimators that are used in each program as well as differential weighting of the data (in HLM) by the number of responses per team.

2   We acknowledge that there is some movement away from using the Baron and Kenny (1986) criteria as rules of evidence for mediation (e.g. MacKinnon et al., 2002). However, this is the set of evidence favored by Mathieu and Taylor (2007), which is the most current treatment of meso-mediation in the organizational literature. Hence, we chose to follow their proposed procedures for testing such mediation.

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