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Online mentoring and computer-mediated communication: New directions in research

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Abstract

While there has been a veritable explosion of online mentoring websites and opportunities within a wide variety of professions, very few academic articles to date have addressed this phenomenon. The purpose of this article is to remedy this gap in our knowledge by: (a) suggesting that the Internet can provide a viable context for mentoring within defined roles, (b) presenting a new typology of mentoring based on the computer-mediated-communication (CMC) literature, and in doing so suggest new opportunities and challenges, and (c) providing recommendations for researchers and practitioners to explore online mentoring. Past research has found that within the three functions of mentoring (psychosocial, vocational, and role modeling), a mentor can play a number of roles such as business coach, friend, counselor, and/or teacher to a protégé. We extend past research by assessing the major issues applicable to these mentor roles through an examination of CMC literature. We provide specific research propositions to inspire future research into online mentoring and its related contexts, roles, opportunities, and challenges.

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1. Online mentoring and computer-mediated communication: New directions in research

The world of work has changed dramatically. The advances in technology, particularly the pervasiveness of the Internet, has facilitated globalization, spawned new businesses, and created a wide variety of innovative work practices and positions. Current estimates indicate that there are approximately 228 million people who access the Internet in English alone (Global Reach, 2002). The Internet has given rise to a variety of venues, including chat rooms, newsgroups, mailing lists, interactive websites, and text-based virtual environments (Parks & Roberts, 1998). These media, collectively known as computer-mediated communication (CMC), and other forms of technology have contributed to greater career mobility, an increasing emphasis on project work, virtual organizations, and boundaryless careers (Sullivan, 1999). Within this changing career environment, knowledge workers have found that relying on a network of mentors to navigate organizational and career complexities can be a significant strategic advantage (Kram & Hall, 1996).

There has been a marked increase in the number of articles written on mentoring in the last five years, indicative of the keen interest of both scholars and business leaders (Russell & Adams, 1997). Similarly, there has also been an increase in the number of formal mentoring programs sponsored by organizations in the last decade (Douglas, 1997). This increased interest in mentoring has been influenced by the well-touted benefits of mentoring that accrue both to individuals and organizations and include: increased socialization (Chao, 1997), organizational commitment, organizational citizenship behavior (Donaldson, Ensher, & Grant-Vallone, 2000), higher pay (Dreher & Cox, 1996), and more promotions (Dreher & Ash, 1990).

It is surprising that while there has been a veritable explosion of online mentoring websites and opportunities within a wide variety of professions, very few academic articles to date have addressed this phenomenon with a few notable exceptions in the education literature (Single & Muller, 2001). A recent (August, 2002) search for information on “online mentoring,” “online mentoring programs,” “online mentoring services,” and “e-mentoring” on common search engines (e.g., AltaVista, Google, and MSN) indicated that the number of hits in the last two years has increased tremendously. After taking into consideration that the number of unique sites is about a third of the total hits, the incidence of the aforementioned search terms increased up to five times. Examples of online mentoring sites are presented in Table 1. While online mentoring is thriving, little is known about the successes and unique challenges of this phenomenon. The purpose of this article is to remedy this gap in our knowledge by: (a) suggesting that the Internet can provide a viable context for mentoring within defined roles, (b) presenting a new typology of mentoring based on computer-mediated-communication (CMC) literature; in doing so assess opportunities and challenges, and (c) providing recommendations for researchers and practitioners to explore online mentoring by suggesting specific propositions for future study.

Table 1
Online mentoring site descriptions

Name	URL	Description
Corporate Mentoring Solutions, Inc.	http://www.mentoring.ws/starthere/	Provides a web-based mentoring system that evaluates mentoring style, mentoring compatibility, progress reports function, and mentoring evaluation form
Digital Clubhouse Network	http://www.digiclub.org	Focuses on teaching multimedia, Universally Accessible web page production, networking, and career skills; participants communicate with each other through email and chat rooms
Electronic Emissary Project	http://www.tapr.org/emissary/	Helps teachers locate volunteers for purposes of arranging curriculum-based, electronic exchanges between their students and online mentors
<i>MentorNet</i>	MentorNet, 2002/	Pairs women who are studying engineering or science at participating colleges or universities with professional scientists and engineers working in industry, and helps them form email based mentoring relationships
Mighty Mentors & Teaching.com	http://www.mightymentors.com/ and also http://www.teaching.com/mentors/	Enables teachers to find and safely enter into a mentoring relationship via email
Professional Mentoring, LLC	http://www.pro-mentoring.com	Helps organizations, associations, and individuals meet their information and training needs through Web and CD-ROM technology
Tech Up	http://www.techup.org/mentor/mentor_main.html	Provides an online magazine dedicated to using technology to share ideas, which has also created an online mentoring program for women and girls and the organizations that serve them
The AMS and SIAM Mentoring Program	http://www.siam.org/careers/mentors.htm	Connects students with mathematicians working in industry, government or business (primarily non-academic careers)
Women in Coaching (Coaching Association of Canada)	http://www.coach.ca/women/e/mentor/index.htm	Provides mentors for women sports coaches via email
Writers Guild of America, West	http://www.wga.org/mentors/	Allows users to connect to volunteer mentors (who are professional screenwriters from a variety of fields, including movies, TV, animation, and interactive games) via personal email at no cost to the user

2. Mentoring definition

The definition of what constitutes mentoring has become an increasingly more divisive and complex issue. Traditionally, mentoring was defined as a dyadic relationship in which a mentor, a senior person in age or experience, provided guidance and support to the less experienced person, the protégé (Hunt & Michael, 1983). However, the definition of mentoring has evolved as researchers have explored different typologies and contexts of mentoring relationships (Kram & Isabella, 1985; Thomas, 1990). More recently, Eby (1997) suggested that alternative forms of mentoring also be considered including lateral, hierarchical, and group mentoring. Ensher, Thomas, and Murphy (2001) found that peer, step-ahead, and traditional mentors had varying degrees of impact on protégés' career outcomes. Higgins and Kram (2001) published a definitive piece of research integrating these various ideas about mentoring. These authors suggested that a protégé's constellation of mentors be referred to as developers and these constellations of mentoring relationships could vary by diversity and strength. The common theme among these different conceptualizations of mentoring is that it is important for individuals in today's dynamic career environment to have a variety of different types of mentoring relationships.

In general, mentors perform three major functions for their protégés. First, mentors provide vocational or instrumental support that directly enhances the career of the protégé and might include sponsorship, visibility, protection, and challenging assignments. Second, mentors can also provide psychosocial support via counseling, friendship, and encouragement. Third, mentors may also function as role models to their protégés by demonstrating appropriate behavior either implicitly or explicitly (Kram, 1985; Scandura, 1992). For the purpose of this article, we suggest (consistent with Higgins & Kram, 2001) that a mentor is one of a network of developers who provides instrumental, psychosocial, and/or role modeling support on an ongoing basis to a protégé.

3. Mentoring contexts

In addition to considering various types of mentors and the functions they perform, it is also important to examine the contexts in which mentoring relationships occur. Recently, researchers have begun to examine how informal or spontaneously developed mentoring relationships compare in quality and outcomes to formal mentoring relationships (Chao, Walz, & Gardner, 1992; Fagenson-Eland, Marks, & Amendola, 1997). There has also been some research, albeit limited, which examines how frequency of contact between mentors and protégés, either in person or on the telephone contributes positively to protégés' satisfaction with their mentors (Allen, Poteet, & Burroughs, 1997a; Ensher & Murphy, 1997). In general, researchers have found that informal mentoring relationships with frequent contact are better than formal relationships, although having any mentor is usually better than not having one at all.

Unfortunately, there are a number of barriers that prevent would-be protégés from obtaining a mentor. These prohibitive factors include a lack of available

mentors in an industry, profession, or echelon, increasing demands placed on would-be mentors, lack of similarity in attitude or demography, or organizational or geographical boundaries (Allen et al., 1997a; Ragins, 1995). One way to overcome these constraints is to participate in mentoring through the variety of communication options in CMC (e.g., email). Although only modest attention has been paid to online mentoring, there is however relevant research related to the various roles that mentors perform for their protégés (Ragins & McFarlin, 1990) that can be examined in a virtual context. The next sections use available CMC research by further exploring the particular mentoring roles of business coach, friend, counselor, and role model. We draw comparisons between the existing body of literature on face-to-face (FtF) mentoring that refers to all mentoring done in person and use this as a basis for understanding online mentoring and discuss related challenges and opportunities.

4. Online business coaching

Mentors often provide vocational or career support to their protégés by offering advice, providing feedback and coaching, and introducing them to influential connections. Likewise, coaching, particularly business coaching, is a booming service within the corporate training market, (Morris, 2000). Recent surveys estimate the number of business coaches to be in excess of 10,000 in the US alone (Whitaker, 2001). Online fee-based coaching offers clients real-world advice, often from people who have been in the same situation and can speak from personal experience (Harrington, 1998). The International Coach Federation, which sets standards and ethical codes for its business coach members, provides a list of 10 accredited schools for would-be coaches (International Coach Federation, 2002) and many professionals see this as an excellent source of business expansion (Zunitch, 2001).

How does online coaching work? Online coaching generally makes use of email supplemented by phone calls. Clients practice and develop skills in résumé writing, business plan development, and contract negotiation by sending their efforts to a coach who provides feedback. Business owners and executives find it more convenient to communicate via email rather than leaving their work site to meet in person. Furthermore, some clients believe that never meeting with their coach face-to-face allows for a more honest and objective relationship (Harrington, 1998). Online coaches provide a neutral, third party perspective in a confidential format.

Although researchers have decried the lack of empirical data on the outcomes related to business coaching (Kampa-Kokesch & Anderson, 2001), there is some evidence to show that it provides some very positive benefits (Judge & Cowell, 1997; Olivero, Bane, & Kepelman, 1997). Hall, Otazo, and Hollenbeck (1999) conducted a study sponsored by Boston University consisting of interviews with 15 providers and 75 recipients of coaching and identified a number of positive benefits of coaching including: the acquisition of new skills, abilities, and perspectives; improved performance; better goal-setting; and adaptability. Likewise, Zunitch (2001) found that coaches enabled their clients to set and achieve business goals and reach a balance between work and family priorities.

There are some important distinctions between fee-based online business coaches and e-mentors. Business coaches may perform many of the same functions as a mentor, yet often the relationship is more temporally or goal based (Whitaker, 2001). The exchanges between online business coaches and their clients are often explicit, monetary, and transactional in nature. In contrast, the exchange between a mentor who provides a protégé with coaching is often more implicit, personal, and reciprocal.

However, while the tenor of the relationship is different between coaches/clients and mentors/protégés, there are important similarities in terms of activities, processes, and expected outcomes. For example, both fee-based coaches and mentors can provide tangible career suggestions, ideas, and feedback that can positively affect an individual's performance (Bell, 1996; Hodes, 1996). Mentoring and coaching are also similar in that both rely on the development of trust which can ultimately affect the outcomes (Hall et al., 1999; Nielson, Pate, & Eisenbach, 1999). Both coaches and mentors help their dyad partner to achieve important goals (Douglas & McCauley, 1999). Also, perhaps more surprisingly, it has been found that the learning that takes place between coaches and clients is two-way and thus often times coaches feel that they receive valuable benefits, besides monetary compensation, for their work with their clients (Hall et al., 1999).

The FtF mentoring literature provides an important theoretical explanation and empirical evidence to explain what mentors and protégés receive from one another. Ensher et al. (2001) used social exchange theory to explain the importance of reciprocity in successful FtF mentoring relationships where both mentors and protégés receive valuable, albeit different, benefits. Allen et al. (1997a) also found that mentors receive a number of valuable benefits from their protégés such as: the development of a support network, new knowledge, and even job-related assistance. It is not surprising then that both mentors and protégés in an online mentoring program reported receiving valuable benefits from one another. Participants in an online mentoring program (Mighty Mentors) for teachers shared how they gained suggestions for lesson plans and solutions to teaching dilemmas from their online mentors (Miller, 1999). In turn, their online mentors reported receiving a sense of satisfaction, and a “feeling of still being a teacher” from their protégé's success. Other online mentoring programs such as MentorNet (MentorNet, 2002) have also reported a number of important outcomes that mentors derive from coaching their protégés such as new learning, increased commitment to their profession, and a sense of renewal. Therefore we expect that:

4.1. Research proposition 1

Online mentors can be equally as effective as FtF mentors in providing coaching to their protégés and in turn will receive valuable benefits from their protégés.

5. Online friendships

Protégés often depict an effective mentor as a friend who provides important psychosocial support. CMC has created a number of new opportunities and challenges

for diverse friendships. CMC relationships may take more time to develop, but with adequate time, communicators can develop strong relational links (Chidambaram, 1997). The Internet is a social medium allowing for the development of interpersonal relationships, including the benefits and risks inherent in any relationship.

Research related to what attracts individuals to form friendships with one another or more specifically, what affects attraction between FtF protégés and mentors is relevant to online mentoring as well. Past researchers have found that the similarity–attraction paradigm (Byrne, 1971) provides a theoretical explanation for attraction between mentors and protégés (Ensher & Murphy, 1997). Three recent studies in mentoring have found that perceived similarity (similarity in goals, attitudes, and beliefs) between mentors and protégés positively affected relationship quality (Nielson et al., 1999), satisfaction with the relationship (Ensher & Murphy, 1997) and type of mentoring support received (Ensher, Grant-Vallone, & Marelich, 2002). From the CMC literature, Walther (1996) has found that when communication partners are part of a CMC group with which they highly identify, such as a shared profession, that they may sometimes perceive their CMC partners more favorably than their FtF communication partners. Therefore, the following research proposition seems likely.

5.1. Research proposition 2a

Parallel with the FtF mentoring literature, online protégés who perceive their mentors to be similar to themselves will exhibit a high degree of attraction and liking towards their mentors.

Another important aspect related to online friendship development is past positive experience with other online relationships. Past CMC research has found that Internet experience, such as with newsgroups, or with forming relationships in particular is a significant predictor of forming online relationships in the future (Carlson & Zmud, 1999; Parks & Roberts, 1998). Similarly, from the mentoring literature, past researchers have found that prior experience as mentors is related to a person's likelihood of entering into a mentoring relationship in the future (Ragins & Scandura, 1993) and affects their perception of benefits and costs (Ragins & Scandura, 1999).

How do past experiences with online relationships and mentoring affect future interest in becoming involved in an online mentoring relationship? We believe that people who have both online relationship experience (Carlson & Zmud, 1999) and FtF mentoring experience (Ragins & Scandura, 1993; Ragins & Scandura, 1999) will be the most likely to combine the two and enter into an online mentoring relationship. We also believe that people with online relationship experience but no mentoring experience will also be likely to start a mentoring relationship, if they are interested in becoming involved in some sort of mentoring relationship in general. This is because there is a plethora of online sites available for would-be protégés that can be accessed via the Internet. Thus, if one is used to gaining information and developing relationships virtually then online mentoring is a natural fit. It is the people who have no online relationship experience at all who we believe are less likely to start an online mentoring relationship, even if they have previous mentoring

experience or interest. There are no published studies to date that investigate this question. However, preliminary correlational data from an online mentoring assignment given to several hundred undergraduate business students provides initial support for this idea as those students with less online relationship experience are less likely to engage in online mentoring than their peers with more experience (Ensher, 2002). Thus, it seems likely that online protégés and mentors will be more likely to develop a relationship as friends if they have past experience with online relationship formation and experience with or interest in mentoring.

5.2. Research proposition 2b

Protégés' and mentors' past experiences with online relationships and interest in mentoring relationships will significantly predict the likelihood of their being willing to become engaged in a mentoring relationship online.

6. Online counseling

Besides playing the role of trusted friend, mentors often provide emotional or psycho-social support by providing a significant degree of counseling and acceptance to their protégés (Kram, 1985; Scandura, 1992). Emotional support is readily available on the Internet in the form of online therapy or counseling. Currently, there are an estimated 200 online therapy sites providing access to roughly 350 online counselors (Segall, 2000). Since counseling exists online for psychotherapy, it seems likely that mentors can also provide protégés with counseling online as well. While mentoring relationships vary in the degree of psychosocial support they provide, informal counseling is usually a key element that enhances most effective mentor–protégé relationships.

There are, however, some important differences and similarities we want to highlight between online counseling provided by therapists to clients and counseling provided by mentors to protégés. A therapeutic relationship is strictly one-way in terms of the client self-disclosing important personal information whereas the therapist ideally remains a neutral, professional entity. In comparison, interactions between mentors and protégés are two-way. In terms of differences, it is important to realize that therapists are licensed and their credentials are formally monitored and overseen by professional licensing organizations and educational institutions. The same is not true for mentoring. Also, confidentiality between therapists and clients is protected by professional and legal convention, whereas confidences exchanged between mentors and protégés are protected only by their mutual trust.

Issues of licensure and certification bear some special mention here. These issues have been well-addressed by career professionals (Oliver & Chartrand, 2000; Sampson & Lumsden, 2000). In fact, due to the increasing concerns of the use of internet-based career assessment tools, many professional associations including the National Career Development Association have created standards for the ethical practice of web counseling (Oliver & Chartrand, 2000). Online mentoring programs might be

well advised to use these as a model and follow suit. Also, online mentoring may lead a protégé to an online assessment or career site, thus the cautionary aspects related to quality and confidentiality are very important.

Although there are important differences to be aware of between the type of counseling provided by psychotherapists and that provided by a mentor, the type of skills needed by the mentor may be very similar. For example, both online counselors and mentors need to demonstrate effective listening, provide feedback, reinforce the self-esteem of the protégé, and ultimately empower the protégé to become self-sufficient (Bell, 1996). Also, one of the greatest challenges faced by online counselors and mentors may be similar. Online counselors have found that the lack of access to non-verbal cues can lead to misunderstandings or even inaccurate diagnoses and hence poor advice (Oravec, 2000). Online mentors are likely to find the absence of non-verbals challenging as well.

Past research in FtF mentoring has examined the role of counseling and found that not all mentors provide this equally (Ragins & McFarlin, 1990). Past mentoring researchers have speculated that perhaps race, gender, or homogeneity of the dyad would affect the degree of psychosocial support and counseling, yet these findings have been mixed (Ensher & Murphy, 1997; Ensher et al., 2002; Nielson et al., 1999). While we do know in a FtF context, that mentors may vary on how much psychosocial support and hence counseling they provide to their protégés, we do not yet know the degree to which CMC adds or detracts from this important mentor role. We suspect, however, that based on the literature from online counseling and FtF mentoring, CMC is likely to have an important effect on the mentor's ability to perform the role of counselor to their protégés.

6.1. Research proposition 3

Mentors in CMC-only relationships will find it more challenging to perform the role of counselor than those mentors in CMC-primary, CMC-supplemental, or FtF relationships.

7. Online learning

Protégés often learn from their mentors by watching their mentors in action. Mentors often teach skills or behaviors to protégés by directly or indirectly role modeling appropriate behaviors and providing performance related feedback (Bandura, 1986; Bell, 1996; Kram, 1985; Scandura, 1992). We examined other methods of online learning to determine if this can be done effectively online.

Many employees currently learn online by participating in multi-media tutorials and training classes. The effectiveness of online training has been well touted. There have been several recent studies related to the return on investment of online training and companies such as Bell Atlantic have realized a 366% return on their training investment (Kruse & Keil, 2000). The variety of methods that can be employed in an online learning situation and the rapid growth of online learning in education,

business, and career development (Kiser, 1999; Reile & Harris-Bowlsbey, 2000) suggest that protégés can learn effectively online from their mentors as well.

Although the number of companies using online learning is increasing, many are finding that this new medium often results in low retention and completion rates (Davy, 1998). Many employees miss the social interaction provided by a classroom environment or are not comfortable with using a computer. Also, while the potential for true interactivity is there, widespread accessibility to this technology still remains a stumbling block. Perhaps with the more widespread use of technology such as video conferencing and increased access to greater bandwidth, individuals might be able to watch and learn from their online mentors.

In sum, protégés learn from their mentors as role models in a multitude of ways including: informal observation, job shadowing, feedback on career assignments, discussion of professional challenges, and reviewing samples of their mentors' work (Bell, 1996). While it may not be impossible for a protégé to receive role modeling online, it will likely be much more difficult than in FtF settings as the observational component is difficult to replicate in a virtual context, given the current constraints of technology and accessibility. Therefore, role modeling may be the function of mentoring that is *least* efficiently done in a virtual setting.

7.1. Research proposition 4

Online mentors will be less effective as role models than FtF mentors.

8. Online mentoring

While online mentoring has burgeoned rapidly in the last several years, to date there have been very few scholarly articles published related to this phenomenon other than program descriptions (Knouse, 2001; Single & Muller, 2001). Therefore, we examined online mentoring by relying on practitioner articles related specifically to online mentoring and scholarly work from the CMC literature. Although CMC has attracted widespread research and practitioner attention only recently, it has been in existence and studied for over 30 years (Hiltz & Turoff, 1993). We suggest that the opportunities and challenges of the various roles related to online mentoring be examined within a proposed typology related to CMC.

The first type is *CMC-only* in which mentoring is done only online by email, websites, chat-rooms, instant messaging, etc. An example of this might be two teachers from different districts who sign up to participate in an online mentoring site such as MightyMentors and are paired together based on program administrators' perceptions of their interests and needs. The second type is *CMC-primary* in which the majority of mentoring interactions (i.e., more than 50%) are conducted online but may also be supplemented by telephone calls and FtF interactions. For example, this might be the case of a junior and senior academic who met at an Academy of Management meeting and found they had complementary needs and research interests. While the initial meeting was FtF, because of their

geographic separation and time zone difference, they tend to communicate frequently online supplemented by monthly phone calls and yearly meetings at the Academy. The third type is *CMC-supplemental* in which the majority of mentoring is done in person yet the relationship is supplemented via emails, instant messaging, chat-rooms, websites, and so forth. This can be the case of a mentor and protégé who work for the same organization yet because of different schedules or difficulty in scheduling meetings, may use email in place of FtF meetings and to communicate information.

Although, there are virtually no published academic studies to date examining the feasibility or effectiveness of cyberspace as an appropriate context for mentoring, an examination of the plethora of websites connecting mentors and protégés indicates that the practice of online mentoring is thriving. With a few notable exceptions, such as MentorNet, few extensive program evaluations are available. There are, however, several recent practitioner articles that describe various online mentoring programs and their positive outcomes (Buckman & Lesesne, 1999; Huang-Nissen, Lin, & Yee, 1999; Iyengar & Lepper, 2000; Mather, 2000). Positive conclusions drawn in these articles may be inconclusive or correlational in nature therefore highlighting the need for empirically sound research in this area. Online mentoring programs have a wide variety of aims including increasing scholastic performance, networking, and developing professional knowledge and skills. We will provide examples of online mentoring programs that pertain to the three categories of CMC mentoring.

8.1. *CMC-only example*

MentorNet is a year-long mentoring program that brings students and professionals together entirely by email. The purpose of the program is to partner undergraduate and graduate females with industry professionals in math, science, and engineering as a way to increase female representation in the science professions. Begun in 1997, and funded by grants from AT&T and Intel foundations, MentorNet currently has 70 colleges and universities participating with mentors in 690 companies. To date, matched applicants have included 2000 students and 1913 mentors (MentorNet, 2002). A comprehensive program evaluation revealed that 95% of protégés chose to remain in their respective programs of math, science, and engineering after participating as a protégé. MentorNet protégés reported higher degrees of self-confidence related to their ability to succeed in their chosen fields. The International Telementoring program (Lewis, 2002) found similar results in that students paired with participating employees also indicated improved self-confidence and motivation. These findings suggest the following research proposition.

8.2. *Research proposition 5a*

Participation in an online mentoring program can significantly increase protégés' self-confidence in pursuing their chosen fields.

8.3. CMC-primary example

The Public Relations Society of America, College of Fellows has matched approximately 200 mentors and protégés since 1998 (Phair, 2000). Mentors are established senior professionals in the area of public relations while protégés are those who are novices, transitioning to the field, or just need specific advice. Mentors and protégés typically are matched via a computerized process and then meet face-to-face for a 20-minute meeting at the annual conference. Most of the pairs communicate only via the Internet while others, depending on geographical circumstances, may also communicate occasionally via telephone or in-person. Protégés have indicated that they have gained advice such as how to start their own business, how to take a private company public, or how to break into public relations.

While it seems that some programs such as this one are initially intended to be CMC-primary, others seem to evolve. We have found a number of examples of programs that were initially intended to be CMC-only and became CMC-primary over time as mentors and protégés got to know one another and thus had a desire to meet (Carter, 2002; Robb, 1997). For example, the Women of NASA has an online mentoring program in which women engineers encourage young protégés to pursue careers in science and technology. Due to the success of the e-mentoring program, women engineers invited their protégés to come on site for formal visits (NASA Quest, 2002). Therefore, we suggest that:

8.4. Research proposition 5b

Online mentoring can significantly increase protégés' network of FtF professional contacts.

8.5. CMC-supplemental example

A primary characteristic of both the CMC-only and the CMC-primary mentoring examples is that the people are not co-located. That is, mentors and protégés are not physically in the same place. In other CMC mentoring examples, mentors and protégés may be in the same location or have a strong possibility of physically seeing each other. In these instances, CMC is a supplemental communication option between them.

There are several online mentoring programs that connect professionals with middle and high school students to increase protégés' skills, analytical thinking, and provide exposure to new opportunities. For example, Buckman and Lesesne (1999) describe the Student–Teacher Online Mentoring Program. In this program, at-risk students from low-income middle schools are paired with education majors from local colleges to read and discuss books face-to-face but to also supplement their discussions with email communication. This program has been successful on several levels as reading interest and proficiency has increased among the participating students. In addition, all participating protégés passed state assessment tests and have successfully graduated from high school. Other online mentoring programs, such as

the International Telementoring Program and Walker Schools Net Pals have found similar performance-related results including better articulation of thoughts and better technological skills (Lewis, 2002; MentorNet, 2002; Robb, 1997). In sum, these examples from practitioner articles suggest a number of research propositions.

8.6. *Research proposition 5c*

Online mentoring can significantly increase protégés' performance.

9. Online mentoring challenges

Although the vast majority of mentoring research focuses on positive aspects, mentoring researchers investigating FtF relationships in previous studies noted problematic components as well such as the dark side of mentoring (Eby, McManus, Simon, & Russell, 2000; Scandura, 1998). Eby et al. (2000) conducted empirical work in this area that further examined the dark side of mentoring and developed a useful taxonomy of negative experiences from the protégés' perspective using qualitative data. These authors make important distinctions between what is considered negative and how that might be different from the protégé and mentor perspective and we discuss a number of these that are applicable to online mentoring.

Drawing from the CMC as well as FtF mentoring literature, it is clear that e-mentoring has a number of key challenges. The five major challenges we identify are: (1) likelihood of miscommunication, (2) slower development of relationship online than in FtF, (3) requires competency in written communication and technical skills, (4) computer malfunctions, and (5) issues of privacy and confidentiality.

The first challenge confronting online mentoring are aspects of interpersonal dynamics unique to CMC that can cause miscommunication. CMC is often perceived as a cold medium that cannot support relationships (e.g., Sproull & Keisler, 1986). CMC does not allow communicators to see smiles and body language, to hear tone of voice, or to infer meaning from a variety of non-verbal cues. In online counseling situations, while the anonymity of the medium may appeal to those who would normally be uncomfortable in a FtF situation, the lack of vital facial non-verbal cues provides an incomplete picture of the problem and may lead to a higher rate of inappropriate diagnoses or suggestions (Segall, 2000). Although subsequent researchers have criticized this assumption (e.g., Culnan & Markus, 1987; Walther, 1996) and while the abundance of relationships that have formed online may discredit this belief (Wellman & Gulia, 1999), this is a challenge that warrants further consideration for online mentoring relationships.

The likelihood of misinterpretation can also lead to miscommunication (King & Engi, 1998). Mentors and protégés who do not know each other well or communicate primarily via email may misunderstand attempts at humor, misread tone, or fail to clarify when they do not understand one another. Misunderstandings can even turn hostile as the anonymous nature of the Internet can promote a lowering of inhibitions, even among mentors and protégés who know each other well (Gacken-

bach, 1998). This disinhibition can lead to increased incidences of “flaming” in which mentors and protégés respond in an emotionally charged, often negative manner to each other and often write things to each other that they would be too inhibited to say in person. Online counselors have found that incidences of misunderstanding and disinhibition are decreased when participants are provided information regarding warning signs of these phenomenon prior to engaging in a relationship (Oravec, 2000). Mentors and protégés who engage in online mentoring could be trained in these unique aspects of CMC and provided with suggestions for how to avoid them in their own correspondence.

Eby et al. (2000) discusses distancing behaviors that can occur in FtF mentoring relationships that may be relevant here as well. For example, the mentor might intentionally exclude the protégé from important meetings or discussions (i.e., conveniently “forgetting” to copy the protégé on an important communiqué). Or perhaps, the mentor might simply neglect the protégé by failing to express an interest or simply not respond to a protégé’s email. These types of neglectful behaviors can also elicit negative responses from protégés and lead to misunderstandings or frustrations expressed in writing that would perhaps be better handled constructively in a FtF conversation.

The challenge of miscommunication may vary depending on the type of CMC mentoring relationship. It seems likely that the lack of non-verbal cues and increased incidence of disinhibition may be more likely to occur in relationships where mentors and protégés interact only or primarily online. It seems likely that the more comfortable mentors and protégés are with one another in a FtF setting, the more likely they might be to verbally clarify misunderstandings that arise.

9.1. Research proposition 6a

Disinhibition, flaming, and mentor neglect will be more prevalent in CMC-only relationships than in CMC-primary, CMC-supplemental relationships, or FtF relationships.

The second challenge related to CMC is that the development of relationships is usually slower in CMC than face-to-face. It is important to note that the process of relationship development between individuals relying on CMC and those in FtF relationships is similar to FtF relationships (Walther, 1996). Individuals go through the same steps of gathering information and forming impressions of others. However, this process is slowed down because of the reduction of information exchanged in CMC compared to FtF communication.

In some very special cases, relationships can actually develop into “hyper relationships.” This occurs because CMC allows communicators to manage their first (and subsequent) impressions by thoughtfully composing and editing their comments (Rheingold, 1993; Walther, 1996). Thus, when communication partners are physically separated and strongly identify with the group with whom they are communicating, the communicators over-interpret the few cues they have about the others with whom they are communicating (Walther, 1996). Therefore, these protégés and mentors may form a better impression of their partners than they would if they were physically interacting. Because of the nature of the mentor–protégé

relationship, developing a hyper-relationship is possible, but not likely. Hyper relationships will likely only happen when the mentor and protégé have never seen or spoken to each other (i.e., they have a CMC-only relationship) and when they are both very enthusiastic about their developing relationship.

For most protégé–mentor relationships, we believe that the slower exchange of information and less rapid relationship development will be more of an issue as protégés and mentors may bring different levels of enthusiasm to their relationships due to the fast-paced business environment filled with multiple demands that they invariably operate in. Mentors and protégés in CMC-only type of relationships may find themselves frustrated at the slower pace of their relationship development (unless they have the rare incidence of a hyper relationship) as compared to FtF relationships or those that are supplemented by FtF interactions (i.e., CMC-primary or CMC-supplemental). Therefore, it is likely that mentors and protégés who take more of a hybrid approach to mentoring and actively seek to know one another via other sources of communication such as the telephone and in-person visits, may find that their relationships develop more rapidly.

9.2. Research proposition 6b

The more contact that mentors and protégés have outside of CMC, the more rapidly their relationships will develop.

9.3. Research proposition 6c

If mentors and protégés in CMC-only relationships are both very enthusiastic about their relationship, they may form more positive impressions about each other (hyper relationship) than those in CMC-primary, CMC-supplemental, or FtF relationships.

The third challenge is related to specific competencies that mentors and protégés must perform to communicate effectively online. For example, one of the basic considerations of online counseling is that individuals should be comfortable expressing their feelings in writing, therefore those who do not have good written communication skills may not find this medium useful (Segall, 2000). Moreover, CMC also presents unique additions to our written language in the form of new set of acronyms (i.e., lol—laughing out loud) and unique forms of expression or emoticons such as: that can affect communication. Mentors and protégés who do not communicate well in writing may find online mentoring to be less effective. Eby et al.'s (2000) category of “interpersonal incompetency” may be applicable here as well. Interpersonal incompetency refers to a mentor lacking skills in dealing effectively with the protégé on an interpersonal level (such as communicating, providing feedback, and empathizing). A mentor or protégé who lacks the ability to use good e-etiquette or express themselves effectively in writing may find online mentoring particularly difficult. Of course, those who are adept written communicators or are perhaps a bit shy in person may find this aspect of online communication to be advantageous.

Another key competency that online mentors and protégés must have to be successful is a minimal comfort level with email and other basic computer applications.

Purveyors of online training have found that a lack of basic computer proficiency can derail even the best-designed online training course (Dobbs, 2000; Kiser, 1999). In sum, to be successful in an online relationship, mentors and protégés must actively work to develop and update both their communication and computer skills.

9.4. Research proposition 6d

Mentors and protégés who have good written communication and basic computer skills will have more effective online mentoring relationships than those mentors and protégés who have less of these skills.

A related and fourth challenge is the possibility of computer malfunction. Anecdotal evidence from providers and recipients of online therapy found that technological problems such as computer malfunction detracted from the momentum of the relationship and caused lapses of communication (Segall, 2000). Segall (2000) described the difficulties of re-establishing an online therapy relationship after a three-week break due to email problems.

9.5. Research proposition 6e

Mentors and protégés in online relationships who experience frequent computer malfunctions will have less effective relationships than those who do not experience computer malfunctions or those in FtF mentoring relationships.

The necessity of having core competences (writing and technology) and the possibility of computer malfunctions can detract from all types of online mentoring relationships. However, it seems likely that those mentors and protégés who rely only or primarily on CMC would be most likely to be affected by these issues. Those mentors and protégés who are not dependent on CMC who confront technological difficulties may find it easier to adapt to different types of communication when necessary. Researchers have identified several ethical considerations related to online counseling that are also applicable to e-mentoring (Sampson & Kolodinsky, 1997). Therefore, the fifth challenge related to online mentoring are issues of privacy and confidentiality and type of information provided online. Although having a written record was earlier presented as a positive opportunity, it can also be a significant challenge. In today's litigious environment, mentors may be afraid to share company information or self-disclose mistakes or career mishaps as an email correspondence creates a written record. Protégés and mentors need to establish an agreement regarding what is and is not appropriate to share with others regarding their correspondence and relationship. However if the relationship sours, then the risk that communiqués will be exposed is greater. Ethical guidelines such as those employed by psychologists (Bonnington & McGrath, 1996) and career professionals (Sampson & Lumsden, 2000) may provide an excellent starting place for mentors and protégés to seek guidance regarding issues of privacy and confidentiality.

Depending on what type of information is shared, issues of privacy and confidentiality can be challenging for all types of mentor relationships. In general, though, it

seems likely that that the more mentors and protégés rely on CMC, the more problematic this issue might be for several reasons. The major reason this may be more problematic is the establishment of a written record of interactions. Lawsuits relying on email evidence in sexual harassment and employment discrimination suits have skyrocketed simply because of the ease and availability of establishing documentation of wrongdoing (Miller, 2001). Also, as mentioned earlier when discussing issues of disinhibition and flaming, it is possible that individuals who rely solely or primarily on CMC may feel a false sense of anonymity and be less prudent than they might in a FtF conversation. Proponents of formal e-mentoring programs recommend that mentors and protégés sign a confidentiality contract (Emory, 1999; MentorNet, 2002) to safeguard against these negative aspects.

9.6. Research proposition 6f

Mentors and protégés in CMC-only relationships will be more aware of issues of privacy and confidentiality than those in CMC-primary, or CMC-supplemental relationships, or FtF relationships.

10. Online mentoring opportunities

We have identified five distinct opportunities suggested by the FtF mentoring and CMC literature that are applicable to the various functions and roles of online mentoring that we will describe below. These opportunities are: (1) greater access, (2) reduced costs, (3) equalization of status, (4) decreased emphasis on demographics, and (5) a record of interactions.

First, greater access to one another and the sheer convenience is an important opportunity for online mentors and protégés. CMC decreases the need for communicators to share time and space (Culnan & Markus, 1987; Sproull & Kiesler, 1986). For example, email allows communicators to share information and advice at their convenience, whenever they have the time to read and respond to their messages. Additionally, CMC communicators are no longer constrained by physical proximity in choosing with whom they interact. Wellman and Gulia (1999) point out that people's communication partners can now extend across the globe. This aspect of CMC has been particularly helpful in therapeutic relationships as individuals without a large support group can access a community of like-minded individuals via the worldwide web (Zimmer, 1997). People can find others who share their own unique interests and needs. In a time when the sheer number of mentors is lacking in a protégé's immediate space, the ability to conveniently interact with others without regard to physical constraint is very important. Moreover, the use of CMC can be almost instantaneously gratifying. For example, email allows people to communicate much as they would have by writing a letter and dropping it in a mailbox, but delivers the message almost instantaneously. Chat rooms and instant messaging allow for real-time conversation between two or more individuals in a synchronous fashion. In sum, the Internet and computer-mediated communication provides mentors and protégés with a means to

develop relationships with others free of limitations of convention, geography, time, or physical space.

A second opportunity related to online mentoring is the potential for reduced costs in terms of time and money. Parallels can be drawn between online mentoring and online training. One of the major reasons why online training is increasing is due to reduction in costs as training online allows a trainer to teach more people from one location and reduces travel costs (Kiser, 1999; Roberts, 2000). Likewise, protégés and mentors in online relationships have mentioned that they have been able to save time and money by avoiding travel costs or administrative fees (Mentor-Net, 2002). Online mentoring can be beneficial for participants in formal mentoring programs as online communication can supplement FtF meetings or events that may be expensive or difficult to coordinate. In the long run, the sheer ease of CMC may enable more organizations to initiate or increase formal mentoring programs.

10.1. Research proposition 7a

Organizations with mentoring programs who incorporate CMC may report a number of advantages such as reduced costs in time and money as compared to those organizations that rely only on FtF mentoring programs.

The reduced costs of time and money as well as greater access provides opportunities that can be enjoyed by mentors and protégés in all CMC types of relationships. CMC enables individuals to renew old relationships and maintain existing relationships that may have implications for the length and duration of mentoring relationships. Mentoring researchers agree that having a diverse constellation of mentors is usually most beneficial for protégés and CMC can facilitate this more readily than ever before (Kram & Hall, 1996).

The third distinct opportunity for mentors and protégés is the equalization of status between mentors and protégés as typically mentors are of higher status than protégés. CMC reduces social cues among the communicators (Sproull & Keisler, 1986). People do not see the superficial characteristics of the people with whom they communicate. Therefore, communicators are less likely to categorize others or treat them differently based on these characteristics (Schuler, 1996). Protégés may even have a better chance at developing mentoring relationships because of their ability to take the time to optimize their self-presentation and develop positive relationships with others who have similar interests as themselves. Several online mentoring programs provide coaching to help with this issue. We believe the status equalization of communication partners can be beneficial to protégés who may perceive themselves to be of lower status as it allows them greater ease in contacting and communicating with higher status mentors.

A fourth and related opportunity for online mentors and protégés is the decreased emphasis on demographics. As noted earlier, one advantage of an Internet relationship is that it shifts the emphasis from outward appearances to inner thoughts and feelings (Toufexis, 1996). Therefore, individuals may be more likely to develop relationships with one another based on commonality of interests or goals, rather than stereotypes or assumptions caused by initial impressions of salient demographic

characteristics (e.g., age, race, and gender). FtF mentoring researchers have found that similarity leads to greater attraction and liking between mentors and protégés (Ensher & Murphy, 1997; Ensher et al., 2002). Drawing from a variety of populations, these researchers have found that in the initial stages of attraction, demographic similarity (e.g., race and gender) is very salient in the beginning stages of the relationship, yet once mentors and protégés get to know each other, perceived similarity in terms of values, attitudes, and beliefs become even more important in relation to mentor effectiveness. In fact, CMC may enable perceived similarity to be more easily achieved in online relationships because these relationships are at first free from the distraction of salient demographic characteristics (Cooper & Sportolari, 1997; Zimmer, 1997). In addition, it may be easier for some people to self-disclose more readily due to the non-intrusive nature of the medium, which can also increase intimacy, rapport, and ultimately perceived similarity (Turkle, 1995). In sum, the Internet can also make it easier for potential protégés to seek out mentors based on complementary or similar skills and interests rather than superficial characteristics. Therefore, online mentoring may be particularly advantageous for women, people of color, and people with disabilities who may find it more challenging to attract mentors in some professions and organizational levels.

The opportunities for protégés to have a reduced emphasis on status and demographic characteristics is most likely an advantage enjoyed by those mentors and protégés in CMC-only relationships. Once individuals become familiar with each other, demographic characteristics may become evident and this initial advantage may dissipate. Mentors and protégés in CMC-primary and CMC-supplemental may enjoy this advantage early on in their relationship if they met online, but after they meet one another FtF, then they will be subject to the same biases and assumptions that exist in traditional forms of mentoring relationships.

10.2. Research proposition 7b

Protégés who initially connect with their mentors online in CMC-primary and CMC-supplemental relationships will find status and demographic characteristics of their mentor to be less salient than protégés who connect with their mentors initially FtF.

10.3. Research proposition 7c

Protégés in CMC-only relationships will initially find mentor status and demographic characteristics to be less salient than those protégés in CMC-primary, CMC-supplemental relationships, or FtF relationships.

The fifth advantage is that online mentoring can provide structure and an historical record of interactions between protégés and mentors, which can be particularly helpful for protégés in formal mentoring programs. Many formal mentoring programs recommend that mentors and protégés create a contract outlining goals and expectations and then report periodic progress towards agreed upon outcomes (Murray, 1991). A record on online exchanges can be helpful for documenting successes

and clarifying misunderstandings. This aspect of record keeping and structure has been found to be very advantageous in the context of e-learning via corporate training and universities and in business coaching relationships (Harrington, 1998). Fortunately, the aspect of record keeping can be advantageous for mentors and protégés involved in CMC-only, primary, and supplemental types of relationships, depending on the frequency and quality of the communiqués.

Of course, this exact historical record may not always be positive in an online mentoring relationship. If the mentoring relationship turns sour, then the exact record of communication exchanges may be used inappropriately. As with other types of relationships and CMC, users are advised to be cautious about using CMC to send highly personal or inflammatory messages. Barring this type of occurrence, though, CMC should be a benefit for maintaining accurate records of mentor and protégé communications.

10.4. Research proposition 7c

Protégés in CMC-only, CMC-primary, and CMC-supplemental will find it helpful to maintain records of their communications with their mentor.

In sum, while online mentoring has many challenges, the positive opportunities represented by this burgeoning practice are tremendous. There is an increasing need for practitioners and researchers to study this phenomenon, understand how it is unique from other types of CMC, how it is similar and different from FtF mentoring, and ultimately provide suggestions for ongoing improvement.

11. Conclusion

Although the domain of mentoring is attracting increasing interest, the context of CMC offers a host of unexplored and intriguing possibilities. Throughout this paper, we have advanced a number of research propositions related to mentor roles, CMC mentoring typology, and challenges and opportunities. The research propositions (summarized in Fig. 1) can serve as an impetus for future research in this rapidly growing, yet woefully under-researched virtual context. It is important to also note that while the vast majority of online mentoring is burgeoning under the auspices of formal programs, anecdotal evidence suggests that mentors and protégés in spontaneously developed relationships are taking advantage of this medium as well. Future research needs to also carefully examine the key similarities and differences of online mentoring between formal and informally developed mentoring relationships. Mentoring researchers would be well advised to look to the existing literature on FtF mentoring as well as to the CMC literature to inform our research and practice related to online mentoring.

The research propositions offer several suggestions to improve online mentoring relationships from the practitioner perspective. First, research proposes that the negative aspects of online relationships (including misunderstandings, flaming, and coldness of the medium) can be greatly reduced with training and education (Wallace,

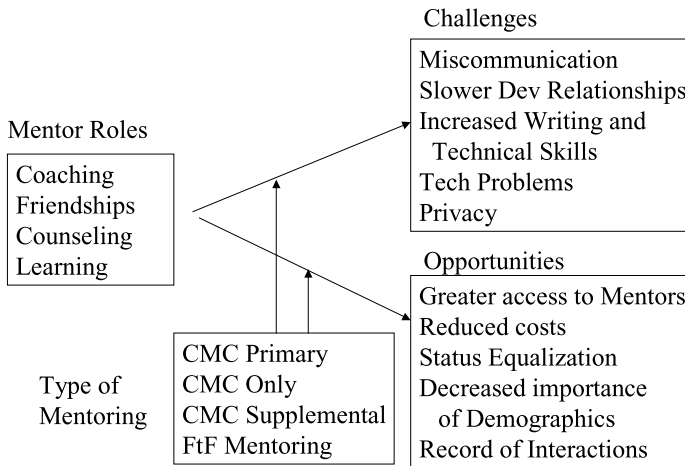


Fig. 1. Summary of Research Propositions

1999). Providing information about techniques to overcome challenges unique to online relationships including the use of emoticons and impression formation techniques can greatly reduce communications problems between mentors and protégés. Not only can training improve online mentoring but online mentoring can also improve training. Providing ongoing support via an online mentor after the conclusion of a training program would be an excellent way to reinforce and improve transfer of learning.

Second, we strongly advocate that whenever possible mentors and protégés use multiple methods of contact in communicating with each other as a way to increase comfort level and learn about each other in multiple contexts. Third, the effectiveness of online mentoring relies on the trust between individuals. Methods to protect confidentiality must be developed, maintained, and properly communicated to mentors and protégés engaged in online mentoring.

In conclusion, we address an important gap in our knowledge by examining mentoring within a virtual context. Also, we suggest that our existing knowledge of FtF mentoring, CMC, and online relationships have important cross-over implications for online mentoring roles and relationships. We propose a new typology for mentoring relationships based on CMC and in so doing examine the opportunities and challenges of online mentoring and provide suggestions for future research via specific research propositions. The research propositions presented here can provide future mentoring researchers with the tools to explore this brave new world of mentoring and make a valuable contribution to this thriving, yet understudied arena.

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