

# From E-Mentoring to Blended Mentoring: Increasing Students' Developmental Initiation and Mentors' Satisfaction

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*E-mentoring offers an alternative way to connect individuals with mentors. In my work here, management students were paired with working professionals for a semester to ask questions about the relevance of course content, learn how topics are applied in practice, and develop rapport. Results indicate that when students and mentors perceived they were similar to each other, students received more vocational and psychosocial support and mentors provided more support. More frequent interaction was also associated with more support and mentors' satisfaction. Relationships in which students received more support were associated with higher levels of career planning, satisfaction with mentors, and intentions to continue the relationship. Similarly, relationships in which mentors provided more support were associated with higher intentions to continue the relationship. Blended mentoring, e-mail plus talking on the phone or meeting face-to-face, increased positive outcomes for both students and mentors. Participation in this experience significantly increased students' propensity to initiate developmental relationships, a critical skill for career development.*

In the past 2 decades, professional careers have shifted from linear and stable to boundaryless and unpredictable (Arthur, Inkson, & Pringle, 1999; Arthur & Rousseau, 1996; Hall, 2002). Technology is also affecting individuals' careers, with the rapid pace of change requiring workers to have the flexibility to adapt and learn quickly (Kram & Hall, 1996). In this environment, negotiating transitions is an essential career skill, and workers must create certainty for themselves (Savickas, 2007). Relationships are one of the most valuable resources for career development (Hall, 2002; Kram & Hall, 1996), and mentors are a key source of stability in assisting individuals to successfully adapt to ca-

reer challenges. This is reflected in research on mentoring, which consistently demonstrates that protégés have higher salaries, are promoted faster, and are more satisfied with their careers (Allen, Eby, Poteet, Lentz, & Lima, 2004).

Relationships with mentors may be especially crucial in the turbulent, changing career environment of the 21st century (Allen et al., 2004; Kram, 1996). As electronic media are increasingly used in both personal (e.g., Facebook) and professional (e.g., Linked-In) contexts, students can greatly benefit from knowing how to develop rapport on-line. E-mentoring, also known as *virtual mentoring*, is defined as the process of using electronic means as the primary channel of communication between mentors and protégés (Hamilton & Scandura, 2003). The potential of e-mentoring has received some attention in the literature (Ensher, Heun, & Blanchard, 2003; Hamilton & Scandura, 2003). To date, however, few empirical studies of e-mentoring in the management field have been under-

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taken (for exceptions see de Janasz, Ensher, & Heun, 2008; Smith-Jentsch, Scielzo, Yarbrough, & Rosopa, 2008).

My work here explores e-mentoring in the context of student development as a tool for increasing protégés' propensity to initiate developmental relationships. The mentoring literature suggests that developmental relationships benefit both the protégé and the mentor (Eby & Lockwood, 2005; Kram, 1985); therefore, I explore individual and relationship characteristics as antecedents to support received by protégés and provided by mentors, as well as outcomes for protégés and mentors. Given the tumultuous career environment awaiting students at least for the next few years and likely beyond, having positive experiences with mentors should be important in encouraging students to actively think about their careers and begin building their developmental networks.

## THEORETICAL BACKGROUND

Mentoring has theoretical roots in research on adult development (Kram, 1983, 1985; Levinson, Darrow, Levinson, & McKee, 1978). For young adult protégés, mentors facilitate work on tasks concerning self, career, and family (Kram, 1985). Kram (1983: 609) connects the need for mentoring with Erikson's (1963, 1968) theory that the primary tasks of young adulthood are "role identity versus role confusion" and "intimacy versus isolation." Protégés seek mentors to help resolve these dilemmas by clarifying their professional identity and their relationship to work organizations. Thus, mentors help in setting occupational goals as well as in forming a dream and in encouraging its pursuit (Levinson et al., 1978; Levinson & Levinson, 1996). In contrast, participating in a mentoring relationship may enable the mentor to address the developmental task of "generativity versus stagnation" (Kram, 1983). Mentors are thus motivated to foster future generations and share their accumulated knowledge and wisdom (Levinson et al., 1978).

Due to its focus on dyadic relationships, mentoring has also been linked to social exchange theory and, by extension, to leadership-member exchange (LMX) theory (Ensher, Thomas, & Murphy, 2001; Noe, Greenberger, & Wang, 2002; Olian, Carroll, & Giannantonio, 1993; Raabe & Beehr, 2003; Scandura & Schriesheim, 1994). At its core, social exchange involves interdependent interactions that generate obligations (Blau, 1964; Gouldner, 1960). Thus, individuals participate in mentoring relationships based on the perception that the benefits outweigh any costs (Ensher et al., 2001; Olian et al., 1993). Allen (2007) suggests that both mentors

and protégés do a cost-benefit analysis before initiating a mentoring relationship. In formal mentoring relationships between student protégés and professional mentors, students are required to participate, whereas mentors who volunteer are likely to consider costs and benefits. For mentors, potential benefits include a rewarding experience, recognition by others, generativity (Ragins & Scandura, 1999), and positive feelings about giving back to the university. Costs may include energy drain and a relationship that is more trouble than it is worth or that becomes dysfunctional (Allen, 2007; Ragins & Scandura, 1999).

Social exchanges are characterized by rules and norms (i.e., reciprocity or *quid pro quo*), resources exchanged, and the relationship that may emerge (Cropanzano & Mitchell, 2005). Resources exchanged may have economic (e.g., information, money) or symbolic (e.g., love, status) value (Cropanzano & Mitchell, 2005; Foa & Foa, 1980). Correspondingly, mentoring relationships are based on reciprocity (Kram, 1985), and the resources exchanged may depend on any number of characteristics, such as whether the relationship is formal or informal (Ensher et al., 2001; Lankau & Scandura, 2002; Wanberg, Welsh, & Hezlett, 2003), the power difference between parties (Gouldner, 1960; Ragins, 1997a,b), and the diversity of the parties involved (Blake-Beard, Murrell, & Thomas, 2007; McKeen & Bujaki, 2007). A majority of empirical work on mentoring aligns with the two social exchange categories, finding that mentors provide vocational (i.e., instrumental/economic) and psychosocial (i.e., symbolic) support functions to protégés (Allen et al., 2004; Wanberg et al., 2003). In turn, participation in a mentoring relationship and the receipt of mentoring support is associated with higher salaries, faster promotions, and higher levels of career satisfaction for protégés (Allen et al., 2004).

Finally, leader-member exchange theory is based on the idea that leaders differentiate among subordinates in terms of the type and quality of their exchange relationship (Sparrowe & Liden, 1997; Wayne, Shore, & Liden, 1997). LMX relationships include respect, trust, and obligation, which are all characteristics that deepen and grow over time "as career-oriented social exchanges blossom into a partnership" (Graen & Uhl-Bien, 1995: 237). According to Sparrowe and Liden (2005), in high-quality LMX relationships, leaders exchange such resources as strategic advice, social support, and feedback with members who reciprocate with commitment and cooperation. However, LMX is typically measured as an economic exchange relationship that facilitates short-term outcomes, such as

performance ratings, and therefore, mentoring may be necessary to augment LMX for long-term outcomes, such as salary growth and promotion (Scandura & Schriesheim, 1994). Unlike mentoring relationships that occur with leaders in the workplace, however, in an educational context mentors are not responsible for or directly affected by students' performance. Likewise, students are not assessed by mentors, do not work for mentors, and are not obligated to continue the relationship due to shared organizational affiliation. Therefore, adult development and social exchange theory may be more useful than LMX for understanding student protégé and professional mentor pairs.

Integrating these perspectives is the idea that form and function matter for mentoring relationships. Therefore, characteristics of the relationship, such as combined demographics or how often the parties interact, and the resources exchanged are both essential elements to understanding outcomes of the mentoring process.

## MENTORING IN THE 21ST CENTURY

Research on mentoring in the field of management has been concentrated in the area of careers. Careers have been defined as a person's emerging set of work experiences over time (Arthur, Hall, & Lawrence, 1989). In the past decade, theories of careers have shifted from that of "organizational man," a traditional linear job path within one organization, to that of the boundaryless and protean career models, which emphasize personal growth and development across multiple positions (Arthur & Rousseau, 1996; Hall, 1996, 2002). Career models have shifted as organizations have changed to flatter structures with more team-based and independent work, where the potential to advance up status hierarchies may not exist and individuals no longer expect to have a lifelong career in one organization (Sullivan, 1999). In these new careers, a focus on the self-directed career managed by the person has replaced traditional formulas for success. Careers are now highly relational and often driven by personal interest and work challenges (Arthur et al., 1999; Arthur & Rousseau, 1996; Hall, 1996). Even within traditional careers, the pairing of individual and relational components is critical because a person's growth and advancement is attributed to both individual competencies and the skill of accessing others (Eby, 1997; Hall, 2002; Kram, 1985).

As career theory has evolved, the conceptualization of mentoring relationships has simultaneously changed. Traditionally, the definition of a mentor-protégé relationship is that of a junior per-

son paired with a senior, more experienced colleague within the same organization (Kram, 1985). Mentors provide both vocational support, including coaching and providing feedback, and psychosocial support, including serving as a role model, counseling, and friendship (Kram, 1985; Noe, 1988). Many studies have demonstrated the benefits of mentoring for protégés, such as increased promotions, compensation, job satisfaction, self-esteem, and reduced stress, among others (Dougherty & Dreher, 2007). However, with the changing nature of careers, it may no longer be feasible or even desirable to have only one mentor. Consequently, research on mentoring has shifted from the focus on one-on-one relationships toward multiple mentors, that is, a developmental network approach (Higgins & Kram, 2001).

A *developmental network* typically consists of multiple relationships that individuals enlist to provide assistance in their careers. Developers may be within or across organizations and may include senior colleagues as well as supervisors and peers (Higgins & Kram, 2001). Research shows that individuals with larger developmental networks are more satisfied with their careers (Higgins, 2000). The content of these relationships is also important, as individuals who receive more career support from their network report greater career-related self-efficacy and career success (Higgins, Dobrow, & Chandler, 2008). In addition, receiving support from nonwork relationships, including senior colleagues in other organizations, family, friends, neighbors, and community members, is related to greater career satisfaction and well-being (Murphy, 2007; Murphy & Kram, 2010). Thus, scholars have recognized that alternative developmental network relationships exist, and individuals may receive support from a range of sources, including e-mentors.

Given the changing career context, it is important for students to learn how to manage their own developmental relationships early in their professional careers. As individuals and employers increasingly use on-line tools, such as Linked-In, Twitter, and Facebook (Zeidler, 2009), it is also increasingly important that students learn how to initiate and develop professional relationships through electronic mediums. I argue that e-mentoring is one tool that may raise students' awareness of the importance of mentoring relationships and begin to develop the skills necessary to build and sustain their developmental networks.

Research has shown that e-mentoring leads to enhanced academic performance and job opportunities for students (de Janasz et al., 2008). This study contributes to the understanding of e-

mentoring relationships by examining antecedents and consequences of support received by protégés and support provided by mentors. Beyond e-mail communication, however, protégés and mentors were permitted, but not required, to talk on the phone or meet face-to-face. Thus, while e-mail was the primary channel of communication, many relationships were more accurately characterized as blended mentoring relationships due to the use of other media. From the protégés' perspective, I explore whether e-mentoring support positively affects career planning, satisfaction with mentors, and intention to continue the relationship. Participation in a formal e-mentoring program may also increase protégés' propensity to initiate new developmental relationships. Each of these is an important outcome for facilitating successful early career development. This is the first study to explore the mentors' perspective and perceptions of support provided, as well as how these may affect satisfaction with protégés and intentions of continuing the relationship. Research on traditional mentoring relationships shows that experienced mentors are more willing to mentor again and are more likely to gain a sense of satisfaction and fulfillment from the relationship (Ragins & Scandura, 1999); therefore, it is important for mentors to have a positive experience to ensure that such e-mentoring programs will continue to attract volunteers. All proposed relationships among variables are illustrated in Figure 1.

## LITERATURE REVIEW AND HYPOTHESES

### Protégé Characteristics and Support

The mentoring literature suggests that individual differences may influence the quality of support received by protégés in developmental relationships (Fagenson, 1989; Turban & Lee, 2007). This is because the personality characteristics that protégés bring into a relationship affect the extent and quality of interactions with their mentors (Wanberg, Kammeyer-Mueller, & Marchese, 2006). In this

study, core self-evaluations and optimism were included as indicators of personality. Core *self-evaluations* are defined as basic conclusions that individuals hold about themselves (Judge, Locke, & Durham, 1997). These include four affective traits: self-esteem, locus of control, emotional stability (or neuroticism), and generalized self-efficacy. Two of these traits, high internal locus of control and high emotional stability, have been linked to the receipt of mentoring support in a traditional relationship context (Turban & Dougherty, 1994). Research has shown that core self-evaluations influence successful goal pursuit as well as levels of job and life satisfaction (Judge & Bono, 2001; Judge, Bono, Erez, & Locke, 2005; Judge, Locke, Durham, & Kluger, 1998). Students who have more positive self-evaluations are expected to be more likely to present themselves in a positive way and to have positive interactions with mentors.

Optimism relates to an individual's general expectancy judgment, with the presumption that desirable outcomes will generally occur (Lee, Ashford, & Jamieson, 1993). Optimists believe things will tend to go their way and that good things will happen to them. Thus, optimism was important to include as an individual difference because this was a student population who tended to be skeptical that professionals really wanted to engage in correspondence and develop one-on-one relationships. Therefore:

*Hypothesis 1a: Protégés' core self-evaluations will positively affect support received from mentors.*

*Hypothesis 1b: Protégés' optimism will positively affect support received from mentors.*

### Relationship Characteristics and Support

Several characteristics of the mentor-protégé relationship may affect the support received by protégés and the support provided by mentors. In particular, the degree to which similarities exist between the mentor and protégé (i.e., the similar-

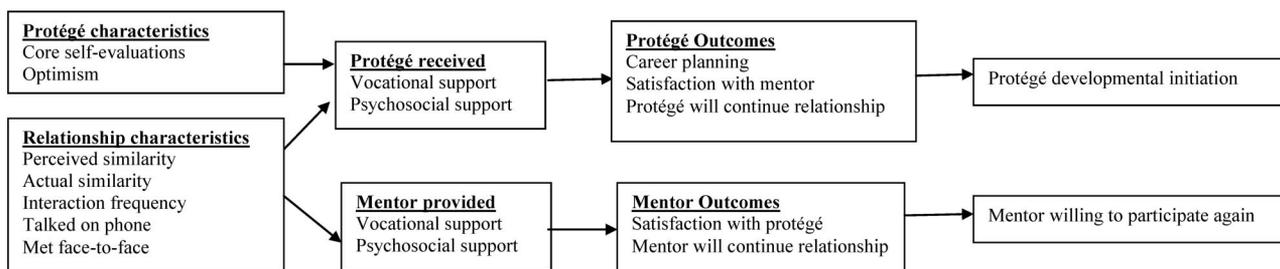


FIGURE 1  
Proposed Model

ty-attraction hypothesis, see Allen, 2007) as well as the frequency of interaction and communication should increase levels of support (Scandura & Williams, 2001; Smith-Jentsch et al., 2008; Turban, Dougherty, & Lee, 2002; Wanberg et al., 2006). Researchers generally distinguish between deep-level diversity, which includes values and attitudes, and surface-level similarity, which refers to demographics such as age, race, or gender (Harrison, Price, & Bell, 1998). In an e-mentoring study by de Janasz and colleagues (2008), demographic similarity was not related to effective e-mentoring, while perceived similarity, the perception that the mentor-protégé pair shared similar attitudes and values, was related. This finding may occur because electronic communication decreases the importance of surface-level characteristics. In contrast, studies of face-to-face mentoring show that satisfaction with mentors is higher when protégés perceive that they are more similar and actually are more similar (matched race or gender) to their mentors (Ensher, Grant-Vallone, & Marelich, 2002; Ensher & Murphy, 1997; Turban et al., 2002). In the same way, Allen and Eby (2003) found that mentors who perceived that their protégés were more similar to themselves reported relationships of higher quality. In particular, same-gender relationships tend to offer more opportunities for social engagement and role modeling (Ragins & McFarlin, 1990).

Studies show that the duration of the relationship moderates the relationship between similarity and support (Turban et al., 2002), with similarity being more important for shorter term relationships (Allen, 2007). Since the duration of the e-mentoring relationships in this study is one semester, both dimensions of similarity (perceived and actual) may be important. Finally, more frequent interactions, likely to be characterized by ongoing comments contingent on the previous dialogue (Smith-Jentsch et al., 2008), and blended communication, supplementing e-mail with talking on the phone or meeting in-person (DeRouin, Fritzsche, & Salas, 2005; Ensher et al., 2003), are hypothesized to enhance the experience for both protégés and mentors. Thus:

*Hypothesis 2: Perceived similarity and actual similarity (gender matched) will be positively associated with support received by protégés and with support provided by mentors.*

*Hypothesis 3: Interaction frequency, talking on the phone, and meeting face-to-face will be positively associated with support received by protégés and with support provided by mentors.*

## Support and Protégé Outcomes

Mentoring relationships may provide protégés with both vocational support and psychosocial support (e.g., Kram, 1985; Allen et al., 2004). Vocational support enhances learning and provides assistance in career advancement, while psychosocial support enhances protégés' sense of competence, clarity of identity, and effectiveness in a professional role (Kram, 1985; Noe, 1988). In Kram's (1985) seminal study, vocational functions included sponsorship, exposure or visibility, coaching, protection, and challenging assignments. Psychosocial functions included role modeling, acceptance or confirmation, counseling, and friendship. In this study, the focus is on support that is relevant for student protégés, that is, primarily the vocational function of coaching. *Coaching* was originally defined by Kram (1985: 28) as the developmental function that "enhances the junior person's knowledge and understanding of how to navigate effectively in the corporate world." The other vocational functions are focused on mentors providing support to protégés working in the same organization. In contrast, receiving the full range of psychosocial functions is possible for student protégés.

Support from a mentor has been shown to positively affect both objective and subjective career success (Allen et al., 2004); however, these are benefits that accrue in the workplace. Prior to entering the workforce, career planning is expected to be a particularly salient variable. Career planning has been related to career satisfaction (Wayne, Liden, Kraimer, & Graf, 1999) as well as salary and career involvement (Gould, 1979). According to Hall and Foster (1977), career plans are a type of goal setting that leads to positive career outcomes (see also Wayne et al., 1999). For students about to enter the professional world, higher levels of career planning should enable them to capitalize on early opportunities to form developmental relationships and increase their professional network. In addition, research on traditional mentoring relationships shows that students who receive more support will be more satisfied with their mentor (Ensher & Murphy, 1997), which may lead to better academic performance and job opportunities (de Janasz et al., 2008) as well as positive career attitudes (Ragins, Cotton, & Miller, 2000). Last, students who receive more support will be more likely to continue the relationships with their mentors beyond the course requirements, potentially adding their mentor to their developmental networks. Thus, I expect that:

*Hypothesis 4a: Vocational support will be positively associated with protégés' ca-*

reer planning, satisfaction with their mentor, and intention to continue the relationship.

*Hypothesis 4b: Psychosocial support will be positively associated with protégés' career planning, satisfaction with their mentor, and intention to continue the relationship.*

### Support and Mentor Outcomes

A positive mentoring relationship should enhance both individuals' growth and advancement (Kram, 1985). Research shows that the amount of support that mentors provide to protégés is positively associated with the mentor's objective and subjective career success (Bozionelos, 2004). Mentors may gain satisfaction from fostering the development of a younger adult (Ragins & Scandura, 1999) and find additional meaning in their work by passing on their accumulated knowledge and wisdom (Kram, 1983, 1985). This study focuses on coaching as the most relevant subfunction of vocational support that mentors provide for student protégés (see above). According to Noe (1988), coaching includes sharing ideas, providing feedback, and suggesting strategies for accomplishing work objectives. Given that the mentors in this study volunteered for their roles, they likely have a high desire to provide support. The more support that mentors provide to protégés, the stronger the relationship (Kram, 1985) and the more likely that the relationship might continue beyond the semester assignment. Therefore, I expect that higher levels of vocational support and psychosocial support provided by mentors will be associated with satisfaction with protégés and their intention to continue the relationship. Thus:

*Hypothesis 5a: Vocational support will be positively associated with mentors' satisfaction with their protégés and intention to continue the relationship.*

*Hypothesis 5b: Psychosocial support will be positively associated with mentors' satisfaction with their protégés and intention to continue the relationship.*

Last, I expect that the more mentors are satisfied and fulfilled from the relationship (Ragins & Scandura, 1999), also indicated by their intention to continue the relationship, the more likely they will be to participate in e-mentoring (or blended mentoring) relationships with students in the future.

*Hypothesis 6: Mentors' satisfaction with their protégés and intention to continue the*

*relationship will be positively associated with their willingness to participate as mentors in the future.*

### Enhancing Developmental Initiation

*Developmental initiation* is defined as "development-seeking behaviors undertaken by a focal individual that are intended to enhance his or her skills, knowledge, task performance, or personal learning" (Higgins, Chandler, & Kram, 2007: 354). The construct of developmental initiation is broader than mentor initiation and distinct from networking, although certain networking behaviors may facilitate developmental initiation. *Mentor initiation* focuses on the degree to which potential protégés seek relationships with higher level managers in their work organization (Turban & Dougherty, 1994). In contrast, developmental initiation includes the pursuit of relationships within or across organizations and may include peers and supervisors as well as senior colleagues. *Networking* is characterized as developing relationships that are instrumental in helping with one's career, for example, by providing information about new job opportunities (Granovetter, 1973; Hwang, Kessler, & Francesco, 2004; Wanberg, Kanfer, & Banas, 2000). According to Forret and Dougherty (2001), networking behaviors include maintaining contacts, socializing, engaging in professional activities (e.g., seminars or workshops), participating in church and community, and increasing internal visibility (e.g., on committees at work or stopping by others' offices to say hello). Research has shown that the receipt of mentoring is associated with networking ability (Blass, Brouer, Perrew, & Ferris, 2007), and networking skills may certainly enhance the success of developmental initiation. The distinction is that developmental initiation involves seeking mutually beneficial relationships that are intended to enhance one's career through assistance, help, advice, and feedback (Higgins et al., 2007), and may include both instrumental and psychosocial functions.

Higgins and colleagues (2007) suggest that an individual's level of developmental initiation will influence whether developmental relationships are formed. Similarly, research on mentoring initiation shows that initiating mentor relationships results in more mentoring received (Turban & Dougherty, 1994). Furthermore, protégés' positive experiences in traditional mentoring relationships are associated with obtaining a mentor in the future (Ragins & Cotton, 1991). I expect that positive attitudes and experiences as a result of their e-

mentoring relationship will encourage students to initiate future developmental relationships.

*Hypothesis 7a: Protégés career planning, satisfaction with mentor, and intention to continue the relationship will be positively related to developmental initiation.*

More generally, I expect that students' propensity to engage in developmental initiation behaviors should increase compared to their levels of developmental initiation before participating in an e-mentoring relationship. Thus,

*Hypothesis 7b: Protégés' level of developmental initiation will increase after participating in an e-mentoring relationship (from Time 1 to Time 2).*

## METHOD

### Sample

Participants in this study included 206 students enrolled in management courses at a large midwestern university in 2009 and 2010, including 134 undergraduate students and 72 master's of accountancy (MAS) students. Undergraduate students were juniors or seniors and MAS students were primarily 5th-year students. Participants mean age was 22.3 yrs. and gender composition was 72.8% male and 27.2% female. Ethnic distribution was 72.1% Caucasian/White, 14.0% Hispanic/Latino, 8.8% Asian, 2.9% Black, 0.7% Native American; and 1.5% did not report ethnicity. Almost half the students had a part-time job (48.5%), working an average of 18.2 hours per week. Students did not receive credit for participating in the research; however, they earned credit toward 10% of their grade for a reflection paper based on their e-mentoring experiences.

Mentors were alumni and friends of the university who volunteered to participate, and who had a minimum of 10 years of professional experience ranging from middle-level managers to vice-presidents and CEOs. Of the 206 mentors who participated in the program, 148 responded to the survey for a 72% response rate. For the e-mentoring assignment, students were required to compose an introductory e-mail and then correspond about course topics they were interested in learning more about from their mentors during the semester (see Whiting & de Janasz, 2004, for further details about the assignment and requirements). Sample topics include motivation, leadership, and career management, although noncourse interests were also discussed. Students were encouraged to build rapport with their mentors by framing questions

with explanations about their understanding of course content (including definitions for terms that might be unfamiliar) and explaining why they were interested in learning more, as well as by treating the exercise as an ongoing conversation.

### Procedures

Time 1 student data were collected at the beginning of the semester and Time 2 data were collected 15 weeks later, at the end of the semester. In the first survey, participants provided demographic information and responded to measures of core self-evaluations, optimism, and developmental initiation. In the second survey, participants responded to measures of vocational and psychosocial support, perceived similarity, interaction frequency, blended communication (i.e., talking on the phone or meeting face-to-face), developmental initiation, career planning, satisfaction with mentor, and intention to continue the relationship with their mentor. Mentors participated in a shorter version of the survey at the end of the semester and responded to measures of vocational and psychosocial support, perceived similarity, satisfaction with protégé, and intention to continue the relationship with their protégé. All variables were assessed using established measures from the literature with known psychometric properties except developmental initiation, which was created for this study.

### Measures

#### *Support Perceived by Protégés and Provided by Mentors*

Sixteen items, eight for each function, from Noe's (1988) widely used scale were modified for students to assess vocational support ( $\alpha = .93$ ) and psychosocial support ( $\alpha = .91$ ). The item responses were on a 7-point Likert scale from "not at all" to "to a great extent." Principal components analysis with Varimax rotation revealed all 16 items loading to the two factors that explained 66.3% of the variance. Sample items include, "My mentor suggested specific strategies for achieving my career goals," (vocational support) and "My mentor has conveyed empathy about for the concerns and feelings I have discussed with him/her," (psychosocial support).

Ten items from Noe's (1988) scale were modified for mentors, six items to assess vocational support ( $\alpha = .80$ ), and four items for psychosocial support ( $\alpha = .76$ ). The item responses were on a 7-point Likert scale from "not at all" to "to a great extent." Principal components analysis with Varimax rota-

tion revealed nine items loading to two factors that explained 62.5% of the variance; one item loaded to both factors and was dropped. Sample items include "I gave my protégé feedback on his/her current performance," (vocational support) and "I shared my personal experiences in depth to offer perspective on questions/topics," (psychosocial support).

### **E-Mentoring Outcomes**

*Career planning* was assessed with six items developed by Gould (1979) and adapted by Wayne and colleagues (1999). Sample items include, "I have a strategy for achieving my career goals" and "My career objectives are not clear" (reverse-scored). Responses were on a 7-point Likert scale from "strongly disagree" to "strongly agree." The six items were averaged to form a composite ( $\alpha = .93$ ).

*Satisfaction with mentor/protégé* was measured with the 3-item scale from Ensher and Murphy (1997) with responses on a 7-point Likert scale from "strongly disagree" to "strongly agree." Items were averaged to form a composite, with reliabilities  $\alpha = .95$  for students and  $\alpha = .94$  for mentors. A sample item is "I felt satisfied with my mentor (protégé)."

The *intention of continuing the relationship* beyond the semester assignment was measured with an item from Ensher and Murphy (1997), "How likely do you think is it that you will stay in contact with your mentor/protégé after the program is over?" on a 7-point Likert scale from "very unlikely" to "very likely." *Mentors' willingness to participate again* was measured with a yes-or-no response to, "Would you be willing to participate as an e-Mentor again in the future?"

Finally, to assess protégés' *developmental initiation*, the new measure was pretested with 52 master's-level and MBA students who participated in the e-mentoring program and completed a questionnaire in the fall of 2008. Seven items were de-

veloped around the themes of information seeking, help seeking, feedback seeking, and initiating behaviors suggested by Higgins and colleagues (2007), and that were relevant for a student population. Responses were on a 7-point Likert scale from "strongly disagree" to "strongly agree." Principal components analysis with Varimax rotation revealed all seven items loading to one factor that explained 71.3% of the variance and had  $\alpha = .93$  (see Table 1). In the current study, all items also loaded to one factor with scale reliabilities of  $\alpha = .94$  at Time 1 and  $\alpha = .93$  at Time 2.

### **Predictors of E-Mentoring Support**

Two aspects of protégés' personality, core self-evaluations and optimism, were assessed as predictors. *Core self-evaluations* were measured with Judge, Bono, and Thoresen's (2003) 12-item scale with a coefficient  $\alpha = .81$  for this study. Responses were on a 7-point Likert scale from "strongly disagree" to "strongly agree." A sample item is "When I try, I generally succeed." *Optimism* was measured with Lee and colleagues' (1993) 4-item scale with a coefficient  $\alpha = .74$  for this study. Responses were on a 7-point Likert scale from "strongly disagree" to "strongly agree." A sample item is "If something can go wrong for me, it will" (reverse-scored).

Characteristics of the mentor-protégé relationship included perceived similarity, actual similarity, interaction frequency, and blended communication (e-mail plus talking on the phone or meeting face-to-face). The 3-item scale from Ensher and Murphy (1997) was used to assess *perceived similarity*. A sample item is "My mentor/protégé and I see things in much the same way." Item responses were on a 7-point Likert scale from "strongly disagree" to "strongly agree," with reliabilities  $\alpha = .82$  for students and  $\alpha = .92$  for mentors. *Actual similarity* was assessed as matched gender pairings, dummy coded 0 if the mentor and protégé were of different genders and one if mentor and protégé

**TABLE 1**  
**Developmental Initiation Scale Items and Factor Loadings**

Developmental Initiation Scale Items	Item Factor Loadings
(1) I seek information about developing my future career from people I consider important.	.89
(2) I seek help from individuals that have the skills I need to develop.	.85
(3) I look for feedback on my performance from people at school/work.	.84
(4) I keep in regular contact with people that are important for my personal and professional development.	.83
(5) I try to develop relationships with people that I can learn from.	.90
(6) I try to help others when I have the opportunity.	.86
(7) I seek out senior students, alumni, or professors to discuss my career development.	.72

were the same gender. *Interaction frequency* was assessed with the item, "On average, how often have you had contact with your mentor since the first time you corresponded with him or her (each of you communicated back-and-forth)?" on a 4-point Likert scale, with possible response categories of "less than once a month, once a month, twice a month, and more than twice a month." Protégés also indicated whether (yes or no) they had talked with their mentors over the phone or met them face-to-face.

### Controls

Age and employment status of protégés were assessed as control variables. Age may account for differences in experience and maturity that influence how the student approaches the e-mentoring relationship. *Employment status* was included to account for students' potential availability to devote more time or effort to this assignment. Mentors' *occupational level* was assessed in three categories including middle management, senior management (director, division head, senior/executive vice-president), or top management (CEO, CFO, partner, president), as traditional mentoring research findings indicate that higher level contacts provide more vocational support (Noe et al., 2002).

## RESULTS

Complete data were available for 184 students, indicating a drop-out rate of 11% from Time 1 to Time 2. Path analysis was conducted on separate models for the protégés ( $N = 184$ ) and mentors ( $N = 148$ ), respectively. Neither age nor employment status was significantly related to support or outcome variables for protégés. In addition, mentors' occupational level was not significantly related to support or outcome variables for mentors or protégés. Means, standard deviations, and correlations for all modeled variables are presented in Table 2.

Results for the best fitting structural model for protégés are presented in Figure 2, and for mentors in Figure 3. Overall, each modified model demonstrates good fit compared to alternatives, as confirmed by several indices (Kline, 2005); Figure 2 ( $\chi^2 = 55.97$  n.s., CFI = .97, IFI = .97, TLI = .95, SRMR = .06, RMSEA = .06) and Figure 3 ( $\chi^2 = 15.78$  n.s., CFI = .98, IFI = .99, TLI = .98, SRMR = .05, RMSEA = .04).

Hypothesis 1a addressed protégé characteristics; specifically, that protégés' core self-evaluations would positively affect vocational and psychosocial support received. Hypothesis 1a was not

supported. Hypothesis 1b specified that protégés' optimism would positively affect vocational and psychosocial support received. Hypothesis 1b was not supported. However both core self-evaluations ( $\beta = .25, p < .01$ ) and optimism ( $\beta = .16, p < .05$ ) were directly associated with protégés' career planning (see Figure 2).

Hypotheses 2 and 3 address the association between mentor-protégé relationship characteristics and support received by protégés as well as support provided by mentors. Specifically, Hypothesis 2 suggests that actual and perceived similarity will be positively related to vocational and psychosocial support received by protégés and provided by mentors. Perceived similarity was significantly associated with vocational support ( $\beta = .58, p < .001$ ) and psychosocial support ( $\beta = .64, p < .001$ ) received by protégés (see Figure 2). In addition, perceived similarity was significantly associated with vocational support ( $\beta = .29, p < .001$ ) and psychosocial support ( $\beta = .32, p < .001$ ) provided by mentors (see Figure 3). Actual similarity, assessed as a matched gender mentor-protégé pair, was not significantly associated with support for either protégés or mentors. Thus, Hypothesis 2 was partially supported.

Hypothesis 3 specified a positive relationship between mentor-protégé interaction frequency and blended communication, e-mail supplemented by talking on the phone or meeting face-to-face, with support received by protégés and provided by mentors. Hypothesis 3 was partially supported. Interaction frequency was significantly associated with vocational support ( $\beta = .19, p < .01$ ) and psychosocial support ( $\beta = .22, p < .001$ ) received by protégés (see Figure 2); however, it was not associated with support provided by mentors, rather interaction frequency ( $\beta = .17, p < .001$ ) was directly associated with mentors' satisfaction with protégés (see Figure 3). Talking on the phone ( $\beta = .14, p < .01$ ) was significantly associated with perceived vocational support for protégés, while meeting face-to-face was directly associated with career planning ( $\beta = .14, p < .05$ ; see Figure 2). Talking on the phone ( $\beta = .15, p < .05$ ) and meeting face-to-face ( $\beta = .21, p < .01$ ) were both significantly associated with vocational support provided by mentors (see Figure 3).

Hypothesis 4 addresses the relationship between vocational and psychosocial support perceived by the protégé and protégé outcomes (see Figure 2); specifically, that vocational support (4a) and psychosocial support (4b) are positively related to career planning, satisfaction with mentor, and intention to continue the relationship. Hypothesis 4a was supported. Vocational support per-

**TABLE 2**  
**Means, Standard Deviations, and Correlations**

Variables	Mean (SD)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Core self-evaluations	5.19 (.81)																	
2. Optimism	3.69 (.72)	.54***	(.74)															
3. Actual similarity	0.80 (.40)	-0.30	.00	—														
4. Protégé perceived similarity	5.20 (1.10)	.02	-.01	.09	(.82)													
5. Interaction frequency	2.56 (.80)	-.05	-.15†	-.15†	-.15†	—												
6. Talked on phone	0.19 (.39)	.20**	.09	-.15†	.02	.08	—											
7. Met face-to-face	0.18 (.39)	-.02	-.13	.06	.12	.24**	.34***	—										
8. Protégé perceived vocational support	4.56 (1.52)	-.02	-.08	.10	.61***	.29***	.18*	.15†	(.93)									
9. Protégé perceived psychological support	5.65 (1.12)	-.11	-.04	.11	.68***	.32***	.07	.16†	.64***	(.91)								
10. Career planning	4.67 (1.18)	.34***	.30***	-.12	-.15†	-.05	.00	.26**	.22*	-.01	(.93)							
11. Satisfaction mentor	5.69 (1.34)	-.09	-.08	.16†	.63***	.40***	.120	.17*	.68***	.78***	-.10	(.95)						
12. Protégé will continue relationship	4.26 (1.79)	-.04	-.12	.04	.44***	.37***	.20**	.17*	.58***	.53***	.15†	.61***	—					
13. Developmental initiation (Time 2)	5.27 (1.01)	.30***	.23**	-.12	.10	-.01	-.01	-.08	.20*	.06	.66***	-.02	.30***	(.93)				
14. Mentor perceived similarity	5.08 (1.05)	.09	.03	.03	.11	.24**	.08	-.07	.13	.13	.01	.13	.23**	.08	(.92)			
15. Mentor provided vocational support	5.02 (1.09)	-.03	-.11	.02	.06	.17*	.25**	.24**	.16†	.10	.32***	.07	.11	.32***	.29**	(.80)		
16. Mentor provided psychological support	6.01 (1.03)	.22**	.11	-.11	-.01	.07	.18*	.08	.16*	.11	.41***	-.03	.28***	.48***	.32***	.19*	(.76)	
17. Satisfaction with protégé	5.62 (1.17)	.02	-.03	-.05	.15†	.31***	-.02	.05	.14	.19*	.05	.20**	.29***	.04	.68***	.28**	.26**	(.94)
18. Mentor will continue relationship	4.70 (1.47)	-.01	-.02	-.05	-.01	.11	-.01	.02	.00	.02	.10	.02	.36***	.13	.56***	.35***	.35**	.63***

Notes. Coefficient alpha-reliabilities along diagonal in parentheses.  
†  $p < .10$ ; \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

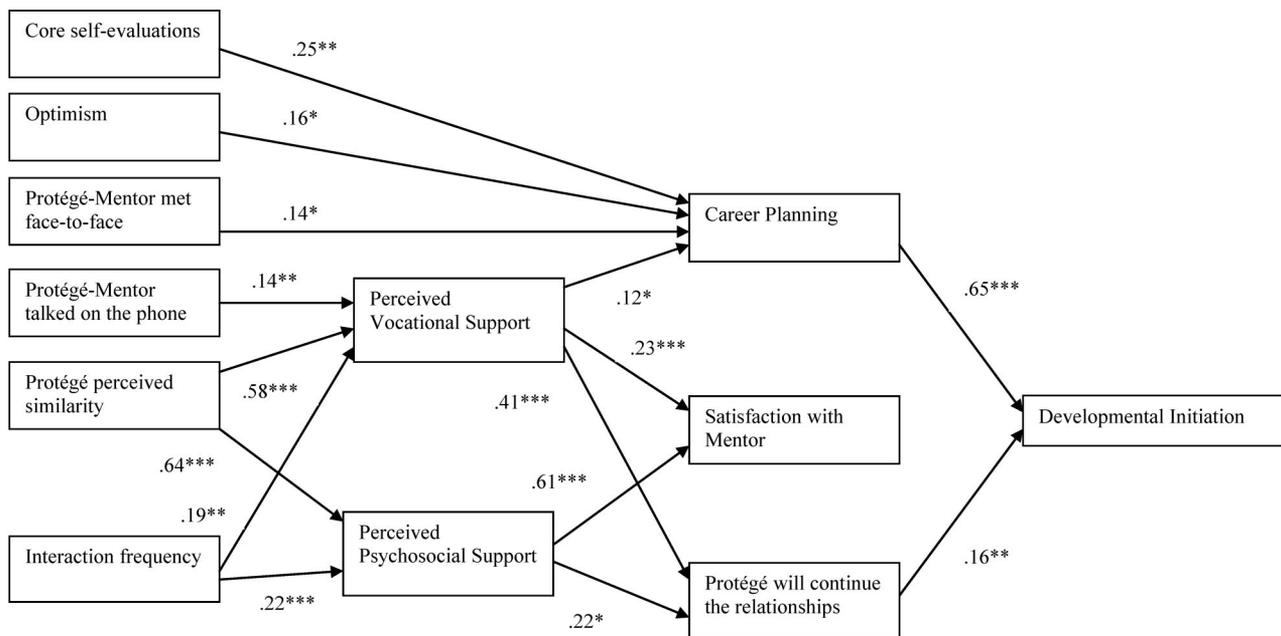


FIGURE 2

Best Fitting Model for Protégés.  $N = 184$  student protégés; Standardized coefficients; \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

ceived by protégés was significantly associated with protégés' career planning ( $\beta = .12$ ,  $p < .05$ ), satisfaction with mentors ( $\beta = .23$ ,  $p < .001$ ), and intention to continue the relationship ( $\beta = .41$ ,  $p < .001$ ). Hypothesis 4b was partially supported. Psychosocial support was significantly associated with protégés' satisfaction with mentors ( $\beta = .61$ ,  $p < .001$ ) and intention to continue the relationship ( $\beta = .22$ ,  $p < .05$ ).

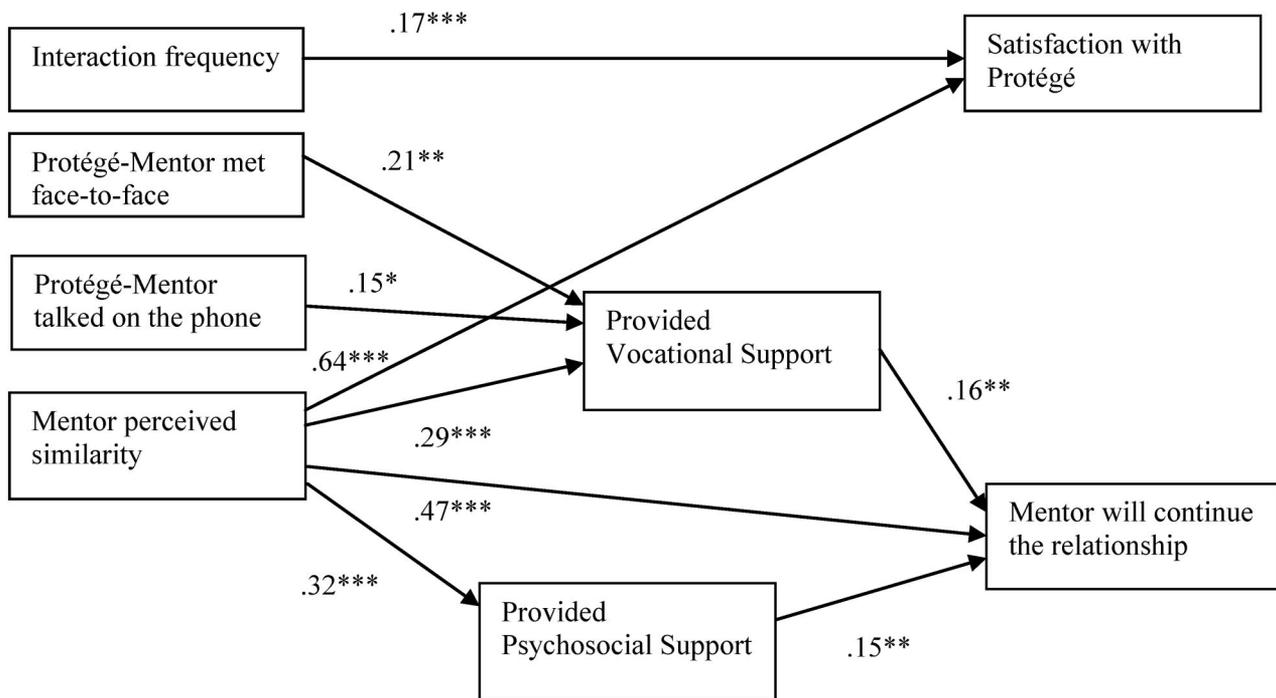
Hypothesis 5 addresses the relationship between vocational and psychosocial support provided by the mentor and mentor outcomes (see Figure 3); specifically, that vocational support (5a) and psychosocial support (5b) provided is positively related to satisfaction with protégé and intention to continue the relationship. Hypotheses 5a and 5b were both partially supported. Both vocational support ( $\beta = .16$ ,  $p < .01$ ) and psychosocial support ( $\beta = .15$ ,  $p < .01$ ) provided were significantly associated with mentors' intention to continue their relationships. However neither type of support was significantly associated with mentors' satisfaction with protégés. Hypothesis 6 was not modeled due to a lack of variance in mentors' willingness to participate again; 90.6% of mentors indicated that they would be willing to participate in the program again, and those that declined wrote alternative explanations, such as extensive travel plans.

Hypothesis 7a specifies that protégés' career planning, satisfaction with mentor, and intention

to continue the relationship will be positively associated with developmental initiation (see Figure 2). Hypothesis 7a was partially supported. Protégés career planning ( $\beta = .65$ ,  $p < .001$ ) and protégés' intention to continue the relationship ( $\beta = .16$ ,  $p < .01$ ) were each positively related to developmental initiation. Finally, a paired-samples  $t$  test was used to test Hypothesis 7b, which predicted an increase in protégés' level of developmental initiation from Time 1 to Time 2. Results indicate a significant difference in protégés' developmental initiation, with Time 1 ( $M = 4.69$ ) and Time 2 ( $M = 5.31$ ),  $t(183) = 7.83$ ,  $p < .001$ . Examination of the means and  $t$  statistic shows that this difference reflects a significant increase from Time 1 to Time 2. Thus, hypothesis 7b was supported.

## DISCUSSION

My work here contributes generally to the literature on developmental relationships and specifically to the new area of e-mentoring in several ways. First, it provides empirical evidence that characteristics of the mentor-protégé relationship, specifically, perceived similarity and interaction frequency, are associated with both support received by the protégé and support provided by the mentor in an e-mentoring relationship. Second, findings indicate that both vocational and psychosocial support received by protégés are positively associated with satisfaction with mentors and in-



**FIGURE 3**

**Best Fitting Model for Mentors.**  $N = 148$  professional mentors; Standardized coefficients; \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

tention to continue the relationship, while only vocational support is associated with career planning. In addition, the amount of support provided by mentors is associated with their intention to continue the relationship. Last, this study develops and tests a developmental initiation scale demonstrating that the e-mentoring experience may enhance the propensity for students to seek developmental relationships, a critical skill in the 21st century careers landscape.

My research answers the calls in the literature for empirical study of e-mentoring in the management field (Ensher et al., 2003; Ensher & Murphy, 2007; Hamilton & Scandura, 2003) and provides further evidence that e-mentoring provides benefits to students involved in the experience (de Janasz et al. 2008). Overall, characteristics of the e-mentoring relationship were more important than individual protégés' personality. In this study, perceived similarity was a better predictor of support for both students and mentors than actual similarity (matched gender pairings), supporting results reported by de Janasz and colleagues (2008) for student protégés and Allen and Eby (2003) for mentors. Because the foundation of the mentor-protégé relationship rests on virtual communication, e-mentoring may remove cross-gender barriers to receiving mentoring support (Hamilton & Scandura, 2003) and promote social equity by connect-

ing women and minorities, who might otherwise be left out of important informal networks, to mentors (Single & Single, 2005). In addition, Allen and Eby (2003) assessed mentorship quality with two of the three items included in the satisfaction with mentor-protégé scale used in this study, which replicates their findings that perceived similarity is directly related to mentorship quality from the perspective of the mentor. Since perceived rather than actual similarity is clearly important for both parties, if the instructor or program administrator has some knowledge of protégés' and mentors' values and attitudes, respectively, then this may facilitate the matching process to create more effective mentor-protégé pairs.

For both mentors and protégés, higher levels of career and psychosocial support were associated with greater intention to continue the relationship, a key indication of a successful social exchange relationship between students and professionals. Few studies of traditional mentoring with student populations or working professionals include both mentor and protégé perspectives within a single study (Johnson, Rose, & Schlosser, 2007; Scandura & Pelligrini, 2007). Noteworthy is that psychosocial support provided by mentors was significantly correlated with vocational support perceived by protégés (see Table 2). Findings in the literature on formal workplace mentoring relationships are

mixed. Raabe and Beehr (2003) found no significant correlations between support received by protégés and support provided by mentors; however, Wanberg and colleagues (2006) report significant correlations ranging from .24 to .44. Thus, including data from both the mentor and protégé perspectives is important for assessing the dynamics of the relationship and how it affects outcomes for each party.

The frequency of interaction among mentoring pairs was important for protégés' perceptions of support and mentors' satisfaction with the relationship. Qualitative reports from protégés indicated that those whose mentors responded promptly to e-mail messages felt more comfortable seeking more interaction. Blended mentoring, those relationships that combined e-mail correspondence with talking on the phone or meeting face to face, was associated with vocational support for both mentors and protégés. Also of interest, meeting face-to-face was directly related to protégés' career planning. For students with uncertainty about their futures, career planning may be more affected through alternative media, since feedback is immediate and they may feel more comfortable asking a broader array of questions. For mentors, the use of alternative media allows a more personal, informal exchange and a deeper level of involvement that may feel more effective. These are interesting avenues to explore in future research.

Over 90% of mentors indicated that they would be willing to participate in the e-mentoring program again, regardless of their experiences with their protégés. Since participation in the program is voluntary for mentors, it is likely that they have high levels of organizational identification with the university to be willing to commit to the e-mentoring process (see Mael & Ashforth, 1992). If this is the case, then the dyadic exchange relationship with a particular student may be less important than the mentor's desire to contribute to the university, enabling them to disassociate a negative experience with an assigned student as representative of the university. Alternatively, in fulfilling their needs for "generativity" (Erikson, 1963), mentors may be motivated to continue to foster developmental relationships in hopes that future high-quality connections (Dutton & Heaphy, 2003) with protégés will enable them to pass on their knowledge and wisdom. For mentors with a positive experience, a high-quality relationship should allow co-construction of identities or relational identification, which may also reinforce organizational identification (Sluss & Ashforth, 2007) and

increase organizational commitment (Wanberg et al., 2003).

Last, the creation and validation of a developmental initiation scale is useful for future research on developmental relationships (Higgins et al., 2007) and as a tool for the evaluation of mentoring or interpersonal skills training programs. An increase in developmental initiation from the beginning to the end of the semester may indicate the effectiveness of the e-mentoring assignment, but it may also reflect growth and learning on the part of the students. In this study, developmental initiation is significantly associated with career planning and protégés' satisfaction with mentors. That students consider developmental relationships as a crucial component of their career planning process is important. Research shows that developmental network size is related to career satisfaction (Higgins, 2000), and support from a developmental network is related to career success (Murphy, 2007; Murphy & Kram, 2010). Protégés' intention to continue the relationship with their mentors is an expansion of their developmental networks, a key goal of the e-mentoring exercise and of improving their propensity to seek developmental relationships.

### Practical Implications

E-mentoring expands the opportunities for protégés to develop relationships with mentors who are geographically dispersed and enables both parties to choose when to interact. This flexibility accommodates busy executives who want to develop and foster such mentoring relationships, but who need to do so across time zones, travel schedules, and with limited time commitments. Electronic communication is already a reality for the personal relationship maintenance of more than 500 million users of Facebook (Fletcher, 2010; Pepitone, 2010), and recent figures show record traffic for social networking sites including Twitter, LinkedIn, and MySpace (Romans, 2009). Also important to note is that results from this study indicate the addition of talking on the phone or meeting face-to-face was associated with important outcomes for both protégés and mentors. Studies show that individuals create and maintain on-line social relationships in which social support and information exchange takes place, although these relationships may not be as close as face-to-face relationships (Mesch & Talmud, 2006). Blended communication, the combination of e-mail or social networking with telephone conversations and face-to-face meetings, may be an ideal and realistic way for individuals to create and sustain their

developmental networks in the wired 21st-century world.

In this study, it is important to note that mentors were not taking the place of instructors in teaching course content; rather, their responsibility was to help students understand how topics are applied in practice through stories and examples from their own experience. This process functions to legitimize the course content by illustrating its relevance in the "real world" of practitioners. In addition, students bring these ideas back to the classroom and share with the class to enrich discussions. The process of asking questions and getting these examples teaches students how to engage a mentor in conversation and develop rapport in the mentoring relationship, which often includes discussion beyond course content.

The pairing of students with working professionals provides a forum through which colleges and universities may engage alumni and community leaders. Through the process of e-mentoring, mentors found value in building a one-on-one relationship and reported feeling more connected to the university. For example, one mentor wrote:

Great program—keeps us out here grounded and I would like to see many more programs like this one. It is critical that academia and business worlds collaborate—bring values, positivity, and purpose together and raises career satisfaction, sustainable results. This communications approach also is where we are going—so a good idea to use in the curriculum. Perhaps requiring a conference call now and then would be good—since that's part of virtual careers too.

Mentors were anxious to provide support beyond the classroom content and engage in conversations about career paths, job searching, and work-life balance. In this way, students gain a better understanding of the current career context and the importance of cultivating a network of developmental support. As students become alumni, there is the potential for a virtuous cycle of mentoring from past participants. The e-mentoring experience should enhance students' preparation as future managers and encourage lifetime learning beyond the classroom.

### Study Limitations and Future Research

This study includes some analyses that rely on cross-sectional data and self-report data, which limits the ability to draw causal inferences and raises concerns about common methods variance.

In addition, the generalizability of the study to the workplace and to other higher education settings is limited due to the single university context from which protégés were drawn. Despite these concerns, the evidence here suggests that virtual relationships offer another opportunity for career development beyond traditional, face-to-face mentoring experiences and have the potential to assist students as they learn to build their own developmental networks.

Future studies might explore e-mentoring as an alternative to traditional mentoring in a range of contexts. This format may be especially conducive to connecting people within large, multinational corporations as well as across small entrepreneurial firms. Quasi-experiments comparing the impact of e-mentoring, blended mentoring, and traditional mentoring relationships on important outcome variables, including career-related self-efficacy, career success, personal learning, and organizational commitment, would add value to practitioners designing formal programs. In addition, there may be several costs to e-mentoring, including limitations of the electronic medium for relationship development and challenges around technology and communication (Hamilton & Scandura, 2003). Longitudinal research would further our collective understanding of the costs and benefits of e-mentoring relationships. Researchers might also consider both quantitative and qualitative methodologies that would explore the phases of e-mentoring relationships, including how or why these phases differ from traditional mentoring relationships (see Kram, 1985).

### CONCLUSION

The results of this study demonstrate the benefits of e-mentoring and blended mentoring for both mentors and protégés. E-mentoring holds promise for helping to connect people across geographic and time barriers, increasing the pool of available mentors, and enhancing opportunities for developmental support among diverse students and professionals. This study adds to a growing body of literature on alternative mentoring relationships and suggests further exploration of this new medium for mentoring research and practice.

### REFERENCES

- Allen, T. D. 2007. Mentoring relationships from the perspective of the mentor. In B. R. Ragins, K. E. Kram (Eds.), *The handbook of mentoring at work: Theory, research, and practice*: 123–147. Los Angeles: Sage.

- Allen, T. D., & Eby, L. T. 2003. Relationship effectiveness for mentors: Factors associated with learning and quality. *Journal of Management*, 29: 465–483.
- Allen, T. D., Eby, L. T., Poteet, M. L., Lentz, E., & Lima, L. 2004. Career benefits associated with mentoring for protégé: A meta-analysis. *Journal of Applied Psychology*, 89: 127–136.
- Arthur, M. B., Hall, D. T., & Lawrence, B. S. 1989. *Handbook of career theory*. New York: Cambridge University Press.
- Arthur, M. B., & Rousseau, D. M. 1996. *The boundaryless career: A new employment principle for a new organizational era*. New York: Oxford University Press.
- Arthur, M., Inkson, K., & Pringle, J. 1999. *The new careers: Individual action and economic change*. Thousand Oaks, CA: Sage.
- Blake-Beard, S. D., Murrell, A., & Thomas, D. 2007. Unfinished business: The impact of race on understanding mentoring relationships. In B. R. Ragins, K. E. Kram (eds.), *The handbook of mentoring at work: Theory, research, and practice*: 223–247. Los Angeles: Sage.
- Blass, F. R., Brouer, R. L., Perrewe, P. L., & Ferris, G. R. 2007. Politics understanding ability and networking ability as a function of mentoring: The roles of gender and race. *Journal of Leadership and Organizational Studies*, 14(2): 93–105.
- Blau, P. M. 1964. *Exchange and power in social life*. New York: Wiley.
- Bozionelos, N. 2004. Mentoring provided: Relation to mentor's career success, personality, and mentoring received. *Journal of Vocational Behavior*, 64: 24–46.
- Cropanzano, R., & Mitchell, M. S. 2005. Social exchange theory: An interdisciplinary review. *Journal of Management*, 31(6): 874–900.
- de Janasz, S. C., Ensher, E. A., & Heun, C. 2008. Virtual relationships and real benefits: Using e-mentoring to connect business students with practicing managers. *Mentoring and Tutoring: Partnership in Learning*, 16(4): 394–411.
- DeRouin, R. E., Fritzsche, B. A., & Salas, E. 2005. E-learning in organizations. *Journal of Management*, 31(6): 920–940.
- Dougherty, T. W., & Dreher, G. F. 2007. Mentoring and career outcomes: Conceptual and methodological issues in an emerging literature. In B. R. Ragins, K. E. Kram (eds.), *The handbook of mentoring at work: Theory, research, and practice*: 51–93. Los Angeles: Sage.
- Dutton, J. E., & Heaphy, E. D. 2003. The power of high-quality connections. In K. S. Cameron, J. E. Dutton, R. E. Quinn (Eds.), *Positive organizational scholarship, foundations of a new discipline*: 263–278. San Francisco, CA: Berrett-Koehler Publishers.
- Eby, L. T. 1997. Alternative forms of mentoring in changing organizational environments: A conceptual extension of the mentoring literature. *Journal of Vocational Behavior*, 51: 125–144.
- Eby, L. T., & Lockwood, A. 2005. Protégés and mentors' reactions to participating in formal programs: A qualitative investigation. *Journal of Vocational Behavior*, 67(3): 441–458.
- Ensher, E. A., Grant-Vallone, E. J., & Marelich, W. D. 2002. Effects of perceived attitudinal and demographic similarity on protégés support and satisfaction gained from their mentoring relationships. *Journal of Applied Social Psychology*, 32(7): 1407–1430.
- Ensher, E. A., Heun, C., & Blanchard, A. 2003. Online mentoring and computer-mediated communication: New directions in research. *Journal of Vocational Behavior*, 63: 264–288.
- Ensher, E. A., & Murphy, S. E. 1997. Effects of race, gender, perceived similarity and contact on mentor relationships. *Journal of Vocational Behavior*, 50: 460–481.
- Ensher, E. A., & Murphy, S. E. 2007. E-mentoring: Next-generation research strategies and suggestions. In B. R. Ragins, K. E. Kram (Eds.), *The handbook of mentoring at work: Theory, research, and practice*: 299–322. Los Angeles: Sage.
- Ensher, E. A., Thomas, C., & Murphy, S. E. 2001. Comparison of traditional, step-ahead, and peer mentoring on protégés' support, satisfaction, and perceptions of career success: A social exchange perspective. *Journal of Business and Psychology*, 15(3): 419–438.
- Erikson, E. 1963. *Childhood and society*. New York: Norton.
- Erikson, E. 1968. *Identity, youth, and crisis*. New York: Norton.
- Fagenson, E. A. 1989. The mentor advantage: Perceived career/job experiences of protégés vs. non-protégés. *Journal of Organizational Behavior*, 10: 309–320.
- Fletcher, D. 2010. Facebook: Friends without borders. *Time*, 175(21): 32–38.
- Foa, U. G., & Foa, E. B. 1980. Resource theory: Interpersonal behavior as exchange. In K. J. Gergen, M. S. Greenberg, R. H. Willis (Eds.), *Social exchange: Advances in theory and research*. New York: Plenum.
- Forret, M. L., & Dougherty, T. W. 2001. Correlates of networking behavior for managerial and professional employees. *Group and Organization Management*, 26(3): 283–311.
- Gould, S. 1979. Characteristics of career planners in upwardly mobile occupations. *Academy of Management Journal*, 22(3): 539–550.
- Gouldner, A. W. 1960. The norm of reciprocity: A preliminary statement. *American Sociological Review*, 25(2): 161–178.
- Graen, G. B., & Uhl-Bien, M. 1995. Relationship-based approach to leadership: Development of leader-member exchange (LMX) theory of leadership over 25 years: Applying a multi-level multi-domain perspective. *Leadership Quarterly*, 6(2): 219–247.
- Granovetter, M. 1973. The strength of weak ties. *American Journal of Sociology*, 78(6): 1360–1380.
- Hall, D. T. 1996. Protean careers of the 21st century. *Academy of Management Executive*, 10(4): 8–16.
- Hall, D. T. 2002. *Careers in and out of organizations*. Thousand Oaks, CA: Sage.
- Hall, D. T., & Foster, L. W. 1977. A psychological success cycle and goal setting: Goals, performance, and attitudes. *Academy of Management Journal*, 20(2): 282–290.
- Hamilton, B. A., & Scandura, T. A. 2003. E-Mentoring: Implications for organizational learning and development in a wired world. *Organizational Dynamics*, 31(4): 388–402.
- Harrison, D. A., Price, K. H., & Bell, M. 1998. Beyond relational demography: Time and the effects of surface and deep level diversity or work group cohesion. *Academy of Management Journal*, 41: 96–107.
- Higgins, M. C. 2000. The more, the merrier? Multiple developmental relationships and work satisfaction. *Journal of Management Development*, 19(4): 277–296.

- Higgins, M. C., Chandler, D., & Kram, K. E. 2007. Developmental initiation and developmental networks. In B. R. Ragins, K. E. Kram (Eds.), *The handbook of mentoring at work: Theory, research, and practice*: 349–372. Los Angeles: Sage.
- Higgins, M. C., Dobrow S. R., & Chandler, D. 2008. Never quite good enough: The paradox of sticky developmental relationships for elite university graduates. *Journal of Vocational Behavior*, 72: 207–224.
- Higgins, M. C., & Kram, K. E. 2001. Reconceptualizing mentoring at work: A developmental network perspective. *Academy of Management Review*, 26(2): 264–288.
- Hwang, A., Kessler, E. H., & Francesco, A. M. 2004. Student networking behavior, culture, and grade performance: An empirical study and pedagogical recommendation. *Academy of Management Learning and Education*, 3(2): 139–150.
- Johnson, W. B., Rose, G., & Schlosser, L. Z. 2007. Student-faculty mentoring: Theoretical and methodological issues. In T. D. Allen, L. T. Eby (Eds.), *The Blackwell handbook of mentoring: A multiple perspectives approach*: 49–69. Malden, MA: Blackwell Publishing.
- Judge, T. A., & Bono, J. E. 2001. Relationship of core self-evaluation traits—self-esteem, generalized self-efficacy, locus of control, and emotional stability—with job satisfaction and job performance: A meta-analysis. *Journal of Applied Psychology*, 86(1): 80–92.
- Judge, T. A., Bono, J. E., Erez, A., & Locke, E. A. 2005. Core self-evaluations and job and life satisfaction: The role of self-concordance and goal attainment. *Journal of Applied Psychology*, 90(2): 257–268.
- Judge, T. A., Bono, J. E., & Thoresen, C. J. 2003. The core self-evaluations scale: Development of a measure. *Personnel Psychology*, 56: 303–331.
- Judge, T. A., Locke, E. A., & Durham, C. C. 1997. The dispositional causes of job satisfaction: A core evaluations approach. *Research in Organizational Behavior*, 19: 151–188.
- Judge, T. A., Locke, E. A., Durham, C. C., & Kluger, A. N. 1998. Dispositional effects on job and life satisfaction: The role of core evaluations. *Journal of Applied Psychology*, 83(1): 17–34.
- Kline, R. B. 2005. *Principles and practice of structural equation modeling* (2nd ed.). New York: Guilford Press.
- Kram, K. E. 1983. Phases of the mentoring relationship. *Academy of Management Journal*, 26: 608–625.
- Kram, K. E. 1985. *Mentoring at work: Developmental relationships in organizational life*. Glenview, IL: Scott, Foresman and Company.
- Kram, K. E. 1996. A relational approach to career development. In D. T. Hall (Ed.), *The career is dead—long live the career: A relational approach to careers*: 132–157. San Francisco, CA: Jossey-Bass.
- Kram, K. E., & Hall, D. T. 1996. Mentoring in a context of diversity and turbulence. In E. E. Kossek & S. A. Lobel (Eds.), *Managing diversity: Human resource strategies for transforming the workplace*: 108–136. Cambridge, MA: Blackwell Business.
- Lankau, M. J., & Scandura, T. A. 2002. An investigation of personal learning in mentoring relationships: Content, antecedents, and consequences. *Academy of Management Journal*, 45(4): 779–790.
- Lee, C., Ashford, S. J., & Jamieson, L. F. 1993. The effects of type A behavior dimensions and optimism on coping strategy, health, and performance. *Journal of Organizational Behavior*, 14: 143–157.
- Levinson, D., Darrow, D., Levinson, M., & McKee, B. 1978. *The seasons of a man's life*. New York: Alfred A. Knopf.
- Levinson, D., & Levinson, J. 1996. *The seasons of a woman's life*. New York: Alfred A. Knopf.
- Mael, F., & Ashforth, B. E. 1992. Alumni and their alma mater: A partial test of the reformulated model of organizational identification. *Journal of Organizational Behavior*, 13(2): 103–123.
- McKeen, C., & Bujaki, M. 2007. Gender and mentoring: Issues, effects, and opportunities. In B. R. Ragins, K. E. Kram (Eds.), *The handbook of mentoring at work: Theory, research, and practice*: 197–222. Los Angeles: Sage.
- Mesch, G., & Talmud, I. 2006. The quality of online and offline relationships: The role of multiplexity and duration of social relationships. *Information Society*, 22: 137–148.
- Murphy, W. M. 2007. Individual and relational dynamics of ambition in careers. Unpublished Dissertation, Boston College.
- Murphy, W. M., & Kram, K. E. 2010. Understanding non-work relationships in developmental networks. *Career Development International*, 15(7): 637–663.
- Noe, R. A. 1988. An investigation of the determinants of successful assigned mentoring relationships. *Personnel Psychology*, 41: 457–479.
- Noe, R. A., Greenberger, D. B., & Wang, S. 2002. Mentoring: What we know and where we might go. *Research in Personnel and Human Resources Management*, 21: 129–173.
- Olian, J. D., Carroll, S. J., & Giannantonio, C. M. 1993. Mentor reactions to protégés: An experiment with managers. *Journal of Vocational Behavior*, 43(3): 266–278.
- Pepitone, J. 2010. Facebook hits 500 million users. [http://money.cnn.com/2010/07/21/technology/facebook\\_500\\_million/index.htm](http://money.cnn.com/2010/07/21/technology/facebook_500_million/index.htm). Accessed on September 27, 2010.
- Raabe, B., & Beehr, T. A. 2003. Formal mentoring versus supervisor and coworker relationships: Differences in perceptions and impact. *Journal of Organizational Behavior*, 24(3): 271–293.
- Ragins, B. R. 1997a. Antecedents of diversified mentoring relationships. *Journal of Vocational Behavior*, 51: 90–109.
- Ragins, B. R. 1997b. Diversified mentoring relationships: A power perspective. *Academy of Management Review*, 29: 482–521.
- Ragins, B. R., & Cotton, J. L. 1991. Easier said than done: Gender differences in perceived barriers to gaining a mentor. *Academy of Management Journal*, 34(4): 939–951.
- Ragins, B. R., Cotton, J. L., & Miller, J. S. 2000. Marginal mentoring: The effect of type of mentor, quality of relationship, and program design on work and career attitudes. *Academy of Management Journal*, 43(6): 1177–1194.
- Ragins, B. R., & McFarlin, D. B. 1990. Perceptions of mentor roles in cross-gender mentoring relationships. *Journal of Vocational Behavior*, 37(3): 321–339.
- Ragins, B. R., & Scandura, T. A. 1999. Burden or blessing? Expected costs and benefits of being a mentor. *Journal of Organizational Behavior*, 20: 493–509.

- Romans, C. 2009. *Social network holdouts say "friends" and "tweets" not for them*. <http://www.cnn.com/2009/TECH/07/01/facebook.holdouts/index.html?iref=newssearch>. Accessed on September 28, 2009.
- Savickas, M. 2007. The maturation of mentoring research. In T. D. Allen and L. T. Eby (Eds.), *The Blackwell handbook of mentoring: A multiple perspectives approach, (foreward)*. Malden, MA: Blackwell Publishing.
- Scandura, T. A., & Pelligrini, E. K. 2007. Workplace mentoring: Theoretical approaches and methodological issues. In T. D. Allen, & L. T. Eby (Eds.), *The Blackwell handbook of mentoring: A multiple perspectives approach*: 71–96. Malden, MA: Blackwell Publishing.
- Scandura, T. A., & Schriesheim, C. A. 1994. Leader-member exchange and supervisor career mentoring as complementary constructs in leadership research. *Academy of Management Journal*, 37(6): 1588–1602.
- Scandura, T. A., & Williams, E. A. 2001. An investigation of the moderating effects of gender on the relationships between mentorship initiation and protégé perceptions of mentoring functions. *Journal of Vocational Behavior*, 59: 342–363.
- Single, P. B., & Single, R. M. 2005. E-mentoring for social equity: Review of research to inform program development. *Mentoring and Tutoring*, 13(2): 301–320.
- Smith-Jentsch, K. A., Scielzo, S. A., Yarbrough, C. S., & Rosopa, P. J. 2008. A comparison of face-to-face and electronic peer-mentoring: Interactions with mentor gender. *Journal of Vocational Behavior*, 72: 193–206.
- Sparrowe, R. T., & Liden, R. C. 1997. Process and structure in leader-member exchange. *Academy of Management Review*, 22(2): 522–552.
- Sparrowe, R. T., & Liden, R. C. 2005. Two routes to influence: Integrating leader-member exchange and social network perspectives. *Administrative Science Quarterly*, 50: 505–535.
- Sullivan, S. E. 1999. The changing nature of careers: A review and research agenda. *Journal of Management*, 25(3): 457–484.
- Turban, D. B., & Dougherty, T. W. 1994. Role of protégé personality in receipt of mentoring and career success. *Academy of Management Journal*, 37(3): 688–702.
- Turban, D. B., Dougherty, T. W., & Lee, F. K. 2002. Gender, race, and perceived similarity effects in developmental relationships: The moderating role of relationship duration. *Journal of Vocational Behavior*, 61: 240–262.
- Turban, D. B., & Lee, F. K. 2007. The role of personality in mentoring relationships: Formation, dynamics, and outcomes. In B. R. Ragins, & K. E. Kram (Eds.), *The handbook of mentoring at work: Theory, research, and practice*: 21–50. Los Angeles: Sage.
- Wanberg, C. R., Kammeyer-Mueller, J., & Marchese, M. 2006. Mentor and protégé predictors and outcomes of mentoring in a formal mentoring program. *Journal of Vocational Behavior*, 69: 410–423.
- Wanberg, C. R., Kanfer, R., & Banas, J. T. 2000. Predictors and outcomes of networking intensity among unemployed job seekers. *Journal of Applied Psychology*, 85(4): 491–503.
- Wanberg, C. R., Welsh, E. T., & Hezlett, S. A. 2003. Mentoring research: A review and dynamic process model. *Research in Personnel and Human Resources Management*, 22: 39–124.
- Wayne, S. J., Liden, R. C., Kraimer, M. L., & Graf, I. K. 1999. The role of human capital, motivation and supervisor sponsorship in predicting career success. *Journal of Organizational Behavior*, 20(5): 577–595.
- Wayne, S. J., Shore, L. M., & Liden, R. C. 1997. Perceived organizational support and leader-member exchange: A social exchange perspective. *Academy of Management Journal*, 40(1): 82–111.
- Whiting, V. R., & de Janasz, S. C. 2004. Mentoring in the 21st century: Using the internet to build skills and networks. *Journal of Management Education*, 28(3): 275–293.
- Zeidler, S. 2009. Looking for a job? Try LinkedIn or Twitter. Thomson Reuters. <http://www.reuters.com/article/newsOne/idUSTRE57B2EX20090812>. Accessed on September 3.

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