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Global E-Mentoring: Overcoming Virtual Distance For An Effective Mentoring Relationship

Nancy Philippart
Wayne State University,

GLOBAL *e*-MENTORING: OVERCOMING VIRTUAL DISTANCE FOR AN EFFECTIVE MENTORING RELATIONSHIP

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DEDICATION

To My Husband, Tom McGrail and Children, Kevin, David and Kelsey

For your support, encouragement and understanding about the many hours invested in this work and the times I said I can't now, I am reading, studying or writing ….

To My Parents, Jane and Phil Philippart

For instilling in me the love and appreciation of education that gave me the courage to pursue my dream of a doctorate and return to school after a 30 year hiatus

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CHAPTER 1: Introduction

I. Problem of Practice

Mentoring is important for contextual leadership development and has been shown both anecdotally and through academic research to enhance an employee's career development and advancement (Day, 2000; Giber et al., 1999; Groves, 2007; Scandura, 1992; Turban & Dougherty, 1994). The traditional mentoring model, whether formal or informal, involves an experienced executive teaching a high potential junior associate how to successfully perform in the organization (Hunt & Michael, 1983; Kram, 1985; Zey, 1984). Today globalization and technology have dramatically changed the way people lead and work (Avolio et al., 2001; Avolio & Kahai, 2003; Maitland & Thomson, 2011; Sobel Lojeski, 2010; Sobel Lojeski, 2006). It is not uncommon for leaders in large multinational organizations to manage people geographically dispersed around the globe with whom they may never or only occasionally see face-to-face. In fact, Sobel Lojeski (2010) found in her work with distributed teams that 20% of people have never met the person they work for face-to-face. Additionally, globalization and the pace of change have increased competitive pressures on firms resulting in the elimination of lifetime employment expectations for employees and their consequent mobility in and out of organizations. These forces have made the traditional mentoring model not only appear quaint but ill-suited to current business realities (Belasco, 2000; Day, 2000; Hamilton & Scandura, 2003). At the same time, given the complexities of business, mentoring has never been so important for the development of the next generation of global leaders (Giber et al., 1999). The flexibility and rapid pace of change means that leadership capabilities are developed largely through on the job active learning with the support of managers and mentors since formal training and education can neither keep up nor capture the situational subtleties in leading across

boundaries (Cascio & Shurygailo, 2003; Walker, 2000). Likewise, technology and globalization have disrupted the hierarchies of organizations and changed the very nature of leadership – requiring leaders to develop cross-cultural collaboration, coaching and mentoring competencies to effectively lead a diverse, geographically dispersed workforce (Avolio et al., 2001; Avolio & Kahai, 2003; Cascio & Shurygailo, 2003). Mentoring must continue to change and keep pace with the realities of the global business environment if it is to be a relevant leadership development process.

A model of mentoring more relevant to the realities of today's global business context is one that utilizes technology so mentor and mentee can work not only across organizational boundaries but geographical and cultural ones as well (Headlam-Wells et al., 2005). Referred to in the literature as CMC (computer mediated communication), virtual, on-line, cyber or *e-mentoring*, this type of mentoring, although relatively new, eliminates or significantly reduces face-to-face interactions between mentor and mentee and instead relies on electronic and other virtual media to carry on the mentoring relationship (Bierema & Hill, 2005). It is more likely to be formally facilitated given that participants are frequently dispersed organizationally and/or geographically. Virtual mentoring has several advantages over traditional mentoring including greater mentor-mentee access, reduced costs, decreased emphasis on geography, equalization of status and better records of interactions (Headlam-Wells et al., 2005). Unlike, traditional mentoring in which the mentor often directs or sponsors the protégé, virtual mentoring provides learning opportunities for the mentor and more closely resembles a partnership (Bierema & Hill, 2005; Bierema & Merriam, 2002; Hunt, 2005). However, the single biggest obstacle to virtual mentoring is building a relationship of trust in the absence of face-to-face meetings. Trust building obstacles include:

- Mentors and mentees having few or no opportunities to meet in person requiring different strategies for developing a comfortable, trusting relationship (Philippart & Gluesing, 2012; Rosser & Egan, 2005).

- The presence of national cultural and gender differences in the national business context (House et al., 2004; Philippart & Gluesing, 2012).

- Time zone differences that not only challenge scheduling collaboration time but also limit the mentor's ability to observe the mentee in action (Philippart & Gluesing, 2012).

This "psychological separation" created by physical, operational, cultural and social distance between partners can inhibit development of an effective mentoring relationship. Called virtual distance, this phenomenon was first described by Sobel Lojeski (2006) as she studied virtual work teams and observed the "psychological separation" between people that built over time due to a combination of "physical separation, technology mediation and disconnected relationships". Virtual distance has been shown to impact such outcomes as work performance, trust, job satisfaction, goal and role clarity and behavior (Sobel Lojeski, 2006; Sobel Lojeski & Reilly, 2008; Sobel Lojeski, 2010) and is hypothesized by this researcher to be an impediment to effective intercultural *e*-mentoring. Although research has explored ways that leaders can reduce virtual distance in non-co-located work teams (Gluesing & Gibson, 2004; Sobel Lojeski, 2006; Sobel Lojeski & Reilly, 2008), little research is available on virtual mentoring across national borders. This research will attempt to fill this gap to better understand global *e*-mentoring relationships and enablers to reduce virtual distance for successful outcomes. Not only will this help organizations develop more impactful mentoring programs but can also inform global leaders who manage both virtually and cross-culturally on how to increase the effectiveness of their dyadic mentoring to achieve better business outcomes. This is a critical issue for any

organization interested in global talent development especially given the importance of *e*-mentoring as a global leadership competency.

II. Research Questions

The problem of interest in this research is whether the concept of virtual distance is useful for understanding the effectiveness of global *e*-mentoring relationships. The value of virtual distance in explaining and predicting the outcomes of virtual teams is well established (Sobel Lojeski, 2006; Sobel Lojeski & Reilly, 2008). This research attempts to extend the application of the virtual distance model to the cross-cultural virtual dyadic relationship. Thus, the primary research question for investigation is:

- How does virtual distance impact the effectiveness of global *e*-mentoring relationships?

Just as virtual distance was found to significantly impact team outcomes like work performance, creativity and satisfaction (Sobel Lojeski, 2006; Sobel Lojeski & Reilly, 2008), this research will investigate the relationship between virtual distance and the dyadic mentoring outcomes of both satisfaction with the mentorship and impact of the mentorship on the mentee's career. Thus, a more precise statement of the research question is:

  - How does virtual distance impact mentorship effectiveness where effectiveness is measured as both satisfaction with mentorship outcomes and impact on a mentee's career?

Enablers have also been identified in the virtual team context that reduce virtual distance and improve team outcomes (Sobel Lojeski & Reilly, 2008). This research seeks to identify mitigators of virtual distance in the global *e*-mentoring context as well. Therefore, an associated set of research questions are as follows:

- Can enablers be identified to mitigate virtual distance in global *e*-mentoring relationships thereby contributing to more effective mentorships? More specifically,

  - Does an effective mentor-mentee matching process reduce virtual distance? And can the inclusion of cultural intelligence improve partner matching?

  - Does mentorship goal clarity reduce virtual distance?

  - Does use of mentorship support mechanisms reduce virtual distance?

  - Do mentor and mentee comfort with and access to technology reduce virtual distance?

Understanding the dynamics of global *e*-mentoring relationships, both the impact of virtual distance on these interactions and enablers that can help improve mentorship effectiveness, has important theoretical and practical implications. Theoretically, this research can extend the application of virtual distance from teams to the dyadic *e*-mentoring context as well as increase the body of knowledge on cross-cultural mentoring. Practically, research results can provide insight on how to improve the effectiveness of a formal global mentoring program. Furthermore, increasing the understanding of virtual distance and ways to mitigate it in virtual dyadic relationships is important to another objective of this research; that is, to extend this understanding beyond the obvious application of helping organizations develop successful formal mentoring programs to include that of informing *e*-leaders how to increase the effectiveness of their dyadic global mentoring. Although this research was conducted within the context of a formal mentoring program, findings will be related to *e*-leadership where appropriate to show how effective cross-cultural *e*-mentoring is an important global leadership competency.

Sobel Lojeski (2006) first conceived virtual distance after researching the issues encountered by geographically dispersed and technology mediated work teams. The physical

distance among team members, their reliance on technology for communication and task achievement and the disconnected relationships as a result of limited face-to-face interaction created a dynamic that over time led to a type of "psychological separation" amongst people. This separation or virtual distance is comprised of three major components illustrated in the model in Figure 1.
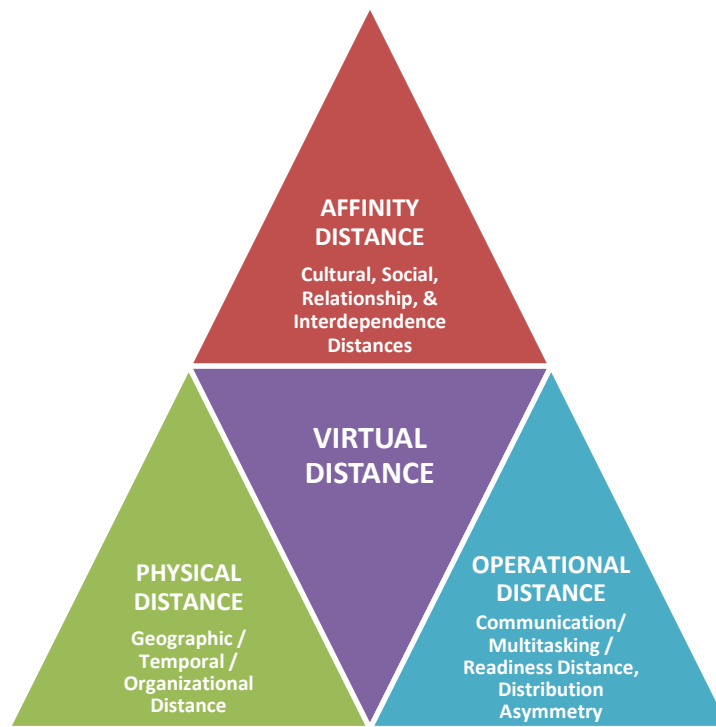
Figure 1: Virtual Distance Model (Sobel Lojeski & Reilly, 2008)

Virtual Distance Model components include:

- Physical distance – factors based on actual location differences in time and geography but can also include a sense of separateness due to different functional or organizational affiliations

- Operational distance – psychological separations that occur due to everyday challenges in the workplace resulting from communication distance, task overload, waiting for support and irregular resource allocation

- Affinity distance – emotional distance between distributed and mediated team members due to cultural or social distance, failure to invest in team relationships or lack of commitment to the team

Virtual distance has been shown to negatively affect team performance and competitive advantage as measured by outcomes in over 500 project teams from multi-national companies (Sobel Lojeski & Reilly, 2008). These negative outcomes include a:

- 90% reduction in innovation severely impacting competitive advantage

- 80% decline in trust amongst team members

- 80% drop in job satisfaction

- 70% decline in good citizenship behaviors

- 60% reduction in goal and role clarity

- 50% reduction in on-time/on-budget performance costing millions of dollars

Furthermore, several other critical insights were revealed. First, virtual distance cannot only be measured but predicted, and as such, can be mitigated with proper planning and intervention. Second, virtual distance is not solely confined to teams where people are distributed but frequently occurs even within co-located teams. Finally, leader actions and behaviors significantly impact virtual distance and can both contribute to or reduce it amongst subordinates (Sobel Lojeski, 2010).

Global *e*-mentoring relationships share some but not all attributes of globally dispersed teams (Gluesing & Gibson, 2004). Dyadic collaboration is less complex, yet it can be argued that the trust and rapport required in a mentorship must be greater than that for teams working on project task completion making the psychological separation between partners more consequential

(Philippart & Gluesing, 2012). Other challenges comparable to those experienced by global teams include time zone and geographical distance, organizational and functional differences, time constraints and task overload, social and cultural diversity, lack of goal and role clarity, lack of commitment to the mentorship or unwillingness to invest in the relationship. These similarities prompted postulation that the virtual distance construct can be adapted to measure and predict virtual distance in global *e*-mentoring relationships. As with global teams, virtual distance is hypothesized to negatively impact mentorship effectiveness but that recognizing and understanding virtual distance will result in identification of enablers to reduce its effects. In particular, the use of mechanisms and technologies that help to create context and community between partners should support improved intercultural collaboration.

Both the one-on-one and intercultural aspects of *e*-mentoring relationships necessitate thoughtful consideration of the construct used to represent cultural distance where culture in this context refers to the shared beliefs and values of a group of people. The virtual distance model uses demographic, organizational, values and communication style differences to represent cultural distance. Differences in national origin were not found to be significant contributors to virtual distance. This author proposes using a construct of cultural intelligence to assess the ability of partners to work cross-culturally in *e*-mentoring relationships.

The literature is rich with information on cultural intelligence and how to measure and assess it (Ang et al., 2007; Earley & Ang, 2003; Moodian, 2009; Thomas & Inkson, 2003; Van Dyne et al., 2012). Earley and Ang (2003) define cultural intelligence as a person's capability for successful adaptation to new cultural settings, that is, for unfamiliar settings attributable to cultural context. They postulate four aspects to cultural intelligence: both cognitive and metacognitive skills to help one conceptualize and understand how to function in a new culture

as well as to gain culture specific knowledge, motivation to want to engage with a new culture, and capabilities to engage in adaptive behaviors. Similarly, Thomas and Inkson (2003) define cultural intelligence as the capacity to interact effectively with people from different cultural backgrounds, that which enables one to recognize cultural differences through knowledge and mindfulness and gives one the propensity and ability to act appropriately across cultures. Cultural intelligence leads to competence in responding effectively to people of all cultures, languages, races, classes, ethnic backgrounds, religions and other diversity attributes in ways that recognize, affirm and value their dignity (Earley & Ang, 2003). It is this competency and its contribution to virtual distance rather than merely national origin that this researcher seeks to explore in global *e*-mentoring relationships.

Finally, much of the focus on mentoring has been on the development of the mentee (Ragins & Scandura, 1999; Young & Perrewe, 2000; Clutterbuck, 2009). There has been less emphasis on the mentor and understanding how the act of mentoring can enhance the development of competencies such as coaching, collaboration and developing people. These competencies have always been desirable in a leader but in the new context of leading in a technology mediated, globally diverse and dispersed organization, coaching, collaborating and talent development take on added complexity (Cascio & Shurygailo, 2003; Maitland & Thomson, 2011; Pulley & Sessa, 2001; Sobel Lojeski, 2006; Sobel Lojeski & Reilly, 2008; Sobel Lojeski, 2010). Global *e*-leaders must understand the effects of virtual distance and adjust their behaviors and actions to more effectively communicate with, motivate, lead and develop their employees (Sobel Lojeski, 2010). Leaders who employ techno-dexterity, the ability to use the most appropriate communication mechanism for message delivery and who use technology to create context for virtual workers, form communities and co-activate distributed leaders can help

reduce virtual distance experienced by teams (Sobel Lojeski, 2012). Many of these same

techniques are postulated to apply to the global *e*-mentoring context – using the most appropriate

technology to communicate, using technology and techniques to understand and make each

partner's context explicit, forming a community despite cultural differences to ensure that a

mentee's development goals are achieved. These similarities suggest that mentors and mentees

who focus on reducing virtual distance in dyadic cross-cultural mentorships can potentially

translate these competencies into other virtual organizational contexts. Enablers that reduce

virtual distance and promote the development of an effective *e*-mentorship can inform *e*-leaders

how to more successfully develop cross-cultural virtual relationships with their employees.

Therefore, research findings will be discussed in the context of broader global *e*-leadership

competencies.

CHAPTER 2: Literature Review

I. Definition of Mentoring

The literature provides a multitude of definitions of mentoring. Hunt & Michael (1983) define mentoring as "a dyadic relationship in which a mentor, a senior person in age or experience, provides guidance and support to a less experienced person, a protégé." Zey (1984) provides a more functionally focused definition of a mentor as "someone who oversees the career and development of another person, usually a junior, through teaching, counseling, providing psychological support, protecting and at times sponsoring." Similarly, Kram (1985) defines mentors as "individuals with advanced experience and knowledge who are committed to providing upward mobility and career support to their protégés". Bierema & Hill (2005) assert that "mentors have existed throughout history in the form of a wiser, older person who's job is to guide a mentee's or protégé's development", whether career, academic or personal. From their extensive investigation of the mentoring literature, Bierema & Merriam (2002) conclude that the definition and function of mentors vary widely, ranging from career sponsor to coach to facilitator of all aspects of a mentee's development.

Clutterbuck (2007) provides a comprehensive summary of the various definitions of mentoring in both the U.S. and European literature beginning in the mid-70s, noting that there are some similarities but also distinct differences between these two regions of the world. All definitions acknowledge the existence of an experience gap between mentor and mentee and recognize there are learning and guiding components to mentoring relationships. However, the use of the term mentoring in the U.S. which began to appear in the academic and business literature in the mid-70s, generally described sponsorship mentoring – a type of mentoring in which an experienced senior executive used his (mentors were predominantly male in this

context) influence to advise and support a junior protégé. The acquisition of learning was seen to be one way from mentor to mentee with one way guidance as evidenced in Scandura's (1992) statement that "The mentor gives, the mentee receives and the organization benefits". Per Clutterbuck (2009), cultural factors made this model of mentoring unsuitable for northern European countries with lower power distance work contexts. The mentoring model that evolved in Europe was more developmental, "with a greater emphasis on two-way learning, value of different experience rather than influence and the stimulation of reflection and action through learning dialog – that is a questioning, exploring style rather than an instructional or advising one" (Clutterbuck, 2009). Gradually, U.S. mentoring practices have begun to shift toward developmental mentoring particularly with the onset of formal mentoring programs (Higgins & Kram, 2001; Kram, 1996).   This includes less directive and hierarchical mentorships with more mutual learning and inclusiveness (Clutterbuck, 2009).   Clutterbuck (2007) nonetheless maintains that a growing number of authors perceive two competing conceptual models of mentoring, the predominantly U.S. based sponsorship model and the broader European based developmental model.   However, he is quick to point out that there is no research that formally compares these two models nor justifies their differences. Rather Garvey (2004) suggests differences in perception may result from different cultural values and contexts.

II. Sponsorship vs. Developmental Mentoring

The Career Research Forum (Lambert, 2001) describes the key differences in career sponsorship and developmental guidance. Both types of mentoring attempt to provide vocational or career support but use different approaches. Career sponsorship "involves the expectation that the mentor is there to provide the mentee with faster advancement than would otherwise be the case. The mentor in turn may be looking for some form of quid pro quo, for example, in terms

of loyalty in company situations and providing useful information." Developmental guidance "revolves around a mentor helping the mentee to learn about the realities of the organization they are in" and "involves helping to broaden horizons as well as acting as a sounding board for the mentee's developmental issues." As will be discussed later, *e*-mentoring more closely resembles developmental mentoring.

III. Mentoring Functions

Despite varying definitions of mentoring, there is general agreement in the literature about the various ways mentors support their mentees. Kram's (1985) seminal work on mentor roles postulates two broad categories of mentoring functions – career development and psychosocial support. Career development includes coaching (which is more of a developmental mentoring function per the description above) and access to challenging assignments, exposure, sponsorship and protection (which are more sponsorship mentoring functions). Mentors provide vocational assistance in the form of career advice, information, feedback and training (coaching), challenging assignments and new growth opportunities (challenging assignments), increased visibility and exposure to senior management thinking (exposure), sponsorship for promotional and lateral moves (sponsorship) and even political protection from adverse forces (protection) (Bierema & Hill, 2005; Ensher et al., 2003; Giber et al., 1999; Kram, 1985). Mentors also provide psychosocial support to mentees by helping the mentee develop a sense of professional self (acceptance), assisting with problem solving and functioning as a sounding board or shoulder to cry on (counseling) and providing support and respect (friendship) (Ensher et al., 2003, Kram, 1985). Additionally, mentors may demonstrate appropriate organizational behavior either explicitly or implicitly for their mentees (Day, 2000; Kram, 1985; Scandura, 1992), thereby functioning as role models. Thus, role-modeling is considered a third category of

mentoring function. It is important to note, however, that mentoring is not an all or none phenomenon; a given mentor may provide all or just some of these functions (Ragins & Cotton, 1999).

Much of the mentoring function research has been done in a U.S. context. However, Hu et al. (2011) determined through their investigation of the measurement equivalence of a mentoring function questionnaire in two diverse national cultural settings that the three functions of mentoring, vocationa1 support, psychosocial support and role-modeling, appear conceptually similar across cultures.

IV. Mentoring Outcomes

Mentoring is intended to be developmental and contribute to a mentee's career advancement and success (Ragins & Scandura, 1999). It has been found to be related to a mentee's rate of advancement, salary attainment & supervisory ratings of performance (Scandura, 1992), increased promotion rate and compensation (Whitely et al., 1991) and career and job satisfaction (Fagenson, 1989). Companies with formal mentoring programs have identified retention, promotion & advancement, satisfaction, morale & productivity and performance as outcomes of mentoring (Hegstad & Wentling, 2004).

Specifically, the psychosocial functions provided during mentoring have also been found to be related to career outcomes. Scandura (1992) found an empirical link between vocational mentoring and promotions. Psychosocial support was related to salary level of managers. Additionally, Clutterbuck (2009) asserts that positive outcomes of mentoring can go beyond those specifically related to career success and can include such things as more extensive choice of career paths and tradeoffs between work and non-work ambitions.

Less emphasis has been placed on outcomes of mentoring for mentors. Clutterbuck (2009) asserts that in addition to their own learning which includes a better understanding of other business areas and/or of other cultures, the opportunity to practice good developmental behaviors outside of their direct line of supervision was a frequently cited benefit for mentors.

V. Definition of Virtual Mentoring

Given the multitude of mentoring definitions in the literature and the infancy of non face-to-face mentoring, one can hardly expect agreement on a definition of virtual mentoring. There is not even consensus on how to refer to this type of mentoring. The terms CMC (computer mediated communication), virtual, on-line, cyber or *e*-mentoring are used to refer to this relatively new type of mentoring that eliminates or significantly reduces the face-to-face interactions between mentor and mentee and instead relies on electronic and other virtual media to carry on the mentoring partnership (Bierema & Hill, 2005). But contrary to expectations, definitions of what will be referred to as *e*-mentoring in this research, are more similar than those describing traditional mentoring. *e*-Mentoring characterizations in the literature have several attributes in common – one, the utilization of electronic technology to facilitate the relationship, is not surprising given the rapid growth and deployment of electronic communication tools. For example, O'Neill et al. (1996) assert *e*-mentoring is the "use of email or computer conferencing systems to support a mentoring relationship when a face-to-face relationship would be impractical." Likewise, Boyle Single & Muller (2001) describe it as a computer mediated relationship between "a senior individual who is the mentor of a lesser skilled protégé with the goal of developing the protégé in a way that helps him or her to succeed." Hamilton and Scandura (2003) refer to *e*-mentoring as the "process of using electronic means as the primary channel of communication between mentors and protégés" where the "mentor-protégé

relationship may be created face-to-face or electronically, but the continuation primarily takes place electronically" and concluding that the "foundation of the mentor-protégé relationship rests on a different type of interaction than that found in traditional mentoring". This is the definition that most closely describes the mentoring relationships in this research.

But there is a second similarity in the more recent virtual definitions that differs from traditional face-to-face mentoring descriptions. Whereas traditional mentoring in the U.S. has been shown to help protégés develop a sense of professional identity and personal competence and mentors develop a sense of purpose and generativity, or the ability to make a difference (Clutterbuck, 2011; Kram, 1985), the benefits to participants in virtual mentorships go beyond this. Virtual mentoring creates a more collaborative, mutually beneficial relationship for both mentor and mentee, a partnership with shared support that is more egalitarian and less paternalistic and more closely resembles the developmental mentoring style found in Europe. Bierema & Merriam (2002) define *e*-mentoring as "a computer mediated, mutually beneficial relationship between a mentor and protégé which provides learning, advising, encouraging, promoting that is often boundary less, egalitarian and qualitatively different than traditional face-to-face mentoring." According to Hunt (2005), "utilizing technology, *e*-mentoring is the process by which two people assist each other to grow in a safe and supportive relationship." These definitions are consistent with the trend towards developmental mentoring discussed by Clutterbuck (2009) as well as new leadership models (Li, 2010; Sobel Lojeski, 2010) necessary for success in today's increasingly complex, globally connected workplace. It is important to note, however, that the literature on *e*-mentoring is still theoretical with limited rigorous empirical substantiation.

VI. Virtual Mentoring Functions and Benefits

An extensive survey of the literature shows that virtual mentoring is qualitatively different from traditional face-to-face mentoring relationships (Bierema & Hill; 2005). This "qualitative difference" arises from the asynchronous nature of the relationship, the lack of proximity, the increased flexibility and the lower social presence of *e*-mentoring relationships and has the potential to provide the following benefits compared to traditional mentorships (Hunt, 2005).

- The asynchronous nature of email allows people time for reflection before responding.

- The need to write out a message drives clarity and greater depth of communication.

- Location is not an issue.

- Gender, race, power and other barriers are reduced.

- Time is often easier to manage in asynchronous and virtual communications.

- Virtual meetings are cost effective and eliminate travel time.

- A record of discussion often exists for later reflections and learning.

- There is opportunity for greater and wider participation.

e-Mentoring creates "unparalleled opportunities" due to its affordability, time independence and use of multiple media including email, chat groups, intranet, phone and computer conferencing (Bierema & Hill, 2005). It can facilitate both synchronous and asynchronous communication and support a "reflective learning environment where mentoring pairs can explore their values, feelings and objectives at their own pace and more freely than in face-to-face communication, which can be pressurized through the need to respond immediately" (Mueller, 2004). This environment can also be enhanced through the use of on-line resources (Headlam-Wells et al., 2005).

The lack of place dependency in *e*-mentoring means that mentors and mentees can literally be around the world from each other. This virtuality has and will continue to make *e*-mentoring more "egalitarian" with the potential for mentoring to be more available to people customarily underrepresented in traditional mentoring, particularly women and people of color (Bierema & Hill, 2005). The utilization of computer/electronics mediated communication tools can break down barriers that prevent would-be mentees from obtaining a mentor due to organizational, professional, industry or geographical boundaries (Ensher et al., 2003; Headlam-Wells et al., 2004). Moreover, research has shown that *e*-mentoring has the potential to also transcend functional, hierarchical and demographic barriers making mentoring, typically restricted to an elite group of senior managers, more widely accessible (Headlam-Wells, 2004; Vinnicombe & Singh, 2003).

Finally, the lower social presence of computer mediated communication can actually work to advantage collaboration (Mueller, 2004). Virtual mentoring can reduce the impact of status differences between mentor and mentee, thereby improving communication (Boyle Single & Muller, 2001). The mentorship becomes more two way with less emphasis on seniority, hierarchical position and age, allowing each partner to bring their strengths and experiences to the relationship.

This qualitative difference in the mentor-mentee relationship between traditional and *e*-mentoring has resulted in speculation that technology mediated mentoring may not in fact, be mentoring. Limited research is available on this topic, but Hamilton and Scandura (2003) postulate that the broad classes of vocational, psychosocial and role-modeling functions are still present to some extent in virtual relationships. Vocational support can still be provided by coaching – through synchronous discussion of job situations as well as asynchronous

recommendations of career development resources. Philippart and Gluesing (2012) found evidence of geographically dispersed mentors working in different organizations from their mentees providing vocational support through virtually observing the mentee in action (listening in on conference calls or video meetings, reviewing samples of mentee's work and sharing antidotes from their own experiences of how they handled similar situations). The psychosocial aspect of mentoring that provides psychological and emotional support can also be provided via electronic medium. Research suggests that electronic communication can enable honest feedback while virtual dialog on shared life events, supportive comments and constructive feedback can create a meaningful mentoring relationship (Hamilton & Scandura, 2003). Finally, although role-modeling in the traditional sense of the mentee observing the mentor's conduct is less feasible virtually, it is possible that role-modeling may still exist in *e*-mentorships. Hamilton & Scandura (2003) posit that electronic conversations relative to the *e*-mentor's achievements and recognitions as well as the *e*-mentor's discussion of his or her personal career path and influences on success may be a creative way of role-modeling and influencing protégé behavior.

VII. Virtual Mentoring Challenges

Despite its benefits, *e*-mentoring is not without challenges. Several challenges are similar to those encountered in traditional formal mentoring. These include effectively matching mentors and mentees so chemistry will form to enable development of comfortable, mutually respectful, confidential and trusting relationships (Bierema & Hill, 2005; Headlam-Wells et al., 2005). Making the mentoring relationship a priority with frequent and regular interaction despite the time constraints of work and personal responsibilities is critical. Both parties and their organizations must be equally committed to the collaboration (Bierema & Merriam, 2002).

e-Mentoring, however, has some additional challenges. First, mentors and mentees must have access to technology and skills to competently utilize technology. In global relationships, where significant time zone differences occur, access to technology from one's home or public spaces is critical. This may result in additional access costs. Overcoming distance to develop trust can often prove difficult and requires specific strategies beyond those used in face-to-face collaboration (Sobel Lojeski, 2010). Creating the right match between mentoring partners becomes even more important virtually (Bierema & Hill, 2005). Training partners in techniques to overcome virtual distance and facilitate understanding of each other's environmental and cultural contexts is often necessary. Intercultural competencies and the ability to make context explicit are especially critical to achieving mentoring benefits appropriate to the cultural business contexts (Gluesing et al., 2003). Finally, overcoming privacy concerns when at least some mentoring interactions are documented electronically can also be a potential issue (Bierema & Hill, 2005; Hunt, 2005).

VIII. Global Virtual Mentoring

Relatively little research is available on global virtual mentoring beyond focus on career development for expatriates during international assignments (Crocitto et al., 2005). Yet culture has been found to be important in mentoring relationships since expectations and interactive behaviors may vary across cultures (Allen et al., 2008; Clutterbuck, 2007). Although a number of studies have investigated workplace mentoring outside the U.S. context (Bozionelos & Wang, 2006; Hu, 2008; Hu et al., 2011; Wang et al., 2009), these do not focus on cross-cultural or virtual mentorships. The situation where mentoring occurs between individuals with different national origins, from different organizations working in different countries that may or may not

be their countries of origin is not well addressed in the literature. This research aims to address this gap.

IX. Cultural Intelligence

This research proposes to use the construct of cultural intelligence (CQ) to measure the ability of mentors and mentees to work cross-culturally in an *e*-mentoring relationship. Cultural intelligence, an individual's capability to function effectively in culturally diverse situations, is a relatively new form of intelligence first introduced by Earley & Ang (2003) in an effort to make sense of the ideological clashes and cultural conflicts occurring worldwide post 9/11 (Ang et al., 2011). Globalization, transportation and technology had increased the ability of people to interact cross-culturally. However, despite Freidman's (2005) assertion that a flat world connected via technology would enable the fast, seamless flow of ideas, information, business and money, cultural differences creating misunderstandings and conflict frequently impeded this flow. This led Harvard Professor Pankaj Ghemawat (2007) to counter that national differences still matter. Businesses that treat the world as one flat seamless market without taking into account specific cultural, administrative, political and economic differences are destined to fail. It is within this context, that cultural intelligence was proposed as a means of understanding why some people but not others can "easily and effectively adapt their views and behaviors cross-culturally" (Van Dyne et al., 2012).

The concept for cultural intelligence is informed by Sternberg's (1997) work on the identification of non-academic, real world type of intelligences that focus on specific content areas (Ang et al., 2011). Like social intelligence (Thorndike & Stein, 1937) and emotional intelligence (Mayer & Salovey, 1993), cultural intelligence focuses on an explicit domain – one's ability to cope with diversity and function in intercultural settings. Ang et al. (2009) assert

that CQ is a distinct form of intelligence, arguing that "since norms for social interaction vary from culture to culture, it is unlikely that cognitive intelligence, emotional intelligence, or social intelligence will translate automatically into effective cross-cultural adjustment, interaction and effectiveness."

Cultural intelligence was proposed by Earley & Ang (2003) as a "complex, multi-factor individual attribute" comprised of metacognitive, cognitive, motivational and behavioral aspects. Metacognitive CQ allows one to be culturally aware and continually assess and reassess cross-cultural interactions to develop strategies that are culturally appropriate and result in successful outcomes. People with high metacognitive CQ "consciously question their own cultural assumptions, reflect during interactions and adjust their cultural knowledge when they interact with those from other cultures" (Ang et al., 2011). Cognitive CQ reflects one's specific knowledge of another culture and includes an understanding of its norms, values and environment as well as how this culture differs from one's own. This is an important aspect of CQ because cultural knowledge helps one understand and ascribe meaning as to why people in other cultures behave and interact the way they do. People with high cognitive CQ tend to be less disoriented in culturally diverse situations. Cognitive CQ is the aspect of CQ most commonly taught in cross-cultural training sessions and although this knowledge is important, it must be combined with other metacognitive, motivational and behavioral factors to result in successful intercultural outcomes. Motivational CQ is the desire and willingness to learn and engage in new cultural settings. People with high motivational CQ are genuinely interested in cross-cultural encounters and have confidence they will be successful. Finally, behavioral CQ reflects one's ability to actually engage in appropriate verbal and non-verbal behaviors with people from other cultures. This includes not only the words spoken but vocal, facial and body

expressions. Although impossible to master all behaviors for a given culture not your own, the person with high behavioral CQ understands and modifies those critical behaviors necessary to not offend. Behavioral CQ depends on a willingness to be flexible and adapt one's behavior to appropriate cultural etiquettes.

CQ is not specific to a particular cultural context – rather is reflects an ability to perceive and manage one's emotions so as to successfully interact in culturally diverse situations. It differs from emotional intelligence (EQ) in a significant way even though both forms of intelligence require emotional self-management – with EQ, emotions managed are within the context of one's home culture whereas with CQ these emotions are independent of cultural context. Earley & Ang (2003) found that emotional cues are embedded within a native culture, meaning that someone with high emotional intelligence in his or her home culture may not necessarily be emotionally intelligent in another culture. CQ is the competency that enables one to self-manage emotions in unfamiliar cultural contexts. It is important to note that like other intelligences, CQ can be learned and developed over time through experience, education and training (Ang et al., 2011).

Considerable empirical research has been conducted with the CQ construct.[1] One stream of research of particular relevance to this study is whether international experience can increase an individual's cultural intelligence. Ang et al. (2011) provide an excellent summary in the meta analysis they conducted. Wilson and Stewart (2009) found the largest increase in CQ for those experiencing their first international assignment. Those who interacted regularly with local citizenry, for example, by eating at local restaurants, staying in hostels or not staying in an expat area or residence, increased their CQ (Crawford-Mathis, 2009; Crowne, 2007). The number of

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[1] CQ construct and Cultural Intelligence Scale were defined, developed and validated in 2007 by Ang et al. (2007).

countries worked in (Shannon & Begley, 2008), visited for work (Crowne, 2007) and the length of international work assignments (Tay et al., 2008) all predicted various aspects of CQ. Multi-cultural team experience was also found to increase CQ over time (Shokef & Erez, 2008). Additionally, even non-work study and travel experiences were found to be predictors of CQ (Crowne, 2008; Tarique & Takeuchi, 2008).

The relationship between CQ and work performance is also of interest; research to date suggests that CQ can predict various aspects of work performance. Higher task performance occurred by workers with higher metacognitive and behavioral CQ while those with higher cognitive and metacognitive CQ were better adept at cultural decision-making. Motivational CQ predicted the ability to effectively negotiate cross-culturally in dyads (Imai & Gelfand, 2010). Likewise, members of multi-cultural teams were able to use CQ to overcome difficulties with team diversity and use this diversity as a creative strength (Moynihan et al., 2006). Higher metacognitive, cognitive and behavioral CQ was also found to enhance affect-based trust between dyad partners that were culturally different (Rockstuhl & Ng, 2008).

A final area of study relevant to this research is the relationship between CQ and global leadership. Qualitative studies, in particular, show that leaders who work cross-culturally have high motivational CQ (Deng & Gibson, 2008) and adopt metacognitive CQ strategies in their leadership processes (Dean, 2007). Quantitative studies showed that CQ enhanced the effects of transformational leadership on organizational innovation for senior European expat managers (Elenkov & Manev, 2009). Rockstuhl et al. (2009) found that EQ was a strong predictor of leadership effectiveness in domestic context while CQ was a better predictor in cross-cultural context. This suggests that domestic leaders are not automatically effective global leaders and that CQ is a differentiating global leadership competency (Alon & Higgins, 2005).

X. Formal vs. Informal Mentoring

Traditional mentoring relationships are often informal – that is they develop naturally through unstructured social interactions (Wanberg et al., 2006), mutual identification and interpersonal comfort (Ragins, 2002) in work settings where mentors and mentees have the opportunity to interact and observe each other (Viator, 1999). The initiation of informal mentoring stems from a mentee's developmental needs (Kram, 1985); the relationship develops through mutual identification whereby mentors chose mentees that are younger versions of themselves and mentees choose mentors that are perceived as good role models (Ragins et al., 2000). As a result, there is an element of chance in who does or does not get mentored often limiting access to mentoring for minority subgroups and decreasing the likelihood that natural mentorships that span different geographies, cultures, functions and organizations will form. Given the importance of mentoring to career development and their need to develop diverse global talent, many organizations have become more intentional about mentoring and utilize formal programs as part of a structured employee development process (Bragg, 1989; Tyler, 1998). Formal mentoring programs differ from informal ones in that mentees and mentors are usually matched by a program coordinator, relationships are structured for a finite duration and mentees are expected to create specific development goals to work on with their mentors. These programs may not be voluntary or, if voluntary, mentors in particular may feel pressured to participate (Chao et al.,1992). In contrast, informal mentorships occur naturally and voluntarily without third party facilitation, are typically unstructured and untimed, lasting on average between 3 to 5 years (Kram, 1985).

An ongoing debate in the literature has been whether formal mentoring is as effective as informal mentoring. Because there are distinct differences between informal and formal

mentoring due to the way relationships are initiated, structured and managed, it is reasonable to expect that functions provided by mentors as well as mentorship outcomes may differ (Ragins & Cotton, 1999). Because mentees and mentors are assigned in formal relationships, it has been argued that the psychosocial support functions of acceptance, friendship, counseling and role-modeling may be less effective than in informal programs where mentoring relationships naturally form. Because formal mentoring relationships are structured to last between six and twelve months (Zey, 1984), there is less time for the development of psychosocial and career development support in the relationship than in longer duration informal mentorships. Mentee career goals in formal programs are more likely to be short term and focused on the mentee's current job position (Geiger-DuMond & Boyle, 1995; Gray, 1988; Murray, 1991). Finally, assigned mentors may be limited in the extent of career development support they can provide their mentee (exposure, protection, sponsorship and challenging assignments) if they come from different departments, functional units or organizations.

Results of research comparing both the mentoring functions and outcomes provided in formal and informal mentoring have been mixed but have generally concluded that informal mentoring is more effective than formal mentoring (Chao et al., 1992; Ragins & Cotton, 1999). Chao et al. (1992) found that mentees in informal mentorships reported more career development functions and higher salaries than their formal program counterparts but found no evidence that mentoring type impacted the type of psychosocial support provided by mentors to mentees. Likewise, Allen et al. (2005) found differences in the career mentoring functions provided to mentees in formal and informal mentorships. Ragins & Cotton (1999) found that informally mentored protégés viewed their mentors as more effective and received greater compensation than protégés of formal mentors but that gender composition of the relationship affected both mentoring

functions and outcomes for both formal and informal mentorships. This was theorized to be due to differences in interpersonal comfort and identification between mentoring partners. A subsequent study by Ragins et al. (2000) found that formal mentoring relationships have the potential to be as effective as informal relationships when mentor quality and satisfaction with mentorship is high. Additionally, formal programs that had meeting frequency guidelines were perceived to be more effective and being assigned a mentor from a different department was associated with mentees' higher satisfaction with the mentor, greater organizational commitment and fewer intentions to leave the company. Viator (1999) found that protégés in formal mentorships were more satisfied with their mentors when they had input into the matching process, set goals and objectives and met regularly. Finally, contrary to hypothesis, Allen et al. (2005) found that protégés involved in formal mentorships reported similar levels of interpersonal comfort with their mentors as did those in informal relationships suggesting that mechanisms could be put in place in formal programs to effectively match and train partners to comfortably work together.

The research on formal and informal mentoring suggests a consistent conclusion; that is, all mentoring is not created equal. Mentoring relationships fall on a continuum between highly effective and ineffective and highly satisfying and dissatisfying (Eby et al., 2000; Ragins & Scandura, 1999). Chao et al. (1992) postulate that if formal mentoring could better replicate informal mentoring, mentorship outcomes would improve. Given this, the relevant question is how can formal programs mimic the aspects of informal mentorships to be more successful? Given the benefits of mentoring to a mentee's professional and personal development and the need for companies to more formally manage mentorships to ensure access, what are the specific design features of formal programs that will increase the likelihood of success? Elements

proposed in the literature include allowing participants to have input to the matching process (Viator, 1999), making participation voluntary, providing training for mentors and mentees (Allen et al., 2005), providing guidelines on frequency of interactions (Ragins et al., 2000), careful matching of partners to meet mentee development needs (Ragins et al., 2000) and development of specific goals for the mentorship (Viator, 1999).

Lack of geographic proximity has been cited in the traditional mentoring literature as a hindrance to forming an effective mentoring relationship (Eby & Lockwood, 2005). It has also been reported to contribute to scheduling difficulties. However, Allen et al. (2005), in their study of formal mentoring programs in four different organizations, did not find support for the hypothesis that geographical proximity of mentor and mentee was associated with either more mentoring or mentorship quality suggesting that in some mentorships, partners were able to overcome physical distance.

XI. Mentoring and Leadership Development

Mentoring is an effective component of contextual leadership development (Belasco, 2000; Day, 2000). In a survey of over 350 companies conducted by Giber et al. (1999), mentoring programs were reported as some of the most successful in leadership development. In particular, the opportunity to interact with senior management was cited as a critical component of mentoring as it helped mentees develop a "more sophisticated and strategic" leadership perspective. Along with such tools as 360 degree feedback, executive coaching, networking, developmental job assignments and action learning projects, mentoring is a leadership development best practice recognized and utilized by organizations (Belasco, 2000; Groves, 2007; Hegstad & Wentling, 2004). Likewise, mentoring provides the opportunity for mentors to practice and hone their coaching and talent development skills (Clutterbuck, 2009). However, the

effectiveness of mentoring for leadership talent development is highly dependent on the "quality of the relationship, type of program and manner in which the program is developed and maintained" (Groves, 2007). Additionally, trust between individuals, as well as organizations and individuals, has been identified as a key success factor in mentoring relationships (Rosser & Egan, 2005; Stead, 2005). In a subsequent chapter, it will be argued that just as mentoring is a key competency for leadership development, *e*-mentoring is a key competency for *e*-leadership development.

CHAPTER 3: Conceptual Model for *e*-Mentoring

The conceptual model and study hypotheses are informed by the extant literature and data from both participant observation as well as an exploratory pilot study. The principal researcher has been a mentor in seven global *e*-mentorships facilitated by a mentoring service and support organization, Menttium.[2] Menttium's core mentoring program matches high potential female mentees, sponsored and funded by their organizations, with experienced male or female executives in other organizations who volunteer as mentors to support the development of emerging female talent and contribute to increased diversity within the corporate leadership ranks[3]. Formal partnerships are in place for one year. Although virtual mentoring has been a component of Menttium's program for over ten years, *global e*-mentoring was first piloted in 2006/7 at the request of the organization's multinational clients who were seeking talent development support for high potential non-U.S. females working in their overseas subsidiaries. This researcher served as a mentor in that pilot and continues to mentor cross-culturally. These mentoring experiences provided a rich opportunity for participant observation. Patterns observed across multiple relationships sparked a desire to more formally explore the dynamics of intercultural *e*-mentoring relationships. Sobel Lojeski's virtual distance model (2006) provided a framework and defined constructs for physical, operational and affinity distance that appeared consistent with many of the researcher's participant observations. This led to the development of a small pilot study intended to collect directional data on whether virtual distance was a feasible

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[2] Menttium has been in existence for over twenty years and has enabled over 50,000 cross-company partnerships between emerging female business leaders and senior executives from hundreds of companies around the world. Additional information can be found on the organization's website at www.menttium.com.

[3] Since mentors are volunteers from different organizations than those of their assigned mentees and are uncompensated, presumably this eliminates one of the criticisms of formal mentoring programs that participants may be less motivated to engage than if the mentorship were informal.

construct for *e*-mentoring and supported the creation of a specific conceptual model for this application.

Four mentees from global mentorships with the researcher between 2006 and 2010 completed a directional pilot survey. The number of participants was intentionally kept small because of the researcher's initial concern about the limited population of *global* mentorships available for the main study sample.   For purposes of this study, a global mentorship was defined as one in which the mentor and mentee were from differing national origins, who identified with different cultures and lived and worked in different countries. Mentees in the pilot were women from Europe, the Middle East and Asia who worked in Europe or Asia. Two of the four mentees did not live and work in their country of origin. The mentor was a female U.S. executive with extensive global business experience.

A survey, shown in Appendix A, was used to gather data on demographics, as well as information related to the development of cultural intelligence such as working and travelling outside one's country of origin, global professional responsibilities and foreign language proficiencies (Crowne, 2007; Shannon & Begley, 2008; Tarique & Takeuchi, 2008; Crawford-Mathis, 2009). Details of each relationship were examined including mentorship goals, methods and frequency of communication, support used during relationship and types of difficulties encountered. Finally, participants evaluated the overall effectiveness of the mentorship, the mentoring process, available support and resources, mentor-mentee matching process and whether the mentorship helped their career or personal development. Each respondent was interviewed after completing the pilot survey and asked to briefly discuss reasons for mentorship effectiveness ratings and given the opportunity to make any other comments. The pilot survey and interview data were intended for directional purposes only to explore application of the

virtual distance construct for global *e*-mentoring and more importantly to investigate enablers to help reduce virtual distance and increase mentorship effectiveness. Key data is provided in Appendix B.

Participant observation and directional data were integrated with information from the literature to develop the conceptual model, hypotheses, research methodology and survey instrument employed in this study. This research examines the proposed research questions and tests the conceptual model shown in Figure 2 and described in the next section. Likewise, the table in Appendix C defines and supports the specific constructs used to test the research questions.

I. Conceptual Model Hypotheses

Both participant observation and directional pilot data suggest that the three components of virtual distance, physical, operational and affinity distance were present to varying degrees in global *e*-mentoring relationships. Physical distance was present as mentees and mentors were located in different countries in different regions of the world across different time zones and worked for different organizations. In addition to the challenges of scheduling across time zones, physical distance required partners to interact virtually often without ever having met face-to-face. Operational distance varied across mentorships but was primarily influenced by communication issues created by time constraints, distractions while communicating and access, quality and comfort with using virtual technology. Affinity distance also varied as a function of partners' cultural intelligence, language issues, mentee uncertainty as to why she was in program, clarity around mentorship goals and commitment to the mentorship.

Three of the four global *e*-mentoring relationships investigated in the pilot were rated as highly effective by both mentor and mentees, while in the remaining case, both participants rated

the mentorship as moderately effective. The measure of mentorship effectiveness was the subjective assessment by both mentor and mentee of the effectiveness of the relationship and whether the mentee's development goals were achieved. The summary data provided in Table 1 directionally informs the relationship between virtual distance and the mentorship effectiveness rating. Although physical distance was present in all mentorships, there were significant differences in operational distance due to differences in mentees' access and comfort with technology, availability and reliability of communication modes and time available for the relationship and affinity distance due to mentee's experience and comfort interacting cross-culturally, language capabilities, mentee understanding of why she was in the program and establishment of clear development goals. This variation in virtual distance and its relationship to mentorship effectiveness ratings provides support for the hypothesis that virtual distance will be negatively related to mentorship effectiveness and parallels the negative relationship found by Sobel Lojeski (2006) between team performance and virtual distance.

The virtual distance construct used in the study was developed by Sobel Lojeski (2006) and was measured by a version of her proprietary virtual distance scale modified to reflect dyadic rather than team relationships. As previously noted, virtual distance is comprised of physical, operational and affinity distance dimensions. The physical distance construct represents the psychological separation between partners due to geography, organizational and functional affiliation, the inability to meet face-to-face regularly if at all, as well as difficulties of working across time zones. The construct for operational distance denotes the psychological separation caused by interference from personal and professional commitments, multi-tasking and distraction during virtual communication, the lapse between communications (i.e. readiness) resulting from a virtual relationship and availability and comfort with communicating via
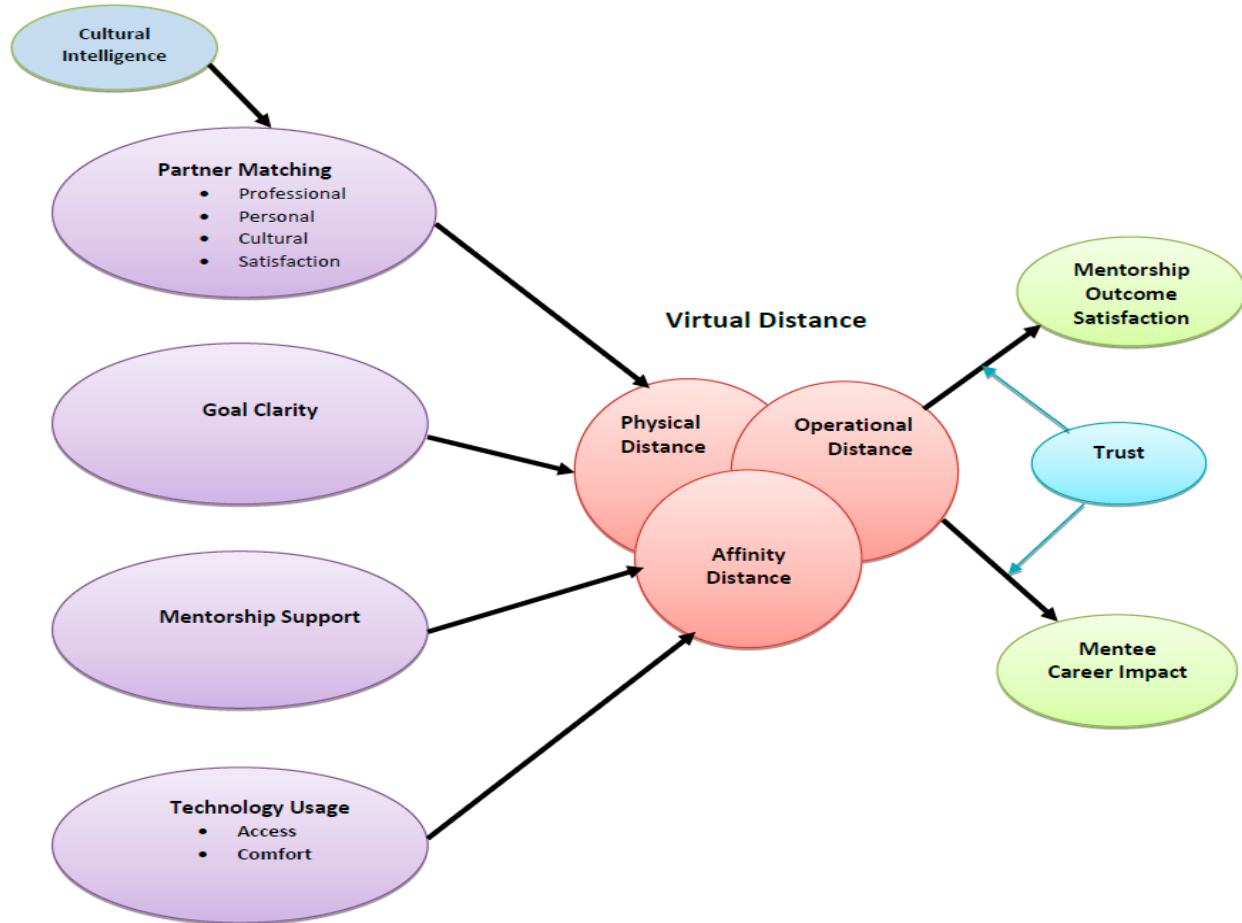
Figure 2: Proposed Conceptual Model

technology channels. Finally, the affinity distance construct represents the psychological separation occurring as a result of a lack of commitment to the relationship and social and cultural distance, where cultural distance is influenced by the ability of partners to use cultural intelligence to bridge cultural differences within the relationship. Although, statistically possible to deconstruct virtual distance into the three components of physical, operational and affinity distance to investigate correlation to mentorship effectiveness, these individual hypotheses would not be theoretically consistent with the construct of virtual distance. The power of virtual distance lies in the integrative and multidimensional nature of the construct; it does not add value to the theory to look at how the components individually contribute but rather to understand in

total how these contribute to the psychological separation that can negatively impact mentorship effectiveness.

Mentee	Mentorship Effectiveness Rating	Physical Distance	Operational Distance	Affinity Distance
A	High	Geographic; time zone Organizational Functional	Time constraints Workload	National cultural differences but significant international experience
B	Moderate	Geographic; time zone Organizational	Limited access to & technology outside work; uncomfortable & uncertain using technology	Language difficulties Mentee uncertainty as to why in program National cultural difference with little international experience
C	High	Geographic; time zone Organizational Functional	Limited availability of technology outside of work	National cultural differences but significant international experience
D	High	Geographic; time zone Organizational	Reliability of technology Workload	National cultural differences but significant international experience

Table 1: Pilot Data – Directional Relationship between Mentorship Effectiveness and Virtual Distance

Mentoring effectiveness is comprised of two separate dimensions – mentorship satisfaction and mentee career impact. The mentorship satisfaction measure assesses whether the mentee achieved her development goals and to what extent mentees and mentors were satisfied with mentorship outcomes. A modified version of Ragins et al.'s (2000) Perceived Program Effectiveness Scale measured participants' satisfaction with mentorship outcomes vs. the program in general. The second dimension, termed career impact, captures mentor and mentee perception that changes occurring in the mentee's work responsibilities, job level, compensation, job performance, retention or job satisfaction resulted from skills learned during the mentoring relationship. This scale was newly developed for this study. Previous research has shown a significant correlation between mentoring and a mentee's career success (Scandura, 1992; Underhill, 2006; Kammeyer-Mueller & Judge, 2008, Singh et al., 2009). Quantitative meta-analysis, comparing outcomes of mentored vs. non-mentored individuals, found that mentoring

improves a mentee's career outcomes (Underhill, 2006). Successful mentoring has been shown to contribute to a mentee's career advancement and success (Ragins & Scandura, 1999) and is associated with mentee's rate of advancement, salary attainment & supervisory ratings of performance (Scandura, 1992), increased promotion rate and compensation (Whitely et al., 1991) and career and job satisfaction (Fagenson, 1989). Companies with formal mentoring programs have identified retention, promotion & advancement, satisfaction, morale & productivity and performance as outcomes of mentoring (Hegstad & Wentling, 2004). These benefits may not be immediate and may only develop over time. In contrast, satisfaction with outcomes of the mentoring relationship, although subjective, is an immediate indication of mentorship effectiveness. Including the assessment of career impact in terms of advancement, promotion, retention and morale even though self-reported is an important measure of mentorship effectiveness. These previous research findings suggest the following hypotheses:

H1a : Virtual distance will be significantly and negatively related to satisfaction with mentorship outcomes.

H1b : Virtual distance will be significantly and negatively related to mentee career impact.

As with global teams, recognizing and understanding virtual distance can result in identification of enablers to reduce its effects. In particular, the use of mechanisms and technologies that help to create context and community between partners is expected to support improved intercultural collaboration.

The literature on formal mentoring programs suggests that there are specific design features of programs that will increase the likelihood of successful mentorships. These include a matching process (Chao et al., 1992; Hegstad & Wentling, 2004; Ragins et al., 2000), defined mentorship goals (Viator, 1999) and program structure, support and training (Hegstad &

Wentling, 2004). Consistent with the literature, pilot test results and participant observation suggest support for program design enablers to mitigate virtual distance. Three mechanisms were identified and are discussed below:

1) Mentor-mentee matching process

2) Mentorship goal clarity and alignment

3) Mentorship support mechanisms

II. Mentor-Mentee Matching

The right partner match appears to be one way to initially mitigate virtual distance within a mentorship. Matching is defined as the structured process with specific criteria used by organizations to pair mentors and protégés (Hegstad & Wentling, 2004). Ensuring that mentoring was voluntary (Allen et al., 2005) and that mentees and mentors had input into the matching process were found to be associated with higher degrees of satisfaction in mentoring relationships (Eby & Lockwood, 2005; Viator, 1999). Interpersonal comfort, the mutual attraction, identification and common non-work interests that help form bonds in mentoring relationships was identified as an important element of effective mentorships (Allen et al., 2005). Hegstad and Wentling (2004) found in their study of exemplary formal mentoring programs that having an appropriate, but structured matching process in place was identified as "critical, if not the most important, factor in successful relationships and programs." The most cited criteria for matching mentors and protégés were common background and interests, alignment of the developmental needs of mentees with the expertise of mentors and differences in job level between partners. Mentors and mentees involved in formal mentoring programs with an effective matching process perceived these programs to be effective (Eby & Lockwood, 2005).

For both the pilot and research study sample, mentors and mentees were matched by Menttium using the following standardized process. First, it is important to note that mentors volunteer and are not compensated for their participation. Interested mentors complete an on-line profile and are interviewed by Menttium staff to ascertain professional and business experience and skills, leadership competencies as well as personal and family interests. Mentees are nominated for the program by their employer and also complete an on-line profile and interview that focuses on their developmental needs. Menttium staff use interview and profile information, mentee development needs and a fair amount of judgment to assign mentors that they believe will best enable mentees to meet their goals. Historically, matching focused on compatibility of professional skills and relevant business experience as well as personal compatibility – sharing some common personal and/or family interests can help to develop rapport. A good matching process can reduce virtual distance and diminish initial discomfort in a new relationship. One pilot mentee commented that "being matched with a mentor that could relate to the challenges I'm facing (both professionally and personally) helped to immediately develop trust".

Global mentoring has made the matching process more complex. National cultural differences add a new dimension to mentor-mentee matching and contribute to increased virtual distance beyond geography. As shown in Figure 3, cultural distance significantly varies by country cluster and illustrates the additional challenge of global mentorship matching (House et al., 2004).

Mentors assigned to global mentorships have international work experience so are familiar, albeit to differing degrees, with working cross-culturally. Mentors are predominantly American senior executives with international work experience but often with limited language proficiency

beyond English. Mentees, however, exhibited variability in the extent of their global experience and cultural knowledge. In three of the four pilot study mentorships rated as highly effective, mentees had cross-cultural business, education and personal experiences, were cross-culturally savvy and multi-lingual. (See data table in Appendix B.) This cultural intelligence is expected to facilitate cultural fit between mentor and mentee.

Participant observation, pilot data and the literature support the following hypothesis relating virtual distance and the matching process:

H2:   An effective partner matching process will be significantly and negatively related to virtual distance.

The construct for partner matching, the structured process used to pair mentors and mentees, consists of measures for professional, personal and cultural fit as well as protégés' overall satisfaction with the mentor. A mentor's satisfaction with his or her mentee was also measured.

Mentor satisfaction is defined as the protégé's satisfaction with her mentor and was measured by Ragins & McFarlin's (1990) Satisfaction with Mentor Scale. This scale was also modified to measure a mentor's satisfaction with his or her mentee. Mentors and mentees' satisfaction with each other is expected to reduce virtual distance and contribute to overall effectiveness of the mentorship. This satisfaction is expected to result from a combination of good professional, personal and cultural fit between partners.

Professional fit matches the developmental needs of the protégé with the expertise of the mentor (Hegstad & Wentling, 2004) and is expected to mitigate virtual distance by reducing the impact of physical, operational and affinity distances. A process that provides good professional fit between partners and increases their ability to effectively work across organizational and functional boundaries should reduce physical distance. Likewise, good professional fit can mitigate operational distance due to mentor to mentee advice on how to manage such issues as

task overload and resource allocation that contribute to operational distance. Effective professional matching contributes to the mentee's confidence that her mentor possesses expertise that will benefit her development thus helping to build commitment to the relationship, thereby mitigating affinity distance. Additionally, a good professional match can help to bridge differences due to organizational and functional cultures. Finally, good professional fit gives partners a common focus to begin to collaborate and develop rapport.

Personal fit relates to the extent of common interests and background between mentor and mentee (Hegstad & Wentling, 2004) and contributes to the bonding process that creates interpersonal comfort in the mentorship (Allen et al., 2005). Good personal fit is hypothesized to reduce virtual distance in the relationship by primarily reducing affinity distance and operational distance. It is posited to build rapport and relationship commitment between partners, key affinity elements. Good personal fit is also expected to positively impact operational distance by helping partners to understand each other's challenges in successfully engaging in the mentorship.

There were no existing scales from prior research to measure professional and personal fit; therefore new scales were developed for this study. Scale development is discussed in the chapter on research design.

The third attribute of an effective matching process is cultural fit. Given the paucity of research on cross-cultural mentoring, the concept of cultural fit is not discussed in the literature. Cultural fit is defined in this study as the degree to which each partner understands, respects and accepts the other's beliefs, values and perspectives shaped by identification with their culture of origin. Successful cultural fit is expected to have the largest impact on reduction of affinity distance because of the cross-cultural nature of the mentorships. Figure 3 (House et al., 2004)

shows the cultural distance that is inherent between different country clusters. By definition, cultural distance is present in all relationships because partners have different national cultural origins. Good cultural fit can help reduce cultural distance. One of the primary enablers for cultural fit is hypothesized to be cultural intelligence, the capability for partners to function effectively in intercultural settings (Ang et al., 2007; Earley & Ang, 2003; Lublin, 2010; Van Dyne et al., 2012). A significant contribution of this research to the virtual distance and *e*-leadership literature is the inclusion of cultural intelligence as an enabler to cultural fit. The metacognitive, cognitive, motivational and behavioral aspects of cultural intelligence and its ability to bridge cultural distance between partners will be assessed in this research with the Expanded Cultural Intelligence Scale developed by Van Dyne et al. (2012). The cultural intelligence of partners is hypothesized to be a significant determinant of how well partner matching mitigates affinity distance and contributes to mentorship effectiveness. This suggests the following hypothesis:

H2a: Cultural intelligence will be positively related to an effective partner matching process.
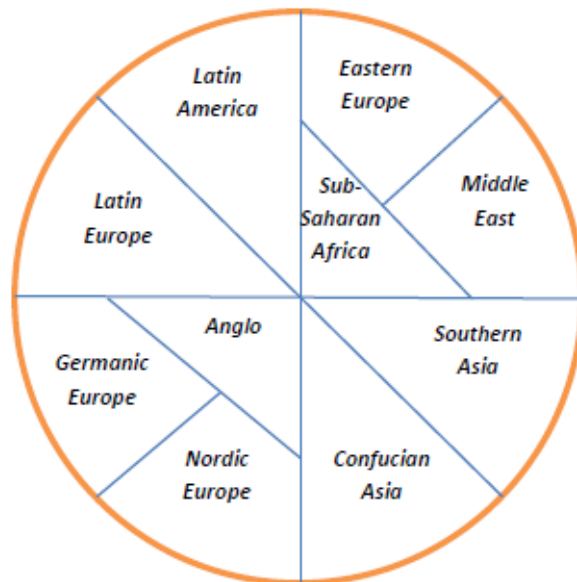
Figure 3: Cultural Distance by Country Cluster (House et al., 2004)

III. Mentorship Goal Clarity

Participant observation and pilot data showed that aligning mentorship goals with mentor expertise was an important requirement for a successful outcome. This necessitates that the mentee define and articulate development goals for the mentorship and that she focus the agenda for each interaction on some aspect of goal attainment. Mentees are asked to document development goals in their on-line profile and discuss these with Menttium staff. In the three pilot study mentorships rated as highly effective, mentees had clearly defined goals and regularly worked on these goals with their mentor. Examples included "Learn how to promote myself and my accomplishments when my leadership network is not co-located with me" or "Develop my influencing and negotiating skills to get support for my proposals". Mentees frequently shared samples of their work and their leadership assessment profiles with their mentor to focus on their developmental needs. This is in contrast to the situation in the mentorship rated by partners as moderately effective. In this case, the mentee was unclear as to why she was selected for the program and had difficulty understanding how participation would benefit her job performance; "I do not fully understand why I have been nominated for this program and do not understand the aims and application to my daily job." Although she did articulate development goals, she did not intentionally prepare for or focus meetings with her mentor on these goals. Rather, she used the time to discuss the most pressing issue of her day which, because she was in sales, dealt with things like motivating and incentivizing her sales team. Although both mentor and mentee rated these discussions as valuable, the mentor believed that the mentorship could have benefitted from greater goal clarity even if articulated as a need for impromptu day to day advice.

The literature also supports goal clarity as an enabler for effective mentorships. Mentorship goals are defined as the shared expectations about behaviors and outcomes of the mentoring

relationship. Clear goals articulate the purpose of the mentorship and define the transition which the mentee wishes to achieve over the duration of the mentoring relationship (Clutterbuck, 2011). Prior research has found that setting goals and objectives for the mentorship is associated with greater mentorship satisfaction (Viator, 1999). Met expectations are a predictor of relationship effectiveness and trust in mentorships (Eby & Lockwood, 2005; Young & Perrewe, 2000); expectations are more likely to be met when they are defined and articulated. However, Clutterbuck (2009) does caution against overly prescriptive goals. His longitudinal study of mentoring relationships did not find correlation between specific goals and mentorship quality and outcomes leading him to conclude that overly defined goals may limit opportunities for mentee development (Clutterbuck, 2007). Nonetheless, in this study, clearly defined development goals are expected to help reduce virtual distance by providing a common purpose and focus for the mentorship, thereby suggesting the following hypothesis:

H3: Mentorship goal clarity will be significantly and negatively related to virtual distance.

The construct for goal clarity will measure the mentee's development and articulation, as well as the mentor's understanding, of mentorship goals. Although discussed as an enabler for a successful mentorship in the literature (Eby & Lockwood, 2005; Viator, 1999; Young & Perewe, 2000), an existing scale to measure goal clarity was not available; therefore, a new scale was constructed for purposes of this research.

Clear articulation and understanding of goals is postulated to reduce physical distance by enabling mentors and mentees to work more effectively across organizational and functional boundaries. Likewise, goal clarity is postulated to reduce affinity distance by giving mentor and mentee a common focus and helping to build commitment to the relationship. However, goal clarity is hypothesized to have the most significant impact on operational distance as clearly

articulated goals can effectively focus partners' time and resources on appropriate actions to achieve desired outcomes.

IV. Mentorship Support Mechanisms

Pilot data and participant observation suggest that support mechanisms like training and best practice sharing appear to help reduce virtual distance in mentoring relationships. Participation in either a formalized virtual kickoff event or orientation to agree on expectations of the mentorship can be the first step in developing rapport. Menttium offers a launch webinar and orientation manual and process for mentors and mentees to learn about program resources and best practices for successful mentorships. Best practices include guidelines on program structure, virtual mentoring techniques, availability of on-line support and training materials and webinars and periodic check-ins to ensure that the mentorship is progressing. At the conclusion of the orientation, mentors and mentees have time to connect with each other via phone or Skype to begin relationship building and to establish logistics like methods of communication, frequency of interaction and expectations. Although in only two of the three highly effective rated mentorships, did mentor and mentee participate in a formal kickoff, in the third collaboration, the partners did use their first connection to agree on expectations and terms of the mentorship. In the moderately effective relationship, partners did not participate in a formal launch event nor did the mentee take advantage of Menttium orientation materials.

Support mechanisms for partners were also available from Menttium to facilitate the relationship. These included detailed on-line profiles of one's partner that could be reviewed in advance, participation in virtual program orientation, training materials including an on-line

GlobeSmart[4] tool to facilitate learning about one's partner's culture and periodic check-ins from Menttium staff on how the mentorship was progressing. Participant observation and pilot data suggest that these relationship support mechanisms, when utilized, contributed to an effective mentorship.

This is also consistent with literature findings that program structure and mentorship support guidelines in formal mentoring programs contributed to mentorship effectiveness. Guidelines on meeting frequency (Eby & Lockwood, 2005; Viator, 1999) and duration of formal relationship (Eby & Lockwood, 2005) were related to quality of the mentoring relationship as well as quality training and an understanding of program expectations (Allen et al., 2005).

These findings suggest the following hypothesis:

H4: The use of mentorship support mechanisms will be significantly and negatively related to virtual distance.

The construct for mentorship support is defined as the use of available tools, processes and training by the mentor and mentee to support the development of an effective mentoring relationship. Hegstad & Wentling (2004) describe the following type of mechanisms as mentoring relationship support: training, relationship building tools, discussion guides, partnership agreements, mentor essential lists, journals and development plans. In this study, mentors and mentees were asked specifically if they reviewed their partner's on-line profile prior to their first meeting, participated in orientation and used GlobeSmart. Those that answered in the affirmative used a newly developed scale to evaluate impact on mentorship. This scale also measured the impact of training and orientation and Menttium support on mentorship effectiveness.

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[4] GlobeSmart is a subscription based cross-cultural on-line resource developed by Aperian Global Learning to help people conduct business more effectively with others from around the world. More information is available via website: http://corp.aperianglobal.com/globesmart

The use of mentoring relationship support mechanisms is hypothesized to significantly impact virtual distance in several ways. Understanding best practices can help the mentor constructively engage and support the mentee despite not physically working in the same location and organization. Likewise, support mechanisms such as check-ins can provide partners assistance in dealing with physical distance issues like time zone differences, lack of face-to-face contact or organizational and functional issues, operational distance issues like workload and affinity distance issues like relationship difficulties and lack of commitment to the mentorship.

V. Technology Usage

The technology adoption literature shows that one's comfort with technology is strongly associated with the willingness to use it to collaborate (Jarvenpaa et al., 2004; Jarvenpaa & Staples, 2000; Ragins & McFarlin, 1990). Likewise, participant observation and pilot data support the premise that mentors' and mentees' access and level of comfort using technology appear to be important factors in reducing virtual distance in *e*-mentoring collaborations. In the four pilot mentorships studied, telephone calls and email were the key communication mechanisms utilized[5]. When these channels were used, those relationships where individuals sent pictures to enable virtual partners to see each other and provide some context about their environment, families and community, were rated higher on development of rapport. Having access to technology outside the office was also important for both mentors and mentees to support connecting across time zones. In the mentorship rated as moderately effective, the mentee did not have access to technology at home nor was she able to post photos on line[6]. During the entire relationship, she and her mentor spoke on the telephone without knowing what

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[5] Three of these mentorships occurred prior to availability of Skype and other affordable video conferencing tools.

[6] This mentorship was one of the three that occurred prior to availability of Skype and other affordable video conferencing tools.

each other looked like. In one of the partnerships rated as highly effective, Skype was used regularly. This tool proved to be an excellent enabler for developing rapport particularly as its technical reliability improved over the duration of the relationship. Comfort using various communication media like email, social media, telephone and video conferencing to interact and importantly to share context about each other's environments also correlated with a more satisfying mentorship (Philippart & Gluesing, 2012).

An interesting insight emerged from participant observation and pilot data with regard to virtual vs. face-to-face meetings. Having the ability to meet face-to-face at some point during the mentorship was mentioned as beneficial but not a necessity for an effective relationship. In two of the three highly effective mentorships, mentors and mentees were able to meet at least once face-to-face but this occurred at least six months after the onset of the relationship. Lack of geographical proximity has been cited in the traditional mentoring literature as a hindrance to forming effective mentoring relationships (Eby & Lockwood, 2005). However, Allen et al. (2005), in a study of formal mentoring programs in four organizations, found no support for the hypothesis that geographical proximity of partners was associated with either more or better quality mentoring. The *e*-leadership literature maintains that geographic and temporal separation can be overcome with appropriate use of technology (Avolio & Kahai, 2003; Avolio et al., 2001; Cascio & Shurygailo, 2003; Hambley et al., 2007; Sobel Lojeski, 2006) thereby suggesting that the effective use of technology can result in a successful mentoring relationship without partners ever meeting face-to-face. This conclusion supports the following hypotheses:

H5: Access to & comfort using technology will be significantly and negatively related to virtual distance.

The technology usage construct will assess both mentors' and mentees' access to technology outside their normal work environment and comfort using virtual communication technology.

More specifically, access is defined by Jarvenpaa et al. (2004) to mean the availability of technology to fit the user's needs. Access is measured in the study using a newly developed scale. Comfort is defined by Jarvenpaa & Staples (2000) to be an individual's attitudes about information technology that positively incline one to initially try and explore its capabilities over time. The Computer Comfort Instrument (Compeau, 1992) utilized extensively by Jarvenpaa et al. (2004) measures the technology comfort construct.

Partners' access to and comfort using technology are proposed to reduce all three components of virtual distance. One's accessibility and comfort with using technology has been shown to lead to a willingness to collaborate (Jarvenpaa et al., 2004; Jarvenpaa & Staples, 2000; Staples & Jarvenpaa, 2000) which in turn is expected to increase the effectiveness of virtual communication, thereby reducing the impact of geographical, organizational and functional distance. Additionally, good access to technology and one's ability to successfully use it will ensure that partners can interact at convenient times to mitigate the impact of time zone differences. Likewise, convenient access to technology both inside and outside the workplace will enable partners to balance task overload and better integrate time for the mentorship into their daily operations, thereby significantly reducing operational distance impact. Additionally, partners' ability and comfort with technology is posited to eliminate wasted time and usage errors, also impacting operational distance. Finally, good accessibility to technology will help ensure that partners can interact at convenient times, often outside the pressures of the normal workday, thereby improving commitment to the relationship. Likewise, the egalitarianism of technology can help reduce social distance between partners (Bierema & Hill, 2005; Hunt, 2005; Mueller, 2004).

VI. Role of Trust

Partners in the pilot frequently mentioned "trust" as an important contributor to a successful mentoring relationship. Sobel Lojeski (2006) found that virtual distance reduced trust amongst team members. Likewise, Jarvenpaa found that successful collaboration amongst virtual teams relying on technology mediated interactions depends on trust (Jarvenpaa et al., 1998; Jarvenpaa & Leidner, 1999). Technology use can change the context of human relationships leading to differing levels of trust; for example people interacting virtually without a common physical location often have trust levels far different from those involving co-located, face-to-face interaction (Jarvenpaa et al., 2004).

The literature suggests that trust can be either a moderator or mediator depending on the context (Dirks & Ferrin, 2001). Trust is asserted to be a moderator of the relationship between virtual distance and mentorship effectiveness based on rationale from McKnight et al.'s (1998) work on initial trust formation in temporary virtual teams. McKnight et al. (1998) observed the presence of high initial trustworthiness, defined as a "belief that comes before trust" and trust, "a willingness to depend on others" in newly formed relationships in temporary teams even before members started interacting, leading to the conclusion that individuals often attribute trustworthiness to others based on their own expectations and situational context rather than the actual behavior of others.   Given that in our context, partners voluntarily engage in the formal mentoring program and do so because they believe that participation will be beneficial, it can reasonably be expected that partners bring a level of trustworthiness to the relationship that is manifested as trust. This trust is expected to have a positive outcome in mitigating the negative impact of virtual distance on mentorship effectiveness, thereby suggesting the following hypotheses:

**H6a: The negative effect of virtual distance on satisfaction with mentoring outcomes
is likely to be stronger when there is less trust between mentors and mentees.**

**H6b: The negative effect of virtual distance on mentee career impact is likely to be
stronger when there is less trust between mentors and mentees.**

The construct of trust in this research is defined as one's expectation that one's partner will behave in a trustworthy manner and is derived from McKnight et al.'s (1998) notion of trustworthiness – the belief that comes before trust based on one's own expectations and situational context rather than the actual behavior of others. It is measured using an Initial Trustworthiness Scale developed by Pearce et al. (1992) and widely used by Jarvenpaa et al. (2004) in their work on virtual teams.

VII. Staying in Contact after Conclusion of Formal Program

When compared to informal mentorships that develop naturally through unstructured social interactions (Wanberg et al., 2006) and interpersonal comfort in work settings (Ragins, 2002) where mentors and mentees have the opportunity to interact and observe each other (Viator, 1999), formal mentorships are often criticized because of the way that relationships are initiated, structured and managed as well as their relatively short duration. The assignment of mentor and mentees by a facilitator and program durations of between six and twelve months are qualitative differences between formal and informal mentorships that have been found to impact the quality and type of mentoring that occurs (Allen et al., 2005; Chao et al., 1992; Geiger-DuMond & Boyle, 1995; Ragins & Cotton, 1999; Ragins et al., 2000). As previously described, in this research context, Menttium matches mentors and mentees for a structured program duration of one year. However, mentors and mentees can and often do keep in contact after the conclusion of the formal program. It is expected that those partners who continue the relationship after the conclusion of the formal program do so because they have developed a deep connection over the

year. The high quality of this relationship, evidenced by the fact that mentor and mentee voluntarily stay in contact outside the requirements of the formal program, is posited to strengthen the effectiveness of mentorship outcomes suggesting the following hypothesis:

H7: The model relationships will differ significantly such that relationships will be stronger when mentors/mentees "stay in contact" vs. "not staying in contact".

VIII. Mentor and Mentee Differences

Much of the mentoring research has focused on mentees and as a result comparatively less is known about mentors in the relationship (Ragins & Scandura, 1999; Young & Perrewe, 2000; Clutterbuck, 2009). Nonetheless, it is not expected that research model results will significantly differ between mentors and mentees. Therefore, the following hypothesis is not expected to be supported:

H8: The model relationships will differ significantly for mentors and mentees.

IX. Mentoring Functions

As previously discussed, decades of mentoring research have discovered three important ways that mentors support their mentees – through vocational assistance, psychosocial support and role-modeling (Bierema & Hill, 2005; Day, 2000; Ensher et al., 2003; Giber et al., 1999; Kram, 1985; Noe, 1988; Scandura, 1992). Given the qualitative differences between virtual and traditional face-to-face mentoring as well as limited research on these differences, it is important to examine whether mentors in the *e*-mentorships in this study provided vocational assistance, psychosocial support and role-modeling to their mentees.

The types of mentoring provided or received were measured in the survey using a modified version of Ragins and McFarlin's (1990) Mentor Role Instrument investigating the five dimensions shown in Appendix C. Coaching was the only relevant function investigated for the

vocational assistance category – given that mentors and mentees did not work in the same company or geographical region, mentors could not provide sponsorship, protection, challenging assignments or exposure - the other types of vocational assistance which traditional mentors have historically provided. Psychosocial support was measured by the functions of counseling – providing a sounding board and problem solving support, acceptance – helping one's protégé develop a sense of her professional self and friendship – giving respect and support. Finally, role-modeling was measured as a third mentoring function.

Mentoring function is not part of the conceptual model hypothesized to impact the relationship between virtual distance and the mentorship effectiveness measures nor is it expected to be a mitigator of virtual distance. This is because the most effective type of mentoring is that which meets the mentee's needs (Kram, 1985) and may include some or all of the three types of support (Ragins & Cotton, 1999). Therefore, data will be analyzed merely to verify that vocational support, psychosocial support and role-modeling did occur in the mentorships investigated.

CHAPTER 4: Research Design

Quantitative research was conducted between April and August, 2013 to test the conceptual model and associated hypotheses. Survey construction, methodology and sample are described below.

I. Survey Construction and Operationalization of Constructs

Surveys for mentors and mentees were developed and validated for use in this research and are provided in Appendix D. Questions for mentees and mentors were similar with differences in phrasing.

Existing validated scales from previous research were used or adapted wherever possible. Sobel Lojeski's proprietary Virtual Distance Scale was modified to test various dimensions of physical, operational and affinity distance in dyadic relationships. The satisfaction component of mentorship effectiveness was measured using Ragins et al.'s (2000) Perceived Program Effectiveness Instrument. The technology comfort construct was measured using the Computer Comfort Instrument developed by Compeau (1992). Trust was measured using an Initial Trustworthiness Scale developed by Pearce et al. (1992) and widely used by Jarvenpaa et al. (2004). Cultural intelligence was measured using Van Dyne et al.'s (2012) Expanded Cultural Intelligence Scale. Overall satisfaction with mentor/mentee utilized Ragins and McFarlin's (1990) Satisfaction with Mentor Scale adapted for both mentors and mentees. The mentoring function construct was measured using a modified version of Ragins and McFarlin's (1990) Mentor Role Instrument Scale surveying the dimensions of coaching, role-modeling, counseling, acceptance and friendship. New scales were developed by the researcher for the remaining constructs for mentor-mentee matching, including professional, personal and cultural fit, goal clarity, mentorship support and technology access. Table 2 shows both the existing scale used,

when applicable, and number of items employed to quantify each construct. All responses were measured using a 5 point Likert scale anchored by Strongly Disagree and Strongly Agree. Surveys were built with Survey Monkey.

Construct	# Items	Scale Used
Cultural Intelligence	33	Expanded Cultural Intelligence (Van Dyne et al., 2012)
Partner Matching	16	Developed by researcher - Satisfaction adapted from Satisfaction with Mentor Scale (Ragins & McFarlin, 1990)
Goal Clarity	4	Developed by researcher
Mentorship Support	5	Developed by researcher
Technology Usage	13	Developed by researcher – Comfort adapted from Computer Comfort (Compeau, 1992)
Virtual Distance	44	Proprietary Virtual Distance (Sobel Lojeski)
Trust	6	Initial Trustworthiness (Pearce et al., 1992)
Mentorship Satisfaction	3	Perceived Program Effectiveness (Ragins et al., 2000)
Mentee Career Impact	6	Developed by researcher

Table 2: Operationalization of Constructs

Additional demographic data on each respondent's country of origin as well as functional area(s) and industry(s) worked in during his or her mentorship were collected. Information on cross-cultural experience was obtained by asking respondents whether they had global work experience, had travelled to their partner's home country prior to the mentorship, number of countries they had lived in for at least six months and number of languages spoken with moderate or better fluency. This data was later aggregated into a cross-cultural experience index to be used as a control variable when testing the research model. Respondents also indicated whether they stayed in contact with their mentor or mentee after conclusion of the formal program; this data enabled multi-group analysis and comparison of the conceptual model for those who stayed in touch and those who did not. Finally, respondents were asked to identify all attributes they had in common with their mentor or mentee.

II. Pre and Pilot Testing of Survey Instrument

Using the approach suggested by DeVellis (2011), this researcher pre-tested and then pilot tested the survey instrument. First, survey questions were sent to five academic colleagues who evaluated clarity, specificity, logic flow, relevance and ease of reading. Responses were used to evaluate overall reaction to the survey as well as vocabulary complexity. Three of the respondents were not U.S. born or native English speakers so their input was used to modify or better describe some of the phraseology that could be potentially misunderstood outside the U.S. context.

Content validity was assessed to ensure that all the items in Table 2 appropriately captured the full domain of the associated construct (Straub et al., 2004). Content validity was confirmed using a modified q-sort technique (Stephenson, 1953). Since validated existing scales were used for several constructs, the focus of the q-sort was on newly developed scales although all survey questions were included in this exercise. Three raters were asked to match each question to its intended construct. Q-sort results confirmed satisfactory inter-rater reliability as raters were able to successfully match most questions with the correct construct. Slight modifications were made to one of the newly developed scales as a result of this analysis.

Next, the researcher conducted an on-line pilot as recommended by DeVellis (2011). Electronic surveys were sent to 22 mentors and 15 mentees, none of which had participated in any pre-test work. Because the global sample was expected to be scarce, the validation pilot was conducted using mentees and mentors in non-global mentorships.[7] This sample was deemed acceptable because new constructs and scales that required validation were not overly dependent on the global nature of the mentorship. Seventeen mentors responded resulting in 15 usable data

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[7] Majority of sample were mentors and mentees who had mentored through Menttium in domestic mentorships and were part of researcher's professional network.

sets. Twelve of fifteen mentees responded with all data sets usable. Analysis showed that the constructs of mentorship effectiveness, match, goal clarity, mentorship support and technology access were valid with appropriate factor loadings that explained between 72 and 85% variance. Scale reliabilities were all above 0.8. This provided the necessary assurance to move forward with the survey for the targeted global sample. See the construct table in Appendix C for scale reliabilities.

III. Sample

The research sample consisted of mentors and mentees involved in global mentorships facilitated by Menttium between 2006 and 2012. All mentees were female; mentors were predominantly female. A *global* mentorship is one in which the mentor and mentee have different national origins and are working in different countries meaning that partners are not only culturally diverse, but are geographically distant and embedded in different national cultures and contexts (Hinds et al., 2011). Mentors who participated in multiple partnerships during this time were asked to complete a separate survey for each mentorship.

Sixty six (66) mentor and 61 mentee surveys were returned. Respondents were not matched. A requirement to include mentor and mentee respondents as matched dyads would have unduly restricted study sample size.

IV. Methodology

Menttium utilized its client database to contact mentors and mentees involved in 179 global mentorships facilitated by the organization between 2006 and 2012. The letter provided in Appendix E was sent to all eligible participants with the survey link. Contact information for some eligible participants was no longer current. A reminder email was sent to all eligible

participants two weeks after the first email. No attempt was made to match mentor and mentee dyads given concern for small data pool.

Institutional Review Board (IRB) approval was obtained from Wayne State University's Division of Research to conduct research with human subjects. The original approval and extension forms are provided in Appendix F.

CHAPTER 5: Research Results

I. Sample Demographics

The 107 responses yielded 96 usable data sets – 46 mentees and 50 mentors, unmatched. Data were discarded from 11 respondents who did not complete at least 80% of construct-related measures. Sample demographics were analyzed on the remaining 96 participants – detailed results are shown in Appendix G. Analysis showed some interesting results.

- There was measurable cultural distance between mentors and mentees based on national origin. Figure 4 plots the number of mentors and mentees by country cluster of origin (House et al., 2004). Although 82% of mentors were born and raised in the Anglo culture, mentees were represented in every country cluster of origin except the Middle East. Seventy six percent of mentors and mentees reported that their mentorship partner was from a different country cluster than they were; 20% reported that their partner hailed from a different country but one that was in same country cluster. This suggests that majority of mentors and mentees identified with a culture that differed from their mentoring partner.

- Mentors and mentees worked in multiple functions and industries suggesting that not only organizational differences but functional and industry differences contributed to physical distance between partners.

- The majority of mentors and mentees had cross-cultural experience through work, living experience or travel. One would expect these global experiences to contribute to the overall cultural intelligence of the sample. Statistics are as follows:

  - 88% of mentors & 76% of mentees had global work experience.

- 52% of mentors & 33% of mentees had travelled to their partner's home country prior to start of the mentorship.

- 44% of mentors & 41% of mentees had lived in one or more countries different from their country of origin for at least 6 months.

- 48% of mentors & 78% of mentees spoke at least one or more languages with moderate to proficient fluency in addition to their native tongue.

- Mentors and mentees had a variety of attributes in common with their partners; the most often cited being professional experience, family/personal circumstances, educational background and hobbies or interests. Only 8% of mentors and 13% of mentees cited nothing in common with their partners. Mentorships in which deep relationships develop have been shown to have a higher likelihood of being effective (Allen et al., 2006; Allen et al., 2004). This demonstrates that there are multiple ways that this deepening of the relationship can happen.
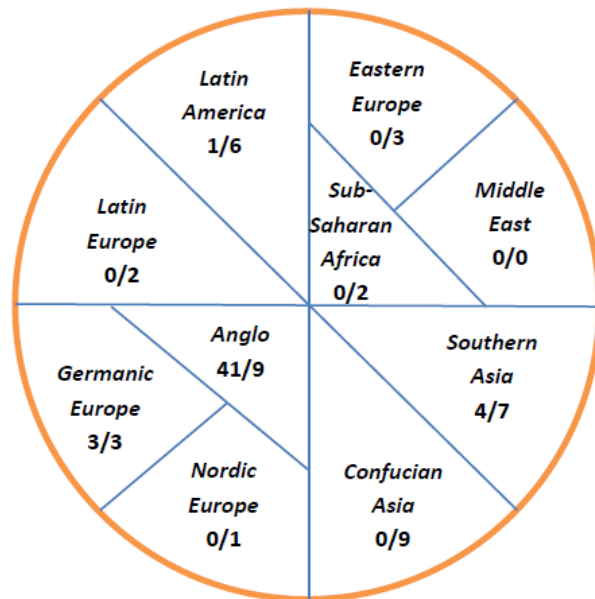
Figure 4: Mentor and Mentee Cultural Distance

II. Mentoring Functions

Means and standard deviations by item for the five constructs measuring mentoring function are provided in Appendix H. Means for all acceptance items and all but one item for friendship exceeded 4.1 on a 5 point scale indicating that these two psychosocial support functions were strongly evident in many of the *e*-mentorships studied. The only friendship item showing a low mean (2.8) was for the item "I (My mentor) invited my mentee (me) for a face-to-face visit". Given the large geographical distances between partners and the expectation in advance that the mentorship would be virtual, it is reasoned that this item may not have been as realistic a measure of friendship in a technology mediated context as for a traditional face-to-face mentorship. Likewise, the third construct of psychosocial support, counseling, had means between 3.8 and 4.5 with the lowest measure being for the item, "I (My mentor) guided my mentee's (my) personal development". This item may not have been as relevant in a business mentoring context with a focus on professional development as in other contexts used by prior researchers. Likewise, the five items of coaching, the sole measure for vocational support, had means ranging from 3.8 to 4.3 indicating that vocational assistance was being provided by mentors in many of the *e*-mentorships. The lowest average scores were for the role-modeling construct – means ranged from 3.6 to 3.9 indicating that this function of mentoring may in fact be the most difficult to provide virtually. Nonetheless, descriptive statistics for these five constructs validate the belief that psychosocial support and vocational support and to a lesser degree role-modeling did in fact occur in the *e*-mentorships investigated in this research. This lends support to Hamilton and Scandura's (2003) postulation that vocational, psychosocial and role-modeling functions can be provided in virtual relationships.

III. Descriptive Statistics

Means and standard deviations by item for all other constructs are also provided in Appendix H. Asterisks are provided for those items that were reverse coded. As discussed below, highlighted items show those items removed from research model analysis because of low measurement model reliability and validity.

IV. Empirical Strategy

The research model depicted in Figure 5 was operationalized as a structural equation model (SEM) and analyzed using the Partial Least Squares (PLS) algorithm function in *SmartPLS* 2.0 (Ringle et al., 2005). Several features of PLS-SEM have led to its increased use in such areas as management, strategy and marketing research (Bontis et al., 2007; Drengner et al., 2008; Gruber et al., 2010; Hennig-Thurau et al., 2007; Robbins et al., 2002; Sattler et al., 2010). PLS offers a number of features that make it especially appropriate to this study. PLS-SEM is a so-called soft-modeling approach (Wold, 1982) and is less suited to testing well-established complex theories due to a lack of a global optimization criterion to assess overall model fit (Hair et al., 2012). PLS-SEM is, however, advantageous compared to covariance based structural equation modeling when analyzing predictive research models that are in the early stages of theory development (Fornell & Bookstein, 1982). The research described in this study exemplifies the latter; although various aspects of mentoring have been extensively investigated, no research to date has used the concept of virtual distance to examine the effectiveness of the mentor-mentee relationship within a virtual global business setting. To the best of this researcher's knowledge, this is a new mentoring model in the earliest stages of theory development.
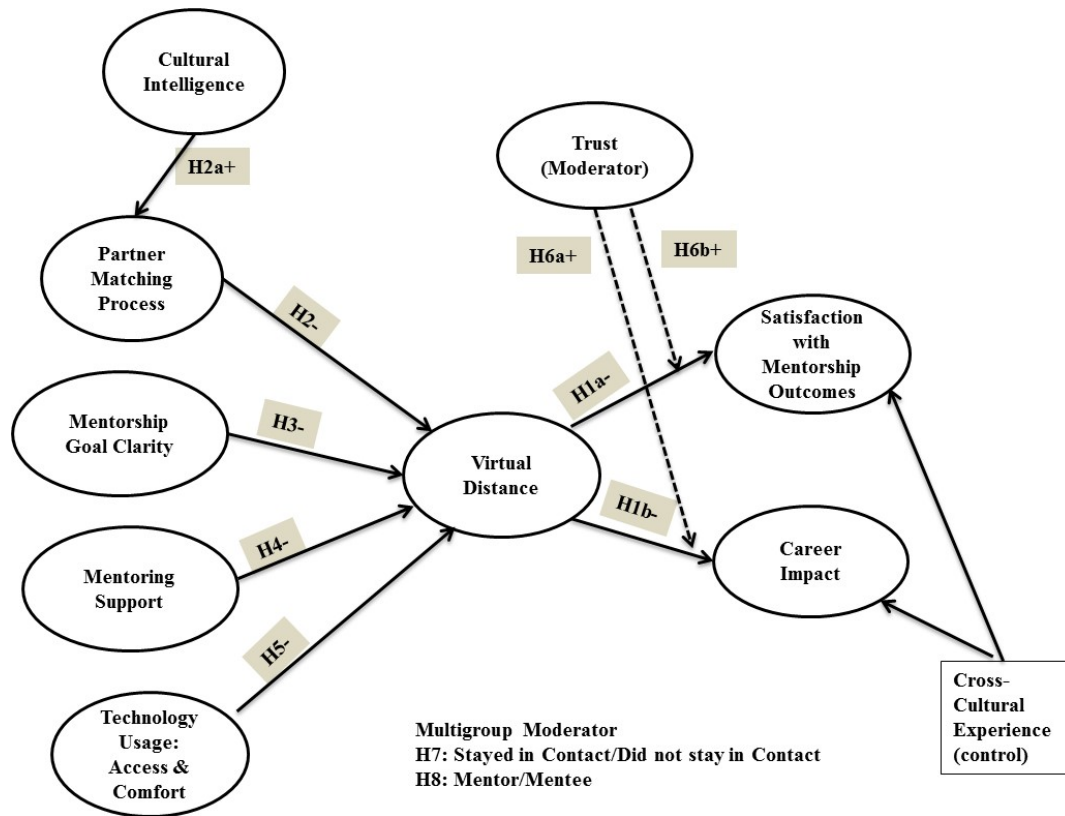
Figure 5: Hypothesized Research Model

In contrast to covariance-based approaches, PLS-SEM offers the advantage of more flexibility in processing practical data where the number of cases is limited (Henseler et al., 2009). PLS-SEM exhibits higher statistical power than covariance-based SEM when used on complex models with limited sample size available (Reinartz et al., 2009). This is especially relevant for this study, as the final sample size was 96 observations. Furthermore, it has been shown that the PLS-SEM algorithm transforms non-normal data in accordance with the central limit theorem (Hair et al., 2012). This makes PLS-SEM results robust when using skewed data (Ringle et al., 2005). Additionally, PLS is particularly well suited for this analysis given its flexibility to handle constructs with both reflective and formative indicators (Chin, 1998) as is the case for the model tested in this research.

The PLS structural model is mainly evaluated by R^2 of endogenous latent variables (Chin, 1998), effect size, f^2 (Cohen, 1988), and by using the Stone-Geisser Q-square test for predictive relevance (Geisser, 1975; Stone, 1974).

V. Measurement Model

First, data were screened and tested for normality, multicollinearity and outliers. Very few items exhibited any skewness or kurtosis and no issues were found with multicollinearity. Next, exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were employed to build and verify the unidimensionality, validity and reliability of the measurement models corresponding to the model constructs.

Generally, indicators with loadings between 0.40 and 0.70 should only be considered for removal from the scale if deleting this indicator leads to an increase in composite reliability above the suggested threshold value. Construct items were dropped when there were very small and insignificant item loadings, as suggested by Chu et al. (2004).

Next, the reliability and validity of the measurement model was evaluated before assessing the quality of the structural model (Hulland, 1999). This was done based on the criteria proposed by Hair et al. (2012) and Henseler et al. (2009). The relationship between each indicator and the corresponding latent construct had to be assessed for its significance by means of bootstrapping (Henseler et al., 2009). As seen in the confirmatory factor analysis (CFA) shown in Table 3, all measures are significantly associated with their respective constructs ($p < 0.05$), and almost all loadings are well above the critical threshold of 0.7, indicating high indicator reliability (Bagozzi et al., 1991; Gotz et al., 2010). Given the large number of items measured in this study relative to small number of sample responses, a strict process that considered both individual factor loadings (above 0.70) and average variance extracted (AVE) for each construct (above

0.50) was used to determine what items should be retained and which eliminated from further analysis. For each construct, items with the lowest factor loadings were eliminated until the AVE for that construct exceeded .50. For only one construct, mentorship support, were there loadings below 0.70; these measures/items were kept in the study since this was the first exploratory study to use this construct. Consequently 52 of 129 items were eliminated from further analysis to improve measurement model reliability and validity. Final items retained for further analysis are shown in Table 4.

Item	Cultural Intelligence	Career Impact	Goal Clarity	Partner Match	Satisfaction	Support	Tech Usage	Trust	Virtual Distance
CQBH1	0.809								
CQBH2	0.817								
CQBH3	0.742								
CQBH4	0.686								
CQBH5	0.838								
CQBH6	0.785								
CQBH7	0.723								
CQBH8	0.705								
CQBH9	0.722								
CQCG4	0.614								
CQCG7	0.671								
CQMC2	0.642								
CQMC3	0.662								
CQMC4	0.638								
CQMC9	0.643								
DVIMP1		0.746							
DVIMP2		0.835							
DVIMP3		0.535							
DVIMP4		0.743							
DVIMP5		0.728							
GOAL1			0.704						
GOAL2			0.896						
GOAL3			0.786						
GOAL4			0.896						
MCUL1				0.762					
MCUL2				0.722					
MCUL3				0.317					
MCUL4				0.402					
MCUL5				0.447					
MPER1				0.799					
MPER2				0.726					
MPER3				0.771					
MPRO1				0.728					
MPRO2				0.766					
MPRO3				0.843					

MPRO4				0.755				
MSAT1				0.768				
MSAT2				0.825				
MSAT3				0.852				
MSAT4				0.771				
DVSAT1					0.950			
DVSAT2					0.938			
DVSAT3					0.917			
SUP1						0.714		
SUP2						0.526		
SUP3						0.630		
SUP4						0.617		
SUP5						0.406		
TACC2							0.733	
TACC3							0.707	
TACC4							0.615	
TACC5							0.692	
TCOM2							0.637	
TCOM4							0.767	
TCOM5							0.840	
TCOM6							0.801	
TCOM7							0.807	
TRST1								0.860
TRST2								0.798
TRST3								0.719
TRST4								0.892
TRST5								0.674
TRST6								0.754
COMVD5									0.567
COMVD6									0.748
COMVD7									0.647
COMVD8									0.748
COMVD9									0.656
CULVD1									0.736
CULVD4									0.595
CULVD5									0.741
CULVD6									0.705
CULVD7									0.797
FACE1									0.591
IDPVD1									0.868
IDPVD2									0.805
IDPVD3									0.795
MULVD2									0.665
SOCVD1									0.592
SOCVD3									0.755

Table 3: Construct Loadings

VI. Validity and Reliability

The quality of the reflective measurement model is determined by examining convergent validity, construct reliability and discriminant validity (Bagozzi et al., 1991).

Convergent validity is analyzed by indicator reliability and construct reliability. In the model tested, Table 3 shows that the indicators meet the criteria for individual item reliability by having high factor loadings, most of which are greater than 0.70, and statistical significance ($p < 0.01$). Significance tests were conducted using the bootstrap routine (Chin et al., 2010). The recommended number of bootstrap samples used was 5,000.

Construct	# Items Removed	# Items Kept
Cultural Intelligence	18	15
Partner Matching	0	16
Goal Clarity	0	4
Mentorship Support	0	5
Technology Usage	4	9
Virtual Distance	27	17
Trust	0	6
Mentorship Satisfaction	0	3
Mentee Career Impact	1	5

Table 4: Items Removed from Analysis

Construct reliability was assessed using the following indices - Cronbach alpha coefficient of reliability, composite reliability (CR) and the average variance extracted (AVE) (Fornell & Larcker, 1981). As seen in Table 5, Cronbach alpha (ranging from 0.27 to 0.94) and the composite reliabilities (ranging from 0.73 to 0.95) in all cases except one, exceeded the minimum reliability criteria of 0.60 suggesting the constructs in the model exhibited good internal consistency. The AVEs for each construct ranged from 0.51 to 0.87 and were all above the recommended 0.50 threshold.

Discriminant validity of the construct items can be determined by using the Fornell–Larcker (1981) criterion and examining cross loadings. This criterion postulates that a latent construct

shares more variance with its assigned indicators than with another latent variable in the structural model. In statistical terms, the AVE of each latent construct should be greater than the latent construct's highest squared correlation with any other latent construct. The second criterion of discriminant validity is usually a bit more liberal; an indicator's loading with its associated latent construct should be higher than its loadings with all the remaining constructs (the cross loadings).

Construct	Cronbach Alpha	Composite Reliability	Average Variance Extracted (AVE)	Correlation among Constructs							
				Cultural Intelligence	Goal Clarity	Career Impact	Mentor-Mentee Matching	Satisfaction	Mentorship Support	Technology Usage	Virtual Distance
Cultural Intelligence	0.932	0.939	0.512	**0.72**							
Goal Clarity	0.840	0.893	0.679	0.1342	**0.82**						
Career Impact	0.767	0.844	0.524	0.0652	0.3367	**0.72**					
Partner Matching	0.933	0.942	0.519	0.2294	0.7135	0.434	**0.72**				
Satisfaction	0.928	0.954	0.874	0.1500	0.7449	0.4549	0.8409	**0.93**			
Mentorship Support	0.278	0.733	0.58	0.1015	0.2997	0.2042	0.2667	0.2857	**0.76**		
Technology Usage	0.897	0.913	0.542	0.2533	0.4481	0.2578	0.4494	0.4185	0.4323	**0.74**	
Virtual Distance	0.937	0.945	0.506	0.2179	0.7835	0.4691	0.8923	0.8589	0.3716	0.5445	**0.71**

Diagonal elements are the square root of Average Variance Extracted. These values should exceed the inter construct correlations (off diagonal elements) for adequate discriminant validity.

Table 5: Correlations among Constructs

As shown in Table 3, the loadings of each indicator are higher for their respective constructs than for any other construct. Further, discriminant validity is tested by comparing the average variance extracted - AVE – of each construct with the shared variance between constructs. The square root of the AVE for almost all constructs was found to be higher than correlations between constructs (see Table 5). Therefore, the indicators of different constructs are not related to each other and discriminant validity of the latent variables is high. Confidence interval tests

(Anderson & Gerbing, 1988) based on the correlation between factors ±2 standard errors demonstrate discriminant validity when the interval does not include +1.0 (or –1.0). This was true here. In general, acceptable psychometric properties were observed to support testing the structural model.

VII. Common Method Bias

Common method bias (CMB) is a frequent concern when conducting cross-sectional, self-reported research as it refers to variance that is attributable to the measurement method rather than to the constructs. Method biases are one of the main sources of measurement error and most researchers agree that common method variance is a potential problem in behavioral research (Podsakoff et al., 2003).

In order to reduce sources of common method bias ex ante, survey design adhered to the following recommendations of Podsakoff et al. (2003). Respondent's anonymity was ensured (see Participation Letter in Appendix E) to reduce the likelihood of socially desirable answers. Additionally, both the mentee and mentor surveys provided precise and unambiguous answer scales with different formats, and was constructed and pretested in cooperation with an advisor with expertise in survey design. Items were ordered so that comfortable answering was possible without disclosing the underlying model structure. Questions were also randomized for each subject by page to reduce any order bias. The common practice to complement respondents' answers with secondary data was not possible, due to ensured anonymity and very restrictive data disclosure by the Menttium organization.

Common method variance (CMV) can be a problem when data are self-reported and collected through the same questionnaire with a cross-sectional design. A common method factor analysis was conducted in *SmartPLS* by examining the loadings on each item. Loadings

of the method factor were compared to loadings of its substantive construct (Liang et al., 2007). With this approach, each item in the measurement model was converted to a single item construct. A common method factor was added and linked to all the single item constructs (not the individual items). Each loading was squared and the means of the squared method factor loadings were compared to the means of the construct loadings.

Evidence of CMB was determined by comparing the mean of the squared values of the method factor loadings with the mean of the squared values of its substantive construct. If the method factor loadings are largely insignificant and the item's squared construct loadings are greater than the squared method factor loadings, CMB is not considered a threat.

Under this procedure, the average substantively explained variance of the items was .231 and the average method based variance was .006, a ratio of 42:1. In addition, most method factor loadings were not significant. Given the small magnitude and insignificance of method variance, CMB did not appear to be a concern.

A second method was employed to test for common method bias. An unrotated principal component analysis with single factor extraction (Harmon's single-factor test) was carried out to explore the level of common method variance. The first factor explained 29.5% of the variance, which is well below the recommended cut-off point of 0.5. In addition, the argument that CMV is not a major concern in this study is strengthened, because the hypothesized model includes a moderating effect (trust on virtual distance). Survey respondents would be less likely able to guess the nature of the moderation or interaction effect, and therefore, would be unlikely to provide responses that can be seen as contributing to CMV (Dayan & DiBenedetto, 2010). Therefore, it can be concluded that there is no significant threat of common method bias.

VIII. Test of the Structural Model

The structural model was evaluated on the basis of the R^2 values, effect sizes, f^2, (Cohen, 1988), redundancy measure of the dependent constructs, the estimated structural path coefficients and their significance levels, and finally by using the Stone-Geisser Q-square test for predictive relevance (Geisser, 1975; Stone, 1974). Figure 6 presents the structural model results.

Path coefficients and their t-values were obtained from applying nonparametric bootstrapping. Both signs and magnitudes and calculated effect sizes were examined to test study hypotheses (Chin, 1998; Zucker, 1987). Applying a blindfolding procedure with *SmartPLS* provides the respective value for the Stone-Geisser criterion (Q^2). This criterion shows how the empirical data set can be reconstructed with the model and respective PLS parameter (Fornell & Cha, 1994). Thus, to assess the quality of the structural model, predictive validity was determined using the Stone-Geisser Criterion (Q^2), derived through the blindfolding procedure with an omission distance of seven (Geisser, 1975; Stone, 1974; Tenenhaus et al., 2005; Wold, 1982), Variance Inflation Factor (VIF) at the structural level (Gotz et al., 2010) and the coefficient of determination (R^2) (Chin, 1998).
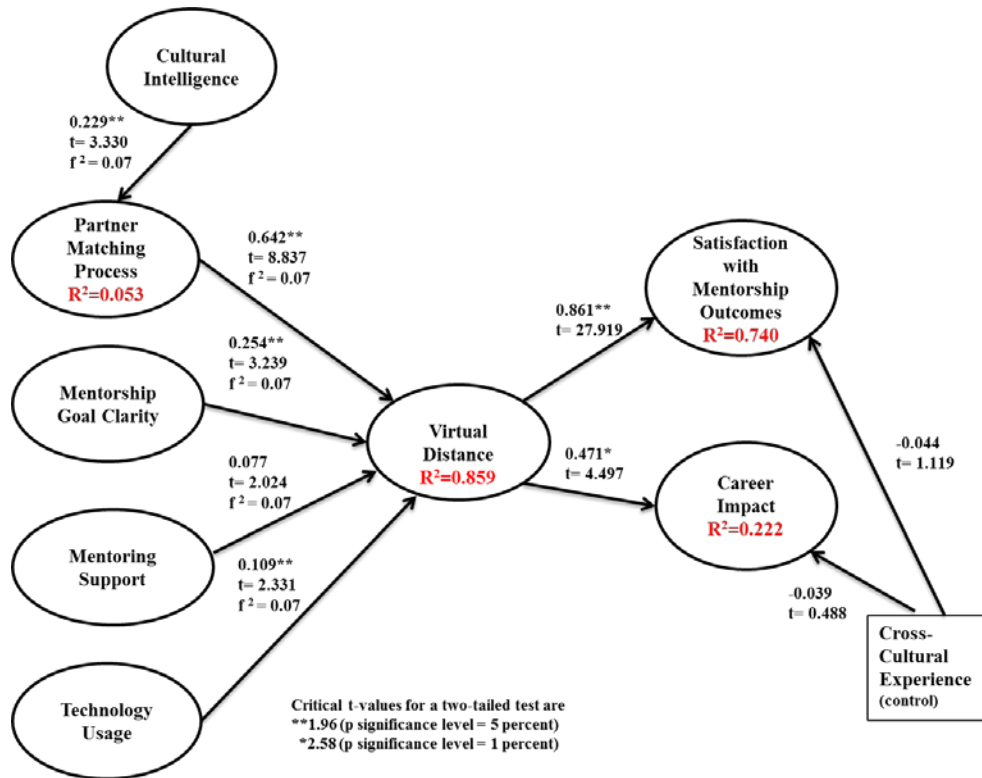
Figure 6: Structural Model Results

Predictive power is tested by examining the magnitude of the standardized parameter estimates between constructs together with the corresponding t-values that indicate the level of significance. The path coefficients and their significance are shown in the PLS-SEM model in Figure 6. Because PLS does not directly provide path significance levels, they were estimated by the bootstrap method in which the number of samples generated was equal to n=5000.

As shown in Figure 6, all significant path coefficients, with one exception, exceed the recommended 0.2 level. Note that the path coefficients for all variable relationships with virtual distance are positive in the model despite the hypotheses predicting negative relationship. This is a result of survey questions that were phrased in a positive way to measure the absence of virtual distances rather than in a negative way to measure its presence. Therefore, all model pathways with virtual distance represent a negative relationship when coefficients are positive.

Bootstrapping reveals that all path coefficients are significant (at the 0.01 level) except for mentorship support.

H1a and H1b were supported. Virtual distance was negatively (see discussion above) and significantly related to both mentorship effectiveness measures - satisfaction ($\beta = 0.86$, $p < 0.001$) and career impact ($\beta = 0.47$, $p < 0.001$). Mentor-mentee matching was negatively and significantly related ($\beta = 0.64$, $p < 0.001$) to virtual distance, and thus, H2 was supported. Additionally, the results support H2a, that is, cultural intelligence was significantly related to mentor-mentee matching ($\beta = 0.23$, $p < 0.01$).

Mentorship goal clarity was negatively and significantly related to virtual distance ($\beta = 0.25$, $p < 0.01$) thereby providing support for H3. The use of mentoring relationship support mechanisms was not significantly related to virtual distance. Thus, H4 was not supported. There was support for H5 that access to and comfort using technology was also negatively and significantly related to virtual distance ($\beta = 0.11$, $p < 0.05$). Mentor-mentee matching has the strongest effect (0.64) on virtual distance followed by goal clarity (0.25). Although the control variable, cross-cultural experience (aggregated from responses to questions on global work experience, travel to partner's home country prior to mentorship, number of countries lived in for at least 6 months and number of languages spoken with moderate or better proficiency) was not a significant predictor of either satisfaction nor career impact, control variables are often included in PLS path models, accounting for some of the target construct's variation. Regardless of whether these control variables are significant or not, the results for control variables are usually not further interpreted.

Next, the explanatory power of the structural model was evaluated. The explanatory power was examined by looking at the squared multiple correlations (R^2) of the dependent variables.

Results of model testing indicate that the model provides acceptable R^2 statistics because they are greater than the recommended 10% (Falk & Miller, 1992). The results of the structural model shown in Figure 6 demonstrate that mentor-mentee matching, goal clarity and technology usage had good explanatory power with R^2 = .86 for virtual distance. Additionally, virtual distance explains 74% of the variance in satisfaction ($R^2 = 0.744$) and to a lesser extent, 22% of the variance for career impact ($R^2 = 0.22$).

The R^2 values for the main endogenous variables – *virtual distance, satisfaction and career impact* − are considered significant using the F-test (Falk & Miller, 1992). Whereas R^2 results of 0.20 are considered high in disciplines such as consumer behavior, R^2 values of 0.75, 0.50 or 0.25 for endogenous latent variables in the structural model can be described as substantial, moderate, or weak, respectively (Chin, 1998). Thus, the predictors of virtual distance have a substantial effect and in turn virtual distance has a substantial effect on outcome measures. Further, the explanatory power of the model is concluded to be statistically significant, demonstrating the predictive relevance of the structural model.

IX. Predictive Relevance and Validity

The effect size of f^2 was computed using the following formula: $f^2 = (R^2_{included} - R^2_{excluded})/(1 - R^2_{included})$. The f^2 analysis complements R^2 in that the effect sizes of the impact of specific latent variables on the dependent latent variables can be examined (Chin, 1998). The f^2 values of 0.02, 0.15 and 0.35 respectively were used as guidelines for small, medium and large effect sizes of the predictive variables (Cohen, 1988). Thus, the f^2 statistic is based on the differences in R^2 between two models − *with* and *without* the particular construct. Cohen (1988) recommends that effect sizes of 0.02, 0.15, and 0.35 be viewed to consider the construct having a small, medium, or large effect.

The results of the full model show that the significant predictors of virtual distance explain about 86% (R^2 is 0.86) of the variance. The beta from mentor-mentee matching to virtual distance is 0.64 (p < 0.000). When mentor-mentee matching is excluded, the remaining predictors explain 67% (R^2 is 0.67) of virtual distance and the effect size is large ($f^2 = 0.61$).

The predictive relevance *Q2* is another criterion for the structural model assessment. Values of *Q2* larger than zero indicate that exogenous latent variables have predictive relevance for a particular endogenous latent variable (Chin, 2010). By using the blindfolding and jack-knife re-sampling approaches, the predictive power of the model was examined with the Stone-Geisser's Q^2, cross-validated index (Chin, 2010; Tenenhaus et al., 2005; Wold, 1975). That is, Q^2 is a criterion to evaluate how well the model predicts the data of omitted cases. Predictive relevance of the model is demonstrated for all endogenous variables when Q^2 is greater than zero and lacks predictive relevance when Q^2 is close to zero or negative.

The Q^2 statistic ranged from 0.10 for career impact, 0.42 for virtual distance, and 0.61 for satisfaction. Since values for Q^2 are above the critical threshold of zero and Variation Inflation Factors (VIF) are well below the value of 5, we conclude the model has predictive relevance and that there are no issues with multicollinearity of our structural model (Gotz et al., 2010).

X. Moderator Analysis

Using the approach proposed by Chin et al. (2003), an interaction term was modeled by creating a new construct from the products of the standardized indicators relative to the underlying constructs involved in the interaction—trust and virtual distance.

Trust's interaction with virtual distance was examined to determine whether this had an effect on career impact and satisfaction, such that an increase in trust changes the relationship between virtual distance and career impact and satisfaction. As shown in Figure 7, the combined

effect of trust and virtual distance had no significant effect on either satisfaction or career impact.

Thus H6a and H6b were not supported.
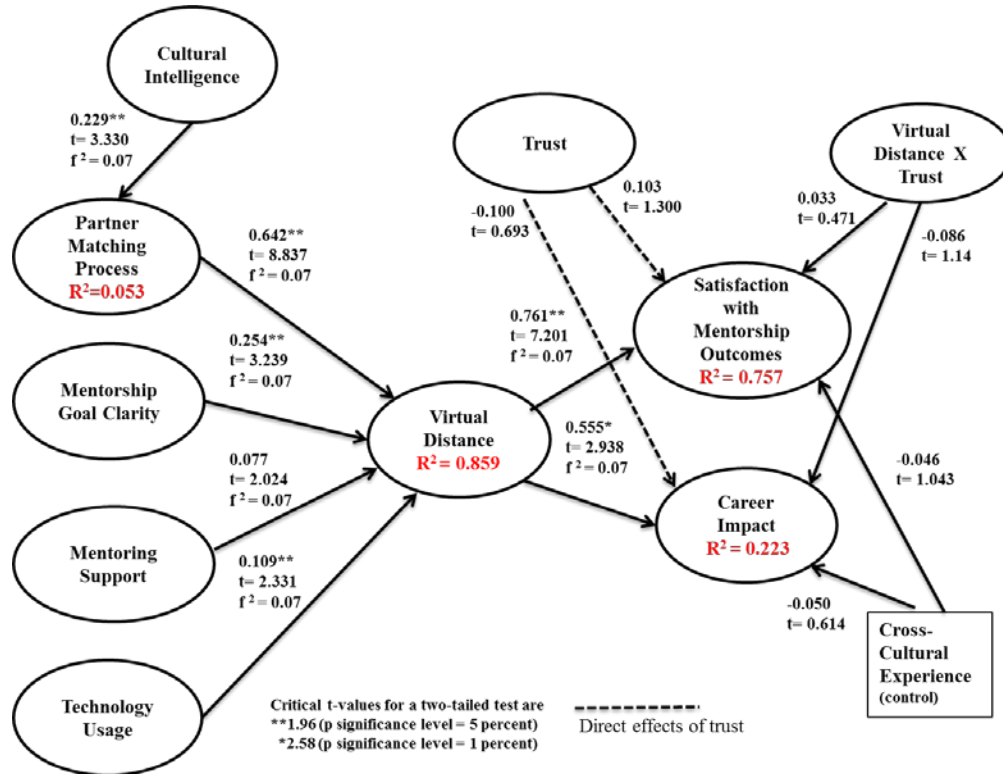
Figure 7: Structural Model Results with Trust as a Moderator

XI. Multi-group Analysis

In order to test the moderating effect of "staying in contact" on the model's relationships (H7), the results of separate models for those who stayed in contact and those who did not were compared and examined for possible differences. Thus, to investigate the moderating effects of "contact" on the model, the respondents were divided into two groups: those who reported that they stay in contact with their mentor/mentee (n=41) and those who reported that they do not

stay in contact with their mentor/mentee (n=45). Note: There were 10 non-responses to this question.

First, of primary concern when comparing model estimates across groups, is ensuring that the construct measures are invariant across the groups, as described by Steenkamp and Baumgartner (1998). Consequently, it appears that the model estimates satisfy the requirement of measurement invariance.

Next, differences in path coefficients were assessed by means of a modified independent samples t-test[8] as described by Rigdon et al. (2010). Specifically, path coefficients' standard errors were obtained from independent bootstrap analyses of the two models and were used as input variables for the parametric t-test together with the original sample path coefficients. Figure 8 provides the results of these t-tests and summarizes the PLS path estimates and the R^2 values of the endogenous constructs for group comparisons based on contact. The R^2 values of the endogenous constructs for the group who stayed in contact were more substantial those who did not.

Consequently, multi-group analysis was conducted to determine whether the model was the same depending on whether the mentor and mentee stayed in contact or not. Through 5,000 bootstrapping samples, the standard errors of the structural paths were obtained for the two groups. Then, the differences between the path coefficients were tested using t-statistics. Figure 8 shows in several relationships, whether staying in contact was a useful moderator in explaining

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[8] In cases where the standard errors are unequal, the test statistic:

$$t = \frac{Path_{sample\_1} - Path_{sample\_2}}{\left[\sqrt{\frac{(m-1)^2}{(m+n-2)} * S.E._{sample1}^2 + \frac{(n-1)^2}{(m+n-2)} * S.E._{sample2}^2}\right] * \left[\sqrt{\frac{1}{m} + \frac{1}{n}}\right]}$$

follows that proposed by Chin (2010). It assumes the two models compared exhibit similar levels of fit, the data are not too non-normal and measurement invariance is met.

the relationships in the model. Thus, H7 was partially supported for some of the hypothesized relationships. Specifically, the relationship between mentor-mentee matching and virtual distance was statistically stronger for those who stayed in contact. Likewise, the relationships between virtual distance and both measures of mentorship outcomes were also statistically stronger for those who stayed in contact. One other significant difference was found between multi-group models – the impact of goal clarity on virtual distance was statistically stronger for those who did not stay in touch.

Next, multi-group analysis was used to test whether the model yielded similar results regardless of mentor or mentee responses. Again, path coefficients' standard errors were obtained from independent bootstrap analyses of the two models and were used as input variables for the parametric t−test together with the original sample path coefficients. Figure 9 provides the results of these t−tests and summarizes the PLS path estimates and the R^2 values of the endogenous constructs for group comparisons.

Figure 9 shows mentors/mentees differed from one another on two key relationships—the partner matching relationship to virtual distance was stronger for mentees and the relationship of usage of technology, both comfort and access, to virtual distance was stronger for mentors. Thus, there was partial support for H8, despite expectation that there would be no difference between these two groups of respondents.

The results of all hypotheses are summarized in Table 6.
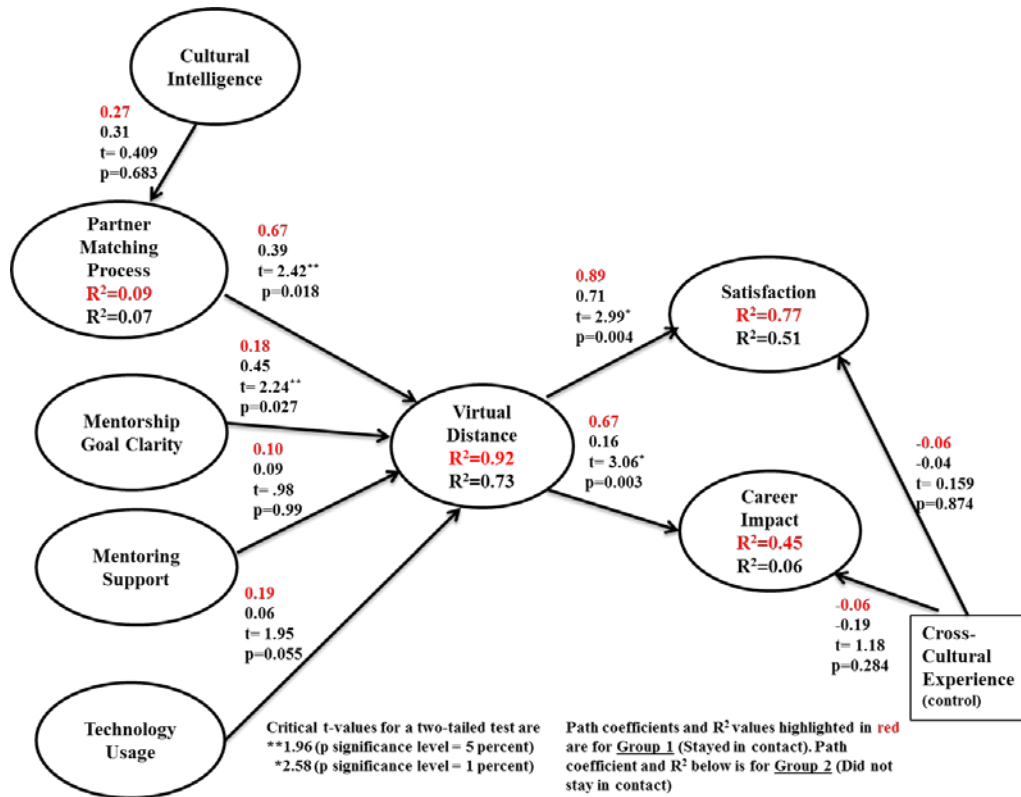
Figure 8: Multi-Group Model – Staying In Contact vs. Not Staying in Contact

Hypothesis	Supported
H1a: Virtual distance is negatively related to satisfaction with mentorship outcomes.	Yes
H1b: Virtual distance is negatively related to mentee career impact.	Yes
H2: An effective partner matching process is negatively related to virtual distance.	Yes
H2a: Cultural intelligence is positively related to an effective partner matching process.	Yes
H3: Mentorship goal clarity is negatively related to virtual distance.	Yes
H4: Use of mentorship support mechanisms is negatively related to virtual distance.	No
H5: Access & comfort using technology is negatively related to virtual distance.	Yes
H6a: The negative effect of virtual distance on satisfaction with mentoring outcomes is likely to be stronger when there is less trust between mentors and mentees.	No
H6b: The negative effect of virtual distance on mentee career impact is likely to be stronger when there is less trust between mentors and mentees.	No
H7: The model relationships will significantly differ such that the relationships will be stronger when mentees/mentors "stay in contact" vs. "not staying in contact".	Partial
H8: The model relationships will significantly differ for mentors and mentees.	Partial

Table 6. Summary of Hypotheses Tests
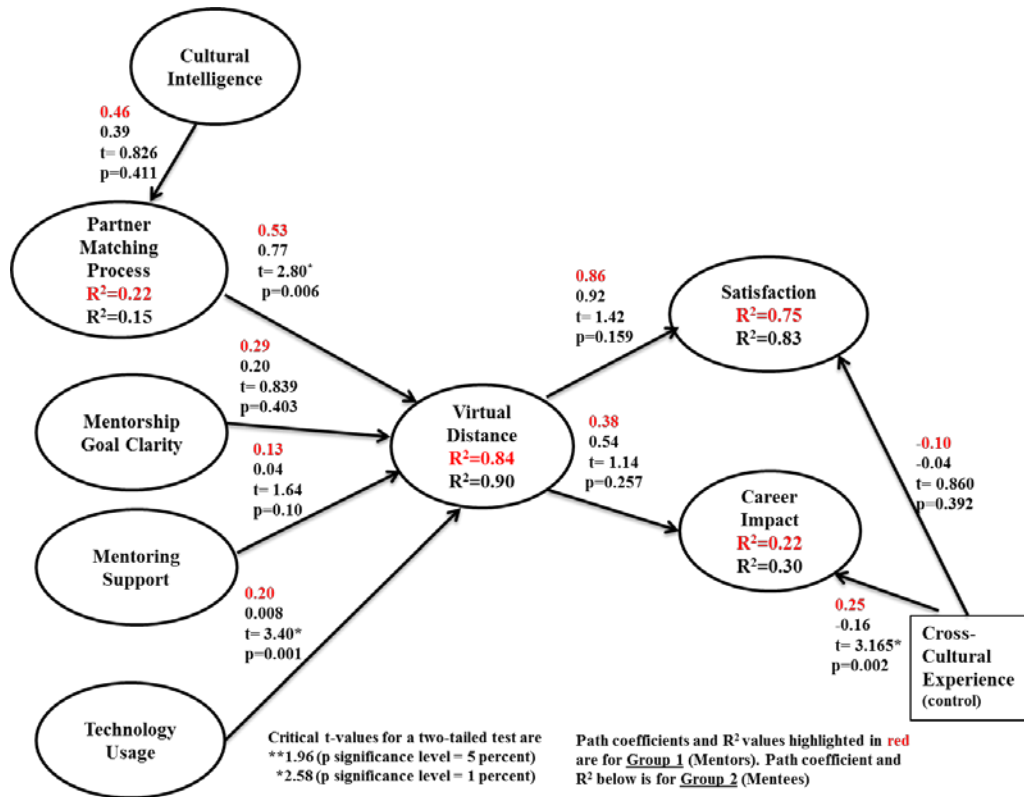
Figure 9: Multi-Group Model – Mentor vs. Mentee

XII. Discussion

Results from this study provide clear insight into the proposed research questions; does virtual distance impact the effectiveness of global *e*-mentoring relationships and can enablers be identified to mitigate this impact? First, virtual distance was shown to be a useful construct for understanding the effectiveness of global *e*-mentoring. As predicted, virtual distance was significantly and negatively related to both satisfaction with mentorship outcomes and mentee career impact. The "psychological separation" that can occur when people work together across geographic, organizational, functional, social and cultural boundaries while dealing with operational and technology issues has a real impact on mentor and mentee perception of mentorship effectiveness. The less the virtual distance, the more likely respondents were to be

satisfied that the mentorship achieved its intended goals and had a positive impact on the mentee's career. Virtual distance explained a larger percentage of variance in satisfaction (74%) than mentee career impact (24%). This is understandable. Satisfaction with mentorship outcomes is a specific, immediate measure that reflects the quality of mentoring and the ability of the mentorship to achieve its intended goals and to a large degree is under the control of the mentorship participants. Mentee career impact, even broadly defined as advancement, promotion, performance, increased compensation, retention and satisfaction, is subject to many other factors outside the control of the mentoring partners.

There were however, some differences in dimensions contributing to virtual distance in the dyadic *e*-mentoring vs. team context. The original virtual distance construct developed by Sobel Lojeski (2006) to study the effectiveness of virtual teams included dimensions for multi-tasking, project workload and physical, communication, readiness, cultural, social, relationship and interdependence distances. Although items to measure these dimensions were included in the survey, all physical distance, project workload, readiness and relationship distance measures as well as three of the four multi-tasking items were eliminated from the final *e*-mentoring virtual distance construct as they did not significantly contribute to average variance extracted. Physical distance was present in all mentorships since mentors and mentees were from different organizations working in different geographies often in different time zones and in different functional areas so this was not a major differentiator between effective and less effective mentorships. Relationship distance on the other hand was not a factor in nearly all relationships since mentors and mentees typically did not know each other or each other's peers and work colleagues so again was not helpful in explaining differences in effectiveness. Readiness distance, the frustration that results from technology issues and waiting for technology support,

did not appear to be as significant an issue for dyadic vs. team communications; in fact, in our sample the major mode of communication between mentors and mentees was the telephone and appeared to not create readiness distance issues. Finally, project workload and distractions of multi-tasking, although present, also did not create the same kind of distance in the mentoring relationship that occurs in teams focused on task achievement. In the *e*-mentoring context, the dimensions of virtual distance impacting relationship effectiveness were largely those of affinity distance – cultural and social distance and interdependence issues and one key operational distance dimension – communication distance. Not unexpectedly, issues with cultural differences; the inability of mentors and mentees to understand each other's values, work habits and language nuances, social distance; the inability of partners to get past issues with status, position and title and value each other for their expertise, and interdependence issues; issues of commitment to the mentorship and its successful outcomes, were strong contributors to virtual distance in the *e*-mentoring context. Likewise, the operational issues of communication distance, the difficulties associated with scheduling, communicating and mentoring virtually, were also major contributors to virtual distance.

Research model results also clearly demonstrate that enablers can mitigate virtual distance in global *e*-mentoring relationships thereby contributing to more effective mentorships. Three of the four proposed mitigators of virtual distance were found to be significant. Not surprising, mentor-mentee matching had the strongest effect on reducing virtual distance. Thoughtful matching of mentors and mentees has been shown in formal face-to-face mentoring programs to be a key success factor (Allen et al., 2005; Ragins et al., 2000). Ensuring that mentors have the appropriate expertise to support their mentees and that partners can develop interpersonal comfort through sharing of some common interests is important for an effective match (Allen et

al., 2005; Clutterbuck, 2007; Clutterbuck, 2009; Ragins et al., 2000). Research model results show this is equally true for *e*-mentorship. The collected demographic data complements this finding - only 8% of mentors and 13% of mentees reported that they had nothing in common with their partners – others reported sharing attributes such as professional experience, educational background, family/personal circumstances, hobbies and interests. Global mentoring has made the matching process more complex due to the need to comprehend national cultural differences between mentors and mentees. Figure 4 shows the extent of cultural distance between mentors and mentees in this research. The hypothesis that cultural intelligence, the ability for one to interact effectively with people from different cultural backgrounds, was positively related to an effective partner matching process which in turn helps mitigate virtual distance for a more effective *e*-mentorship is not surprising given that national culture was a prominent factor in this research.

The Expanded Cultural Intelligence Scale (Van Dyne et al., 2012) used in this research measured motivational, cognitive, metacognitive and behavioral aspects of cultural intelligence. Interestingly, in this research context, all motivational items and all but three cognitive items were eliminated from the final construct used in the model because these items did not explain average variance extracted. The metacognitive and behavioral aspects of cultural intelligence were the important dimensions explaining the positive relationship with partner matching. Prior research has found that some dimensions of cultural intelligence are better predictors of certain outcomes than others depending on context. For example, Ang et al. (1997) found that those with higher metacognitive and cognitive CQ performed well at cultural decision-making and individuals with higher metacognitive and behavioral CQ had higher task performance. Chen et al. (2009) built on Ang & Earley's (2007) work to show that CQ influenced performance by

enhancing cultural adaption. Our research findings are consistent with these results. Just as with task performance, metacognitive CQ, or the ability of partners to develop strategies to effectively collaborate cross-culturally and then behave accordingly is critical to the quality of the match between mentors and mentees and the reduction of virtual distance in the ensuring mentoring relationship. In other words, cultural adaption is an important competency for effective cross-cultural *e*-mentoring. It is also understandable as to why motivational and cognitive CQ may have been less relevant in this *e*-mentoring context. Mentors and mentees are likely motivated to engage – mentors are volunteers and mentees are sponsored by their employers which many consider as an indication of their future potential with the organization. Cognitive CQ may also not be an important differentiator since the majority of participants had global experience and some knowledge of cultural differences.

Goal clarity was found to reduce virtual distance. This finding is consistent with expectations that a shared understanding of mentee development goals will help improve commitment to the mentorship and focus partners' time and resources on achieving desired outcomes. Although Clutterbuck (2007) did not find a significant relationship between goal clarity and mentorship outcomes in his research, it is asserted that in this study, mentees' goals were developmental given both the cross-organizational and cross-cultural nature of the mentorships and did not limit the opportunities for learning and growth.

The expectation that mentorship support would reduce virtual distance was not supported by the research model results despite prior research suggesting that formal mechanisms such as training, orientations, meeting frequency guidelines, partnership agreements and discussion guides (Eby & Lockwood, 2005; Hegstad & Wentling, 2004; Viator, 1999) can result in more effective mentorships. This study specifically looked at five support mechanisms – review of

one's partner's on-line profile, participation in orientation, use of GlobeSmart, impact of training

materials and support from Menttium for mentorship difficulties. It is interesting to note that

although 90% of respondents reviewed their partner's profile on-line and found this helpful, only

57% participated in orientation and even fewer, 17% accessed GlobeSmart to learn more about

their partner's culture. Those that did use these tools rated them as helpful to their mentoring

relationship. That so few respondents used these tools suggests that mentors and mentees used

their own resources to inform and manage their mentorships. It would be premature to conclude

from this research that mentorship support tools are not necessary or helpful, but rather that they

may not be imperative to successful outcomes in all mentoring relationships, especially given the

possible pre-existing knowledge and skills of program participants.

Finally, technology usage, both comfort and access to technology, was found to reduce

virtual distance.   Accessibility and comfort with technology has been shown to lead to a

willingness to collaborate within teams (Jarvenpaa et al., 2004; Jarvenpaa & Staples, 2000;

Staples & Jarvenpaa, 2000), so it is not surprising that this would be the case in a dyadic

relationship.   As hypothesized, access to and comfort with technology appear to reduce

communication distance by giving partners more flexibility in scheduling their meetings, thereby

improving commitment to the relationship. Likewise, egalitarianism of the technology may also

have contributed to a reduction in social distance, thereby also furthering a decrease in virtual

distance. The primary way in which mentors and mentees communicated in this study was via

telephone, followed by email and then videoconferencing tools like Skype (keeping in mind that

for the timeframe of many of the mentorships, tools like Skype were not readily available.) The

ability of mentors and mentees to utilize appropriate virtual mentoring techniques suitable to the

types of technologies employed, was a factor in technology usage and the reduction of virtual distance.

Trust was not found to be a moderator of the relationship between virtual distance and either measure of mentorship effectiveness. This was unexpected because of the importance of trust in the successful collaboration of virtual team members (Gluesing & Gibson, 2004; Jarvenpaa et al., 1998; Jarvenpaa & Leidner, 1999; Sobel Lojeski, 2006) as well as in the mentoring relationship (Philippart & Gluesing, 2012; Rosser & Egan, 2005). Means for all items for the trust construct shown in Appendix H were high, indicating that trust was present in most relationships. This high level of trust might possibly explain why the moderating relationship was insignificant in explaining the variation in mentorship effectiveness variables – although present, the interaction between trust and virtual distance was insufficient in forecasting mentoring effectiveness both as satisfaction with relationship outcomes and perceptions of mentee career impact.

Results of the multi-group analysis present some interesting insights. There was partial support for the hypothesis that relationships in the research model would be stronger for those mentors and mentees that maintained contact after the formal conclusion of the program vs. those who did not. Although not consistent for all pathways in the models, it was true for the relationship between partner matching and virtual distance – suggesting that an effective match that ultimately develops into a deep relationship was a particularly effective mitigator of virtual distance in the *e*-mentorship. Likewise, this reduction in virtual distance resulted in a significantly stronger impact on both satisfaction with the mentorship outcomes and perceptions of the mentorship impact on the mentee's career for those who stayed in contact after the program concluded. Another significant difference found in the model is less intuitive to explain – those who did not stay in contact had a statistically stronger relationship between goal clarity

and virtual distance. One possible explanation for this may be that mentors and mentees who had clear mentorship goals that were achieved during the program may have felt no further need to work together – in other words, the mentor may have provided all the guidance and expertise required and partners no longer felt the need to keep in touch. Additionally, mentor and mentee may have been primarily task focused, and by not having ventured much into the social side of their relationship, did not form a friendship worthy of continuing.

The second multi-group analysis showed partial support for model differences between mentors and mentees. This was unexpected as it was believed that mentors and mentees would show similar model relationships. The effect of partner matching on mitigating virtual distance was stronger for mentees than mentors – this may be that the mentee had more to gain or conversely, lose, in the mentorship if the partner match was not appropriate. The relationship between technology usage and virtual distance, on the other hand, was stronger for mentors; one possible explanation being that mentors, who were typically older than mentees and possibly less naturally comfortable with technology, may have viewed the ease of access and comfort with using technology as more critical to reducing the psychological separation with their mentees.

Finally, although not a research question per se, the issue of whether *e*-mentoring is really mentoring was addressed by this research. Mentoring is characterized by the mentor providing vocational assistance, psychosocial support and/or role-modeling to his or her mentee. It was confirmed though this research that all three functions took place to varying degrees despite the virtuality of the mentorship. This finding confirms Hamilton & Scandura's (2003) postulation that it is possible for virtual mentoring to mimic the functions provided in traditional face-to-face mentorships.

XIII. Research Limitations

There are several methodological limitations inherent in this research. First, data collected in this study is self-reported. This may result in measuring an impression of intent rather than actual occurrence. Likewise, 75% of mentoring relationships in this study occurred more than two years ago, 28% as long as 5 years or more in the past. This means data may be subject to recall problems. Additionally, data is cross-sectional and represents a single point in time – this point in time varies based on the timeframe of the relationship and is not consistent between samples (meaning that respondents' moment in time could be six months to almost seven years after the formal mentoring relationship concluded.) Although not optimal that respondents recalled and evaluated mentorships up to six years in the past, this researcher believes that the data collected is impressionistic and given the nature and duration of the mentoring relationship reasonably reflects the experience despite the time lapse. A longitudinal study that followed each respondent after the conclusion of the mentorship and surveyed at a specific point in time would eliminate these concerns, but of course, is more logistically complex and would require a larger pool of potential respondents given the likely lower participation rate. Mentors and mentees were also not matched in this study; a study that provided data from paired participants in the mentorship would have provided additional reliability of responses as well as allowing for comparisons of perceptions between partners. Additionally, the ability to add other secondary sources of information, for example, by surveying the mentee's supervisor about career impact would improve reliability of the research design.

All mentees in the study were female. Given the known gender makeup of the 179 mentorships in the sampling pool, the majority of mentors were female. However, mentor gender was not collected from respondents so insight is not available from this study on same vs.

cross-gender mentorships. This research domain is of particular interest in the global business context where perception of gender is influenced by cultural values. Additionally, similar to traditional mentoring studies, the dependent variables in this study were focused on the benefits of mentoring for the mentee rather than the mentor. Given the importance of *e*-mentoring as a global leadership competency, future research is required to more thoroughly measure the benefits of global *e*-mentoring from the mentor perspective as well.

The small sample size is a limitation in this study. The application of the PLS-approach was necessary given such a small sample size relative to the number of model variables. This may have also resulted in PLS-bias that precludes the use of classic inferential statistical tools for the evaluation of the research model (Hair et al., 2012; Reinartz et al., 2009).

The formulation of this model was based on participant observation in addition to an exploratory pilot and the extant literature. Given that the researcher has been a global *e*-mentor for over seven years, it is possible her preconceived knowledge of the subject material could have influenced interpretation of results. Although every effort was made to preclude this, it is important to acknowledge the author's personal experience and familiarity with the subject could have introduced some researcher bias.

The most significant limitation of this study is its context. All respondents participated in mentorships facilitated by Menttium and although Menttium's client base is large and diverse, global partners in these *e*-mentorships may not be representative of global mentors and mentees in other organizations' mentoring programs. The fact that mentors and mentees did not work in the same company, often not in the same industry or functional area is not typical of formal mentoring programs within the business context. Thus research results may translate differently in this context. Additionally, this research was intended to look at *e*-mentoring as a component

of *e*-leadership. Attributes of Menttium's formal mentoring program may limit some translation of *e*-mentoring to the general *e*-leadership context; although one could also argue that the cross-functional, cross-organizational and cross-cultural mentoring in this study context actually helps *e*-leaders learn to communicate across multiple boundaries.   Nonetheless, many of the results from this study, as discussed in the next chapter, can inform global *e*-leaders on how *e*-mentoring can enhance their global leadership competencies.

CHAPTER 6: Implications of Research to *e*-Leadership

Just as mentoring is a key leadership competency, cross-cultural *e*-mentoring is a key global *e*-leadership competency. The digitization of information and rapid advancements in technology have dramatically changed how people work (Cascio & Shurygailo, 2003; Maitland & Thomson, 2011; Pulley & Sessa, 2001; Sobel Lojeski, 2006, Sobel Lojeski & Reilly, 2008; Sobel Lojeski, 2010) – creating a new paradigm of work "anywhere, anytime in real or cyberspace". This new paradigm requires leaders to lead from a distance often interacting with people entirely through information technology. At the same time, globalization has resulted in many of these technology-facilitated virtual work arrangements being cross-cultural. This is the context for *e*-leadership. Avolio & Kahai (2003) describe the *e* of *e*-leadership as "leadership that takes place in context where work is mediated by information technology and the collection and dissemination of information required to support organizational work also takes place via information technology." Holistically, *e*-leadership is "a social process mediated by advanced information systems to produce a change in attitudes, feelings, thinking, behavior, and/or performance with individuals, groups and/or organizations" (Avolio et al., 2001).

The changing context for leadership resulting from technology and globalization has disrupted the hierarchies of organizations and changed the nature of leadership (Avolio & Kahai, 2003; Avolio et al., 2001; Cascio & Shurygailo, 2003). Organizations have become flatter and more dispersed (Sobel Lojeski, 2010) significantly altering the hierarchical role of leaders. Rather than controlling access to knowledge, leaders participate with their followers through technology in order to inform them and be informed. Leaders cannot control information but rather share knowledge (and oftentimes influence) with multiple stakeholders like employees, customers and suppliers using knowledge to build "customized" relationships (Avolio & Kahai,

2001). This gives leaders tremendous power to reach people but also the opportunity to be misunderstood (Avolio & Kahai, 2003; Sobel Lojeski, 2010). The effective *e*-leader must spend more time on relationship development; when this *e*-leadership is global, developing relationships is especially complex and involves interacting with people from different cultures with different views of what constitutes effective leadership (House et al., 2004).

Leadership involves engaging people and directing them toward achieving a common goal (Antonakis et al., 2004; Avolio et al., 2001; Sobel Lojeski, 2010). Global leadership, as defined by Adler et al. (2001), is "the process of influencing the thinking, attitudes, and behavior of a global community to work together synergistically toward a common vision and common goal." The international business environment is complex due to the interactions of four key forces 1) multiplicity – of customers, competitors, governments, suppliers, supply chains and other stakeholders 2) interdependence – whether economic, via the value chain or through alliances, partnerships and joint ventures 3) ambiguity – due to unclear information, inability to identify causality and multiple interpretations of information and 4) flux – constant, fast paced change. Managing this complexity requires both effective people and processes (Lane et al., 2004). To enable geographically dispersed and oftentimes culturally different people to work as a global community toward a common vision and goal necessitates additional leadership competencies and strategies. In particular, cultural intelligence, the ability to function effectively in different cultural contexts has been shown to be an important global leadership competency and strong predictor of cross-cultural leadership effectiveness (Earley & Ang, 2003; Ang et al., 2011; Van Dyne et al., 2012).

The Center for Creative Leadership and Forrester Research conducted a survey of 546 leaders across a multitude of industries from tech start-ups to mature Fortune 500 companies to

better understand the challenges of *e*-leadership (Pulley & Sessa, 2001). Results showed that in addition to foundational leadership skills required to align and inspire others toward common goal attainment, new expertise is necessary to effectively lead in a technologically mediated environment. Researchers identified five complex challenges that appear as management paradoxes for *e*-leaders. These are:

- Swift and mindful – the need to balance efficient but habitual responses that can be dispensed quickly with innovation and new ideas which take more time

- Individual and community – the need to create ways for individuals to be autonomous yet still feel connected

- Top-down and grass-roots – the need to balance top-down direction with grass-root input to ensure effective decision-making

- Details and big picture – the need to sift through enormous amounts of data and link all this information together to identify patterns and obtain meaningful intelligence

- Flexible and steady – the need to sense and respond to continuous change while maintaining focus on a common direction and purpose

Sobel Lojeski (2010) maintains that the use of "old management models" to try to solve these type of new challenges while managing individuals in social networks tied together by "electronic gadgetry" will "miss the mark" and lead to "phantom expectations of leader effectiveness and worker performance". *e*-Leaders must understand the effects of virtual distance as a consequence of widespread electronic communication and adjust their behaviors and actions to more effectively communicate with, inspire and motivate their employees. Her Virtual Distance Leadership Model (Sobel Lojeski, 2010), developed from comprehensive

research of effective *e*-leaders in companies with large virtual workforces, identifies three key virtual leadership actions.   These are:

- Creating context – this includes continually underscoring missions and goals and articulating how employees' work connects to the larger organization; drawing a picture of the place and texture of others' locales to help connect physically dispersed employees; providing information about other team members perspectives and mental models to help align values; being seen as a contextual constant to establish common points of reference, communication paths and resolution of priorities; providing support and access to information via communication and network development and using appropriate communication to keep employees engaged and motivated. By creating context, the effective *e*-leader helps the virtual organization to develop a shared sense of values around the organization, the work and the team. This ability to create context is equally important in the dyadic global *e*-mentoring relationship.

- Cultivating community – this includes nurturing a co-operative and constructive environment for members of the virtual organization with emphasis on confluent or shared vision, group stability and the ability for virtual members to develop sustainable relationships. This ability to create community, though arguably simpler in the dyadic global *e*-mentoring context, is equally important to an effective mentoring relationship.

- Co-activating new leaders – this includes sharing leadership by developing and activating others to lead in one's own network. Successful *e*-leaders provide this development by giving virtual workers access to global experiences, engaging in both mentoring and reverse mentoring, sharing vision and inspiration through some direct contact, adapting communication style to the needs of stakeholders and encouraging others to be proactive

and build their own social networks. In particular, facility and comfort with *e*-mentoring will assist the global virtual leader in this action.

Creating context, cultivating community and co-activating leaders describe the actions taken by effective *e*-leaders in maximizing innovation and performance of the virtual workforce (Sobel Lojeski, 2010). Sobel Lojeski's research showed that how great virtual leaders accomplished these varied but in general she observed four key *e*-leader competencies, techno-dexterity, the ability to transverse boundaries, a global mindset and authenticity.

- Techno-dexterity is the ability to use the most suitable communication mechanism for message delivery; in other words, understanding when face-to-face, videoconference, a telephone call, voice mail, email or other mechanism is best suited to message intent and content. *e*-Mentoring can help enhance techno-dexterity skills.

- Traversing boundaries can be especially important in co-activating leaders and means "crossing over disciplinary, organizational, geographic and cultural divisions to bring people and groups together" (Sobel Lojeski, 2010, p.108). In particular, the successful ability to *e*-mentor can be a boundary traversing tool.

- Glocalization is the ability to think global and act local. More importantly, it is to lead, communicate and inspire workers within the context of one's own locale to understand, accept and act on behalf of the organization's larger global mission and goals. The role of the virtual leader is to help integrate and bridge differences between geographically and culturally diverse workers to create a shared community.

- Both authenticity, behaving consistently with one's values, and transparency, providing open access to relevant information, have been identified by many leadership scholars as attributes of effective leaders (Antonakis et al., 2004; George, 2003). The challenge for

the *e*-leader is to ensure that authenticity and transparency transmit over multiple communication modes. Techno-dexterity can enable this but the leader must also focus on message content and how it is perceived.

Sobel Lojeski (2010) argues that one must now consider the virtual workplace as the context for all leadership. This necessitates additional leadership skills to maximize workforce performance and innovation in this new context. Leaders' roles as communicators, integrators, facilitators, cheerleaders and mentors become increasingly important in a virtual world. It is in this context that *e*-mentoring becomes more than just an altruistic way to develop people, but a necessary business competency in today's global world of work.

Given the premise of effective *e*-mentoring as a necessary business competency, this research provides insight that can inform global *e*-leaders as they lead and manage cross-culturally. Virtual distance was found to have a negative impact on the *e*-mentoring relationship. Although in this study, *e*-mentoring was part of a formal program, virtual distance and its causes can logically extend to *e*-mentoring between leaders and globally dispersed members of their organizations. Important mitigators of virtual distance in the *e*-leadership context include cultural intelligence and technology usage including techniques leaders use to work on development issues with subordinates. First, cultural intelligence can positively impact a cross-cultural relationship. In our research context, cultural intelligence was found to be a predictor of the successful match between mentors and mentees which in turn was a strong contributor to the reduction of virtual distance and subsequent mentorship effectiveness. *e*-Leaders that work to improve their CQ have the opportunity to more effectively interact with culturally diverse team members (Dean, 2007; Elenkov & Manev, 2009; Rockstuhl et al., 2009, Alon & Higgins, 2005) Effective cross-cultural interaction becomes more complex when virtual and an *e*-leader's ability

to appropriately use technology, or technodexterity, is also a critical factor (Sobel Lojeski, 2010). As illustrated in this research, global *e*-mentoring enables partners to use both their technodexterity and cultural intelligence skills. In particular, the techniques that mentors and mentees utilized to make context explicit and create a shared sense of commitment to the mentee's development, particularly when they lived and worked in different countries and companies, possibly worked in different functional areas and hailed from different national cultures can provide insight for global *e*-leaders. Although not a main focus of this research, a follow-up question to several study participants as well as exploratory pilot results and participant observation indicated that these techniques included spending time describing scenarios, having strategic discussions, getting to know each other including sending pictures and doing Skype tours and participating in virtual observations where the mentor listens in on mentee's participation in virtual meetings and provides feedback. In this way, *e*-mentoring is actually enabling development of skills and techniques that can translate into the global leadership environment.

CHAPTER 7: Conclusions & Future Research

This research has many important theoretical and practical implications. First, from a theoretical perspective, this research shows that virtual distance is a valid construct for understanding the effectiveness of global *e*-mentoring relationships. The virtual distance model can be applied to dyadic *e*-mentoring situations and as with virtual teams can help to not only explain, but predict, effectiveness. Likewise, the enablers of partnership matching, goal clarity and technology usage were found to mitigate virtual distance and these constructs can be used to model reductions in virtual distance and subsequent increases in mentorship effectiveness. In addition to demonstrating an entirely new application for virtual distance, this research also significantly increases the body of knowledge on the cross-cultural aspect of *e*-mentoring, a context that is becoming more and more important given our globally connected world. The inclusion of cultural intelligence as a consideration to matching of mentors and mentees is also a unique first application of this construct in the literature, again, an important contribution to the body of knowledge on global mentoring.

The connection of *e*-mentoring as a critical competency of *e*-leadership and the new ways of leading dispersed and diverse globally integrated enterprises is an important association. This link establishes the significance of *e*-mentoring beyond global talent development of new or inexperienced employees to a vital one-one-one virtual collaboration skill development opportunity for *e*-leaders. These include expanding one's CQ capabilities, learning to use technology appropriate to the situation, thereby increasing technodexterity, and utilizing techniques to make context explicit and create shared commitment. Additional research is required to more fully explore this connection and the specific dimensions of this competency in

both the virtual and global context. This is an important and relevant research direction that expands the foundation of mentoring research.

From a practitioner's perspective, this research provides significant insight into how to ensure the effectiveness of a formal global *e*-mentoring program. The dimensions of the research model can be used to anticipate mentor-mentee virtual distance and provide understanding on how to reduce it. Research results reconfirm the importance of a thoughtful mentor-mentee matching process and suggest the use of cultural intelligence as a construct for improving match beyond professional and personal fit. Additionally, the importance of having mentees articulate development goals and establishing expectations for the mentorship with their mentees is another important enabler for reducing virtual distance and improving mentorship effectiveness. Ensuring that mentors and mentees are comfortable using and have good access to communication technology outside of the work environment and business hours is also a critical program element. Although mentorship support was not found to be a significant mitigator of virtual distance in this study, it should not be concluded that mechanisms such as training, orientation, support resources and facilitated support are unnecessary. These items may not be essential for all mentorships to be successful but may add value for those inclined to use them. Additionally, one of the important practical considerations from this study is that being a global *e*-mentor provides learning and skills development opportunities that can translate into the maturation of competencies that are important for *e*-leaders – virtual one-on-one collaboration skills necessary to lead, manage and motivate cross-cultural, globally dispersed teams. This is an important consideration as organizations provide mentoring programs for global talent development – not only can mentees benefit from the experience but mentors can as well.

Finally, extending beyond the construction of formal mentoring programs, these research findings can inform *e*-leaders on how to increase the effectiveness of their dyadic global mentoring. In particular, the importance of cultural intelligence and appropriate technology usage that enable global leaders to make context visible and create shared commitment provide practical ways to increase *e*-leadership capabilities in organizations undergoing dramatic transformation as a result of globalization, technology change and intense competitive forces.

Global *e*-mentoring has emerged to meet the needs of today's global business context. This research has helped to expand both the body of academic knowledge and practitioners' understanding of this important topic.

APPENDIX A – EXPLORATORY PILOT SURVEY

About You

1. Timeframe of your partnership

2. Organization you worked for during partnership

3. Job position you held during partnership

4. Country where you were born and raised (Note: If you were born and/or raised in different countries, please provide the country whose culture you most identify with)

5. Country you worked in during the partnership

6. Countries you have lived in for over 3 months – please list countries and duration of stay

7. Global work experiences and timeframes

8. Travel experience

   - I have travelled outside my home country so many times I've lost count

   - I have travelled outside my home country ten to twenty times

   - I have travelled outside my home country five to nine times

   - I have travelled outside my home country one to four times

   - I have never travelled outside my home country

9. Languages you speak and proficiency

10. Job/responsibility changes that occurred during/after partnership

11. Prior to start of mentoring relationship, had you ever travelled to your mentor's home country?

12. Prior to start of mentoring relationship, had your mentor ever travelled to your home country?

13. Familiarity with mentor's country's culture? Very, somewhat or not at all

14. What did you and your mentor have in common?

   - Professional experience

   - Same industry

   - Educational background

   - Family circumstances (i.e. married with children, single with or without children)

   - Hobbies or interests

   - Other, please specify

   - Nothing

15. Do you stay in contact with your mentor after formal partnership concluded?

About Your Partnership

1. Did partnership have clear goals?

2. How often did you and your mentor communicate?

3. What was your most frequently used method of communication?

4. What additional communication methods were used during partnership?

5. What language did you and your mentor communicate in?

6. To what extent was language a difficult in partnership? Not at all, Some or Very Much

7. Did you have access to technology to communicate with your mentor outside of work? If no, was this a problem?

8. Were you comfortable using the available technology to communicate with your mentor?

9. Would you have used a different type of technology to communicate if available?

10. Did you ever meet your mentor face-to- face? If yes, how frequently?

11. How important was face-to-face meeting to the partnership?

12. Did you and your mentor participate in formal on-line launch meeting? Both mentor and I; only I; only partner, neither

13. Did you utilize training materials and resources available from Menttium? If no, why not?

14. Did you use GlobeSmart to learn more about your mentor's culture? If no, why not? If yes, was this helpful?

15. Did you participate in mid-year check-ins with Menttium?

16. What techniques did your mentor use to support your development?

- Brainstorming solutions to meet my challenges

- Discussing mentee leadership feedback from organization

- Providing input on mentee's work products

- Listening in virtually on mentee's performance in meetings

- Recommending reading material, resources and/or training to meet a developmental need

- Other, please specify

17. What aspect of mentoring was most successful in meeting partnership goals?

18. Were goals for partnership achieved by its conclusion?

19. How effective was the partnership? Not at all, Somewhat, Moderately, Effective, Highly

20. Why did you rate the partnership this way?

21. How would you rate the extent of rapport you developed with your mentor? Poor, Fair, Good, Very good, Excellent

22. What caused you to rate rapport this way?

23. How effective was the partner matching process? Poor, Fair, Good, Very good, Excellent

24. What can be done to improve partner matching process?

25. What difficulties did you and your mentor experience?

- Time zone differences made it challenging to schedule meetings

- Language barriers

- Cultural differences

- Use of technology communication tools

- No access to technology outside work

- Industry or professional differences

- Lack of common interests

- Other, please specify

26. Comment on how these difficulties were addressed, if at all.

27. How could your experience as a mentee be improved?

28. Additional comments about your mentoring experience.

APPENDIX B – EXPLORATORY PILOT SUMMARY DATA

Mentorship Rating	Match	Mentee CQ Influencers	Goals	Structure	Use of Support	Technology Access	Technology Comfort
Highly effective	Professional Personal	Has worked extensively in Europe Travelled extensively worldwide Multi-lingual Manages employees virtually	Yes	Yes	No	Yes	Yes
Moderately effective	Professional Personal	Has worked exclusively in Spain with little travel outside country Uncomfortable with English	No	No	No	No	No
Highly effective	Professional Interests	Educated in France Lived & worked in Europe & U.S. Multi-lingual Manages employees virtually Well-educated (PhD) & well-read	Yes	Yes	Yes	Yes	Yes
Highly effective	Professional Personal Interests	Has worked exclusively in India Well-travelled Children attend U.S. universities	Yes	Yes	No	Yes	Yes

APPENDIX C – CONSTRUCT TABLE

Concept	Working Definition	Construct/ Dimension(s)	Definition(s) in the Literature	Operationalization / Scale Properties

VIRTUAL DISTANCE	Psychological separation created by physical, operational, and affinity distance between partners in an e-mentoring relationship.	Virtual Distance
		1) Physical Distance
		  ➢ Geographic
		  ➢ Temporal
		  ➢ Organizational
		2) Operational Distance
		  ➢ Communications
		  ➢ Multitasking
		  ➢ Readiness
		3) Affinity Distance
		  ➢ Cultural
		  ➢ Social
		  ➢ Relationship
		  ➢ Interdependence
		
		*Note: Dimension of distribution asymmetry does not apply to e-mentoring context and will not be considered
			Virtual Distance: "a type of psychological distance created by a combination of factors that distributed teams encounter; contains three major dimensions: physical, operational and affinity distance." (Sobel Lojeski & Reilly, 2008)
			Physical Distance: "separation due to geography, time zone & organizational affiliation"
			Operational Distance: "separation due to communication distance, multitasking, readiness distance & distribution asymmetry*"
			Affinity Distance: "separation due to cultural, social, relationship and interdependence distance."
				Sobel Lojeski : **Proprietary Virtual Distance Scale** 5 pt. scale (1 = strongly disagree, 5 = strongly disagree) α = >0.7

| *MENTORSHIP EFFECTIVENESS* | Mentor and mentee satisfaction that mentee achieved her development goals during the relationship and the impact the mentee's development during the relationship had on her career in terms of promotion, advancement, compensation increase, enhanced performance, retention & morale | Mentorship Effectiveness

1) Satisfaction

2) Career Impact | **Satisfaction:** "perception of effectiveness of mentoring" (Ragins et al., 2000)

Career Outcomes: "promotion rate & compensation where promotion is defined as involving two or more of the following criteria: significant increases in annual salary, significant increases in scope of responsibility, changes in job level or rank, becoming eligible for bonuses or stock plan (Whitely et al., 1991) **Career Success:** "defined as 1) rate of advancement 2) salary attainment 3) supervisory ratings of performance, success & contributions (Scandura, 1992) **Program Impact:** companies with formal mentoring programs identified "retention, promotion & advancement, satisfaction, morale & productivity & performance as impacts for organization" (Hegstad & Wentling, 2004) | *Modified version of Ragins et al. (2000): Perceived Program Effectiveness Scale* 7pt. scale (1 = strongly disagree, 7 = strongly agree) α = .79.

Newly developed measures for career impact 5pt. scale (1 = strongly disagree, 5 = strongly agree) α =.85 |

| *MENTOR-MENTEE MATCHING* | Appropriateness of professional, personal and cultural fit between mentor and mentee that enables them to form a productive mentoring relationship | Partner Fit
1) Professional
2) Personal
3) Cultural
4) Mentor/Mentee Satisfaction | **Matching Process:** Structured process with specific criteria used by organizations to match mentors & protégés (Hegstad & Wentling, 2004)
Interpersonal Comfort: "mutual attraction, identification & common non-work interests that help form the bonding process in mentoring relationships (Allen et al., 2005)
Professional Fit: "Matching the developmental needs of protégé with expertise of mentor" (Hegstad & Wentling, 2004)
Personal Fit: "Common background and interests between mentor and protégé" (Hegstad & Wentling, 2004)
Cultural Fit: lack of literature on cross-cultural matching
Mentor Satisfaction: "protégé's satisfaction with mentor" (Ragins & Cotton, 1999) This was adapted to reflect mentor's satisfaction with mentee as well. | *Newly developed measures for professional, personal & cultural fit as interpersonal comfort scale was more aligned with trust measure* 5pt. scale (1 = strongly disagree, 7 = strongly agree) α = .81

Ragins & McFarlin (1990): Satisfaction with Mentor Scale 7pt. scale (1 = strongly disagree, 7 = strongly agree) α = .83 |
| *CULTURAL INTELLIGENCE* | Mentor and mentee's capacity to bridge cultural differences to work well together | Cultural Intelligence
1) Motivational CQ
2) Cognitive CQ
3) Metacognitive CQ
4) Behavioral CQ | **CQ:** "a person's capability for successful adaptation to new cultural settings, that is, unfamiliar settings attributable to cultural context" (Earley & Ang, 2003) | *VanDyne et al., (2012):* **Expanded Cultural Intelligence Scale** 7pt scale (1 = strongly disagree, 7 = strongly agree) α => .70 |

GOAL CLARITY	Mentee has developed and articulated clear and actionable goals for the mentorship and these are understood by mentor	Goal Clarity	**Goal Clarity: "**shared expectations about behaviors & outcomes of mentoring relationship; articulated purpose of mentoring relationship & defined transition which mentee wishes to achieve" (Clutterbuck, 2011)	*Newly developed measures* 5pt scale (1 = strongly disagree, 5 = strongly disagree) α = .80
MENTORING FUNCTIONS	Types of benefits provided by mentors in supporting mentee development	Mentoring Functions 1) Coaching 2) Role-Modeling 3) Acceptance 4) Counseling 5) Friendship	**Mentoring Functions: "**types of benefit provided to mentee by mentors; three broad categories – career development includes sponsorship, coaching, protection, challenging assignments & exposure of which coaching is the only relevant support given organizational distance between mentor & mentee; psychosocial support includes helping protégé develop sense of professional self (acceptance & confirmation); providing problem solving & a sounding board (counseling); giving respect & support (friendship) & providing identification; role-modeling (role-modeling)" (Kram, 1985)	***Ragins & McFarlin (1990): Mentor Role Instrument*** 7pt. scale (1= strongly disagree, 7 = strongly agree) $\alpha = > .70$
MENTORSHIP SUPPORT	Use of available tools, processes & training to support development of an effective mentoring relationship	Mentoring Relationship Support (includes tools, processes & training)	**Mentoring:** Mechanisms to support mentoring relationship that include training, relationship building tools, discussion guides, partnership agreements, mentor essential lists, journals & growth plans (Hegsted & Wentling, 2004)	*Newly developed measures* 5pt scale (1 = strongly disagree, 5 = strongly agree) α = .83

TECHNOLOGY USAGE	Mentor & mentee access to communication technology outside the normal work environment & their comfort with using communication technology	Technology Usage 1) Access 2) Comfort	**Access:** Availability of technology to fit user's task (Jarvenpaa & Staples, 2004) **Comfort:** Individual's attitudes about information technology that positively incline one to initially try and explore capabilities over time (Jarvenpaa & Staples, 2000)	*Newly developed measures* 5pt scale (1 = strongly disagree, 7 = strongly agree) α = >.70 *Modified version of Jarvenpaa & Staples (2004):* *Computer Comfort Instrument (Compeau, 1992)* 7pt. scale (1 = strongly disagree, 7 = strongly agree) α = .79
TRUST	One's expectation that partner will behave in trustworthy manner	Trustworthiness 1) Ability 2) Benevolence 3) Integrity	**Trustworthiness:** "belief that comes before trust based on one's own expectations and situational context rather than actual behavior of others" (McKnight et al., 1998)	*Jarvenpaa et al. (2004):* *Initial Trustworthiness (Pearce et al, 1992)* 5pt. scale (1= strongly disagree, 5 = strongly agree) α = .80

APPENDIX D – MENTOR & MENTEE SURVEYS

Mentee Survey

You are being asked to participate in this research study because you are or have been a mentee in a global relationship facilitated by the mentoring service and support organization, Menttium. The study is being conducted at Wayne State University by Nancy Philippart (nancy.philippart@wayne.edu), a doctoral candidate in the Industrial Engineering program working under the guidance of Dr. Ratna Babu Chinnam (r_chinnam@wayne.edu). We are interested in your experiences as a mentee. Information from this study may be used in future to benefit organizations interested in using mentoring to develop global leadership talent.

Be assured that we will not share your responses with anyone. The time required for your participation will be approximately 30 minutes. You may request a summarized copy of results upon completion of the study.

If you have any questions about this study now or in the future, you may contact Nancy Philippart or her dissertation advisor at the following phone number: 313-577-3821.

Your participation is greatly appreciated.

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1. You have been identified as a participant in this survey because you have been or currently are a mentee in a relationship with a mentor whose national origin differed from your own and who lived and worked in a country different from you.

Is this true?

- ○ Yes
- ○ No

2. I was born and raised in the following country. (Note: If you were born and/or raised in different countries, please indicate the country whose culture you most identify with.)

- ○ Canada, USA, Australia, Ireland, England, New Zealand
- ○ Germany, Austria, Netherlands
- ○ Denmark, Finland, Sweden
- ○ Ecuador, El Salvador, Columbia, Bolivia, Brazil, Guatemala, Argentina, Costa Rica, Venezuela, Mexico
- ○ Philippines, Indonesia, Malaysia, India, Thailand, Iran
- ○ Singapore, Hong Kong, Taiwan, China, S. Korea, Japan
- ○ Turkey, Kuwait, Egypt, Morocco, Qatar
- ○ Greece, Hungary, Albania, Slovenia, Poland, Russia, Georgia, Kazakhstan
- ○ Zimbabwe, Namibia, Zambia, Nigeria, S. Africa
- ○ Israel, Italy, Switzerland, Spain, Portugal, France
- ○ Other (please specify)

3. My mentor was born and raised in the following country. (Note: If your mentor was born and/or raised in different countries, please indicate the country whose culture you think she or he most identifies with.)

- ○ Canada, USA, Australia, Ireland, England, New Zealand
- ○ Germany, Austria, Netherlands
- ○ Denmark, Finland, Sweden
- ○ Ecuador, El Salvador, Columbia, Bolivia, Brazil, Guatemala, Argentina, Costa Rica, Venezuela, Mexico
- ○ Philippines, Indonesia, Malaysia, India, Thailand, Iran
- ○ Singapore, Hong Kong, Taiwan, China, S. Korea, Japan
- ○ Turkey, Kuwait, Egypt, Morocco, Qatar
- ○ Greece, Hungary, Albania, Slovenia, Poland, Russia, Georgia, Kazakhstan
- ○ Zimbabwe, Namibia, Zambia, Nigeria, S. Africa
- ○ Israel, Italy, Switzerland, Spain, Portugal, France
- ○ Don't Know
- ○ Other (please specify)

4. What functional area(s) did you work in during the mentoring relationship? Check all that apply

- ☐ Marketing/Sales/Customer Service
- ☐ Engineering/Product or Process Development/Technical Support
- ☐ Manufacturing
- ☐ Purchasing/Supply Chain Management/Logistics
- ☐ Finance
- ☐ Human Resources
- ☐ General Management
- ☐ Other (please specify)

5. What functional area(s) did your mentor work in during the mentoring relationship? Check all that apply

- ☐ Marketing/Sales/Customer Service
- ☐ Engineering/Product or Process Development/Technical Support
- ☐ Manufacturing
- ☐ Purchasing/Supply Chain Management/Logistics
- ☐ Finance
- ☐ Human Resources
- ☐ General Management
- ☐ Don't Know
- ☐ Other (please specify)

6. What industry(s) did you work in during the mentoring relationship? Check all that apply

- ☐ Automotive
- ☐ Food processing
- ☐ Energy
- ☐ Telecommunications
- ☐ Manufacturing
- ☐ Financial services
- ☐ Information technology
- ☐ Heavy equipment
- ☐ Construction
- ☐ Consumer goods
- ☐ Retail
- ☐ Education
- ☐ Other (please specify)

7. What industry(s) did your mentor work in during the mentoring relationship? Check all that apply.

- [ ] Automotive
- [ ] Food processing
- [ ] Energy
- [ ] Telecommunications
- [ ] Manufacturing
- [ ] Financial services
- [ ] Information technology
- [ ] Heavy equipment
- [ ] Construction
- [ ] Consumer goods
- [ ] Retail
- [ ] Education
- [ ] Don't Know
- [ ] Other (please specify)

8. What was the time frame of your mentoring relationship?

- ( ) 2006-7
- ( ) 2007-8
- ( ) 2008-9
- ( ) 2009-10
- ( ) 2010-11
- ( ) 2011-12
- ( ) Currently in mentoring relationship
- ( ) Other (please specify)

9. I was working (and living) in the following country(s) during our mentoring relationship.

10. My mentor was working (and living) in the following country(s) during our mentoring relationship.

11. How many countries have you lived in for at least six months?

- ( ) One
- ( ) Two
- ( ) Three
- ( ) More than three

12. How many languages do you speak with moderate or better proficiency?

- ( ) One
- ( ) Two
- ( ) Three
- ( ) More than three

13. I have global work experience.

- ( ) Yes
- ( ) No

14. I had traveled to my mentor's home country before starting our mentoring relationship.

- ( ) Yes
- ( ) No

15. What did you and your mentor have in common? Check all that apply.

- [ ] Professional experience
- [ ] Same industry
- [ ] Educational background
- [ ] Family circumstances (i.e. married with children, single with or without children)
- [ ] Hobbies or interests
- [ ] None
- [ ] Other (please specify)

16. If your formal mentoring relationship has ended, do you still stay in contact with your mentor?

- ( ) Yes
- ( ) No

17. Please indicate your extent of agreement with the following.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
Telephoning was the primary way I communicated with my mentor.	( )	( )	( )	( )	( )
I frequently had to schedule meetings with my mentor at inopportune times because of time zone differences.	( )	( )	( )	( )	( )
My mentor and I were able to communicate easily without face to face (in person) meetings.	( )	( )	( )	( )	( )
I had regularly scheduled communications with my mentor.	( )	( )	( )	( )	( )
Personal commitments frequently interfered with meetings with my mentor.	( )	( )	( )	( )	( )
The technology I used to communicate with my mentor was easy to use.	( )	( )	( )	( )	( )
Email or instant messaging was the primary way I communicated with my mentor.	( )	( )	( )	( )	( )
My mentor was available to me via phone or video conference outside of regularly scheduled meeting times as needed.	( )	( )	( )	( )	( )

18. Please indicate your extent of agreement with the following.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
The technology I used to communicate with my mentor was reliable.	( )	( )	( )	( )	( )
My mentor and I communicated with the appropriate frequency.	( )	( )	( )	( )	( )
Differences in time zones created problems in scheduling meetings with my mentor.	( )	( )	( )	( )	( )
Work commitments frequently interfered with meetings with my mentor.	( )	( )	( )	( )	( )
I often multi-tasked (e.g. checked email) while virtually meeting with my mentor.	( )	( )	( )	( )	( )
I usually had several assignments due while trying to work with my mentor on my development goals.	( )	( )	( )	( )	( )
Videoconferencing was the primary way I communicated with my mentor.	( )	( )	( )	( )	( )
Technical support for the technology I used to communicate with my mentor was excellent.	( )	( )	( )	( )	( )

19. Please indicate your extent of agreement with the following.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I found it easy to communicate with my mentor (common language, shared understanding of jargon & slang).	○	○	○	○	○
I understood the work habits of my mentor.	○	○	○	○	○
My mentor was readily available if I needed to seek advice or discuss an issue.	○	○	○	○	○
My work habits were similar to my mentor's work habits.	○	○	○	○	○
My mentor and I were in the same time zone.	○	○	○	○	○
My values were similar to my mentor's values.	○	○	○	○	○
I valued my mentor's expertise.	○	○	○	○	○

20. Please indicate your extent of agreement with the following.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I knew my mentor prior to beginning our mentoring relationship.	○	○	○	○	○
I was friendly with people my mentor knew prior to beginning our mentoring relationship.	○	○	○	○	○
I had the full attention of my mentor during our conversations.	○	○	○	○	○
Status in the relationship was derived mainly from what my mentor contributed to the mentoring relationship regardless of his or her title, affiliation or position.	○	○	○	○	○
My mentor knew some of the same people I knew prior to beginning our mentoring relationship.	○	○	○	○	○
I felt free to contribute ideas and critique my mentor's input regardless of my rank or affiliation.	○	○	○	○	○
My mentor frequently multitasked (e.g. checked email, composed messages, etc) during our virtual meetings.	○	○	○	○	○
I understood the values of my mentor.	○	○	○	○	○

21. Please indicate your extent of agreement with the following.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I was satisfied with the outcomes of our mentoring relationship.	○	○	○	○	○
My mentor had worked with people I knew prior to beginning our mentoring relationship.	○	○	○	○	○
My mentor and I were equally committed to the outcome of our mentoring relationship.	○	○	○	○	○
My mentor and I shared a common understanding of the goals and objectives of our mentoring relationship.	○	○	○	○	○
Our mentoring relationship was effective.	○	○	○	○	○
I achieved my development goals during our mentoring relationship.	○	○	○	○	○
My mentor was committed to our mentoring relationship and helping me achieve my development goals.	○	○	○	○	○

22. Please indicate your extent of agreement with the following

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I am more satisfied with my organization because of our mentoring relationship.	○	○	○	○	○
I have received better performance reviews because of skills I learned during our mentoring relationship.	○	○	○	○	○
I was frequently interrupted in discussions with my mentor by email, instant messaging or other electronic media.	○	○	○	○	○
I have assumed additional work responsibilities because of skills I learned during our mentoring relationship.	○	○	○	○	○
I am more likely to stay with my organization because of our mentoring relationship.	○	○	○	○	○
I have received increased compensation because of skills I learned during our mentoring relationship.	○	○	○	○	○
I have received a promotion or changes in job level or rank because of skills I learned during our mentoring relationship.	○	○	○	○	○
My mentor's professional skills and experiences were relevant to my development goals.	○	○	○	○	○

23. Please indicate your extent of agreement with the following.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
My mentor and I shared common interests.	○	○	○	○	○
My mentor and I were well matched professionally.	○	○	○	○	○
My mentor could empathize with the personal challenges I faced.	○	○	○	○	○
I was usually working on multiple tasks at the same time I was virtually meeting with my mentor.	○	○	○	○	○
My mentor could empathize with the professional challenges I faced.	○	○	○	○	○
My mentor had the necessary functional experience to support me.	○	○	○	○	○
My mentor and I were personally compatible.	○	○	○	○	○
My mentor's beliefs and values were similar to my own.	○	○	○	○	○

24. Please indicate your extent of agreement with the following.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
My mentor was effective in his or her mentoring role.	○	○	○	○	○
I had difficulty communicating with my mentor because his or her native language differed from mine.	○	○	○	○	○
My mentor and I had some awkward moments because we were from different national cultures.	○	○	○	○	○
My mentor failed to meet my needs.	○	○	○	○	○
My mentor disappointed me.	○	○	○	○	○
My mentor and I were well matched culturally.	○	○	○	○	○
My mentor was someone I was satisfied with.	○	○	○	○	○
My mentor and I had some misunderstandings because we were from different national cultures.	○	○	○	○	○

25. Please indicate your extent of agreement with the following.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I understood why I was in the mentoring program.	○	○	○	○	○
My mentor was able to use virtual mentoring techniques to support my development goals.	○	○	○	○	○
My mentor understood my development goals.	○	○	○	○	○
My mentor and I agreed on frequency and way to communicate during our mentoring relationship.	○	○	○	○	○
My mentor understood my values.	○	○	○	○	○
I took responsibility for arranging time to work with my mentor on my development goals.	○	○	○	○	○
My mentor understood my work habits.	○	○	○	○	○
I developed and articulated clear and actionable development goals to my mentor.	○	○	○	○	○

26. Did you review your mentor's on-line profile prior to your first meeting?

○ Yes
○ No

27. Reviewing my mentor's on-line profile to learn more about him or her prior to our first meeting was helpful to our relationship.

○ Strongly Disagree
○ Disagree
○ Neither Agree nor Disagree
○ Agree
○ Strongly Agree

28. Did you and your mentor participate in orientation?

○ Yes
○ No

29. My mentor's and my participation in orientation was helpful to our relationship.

○ Strongly Disagree
○ Disagree
○ Neither Agree nor Disagree
○ Agree
○ Strongly Agree

30. Did you use the Globe Smart website to learn more about your mentor's national culture?

○ Yes
○ No

31. Using the Globe Smart website to learn more about my mentor's national culture was helpful to our relationship.

○ Strongly Disagree
○ Disagree
○ Neither Agree nor Disagree
○ Agree
○ Strongly Agree

32. Please indicate your extent of agreement with the following.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
My mentor suggested specific strategies for achieving my career aspirations.	○	○	○	○	○
My mentor helped me learn about other parts of the business beyond my area of expertise.	○	○	○	○	○
I was able to get help from Menttium with problems encountered during our mentoring relationship.	○	○	○	○	○
My mentor served as a role model for me.	○	○	○	○	○
My mentor gave me useful feedback on my job performance.	○	○	○	○	○
My mentor and I used the training materials provided.	○	○	○	○	○
My mentor encouraged me to prepare for advancement.	○	○	○	○	○
Meeting my mentor face to face (in person) was or would have been nice but was not necessary for developing an effective mentoring relationship.	○	○	○	○	○

33. Please indicate your extent of agreement with the following.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
My mentor guided my personal development.	○	○	○	○	○
My mentor served as a sounding board (someone with which to share my ideas) for me to develop and understand myself.	○	○	○	○	○
My mentor represents someone who I would like to be.	○	○	○	○	○
Some face to face (in person) meetings with my mentor would have helped improve our mentoring relationship.	○	○	○	○	○
My mentor is someone I can identify with.	○	○	○	○	○
Meeting my mentor face to face (in person) was critical for developing an effective mentoring relationship.	○	○	○	○	○
My mentor guided my professional development.	○	○	○	○	○
My mentor felt apprehensive using technology to communicate with me.	○	○	○	○	○

34. Please indicate your extent of agreement with the following.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
My mentor shared personal experiences as an alternative perspective to my problems.	○	○	○	○	○
My mentor saw me as being competent.	○	○	○	○	○
My mentor thought highly of me.	○	○	○	○	○
My mentor provided support and encouragement to me.	○	○	○	○	○
My mentor was someone I could confide in.	○	○	○	○	○
My mentor interacted socially (talking about family, personal interests, meeting socially, etc.), not just professionally with me.	○	○	○	○	○
My mentor was someone I could trust.	○	○	○	○	○
My mentor accepted me as a competent professional.	○	○	○	○	○

35. Please indicate your extent of agreement with the following.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I had confidence in my mentor.	○	○	○	○	○
My ability to use communication technology was not a problem during the mentoring relationship.	○	○	○	○	○
I felt apprehensive using technology to communicate with my mentor.	○	○	○	○	○
My mentor and I were usually considerate of one another's feelings.	○	○	○	○	○
My mentor invited me for a face to face visit.	○	○	○	○	○
Overall, I thought my mentor was trustworthy.	○	○	○	○	○
I could rely on my mentor to do what he or she said.	○	○	○	○	○
My mentor and I would have used different communication technologies during our mentoring relationship if available.	○	○	○	○	○

36. Please indicate your extent of agreement with the following.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
Using technology to communicate during our mentoring relationship made our interactions more interesting.	○	○	○	○	○
My mentor had access to communication technologies to interact with me at convenient times.	○	○	○	○	○
It was fun using technology to communicate with my mentor.	○	○	○	○	○
I enjoyed using technology to communicate with my mentor.	○	○	○	○	○
My mentor and I would have used different communication methods during our mentoring relationship if we knew how.	○	○	○	○	○
I had access to communication technology to interact with my mentor at convenient times.	○	○	○	○	○
Access to communication technology was not a problem during our mentoring relationship.	○	○	○	○	○
I was satisfied using technology to communicate with my mentor.	○	○	○	○	○

37. Please indicate your extent of agreement with the following.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
There was a noticeable lack of confidence between my mentor and me.	○	○	○	○	○
My mentor and I were friendly.	○	○	○	○	○
I value the status I would gain from living or working in a different culture.	○	○	○	○	○
I was satisfied with the availability of technology to communicate with my mentor.	○	○	○	○	○
My mentor gave me advice on how to attain recognition in my organization.	○	○	○	○	○
I thrive on the differences in cultures that are new to me.	○	○	○	○	○
Given a choice, I prefer work groups composed of people with different (rather than similar) cultural backgrounds.	○	○	○	○	○
I truly enjoy interacting with people from different cultures.	○	○	○	○	○

38. What was your most frequently used method of communication?

○ Telephone or other audio method only
○ Skype or other video conferencing tool
○ Email
○ In person face to face
○ Other (please specify)
[   ]

39. What additional communication methods were used at any time during your mentoring relationship? (Check all that apply)

☐ Telephone or other audio method only
☐ Skype or other video conferencing tool
☐ Email
☐ In person face to face
☐ Other (please specify)
[   ]

40. My mentor and I had access to visual communication tools like Skype or video conferencing.

○ Yes
○ No

41. Please indicate your extent of agreement with the following.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I can describe differences in kinship systems and role expectations for men and women across cultures.	○	○	○	○	○
I can describe the different cultural value frameworks that explain behaviors around the world.	○	○	○	○	○
I am confident I can socialize with locals in a culture that is unfamiliar to me.	○	○	○	○	○
Given a choice, I value the tangible benefits (pay, promotion, perks) of an intercultural rather than a domestic role.	○	○	○	○	○
I am confident that I can persist in coping with living conditions in different cultures.	○	○	○	○	○
I am sure I can deal with the stresses of interacting with people from cultures that are new to me.	○	○	○	○	○
I value the reputation I would gain from developing global networks and connections.	○	○	○	○	○
I can describe similarities and differences in legal, economic and political systems across cultures.	○	○	○	○	○

42. Please indicate your extent of agreement with the following.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I can describe different views of beauty and aesthetics across cultural settings.	○	○	○	○	○
I can speak and understand many languages.	○	○	○	○	○
I can describe effective negotiation strategies across different cultures.	○	○	○	○	○
I develop action plans before interacting with people from a different culture.	○	○	○	○	○
I can describe effective ways for dealing with conflict in different cultures.	○	○	○	○	○
I can describe different ways to motivate and reward people across cultures.	○	○	○	○	○
I can describe the ways that leadership styles differ across cultural settings.	○	○	○	○	○
I can describe how to put people from different cultures at ease.	○	○	○	○	○

43. Please indicate your extent of agreement with the following.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I double check the accuracy of my cultural knowledge during intercultural interactions.	○	○	○	○	○
I update my cultural knowledge after a cultural misunderstanding.	○	○	○	○	○
I adjust my understanding of a culture while I interact with people from that culture.	○	○	○	○	○
I pay attention to how cultural aspects of the situation influence what is happening in that situation.	○	○	○	○	○
I think about possible cultural differences before meeting people from other cultures.	○	○	○	○	○
I ask myself what I hope to accomplish before I meet with people from different cultures.	○	○	○	○	○
I am aware of how my culture influences my interactions with people from different cultures.	○	○	○	○	○
I am conscious of how other people's culture influences their thoughts, feelings and actions.	○	○	○	○	○

44. Please indicate your extent of agreement with the following.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I modify the way I disagree with others to fit the cultural setting.	○	○	○	○	○
I modify the amount of warmth I express to fit the cultural context.	○	○	○	○	○
I change my use of pause and silence to suit different cultural situations.	○	○	○	○	○
I modify how close or far apart I stand when interacting with people from different cultures.	○	○	○	○	○
I vary my verbal behaviors (accent, tone, rate of speaking) to fit specific cultural contexts.	○	○	○	○	○
I change my non-verbal behaviors (hand gestures, head movements) to fit the cultural situation.	○	○	○	○	○
I change how I make requests of others depending on their cultural background.	○	○	○	○	○
I vary the way I greet others (shake hands, bow, nod) when in different cultural contexts.	○	○	○	○	○
I vary the way I show gratitude (express appreciation, accept compliments) based on cultural context.	○	○	○	○	○

45. Would you be willing to provide additional insight about your experience as a mentee if required in future?

○ Yes

○ No

46. Please provide your name and email address.

[   ]

Mentor Survey

You are being asked to participate in this research study because you are or have been a mentor in a global relationship facilitated by the mentoring service and support organization, Menttium. The study is being conducted at Wayne State University by Nancy Philippart (nancy.philippart@wayne.edu), a doctoral candidate in the Industrial Engineering program working under the guidance of Dr. Ratna Babu Chinnam (r_chinnam@wayne.edu). We are interested in your experiences as a mentor. Information from this study may be used in future to benefit organizations interested in using mentoring to develop global leadership talent.

Be assured that we will not share any of this information with anyone. The time required for your participation will be approximately 30 minutes. You may request a summarized copy of results upon completion of the study.

If you have any questions about this study now or in the future, you may contact Nancy Philippart or her dissertation advisor at the following phone number: 313-577-3821.

Your participation is greatly appreciated.

1. You have been identified as a participant in this survey because you have been or currently are a mentor in a relationship with a mentee whose national origin differed from your own and who lived and worked in a country different from you.

Is this true?

- ○ Yes
- ○ No

2. I was born and raised in the following country. (Note: If you were born and/or raised in different countries, please indicate the country whose culture you most identify with.)

- ○ Canada, USA, Australia, Ireland, England, New Zealand
- ○ Germany, Austria, Netherlands
- ○ Denmark, Finland, Sweden
- ○ Ecuador, El Salvador, Columbia, Bolivia, Brazil, Guatemala, Argentina, Costa Rica, Venezuela, Mexico
- ○ Philippines, Indonesia, Malaysia, India, Thailand, Iran
- ○ Singapore, Hong Kong, Taiwan, China, S. Korea, Japan
- ○ Turkey, Kuwait, Egypt, Morocco, Qatar
- ○ Greece, Hungary, Albania, Slovenia, Poland, Russia, Georgia, Kazakhstan
- ○ Zimbabwe, Namibia, Zambia, Nigeria, S. Africa
- ○ Israel, Italy, Switzerland, Spain, Portugal, France
- ○ Other (please specify)
  _____

3. My mentee was born and raised in the following country. (Note: If your mentee was born and/or raised in different countries, please indicate the country whose culture you think she most identifies with.)

- ○ Canada, USA, Australia, Ireland, England, New Zealand
- ○ Germany, Austria, Netherlands
- ○ Denmark, Finland, Sweden
- ○ Ecuador, El Salvador, Columbia, Bolivia, Brazil, Guatemala, Argentina, Costa Rica, Venezuela, Mexico
- ○ Philippines, Indonesia, Malaysia, India, Thailand, Iran
- ○ Singapore, Hong Kong, Taiwan, China, S. Korea, Japan
- ○ Turkey, Kuwait, Egypt, Morocco, Qatar
- ○ Greece, Hungary, Albania, Slovenia, Poland, Russia, Georgia, Kazakhstan
- ○ Zimbabwe, Namibia, Zambia, Nigeria, S. Africa
- ○ Israel, Italy, Switzerland, Spain, Portugal, France
- ○ Don't Know
- ○ Other (please specify)
  _____

4. What functional area(s) did you work in during the mentoring relationship? Check all that apply

- ☐ Marketing/Sales/Customer Service
- ☐ Engineering/Product or Process Development/Technical Support
- ☐ Manufacturing
- ☐ Purchasing/Supply Chain Management/Logistics
- ☐ Finance
- ☐ Human Resources
- ☐ General Management
- ☐ Other (please specify)
  _____

5. What functional area(s) did your mentee work in during the mentoring relationship? Check all that apply

- ☐ Marketing/Sales/Customer Service
- ☐ Engineering/Product or Process Development/Technical Support
- ☐ Manufacturing
- ☐ Purchasing/Supply Chain Management/Logistics
- ☐ Finance
- ☐ Human Resources
- ☐ General Management
- ☐ Don't Know
- ☐ Other (please specify)
  _____

6. What industry(s) did you work in during the mentoring relationship? Check all that apply

- ☐ Automotive
- ☐ Food processing
- ☐ Energy
- ☐ Telecommunications
- ☐ Manufacturing
- ☐ Financial services
- ☐ Information technology
- ☐ Heavy equipment
- ☐ Construction
- ☐ Consumer goods
- ☐ Retail
- ☐ Education
- ☐ Other (please specify)
  _____

7. What industry(s) did your mentee work in during the mentoring relationship? Check all that apply.

- [ ] Automotive
- [ ] Food processing
- [ ] Energy
- [ ] Telecommunications
- [ ] Manufacturing
- [ ] Financial services
- [ ] Information technology
- [ ] Heavy equipment
- [ ] Construction
- [ ] Consumer goods
- [ ] Retail
- [ ] Education
- [ ] Don't Know
- [ ] Other (please specify)

8. What was the time frame of your mentoring relationship?

- ○ 2006-7
- ○ 2007-8
- ○ 2008-9
- ○ 2009-10
- ○ 2010-11
- ○ 2011-12
- ○ Currently in mentoring relationship
- ○ Other (please specify)

9. I was working (and living) in the following country(s) during our mentoring relationship.

10. My mentee was working (and living) in the following country(s) during our mentoring relationship.

11. How many countries have you lived in for at least six months?

- ○ One
- ○ Two
- ○ Three
- ○ More than three

12. How many languages do you speak with moderate or better proficiency?

- ○ One
- ○ Two
- ○ Three
- ○ More than three

13. I have global work experience.

- ○ Yes
- ○ No

14. I had traveled to my mentee's home country before starting our mentoring relationship.

- ○ Yes
- ○ No

15. What did you and your mentee have in common? Check all that apply.

- [ ] Professional experience
- [ ] Same industry
- [ ] Educational background
- [ ] Family circumstances (i.e. married with children, single with or without children)
- [ ] Hobbies or interests
- [ ] None
- [ ] Other (please specify)

16. If your formal mentoring relationship has ended, do you still stay in contact with your mentee?

- ○ Yes
- ○ No

17. Please indicate your extent of agreement with the following.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
Telephoning was the primary way I communicated with my mentee.	○	○	○	○	○
My mentee and I were able to communicate easily without face to face (in person) meetings.	○	○	○	○	○
The technology I used to communicate with my mentee was easy to use.	○	○	○	○	○
I had regularly scheduled communications with my mentee.	○	○	○	○	○
I frequently had to schedule meetings with my mentee at inopportune times because of time zone differences.	○	○	○	○	○
I was available to my mentee via phone or video conference outside of regularly scheduled meeting times as needed.	○	○	○	○	○
Email or instant messaging was the primary way I communicated with my mentee.	○	○	○	○	○
Personal commitments frequently interfered with meetings with my mentee.	○	○	○	○	○

18. Please indicate your extent of agreement with the following.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I usually had several assignments due while trying to work with my mentee on her development goals.	○	○	○	○	○
Differences in time zones created problems in scheduling meetings with my mentee.	○	○	○	○	○
Work commitments frequently interfered with meetings with my mentee.	○	○	○	○	○
The technology I used to communicate with my mentee was reliable.	○	○	○	○	○
I often multi-tasked (e.g. checked email) while virtually meeting with my mentee.	○	○	○	○	○
Technical support for the technology I used to communicate with my mentee was excellent.	○	○	○	○	○
My mentee and I communicated with the appropriate frequency.	○	○	○	○	○
Videoconferencing was the primary way I communicated with my mentee.	○	○	○	○	○

19. Please indicate your extent of agreement with the following.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I understood the work habits of my mentee.	○	○	○	○	○
My values were similar to my mentee's values.	○	○	○	○	○
My work habits were similar to my mentee's work habits.	○	○	○	○	○
My mentee and I were in the same time zone.	○	○	○	○	○
I was readily available if my mentee needed to seek advice or discuss an issue.	○	○	○	○	○
My mentee valued my expertise.	○	○	○	○	○
I found it easy to communicate with my mentee (common language, shared understanding of jargon & slang).	○	○	○	○	○

20. Please indicate your extent of agreement with the following.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I understood the values of my mentee.	○	○	○	○	○
My mentee knew some of the same people I knew prior to beginning our mentoring relationship.	○	○	○	○	○
I was friendly with people my mentee knew prior to beginning our mentoring relationship.	○	○	○	○	○
My mentee had my full attention during our conversations.	○	○	○	○	○
I frequently multitasked (e.g. checked email, composed messages, etc) during our virtual meetings.	○	○	○	○	○
Status in the relationship was derived mainly from what I contributed to the mentoring relationship regardless of my title, affiliation or position.	○	○	○	○	○
My mentee felt free to contribute ideas and critique my input regardless of my rank or affiliation.	○	○	○	○	○
I knew my mentee prior to beginning our mentoring relationship.	○	○	○	○	○

21. Please indicate your extent of agreement with the following.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
My mentee and I were equally committed to the outcome of our mentoring relationship.	○	○	○	○	○
Our mentoring relationship was effective.	○	○	○	○	○
My mentee and I shared a common understanding of the goals and objectives of our mentoring relationship.	○	○	○	○	○
My mentee had worked with people I knew prior to beginning our mentoring relationship.	○	○	○	○	○
My mentee achieved her development goals during our mentoring relationship.	○	○	○	○	○
I was satisfied with the outcomes of our mentoring relationship.	○	○	○	○	○
I was committed to our mentoring relationship and helping my mentee achieve her development goals.	○	○	○	○	○

22. Please indicate your extent of agreement with the following

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
My mentee has assumed additional work responsibilities because of skills she learned during our mentoring relationship.	○	○	○	○	○
My mentee has received better performance reviews because of skills she learned during our mentoring relationship.	○	○	○	○	○
My mentee is more likely to stay with her organization because of our mentoring relationship.	○	○	○	○	○
My professional skills and experiences were relevant to my mentee's development goals.	○	○	○	○	○
I was frequently interrupted in discussions with my mentee by email, instant messaging or other electronic media.	○	○	○	○	○
My mentee has received increased compensation because of skills she learned during our mentoring relationship.	○	○	○	○	○
My mentee is more satisfied with her organization because of our mentoring relationship.	○	○	○	○	○
My mentee has received a promotion or changes in job level or rank because of skills she learned during our mentoring relationship.	○	○	○	○	○

23. Please indicate your extent of agreement with the following.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
My mentee's beliefs and values were similar to my own.	○	○	○	○	○
I could empathize with the professional challenges my mentee faced.	○	○	○	○	○
I could empathize with the personal challenges my mentee faced.	○	○	○	○	○
I was usually working on multiple tasks at the same time I was virtually meeting with my mentee.	○	○	○	○	○
My mentee and I shared common interests.	○	○	○	○	○
My mentee and I were well matched professionally.	○	○	○	○	○
I had the necessary functional experience to support my mentee.	○	○	○	○	○
My mentee and I were personally compatible.	○	○	○	○	○

24. Please indicate your extent of agreement with the following.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
My mentee was someone I was satisfied with.	○	○	○	○	○
My mentee and I had some awkward moments because we were from different national cultures.	○	○	○	○	○
I was effective in my mentoring role.	○	○	○	○	○
I failed to meet my mentee's needs.	○	○	○	○	○
My mentee and I were well matched culturally.	○	○	○	○	○
My mentee and I had some misunderstandings because we were from different national cultures.	○	○	○	○	○
I had difficulty communicating with my mentee because her native language differed from mine.	○	○	○	○	○
My mentee disappointed me.	○	○	○	○	○

25. Please indicate your extent of agreement with the following.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
My mentee and I agreed on frequency and way to communicate during our mentoring relationship.	○	○	○	○	○
My mentee developed and articulated clear and actionable development goals to me.	○	○	○	○	○
I understood my mentee's work habits.	○	○	○	○	○
My mentee understood why she was in the mentoring program.	○	○	○	○	○
I was able to use virtual mentoring techniques to support my mentee's development goals.	○	○	○	○	○
My mentee took responsibility for arranging time to work with me on her development goals.	○	○	○	○	○
I understood my mentee's development goals.	○	○	○	○	○
I understood my mentee's values.	○	○	○	○	○

26. Did you review your mentee's on-line profile prior to your first meeting?
- ○ Yes
- ○ No

27. Reviewing my mentee's on-line profile to learn more about her prior to our first meeting was helpful to our relationship.
- ○ Strongly Disagree
- ○ Disagree
- ○ Neither Agree nor Disagree
- ○ Agree
- ○ Strongly Agree

28. Did you and your mentee participate in orientation?
- ○ Yes
- ○ No

29. My mentee's and my participation in orientation was helpful to our relationship.
- ○ Strongly Disagree
- ○ Disagree
- ○ Neither Agree nor Disagree
- ○ Agree
- ○ Strongly Agree

30. Did you use the Globe Smart website to learn more about your mentee's national culture?
- ○ Yes
- ○ No

31. Using the Globe Smart website to learn more about my mentee's national culture was helpful to our relationship.
- ○ Strongly Disagree
- ○ Disagree
- ○ Neither Agree nor Disagree
- ○ Agree
- ○ Strongly Agree

32. Please indicate your extent of agreement with the following.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I helped my mentee learn about other parts of the business beyond her area of expertise.	○	○	○	○	○
My mentee and I used the training materials provided.	○	○	○	○	○
I served as a role model for my mentee.	○	○	○	○	○
I was able to get help from Menttium with problems encountered during our mentoring relationship.	○	○	○	○	○
Meeting my mentee face to face (in person) was or would have been nice but was not necessary for developing an effective mentoring relationship.	○	○	○	○	○
I suggested specific strategies to help my mentee achieve her career aspirations.	○	○	○	○	○
I encouraged my mentee to prepare for advancement.	○	○	○	○	○
I gave my mentee useful feedback on her job performance.	○	○	○	○	○

33. Please indicate your extent of agreement with the following.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I represent someone my mentee can identify with.	○	○	○	○	○
I guided my mentee's personal development.	○	○	○	○	○
Some face to face (in person) meetings with my mentee would have helped improve our mentoring relationship.	○	○	○	○	○
Meeting my mentee face to face (in person) was critical for developing an effective mentoring relationship.	○	○	○	○	○
I represent someone who my mentee would like to be.	○	○	○	○	○
I served as a sounding board (someone with which to share her ideas) for my mentee to develop and understand herself.	○	○	○	○	○
My mentee felt apprehensive using technology to communicate with me.	○	○	○	○	○
I guided my mentee's professional development.	○	○	○	○	○

34. Please indicate your extent of agreement with the following.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I accepted my mentee as a competent professional.	○	○	○	○	○
I thought highly of my mentee.	○	○	○	○	○
I was someone my mentee could trust.	○	○	○	○	○
I was someone my mentee could confide in.	○	○	○	○	○
I provided support and encouragement to my mentee.	○	○	○	○	○
I saw my mentee as being competent.	○	○	○	○	○
I interacted socially (talking about family, personal interests, meeting socially, etc.), not just professionally with my mentee.	○	○	○	○	○
I shared personal experiences as an alternative perspective to my mentee's problems.	○	○	○	○	○

35. Please indicate your extent of agreement with the following.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
My mentee had confidence in me.	○	○	○	○	○
My mentee could rely on me to do what I said.	○	○	○	○	○
My mentee and I were usually considerate of one another's feelings.	○	○	○	○	○
Overall, my mentee thought I was trustworthy.	○	○	○	○	○
My ability to use communication technology was not a problem during the mentoring relationship.	○	○	○	○	○
My mentee and I would have used different communication technologies during our mentoring relationship if available.	○	○	○	○	○
I invited my mentee for a face to face visit.	○	○	○	○	○
I felt apprehensive using technology to communicate with my mentee.	○	○	○	○	○

36. Please indicate your extent of agreement with the following.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
Access to communication technology was not a problem during our mentoring relationship.	○	○	○	○	○
It was fun using technology to communicate with my mentee.	○	○	○	○	○
Using technology to communicate during our mentoring relationship made our interactions more interesting.	○	○	○	○	○
I enjoyed using technology to communicate with my mentee.	○	○	○	○	○
I had access to communication technology to interact with my mentee at convenient times.	○	○	○	○	○
I was satisfied using technology to communicate with my mentee.	○	○	○	○	○
My mentee had access to communication technologies to interact with me at convenient times.	○	○	○	○	○
My mentee and I would have used different communication methods during our mentoring relationship if we knew how.	○	○	○	○	○

37. Please indicate your extent of agreement with the following.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
My mentee and I were friendly.	○	○	○	○	○
I thrive on the differences in cultures that are new to me.	○	○	○	○	○
I was satisfied with the availability of technology to communicate with my mentee.	○	○	○	○	○
There was a noticeable lack of confidence between my mentee and me.	○	○	○	○	○
Given a choice, I prefer work groups composed of people with different (rather than similar) cultural backgrounds.	○	○	○	○	○
I value the status I would gain from living or working in a different culture.	○	○	○	○	○
I truly enjoy interacting with people from different cultures.	○	○	○	○	○
I gave my mentee advice on how to attain recognition in her organization.	○	○	○	○	○

38. What was your most frequently used method of communication?

- ○ Telephone or other audio method only
- ○ Skype or other video conferencing tool
- ○ Email
- ○ In person face to face
- ○ Other (please specify)

39. What additional communication methods were used at any time during your mentoring relationship? (Check all that apply)

- ☐ Telephone or other audio method only
- ☐ Skype or other video conferencing tool
- ☐ Email
- ☐ In person face to face
- ☐ Other (please specify)

40. My mentee and I had access to visual communication tools like Skype or video conferencing.

○ Yes
○ No

41. Please indicate your extent of agreement with the following.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I can describe similarities and differences in legal, economic and political systems across cultures.	○	○	○	○	○
I am confident that I can persist in coping with living conditions in different cultures.	○	○	○	○	○
I am confident I can socialize with locals in a culture that is unfamiliar to me.	○	○	○	○	○
Given a choice, I value the tangible benefits (pay, promotion, perks) of an intercultural rather than a domestic role.	○	○	○	○	○
I am sure I can deal with the stresses of interacting with people from cultures that are new to me.	○	○	○	○	○
I can describe differences in kinship systems and role expectations for men and women across cultures.	○	○	○	○	○
I value the reputation I would gain from developing global networks and connections.	○	○	○	○	○
I can describe the different cultural value frameworks that explain behaviors around the world.	○	○	○	○	○

42. Please indicate your extent of agreement with the following.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I can describe different ways to motivate and reward people across cultures.	○	○	○	○	○
I can speak and understand many languages.	○	○	○	○	○
I can describe effective negotiation strategies across different cultures.	○	○	○	○	○
I develop action plans before interacting with people from a different culture.	○	○	○	○	○
I can describe the ways that leadership styles differ across cultural settings.	○	○	○	○	○
I can describe how to put people from different cultures at ease.	○	○	○	○	○
I can describe different views of beauty and aesthetics across cultural settings.	○	○	○	○	○
I can describe effective ways for dealing with conflict in different cultures.	○	○	○	○	○

43. Please indicate your extent of agreement with the following.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I am aware of how my culture influences my interactions with people from different cultures.	○	○	○	○	○
I adjust my understanding of a culture while I interact with people from that culture.	○	○	○	○	○
I ask myself what I hope to accomplish before I meet with people from different cultures.	○	○	○	○	○
I double check the accuracy of my cultural knowledge during intercultural interactions.	○	○	○	○	○
I am conscious of how other people's culture influences their thoughts, feelings and actions.	○	○	○	○	○
I update my cultural knowledge after a cultural misunderstanding.	○	○	○	○	○
I pay attention to how cultural aspects of the situation influence what is happening in that situation.	○	○	○	○	○
I think about possible cultural differences before meeting people from other cultures.	○	○	○	○	○

44. Please indicate your extent of agreement with the following.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I change my use of pause and silence to suit different cultural situations.	○	○	○	○	○
I vary my verbal behaviors (accent, tone, rate of speaking) to fit specific cultural contexts.	○	○	○	○	○
I modify the way I disagree with others to fit the cultural setting.	○	○	○	○	○
I modify how close or far apart I stand when interacting with people from different cultures.	○	○	○	○	○
I change how I make requests of others depending on their cultural background.	○	○	○	○	○
I vary the way I greet others (shake hands, bow, nod) when in different cultural contexts.	○	○	○	○	○
I modify the amount of warmth I express to fit the cultural context.	○	○	○	○	○
I vary the way I show gratitude (express appreciation, accept compliments) based on cultural context.	○	○	○	○	○
I change my non-verbal behaviors (hand gestures, head movements) to fit the cultural situation.	○	○	○	○	○

45. Would you be willing to provide additional insight about your mentoring experience if required in future?

○ Yes
○ No

46. Please provide your name and email address.

[   ]

APPENDIX E – PARTICIPATION LETTER

Dear *Mary Smith*,

Based on your prior experience in a mentoring partnership with *Jane Doe* in 20xx through Menttium, we invite you to participate in a research study on global e-mentoring. To access the survey, please click on the link below:

SURVEY LINK

The survey will take approximately 30 minutes to complete. We would appreciate your response by June 10th.

University protocol requires that we provide you with the informed consent information below. Taking the survey means that you willingly consent to participate.

Thank you for your willingness to participate in this research study on global e-mentoring conducted by Nancy Philippart from Wayne State University.

Kind regards,
Menttium Staff

Behavioral Research Informed Consent
Title of Study: Mentoring: Overcoming Virtual Distance for Successful Relationships

Principal Investigator (PI): Nancy Philippart
Department of Industrial & Systems Engineering
248.497.3665

Purpose
You are being asked to be in a research study of mentoring because you are or have been a mentor or mentee involved in a mentoring relationship. This study is being conducted at Wayne State University. The estimated number of study participants to be enrolled in the study at Wayne State University is about 50. Please read this information and ask any questions you may have before agreeing to be in the study.

In this research study, we are interested in your experiences as a mentor or mentee in a mentoring relationship. Information from this study may be used in future to benefit organizations interested in using mentoring to develop global leadership talent.

Study Procedures
If you agree to take part in this research study, please click on the link provided and complete the survey. Completion should take about 30 minutes. You are free to answer all or some of these questions although complete responses will be helpful to research results. All responses will remain anonymous and confidential. Your individual responses will not be identified as reporting will be based on aggregated data only.

Benefits
As a participant in this research study, there will be no direct benefit for you; however, information from this study may benefit other people now or in the future.

Risks

There are no known risks at this time for participation in this study.

Study Costs
Participation in this study will be of no cost to you.

Compensation
You will not be paid for taking part in this study.

Confidentiality
All information collected about you during the course of this study will be kept confidential to the extent permitted by law. You will be identified in the research records by a code name or number. Information that identifies you personally will not be released without your written permission. However, the study sponsor, the Human Investigation Committee (HIC) at Wayne State University, or federal agencies with appropriate regulatory oversight [e.g., Food and Drug Administration (FDA), Office for Human Research Protections (OHRP), Office of Civil Rights (OCR), etc.) may review your records.

When the results of this research are published or discussed in conferences, no information will be included that would reveal your identity.

Voluntary Participation/Withdrawal
Taking part in this study is voluntary. You have the right to choose not to take part in this study. You are free to only answer questions that you want to answer. You are free to withdraw from participation in this study at any time. Your decisions will not change any present or future relationship with Wayne State University or its affiliates, or other services you are entitled to receive.

Questions
If you have any questions about this study now or in the future, you may contact Nancy Philippart at the following phone number (248) 497-3665. If you have questions or concerns about your rights as a research participant, the Chair of the Human Investigation Committee can be contacted at (313) 577-1628. If you are unable to contact the PI, or if you want to talk to someone other than the PI, you may also call (313) 577-1628 to ask questions or voice concerns or complaints.

Consent to Participate in a Research Study
Please click the survey link to voluntarily agree to take part in this study. If you choose to participate in this study, you may stop at any time. You are not giving up any legal rights by clicking the link. Clicking the link indicates that you have read, or had read to you, this entire consent form, including the risk and benefits.

APPENDIX F – IRB APPROVAL DOCUMENTATION

WAYNE STATE UNIVERSITY

IRB Administration Office
87 East Canfield, Second Floor
Detroit, Michigan 48201
Phone: (313) 577-1628
FAX: (313) 993-7122
http://irb.wayne.edu

NOTICE OF EXPEDITED APPROVAL

To: Nancy Philippart
Industrial and Systems Engineering
4815 Fourth St

From: Dr. Scott Millis
Chairperson, Behavioral Institutional Review Board (B3)

Date: September 19, 2011

RE: IRB #: 082911B3E

Protocol Title: Global E-Monitoring: Overcoming Virtual Distance for a Successful Partnership

Funding Source:

Protocol #: 1108010011

Expiration Date: August 15, 2012

Risk Level / Category: Research not involving greater than minimal risk

The above-referenced protocol and items listed below (if applicable) were **APPROVED** following *Expedited Review* Category (#6 #7)* by the Chairperson/designee for the Wayne State University Institutional Review Board (B3) for the period of 09/19/2011 through 08/15/2012. This approval does not replace any departmental or other approvals that may be required.

- This research meets the criteria for Expedited Review per Category #6 & #7
- Revised Protocol Summary Form (received in the IRB Office 08/15/2011)
- Protocol (received in the IRB Office 08/05/2011)
- Receipt of Export Control review indicating that there are no export control issues (dated 09/19/2011)
- Receipt of letter of support from Menttium (dated 07/26/2011)
- Behavioral Research Informed Consent (dated 07/30/2011)
- E-mail Survey Link
- Data collection tools: Global E-Mentoring Survey -Mentee and Global E-Mentoring Survey -Mentor

* Federal regulations require that all research be reviewed at least annually. You may receive a "Continuation Renewal Reminder" approximately two months prior to the expiration date; however, it is the Principal Investigator's responsibility to obtain review and continued approval *before* the expiration date. Data collected during a period of lapsed approval is unapproved research and can never be reported or published as research data.

* All changes or amendments to the above-referenced protocol require review and approval by the IRB **BEFORE** implementation.

* Adverse Reactions/Unexpected Events (AR/UE) must be submitted on the appropriate form within the timeframe specified in the IRB Administration Office Policy (http://www.irb.wayne.edu/policies-human-research.php).

NOTE:

1. Upon notification of an impending regulatory site visit, hold notification, and/or external audit the IRB Administration Office must be contacted immediately.

2. Forms should be downloaded from the IRB website at each use.

*Based on the Expedited Review List, revised November 1998

WAYNE STATE UNIVERSITY

NOTICE OF EXPEDITED CONTINUATION APPROVAL

To: Nancy Philippart
Industrial and Systems Engineering
4815 Fourth St

From: Dr. Scott Millis
Chairperson, Behavioral Institutional Review Board (B3)

Date: August 03, 2012

RE: IRB #: 082911B3E

Protocol Title: Global E-Monitoring: Overcoming Virtual Distance for a Successful Partnership

Funding Source:

Protocol #: 1108010011

Expiration Date: August 02, 2013

Risk Level / Category: Research not involving greater than minimal risk

Continuation for the above-referenced protocol and items listed below (if applicable) were APPROVED following Expedited Review by the Chairperson/designee of the Wayne State University Institutional Review Board (B3) for the period of **08/03/2012 through 08/02/2013**. This approval does not replace any departmental or other approvals that may be required.

- Actively accruing participants
- Email with Survey Link
- Behavioral Research Informed Consent (dated 7/30/11)

○ Federal regulations require that all research be reviewed at least annually. You *may* receive a *"Continuation Renewal Reminder"* approximately two months prior to the expiration date; however, it is the Principal Investigator's responsibility to obtain review and continued approval **before** the expiration date. Data collected during a period of lapsed approval is unapproved research and can never be reported or published as research data.

○ All changes or amendments to the above-referenced protocol require review and approval by the IRB BEFORE implementation.

○ Adverse Reactions/Unexpected Events (AR/UE) must be submitted on the appropriate form within the timeframe specified in the IRB Administration Office Policy (http://www.irb.wayne.edu//policies-human-research.php).

NOTE:

1. Upon notification of an impending regulatory site visit, hold notification, and/or external audit the IRB Administration Office must be contacted immediately.
2. Forms should be downloaded from the IRB website at **each** use.

APPENDIX G –SAMPLE DEMOGRAPHICS

Country of Origin

Country Cluster	Mentors	Mentees
Canada, USA, Australia, Ireland, England, New Zealand	41	9
Germany, Austria, Netherlands	3	3
Denmark, Finland, Sweden	0	1
Ecuador, El Salvador, Columbia, Bolivia, Guatemala, Argentina, Costa Rica, Brazil, Venezuela, Mexico	1	6
Philippines, Indonesia, Malaysia, India, Thailand, Iran	4	7
Singapore, Hong Kong, Taiwan, China, S. Korea, Japan	0	9
Turkey, Kuwait, Egypt, Morocco, Qatar	0	0
Greece, Hungary, Albania, Slovenia, Poland, Russia, Georgia, Kazakhstan	0	3
Zimbabwe, Namibia, Zambia, Nigeria, S. Africa	0	2
Israel, Italy, Switzerland, Spain, Portugal, France	0	2
*Other	0	4
Total	50	46

(* Includes Belgium, Chile, Czech Republic)

35 of 48 mentees were from different country clusters than their mentees, 2 did not know what country their mentee was from (what culture he or she identified with) and 11 mentees were from same country cluster although from different country.

38 of 50 mentors were from different country clusters than their mentees, 1 did not respond, 1 did not know what county his or her mentee was from and 10 mentors were from the same country cluster although from different country.

Functional Area(s) of Work during Mentorship

Function	Mentors	Mentees
Marketing/Sales/Customer Service	11	15
Engineering/Product Development/Technical Support	5	12
Manufacturing	0	1
Purchasing/Supply Chain Management/Logistics	3	6
Finance	3	8
Human Resources	9	5
General Management	27	13
Other	3*	3**

*(Includes Legal and Retired)
**(Includes Quality, Sustainability, Regulatory Compliance)

Industry(s) Worked In during Mentorship

Industry	Mentor	Mentee
Automotive	7	5
Food Processing	3	4
Energy	4	6
Telecommunications	3	1
Manufacturing	4	10
Financial Services	3	6
Information Technology	13	4
Heavy Equipment	0	0
Construction	1	0
Consumer Goods	4	6
Retails	3	3
Education	0	0
Other	6*	7**

*(Includes Semiconductor, Non-Profit, Travel & Leisure, Consulting)
**(Includes Medical Technology, Agribusiness, Semiconductors, Electronics)

Mentorship Timeframe

Timeframe	Mentor	Mentee
2012-13	8	11
2011-12	8	7
2010-11	4	10
2009-10	8	4
2008-9	6	3
2007-8	6	5
2006-7	8	5
2005-6	1	1
Not Sure	1	0

Attributes in Common

Attributes in Common	Mentor	Mentee
Professional experience	39	25
Same industry	6	7
Educational background	15	9
Family/personal circumstances	16	23
Hobbies or interests	9	14
None	4	6
*Other	3	1

* Includes political views

Stay in Contact

	Mentors	Mentees
% Not Staying in Contact	48%	46%

Mentorship Timeframe
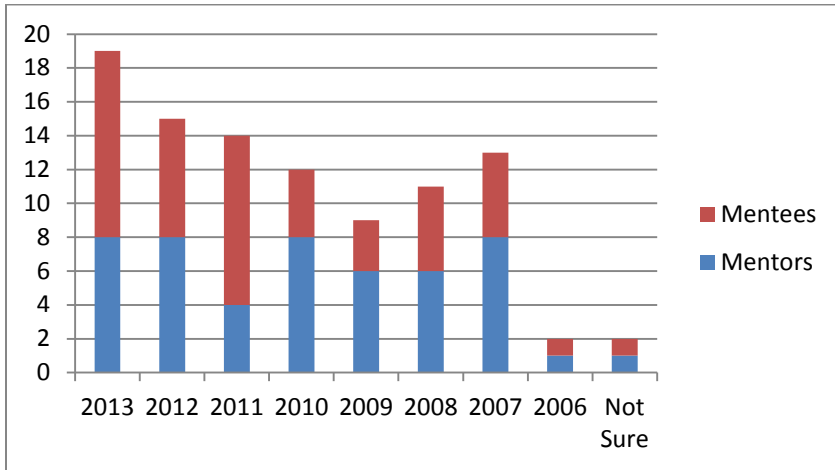
No. of Countries Lived in for at least Six Months
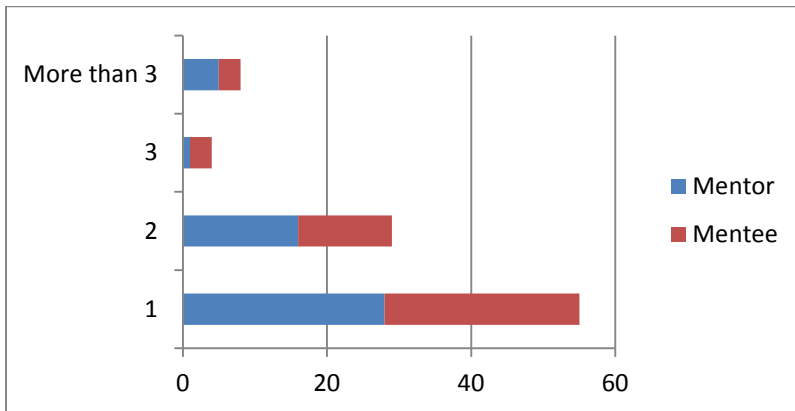
No. of Languages Spoken with Moderate or Better Proficiency
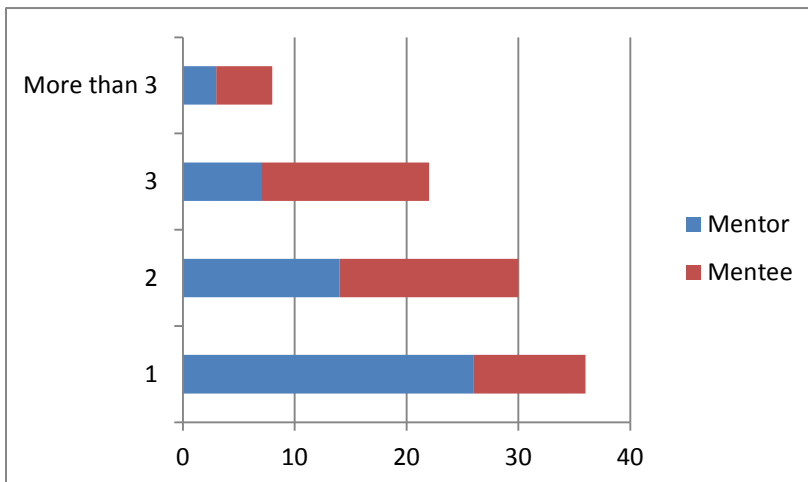
Global Work Experience
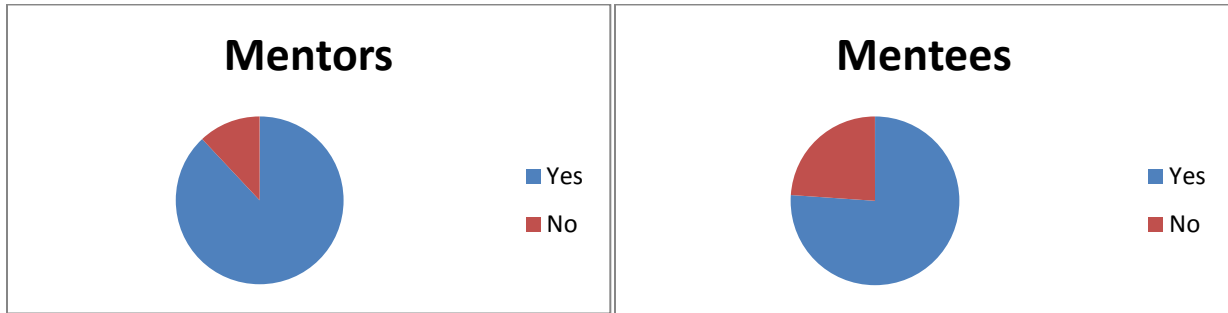
Travelled to Partners Home Country
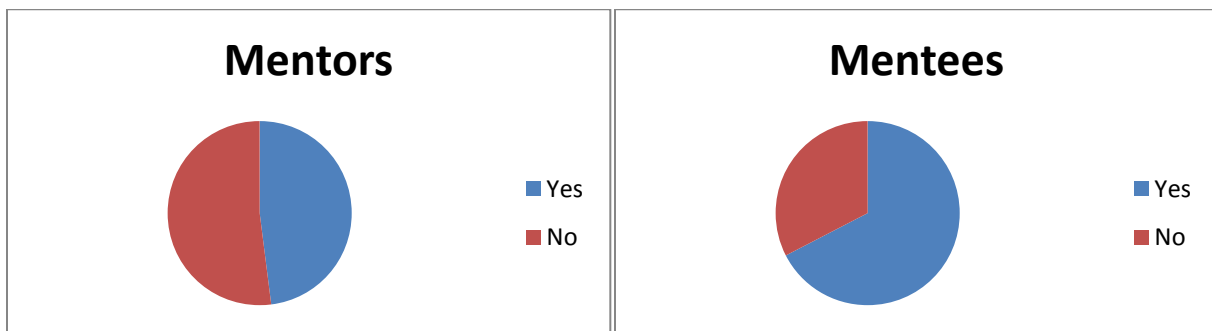
APPENDIX H – DESCRIPTIVE STATISTICS BY ITEM

(* denotes reverse coded items; Cyan highlighting indicates items removed from SEM analysis because of low measurement model reliability & validity.)

Construct: Mentoring Function

Item	Question	Mean	Std Dev
COACH1	I (My mentor) helped my mentee (me) learn about other parts of business beyond her area of expertise.	3.78	.836
COACH2	I (My mentor) suggested specific strategies to help my mentee (her) achieve her career aspirations.	4.25	.649
COACH3	I (My mentor) encouraged my mentee (me) to prepare for advancement.	4.08	.749
COACH4	I (My mentor) gave my mentee (me) feedback on her (my) job performance.	3.88	.849
COACH5	I (My mentor) gave my mentee (me) advice on how to attain recognition in her (my) organization.	4.08	.720
ROLMOD1	I (My mentor) served as a role model for my mentee (me).	3.87	.841
ROLMOD2	I (My mentor) represent(s) someone my mentee (I) can identify with.	3.75	.781
ROLMOD3	I (My mentor) represent(s) someone who my mentee (I) would want to be.	3.55	.769
COUNSL1	I (My mentor) served as a sounding board (someone with whom to share her (my) ideas) for my mentee (me) to develop and understand herself (myself).	4.19	.837
COUNSL2	I (My mentor) guided my mentee's (my) professional development.	3.91	.769
COUNSL3	I (My mentor) guided my mentee's (my) personal development.	3.78	.771
COUNSL4	I (My mentor) shared personal experiences as an alternative perspective to my mentee's (my) problems.	4.48	.580
ACCPT1	I (My mentor) accepted my mentee (me) as a competent professional.	4.41	.642
ACCPT2	I (My mentor) thought highly of my mentee (me).	4.19	.799
ACCPT3	I (My mentor) saw my mentee (me) as being competent.	4.36	.683
FRIEND1	I (My mentor) was someone my mentee (I) could trust.	4.46	.679
FRIEND2	I (My mentor) interacted socially (talking about family, personal interests, meeting socially, etc.) not just professionally.	4.23	.888
FRIEND3	I (My mentor) was someone my mentee (I) could confide in.	4.36	.713
FRIEND4	I (My mentor) provided support and encouragement to my mentee (me).	4.46	.679
FRIEND5	I (My mentor) invited my mentee (me) for a face to face visit.	2.83	1.513

Construct: Virtual Distance

Individual items for this construct have been masked since scale is proprietary.

Item	Question	Mean	Std Dev
*PHYVD1		4.23	.968
*PHYVD2		4.02	1.005
PHYVD3		2.03	1.301
COMVD1		2.55	1.229
COMVD2		4.45	1.014
COMVD3		1.65	.992
COMVD4		4.08	.970
COMVD5		4.48	.750
COMVD6		4.20	.878
COMVD7		4.23	.801
COMVD8		4.39	.716
COMVD9		3.77	1.051
FACE1		4.22	.885
FACE2		3.77	1.081
FACE3		3.62	1.206
FACE4		2.53	1.043
MULVD1		4.35	.882
MULVD2		4.58	.610
MULVD3		4.43	.840
MULVD4		4.50	.740
MULVD5		4.38	.921
*PLVD1		3.78	1.018
*PLVD2		4.07	1.008
*PLVD3		2.90	1.294
RDYVD1		4.39	.874
RDYVD2		3.69	.898
RDYVD3		4.21	.780
CULVD1		4.04	.820
CULVD2		3.58	.902
CULVD3		4.14	.890
CULVD4		3.85	.740
CULVD5		4.01	.688
CULVD6		4.05	.701

				4.10	.703
CULVD7				4.10	.703
SOCVD1				4.01	.827
SOCVD2				4.11	.806
SOCVD3				4.46	.679
RELVD1				1.42	.815
RELVD2				1.60	.918
RELVD3				1.19	.568
RELVD4				1.30	.709
IDPVD1				4.25	.951
IDPVD2				4.23	.852
IDPVD3				4.41	.776

Construct: Partner Matching

Item	Question	Mean	Std Dev
MPRO1	My (My mentor's) professional skills and experiences were relevant to my mentee's (my) development goals.	4.26	.684
MPRO2	I (My mentor) could empathize with the professional challenges my mentee (I) faced.	4.34	.779
MPRO3	My mentee (mentor) and I were well matched professionally.	4.13	.897
MPRO4	I (my mentor) had the necessary functional experience to support my mentee (me).	4.38	.811
MPER1	My mentee (mentor) and I were personally compatible.	4.04	.845
MPER2	My mentee (mentor) and I shared common interests.	3.65	.880
MPER3	I (My mentor) could empathize with the personal challenges my mentee (I) faced.	4.13	.874
MCUL1	My mentee's (mentors) beliefs and values were similar to my own.	3.98	.781
MCUL2	My mentee (mentor) and I were well matched culturally.	3.83	.842
*MCUL3	I had difficulty communicating with my mentee (mentor) because her (his/her) native language differed from mine.	4.47	.973
*MCUL4	My mentee (mentor) and I had some misunderstandings because we were from different national cultures.	4.44	.765
*MCUL5	My mentee (mentor) and I had some awkward moments because we were from different national cultures.	4.30	.908
*MSAT1	My mentee (mentor) disappointed me.	4.58	.790
MSAT2	I (My mentor) was effective in my (his/her) mentoring role.	4.14	.925
MSAT3	My mentee (mentor) was someone I was satisfied with.	4.24	.903
*MSAT4	I (My mentor) failed to meet my mentee's (my) needs.	4.31	.825

Construct: Goal Clarity

Item	Question	Mean	Std Dev
GOAL1	My mentee (I) understood why she (I) was in the mentoring program.	4.20	.749
GOAL2	I (My mentor) understood my mentee's (my) development goals.	4.25	.740
GOAL3	My mentee (I) took responsibility for arranging time to work with me on her (my) development goals.	4.21	.939
GOAL4	My mentee (I) developed and articulated clear and actionable development goals to me (my mentor).	3.91	.941

Construct: Support

Item	Question	Mean	Std Dev
SUP1	I was able to get help from Menttium with problems encountered during our mentoring relationship.	3.25	.710
SUP2	My mentee (mentor) and I used the training materials provided.	3.54	.928
SUP3	Reviewing my mentee's (mentor's) on-line profile to learn more about her (him/her) prior to our first meeting was helpful to our relationship.	4.21	.874
SUP4	My mentee's (mentor's) and my participation in orientation was helpful to our relationship.	3.93	.806
SUP5	Using the Globe Smart website to learn more about my mentee's (mentor's) national culture was helpful to our relationship.	4.14	.663

Construct: Technology Usage

Item	Question	Mean	Std Dev
*TCOM1	My mentee (mentor) felt apprehensive using technology to communicate with me.	4.01	1.041
TCOM2	My ability to use communication technology was not a problem during the mentoring relationship.	4.40	.801
*TCOM3	My mentee (mentor) and I would have used different communication technologies during our mentoring relationship if we knew how.	3.36	1.035
TCOM4	Using technology to communicate during our mentoring relationship made our interactions more interesting.	3.26	.849
TCOM5	I enjoyed using technology to communicate with my mentee (mentor).	3.52	.844
TCOM6	It was fun using technology to communicate with my mentee (mentor).	3.28	.777
TCOM7	I was satisfied using technology to communicate with my mentee (mentor).	3.94	.892
*TCOM8	I felt apprehensive using technology to communicate with my mentee (mentor).	4.06	1.159
*TACC1	My mentee (mentor) and I would have used different communication technologies during our mentoring relationship if available.	2.85	1.170
TACC2	I had access to communication technology to interact with my mentee (mentor) at convenient times.	3.86	.913
TACC3	My mentee (mentor) had access to communication technologies to interact with me at convenient times.	3.85	.882
TACC4	Access to communication technology was not a problem during our mentoring relationship.	3.99	.946
TACC5	I was satisfied with the availability to technology to communicate with my mentee (mentor).	3.84	.977

Construct: Trust

Item	Question	Mean	Std Dev
TRST1	My mentee (I) had confidence in me (my mentor).	4.30	.727
TRST2	My mentee (mentor) and I were usually considerate of one another's feelings.	4.27	.718
TRST3	My mentee (I) could rely on me (my mentor) to do what I (she) said.	4.36	.651
TRST4	Overall, my mentee (I) thought I (my mentor) was trustworthy.	4.45	.663
*TRST5	There was a noticeable lack of confidence between my mentee (mentor) and me.	4.59	.625
TRST6	My mentee (mentor) and I were friendly.	4.43	.576

Construct: Satisfaction with Mentorship (Dependent Variable)

Item	Question	Mean	Std Dev
DVSAT1	Our mentoring relationship was effective.	4.10	.946
DVSAT2	I was satisfied with the outcomes of our mentoring relationship.	4.03	1.128
DVSAT3	My mentee (I) achieved her (my) development goals during our mentoring relationship.	3.88	.976

Construct: Mentee Career Impact (Dependent Variable)

Item	Question	Mean	Std Dev
DVIMP1	My mentee (I) has (have) assumed additional work responsibilities because of skills she (I) learned during our mentoring relationship.	3.34	.776
DVIMP2	My mentee (I) has (have) received a promotion or changes in job level or rank because of skills she (I) learned during our mentoring relationship.	3.03	.864
DVIMP3	My mentee (I) is (am) more likely to stay with her (my) organization because skills she (I) learned during our mentoring relationship.	3.06	.856
DVIMP4	My mentee (I) has (have) received better performance reviews because of skills she (I) learned during our mentoring relationship.	3.20	.705
DVIMP5	My mentee (I) has (have) received increased compensation because of skills she (I) learned during our mentoring relationship.	2.77	.787
DVIMP6	My mentee (I) is (am) more satisfied with her (my) organization because of skills she (I) learned during our mentoring relationship.	3.33	.760

Construct: Cultural Intelligence

Item	Question	Mean	Std Dev
CQMV1	I truly enjoy interacting with people from different cultures.	4.52	.580
CQMV2	I value the status I would gain from living or working in a different culture.	4.08	.763
CQMV3	I thrive on differences in cultures that are new to me.	3.86	.980
CQMV4	Given a choice, I prefer work groups composed of people with different (rather than similar) cultural backgrounds.	3.98	.929
CQMV5	I value the reputation I would gain from developing global networks and connections.	4.30	.634
CQMV6	Given a choice, I value the tangible benefits (pay, promotion, perks) of an intercultural rather than a domestic role.	3.71	.905
CQMV7	I am confident that I can socialize with locals in a culture that is unfamiliar to me.	4.18	.649
CQMV8	I am sure I can deal with stresses of interacting with people from cultures that are new to me.	4.27	.624
CQMV9	I am confident that I can persist in coping with living conditions in different countries.	4.14	.643
CQCG1	I can describe the different cultural frameworks that explain behaviors around the world.	3.80	.803
CQCG2	I can describe the similarities and differences in legal, economic and political systems across cultures.	3.89	.738
CQCG3	I can describe differences in kinship systems and role expectations for men and women across cultures.	3.71	.820
CQCG4	I can describe different views of beauty and aesthetics across cultural settings.	3.52	.803
CQCG5	I can speak and understand many languages.	2.72	1.243
CQCG6	I can describe effective negotiation strategies across different cultures.	3.46	.828
CQCG7	I can describe the ways that leadership styles differ across cultural settings.	3.82	.781
CQCG8	I can describe different ways to motivate and reward people across cultures.	3.73	.783
CQCG9	I can describe how to put people from different cultures at ease.	3.71	.789
CQCG10	I can describe effective ways for dealing with conflict in different cultures.	3.57	.800
CQMC1	I develop action plans before interacting with people from a different culture.	3.44	.864
CQMC2	I double check the accuracy of my cultural knowledge during intercultural interactions.	3.77	.783
CQMC3	I think about possible cultural differences before meeting people from other cultures.	4.12	.678
CQMC4	I am aware of how my culture influences my interactions with people from different cultures.	4.22	.540
CQMC5	I update my cultural knowledge after a cultural misunderstanding.	4.23	.600
CQMC6	I adjust my understanding of a culture while I interact with people from that culture.	4.17	.529
CQMC7	I ask myself what I hope to accomplish before I meet with people from different cultures.	3.62	.844
CQMC8	I am conscious of how people's culture influences their thoughts, feelings and actions.	4.16	.631
CQMC9	I pay attention to how cultural aspects of the situation influence what is happening in that situation.	4.16	.561
CQBH1	I modify how close or far apart I stand when interacting with people from different cultures.	3.91	.660
CQBH2	I vary the way I greet others (shake hands, bow, nod) when in different cultural contexts.	4.06	.587
CQBH3	I vary my verbal behaviors (accent, tone, rate of speaking) to fit specific cultural contexts.	3.78	.742
CQBH4	I change how I make requests of others depending on their cultural backgrounds.	3.88	.646
CQBH5	I modify the way I disagree with others to fit the cultural setting.	3.85	.648
CQBH6	I change my use of pause and silence to suit different cultural settings.	3.60	.823
CQBH7	I vary the way I show gratitude (express appreciation, accept compliments) based on cultural context.	3.88	.662

| CQBH8 | I change my non-verbal behaviors (hand gestures, head movements) to fit the cultural situation. | 3.75 | .803 |
| CQBH9 | I modify the amount of warmth I express to fit the cultural context. | 3.77 | .741 |

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ABSTRACT

**GLOBAL *e*-MENTORING: OVERCOMING VIRTUAL DISTANCE FOR AN
EFFECTIVE MENTORING RELATIONSHIP**

by

NANCY PHILIPPART

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Advisor: Dr. Ratna Babu Chinnam

Major: Industrial Engineering

Degree: Doctor of Philosophy

Mentoring can enhance an employee's career development and advancement but traditional face-to-face mentoring has become less relevant because of globalization, increased employee mobility and technology-enabled work. A new mentoring model enabled by technology has emerged to meet the needs of today's complex, fast changing global workplace. Although *e*-mentoring has several advantages over traditional mentoring, the absence of regular face-to-face interactions requires different strategies to develop an effective mentoring relationship. Moreover, additional complexities arise when this virtual mentoring is global.

This research utilizes the construct of virtual distance, the "psychological separation" that has been found to impact performance outcomes of geographically dispersed, technology mediated teams (Sobel Lojeski, 2006; Sobel Lojeski & Reilly, 2008; Sobel Lojeski, 2010) to understand the effectiveness of global *e*-mentorships. Research results support the hypothesis that virtual distance is negatively related to mentorship effectiveness measured as mentor and mentee satisfaction with mentorship outcomes and perception of impact of mentoring on the mentee's career. Several enablers were also identified as having potential to mitigate virtual distance, thereby improving *e*-mentorship effectiveness. Three of the four enablers investigated were

found to be significant – mentor-mentee matching, mentorship goal clarity and technology usage, defined as partners' access to and comfort with using communication technology. The relationship between cultural intelligence, as measured by Van Dyne et al. (2102) and mentor-mentee matching was investigated given the cross-cultural nature of the *e*-mentorships and found to be significant. Contrary to hypothesis, trust was not found to moderate the relationship between virtual distance and mentorship effectiveness. However, those mentors and mentees who stayed in contact after the conclusion of the formal mentoring program showed stronger relationships between virtual distance and mentorship effectiveness and partner match and virtual distance. This work makes an important contribution to the literature beyond the application to *e*-mentoring since one-on-one virtual collaboration is also an essential component of effective *e*-leadership.

AUTOBIOGRAPHICAL STATEMENT

Nancy Philippart has been an engineer and global business executive in the automotive industry for 30 years. She has extensive experience in strategic planning, portfolio management, product development, manufacturing, sales including dealer operations and aftersales. Her operational experience includes starting and leading a $1 billion revenue international business unit as well as managing multi-divisional vehicle programs. No longer with the auto industry, Nancy co-founded an early stage investment fund and works with start-up ventures to help ensure business success. She currently serves on the boards of several companies, non-profits and public entities. Nancy has mentored professional women through Menttium for over 15 years and for the last seven has virtually mentored non-American women working in multi-national corporations outside the U.S. Her experience both as a global *e*-leader and *e*-mentor prompted her interest in this dissertation topic.

Nancy is a member of the 2009 Global Executive Track (GET) cohort in the Department of Industrial and Systems Engineering. She also teaches technology change management and global leadership classes in the Engineering Management Masters and MBA programs. Nancy holds an MS in Biomedical Engineering from Carnegie Mellon University and a BS in Industrial Engineering and MS in Economics from Wayne State University. She has published and presented her preliminary research findings at the 2012 ACM International Conference on Intercultural Communication in Bangalore, India and 2013 University of New Mexico Mentoring Conference in Albuquerque, New Mexico.