

FACTORS THAT INFLUENCE COMMUNICATION IN E-MENTORING  
WITH URBAN ALTERNATIVE HIGH SCHOOL STUDENTS

By

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fulfillment of the requirements for the degree of Doctor of Philosophy.

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## Abstract

School-based mentoring has emerged as a means of improving academic outcomes for many disadvantaged youth. Particularly, school-based eMentoring has been utilized to eliminate barriers of distance and time, while covering academic content. This mixed methods study investigated the factors that influence communication in eMentoring.

A convergent parallel mixed methods design (Creswell, 2010) was utilized. Participants were 17 eMentoring pairs for the quantitative analysis and five of the eMentors were the source of the qualitative data. The eMentoring pairs were classified into multiple groups based on match rationale (intentional or arbitrarily matched), pair classification (managers or non-managers paired with high school juniors or seniors), and pair gender (all male pair or all female pair). Email response time and communication frequency were analyzed using Independent t-tests, One-Way ANOVAs, and a Repeated Measures ANOVA. A thematic analysis of the qualitative interview data revealed detailed information regarding perceptions of communication frequency, relationship quality, and mentor engagement. The separate findings were then merged for a final interpretation.

Results indicated that female eMentoring pairs ( $M=18.63$ ) had a higher average number of emails exchanged at the end of the program than those that were male eMentoring pairs ( $M=12.88$ ); ( $t(14) = -1.190, p = .254$ ), and Cohen's effect size ( $d=.60$ ) was moderate to large. The Manager and High School Senior group ( $M=28$ ) had a significantly higher difference in total number of emails than the Manager &

Junior group ( $M=6.75$ ); ( $f=4.898$ ,  $p=.017$ ). There was a statistically significant difference in email response time in days among all pairs between time period 1 ( $M=4.220$ ) and time period 2 ( $M=15.570$ ); ( $f=5.300$ ,  $p=.015$ ). Intentionally matched (based on career paths and known interests) pairs ( $M=19.6$ ) had a higher average number of email exchanges than arbitrarily matched pairs ( $M=12.3$ ); ( $t(15) = -1.647$ ,  $p = .120$ ) and Cohen's effect size ( $d=.80$ ) was large. There was a statistically significant difference in average number of emails exchanged within both groups between time period 1 ( $M=7.065$ ) and time period 3 ( $M=4.368$ ); ( $f=5.178$ ,  $p = .012$ ). Additionally, the flexibility of the program and ability to set goals with mentees engaged the mentors. Being able to relate to the mentee, having face-to-face visits, using interaction strategies and removing limitations on communication were cited as positive influences on relationship quality. Communication frequency may be influenced by gender, face-to-face visits, and unexpected personal events. Making adjustments to the program structure based on pair preferences may be the key to effective eMentoring.

To maximize the academic and social impact, eMentoring programs should explore methods to capture mentor and mentee perceptions of the relationship over time to ensure matches are progressing. Using personal information to match pairs, working to achieve short and long-term goals, and monitoring outcomes are of critical importance to ensure efficient and effective eMentoring. Reducing the programmatic limitations to maintain the flexibility to communicate using multiple methods may be the key to ensure an effective communication frequency and positive relationship development in eMentoring programs.

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## CHAPTER 1

### INTRODUCTION

The goal of an educational institution is to prepare students for life beyond the walls of the schools. Regardless of whether students attempt to integrate into the workforce or an institution of higher learning, students must be equipped with the tools necessary to be successful. In order to keep pace in a world where global competition and technological innovations are continuously expanding at an unprecedented rate, schools must embrace and utilize the role of technology in education. A progressive philosophy must be the guiding ideology when planning to engage students in 21<sup>st</sup> century learning opportunities.

Mentoring is a worldwide practice that can be traced back to ancient civilizations. As scholars attempt to continually define and redefine the expression “mentoring,” often the concepts presented are suggestive, identifying the attributes of mentoring rather than stipulating the meaning of the concept itself and, in particular, its boundary conditions (Bozeman & Feeney, 2007). In general, the definitions are tailored to the context in which the mentoring occurs. Mentoring appears in social, corporate, and educational settings in the form of formal and informal programs, and is operationalized by vertical and horizontal relationships. I define and conceptualize mentoring as the utilization of knowledge and contextual understanding gained through experience to guide or influence future experiences. In essence, mentoring is an unbalanced combination of teaching, coaching, guiding, and cultivating, to assist in navigating experiences.



To live is to learn, so, teaching and learning via formal and informal mechanisms are everyday occurrences. By virtue of being immersed in society, we are constantly learning and growing. Brown (2008) explained how through our desire to interact, to be understood, and to express our needs, daily experiences constantly provide informal learning opportunities. The informal learning opportunities are the experiences within and between the formal experiences, always assisting us in the construction and contextualization of experience. On the other hand, formal learning opportunities such as taking a class, reading a book, or participation in a hands-on training opportunity, afford us much more structure to our learning experiences. Thus, our formal learning experiences are focused on developed objectives and outcomes.

The operational function of youth mentoring requires a senior or experienced individual to assist a less experienced person in their growth and development in regard to skills and attitudes through a vertical relationship. According to the 2002 National Poll on Mentoring conducted by MENTOR and AOL Time Warner, far more Americans are willing to mentor – both formally and informally – than actually do. The survey found that 42 percent of adults were not mentoring (either formally or informally) but said that they would be interested in doing so (Rhodes, 2006). Unfortunately, mentoring relationships are often difficult to initiate and maintain for some populations based on barriers such as access to programs, extended time commitments, and geographical distance between pairs. If these barriers were not a factor, many more mentoring relationships could develop and ultimately expose participants to a wide range of experiences and perspectives. The increased exposure to positive role models with a

service-centered perspective could potentially have a significant positive impact on youth and industry in our constantly evolving society.

Formal youth mentoring programs that address academic outcomes in K-12 education are growing throughout the United States. What began as community-based programming has permeated all levels of educational institutions at an extraordinary rate. In addition to students being mentored by adults and other students, some programs are designed to have experienced professionals mentor junior counterparts for personal and professional development. Electronic communication has given the process of mentoring additional momentum in many instances, due to the ability to engage in asynchronous dialog without the constraints of time and space. eMentoring, often called tele-mentoring or electronic mentoring, is one way to reduce the effects of some of the barriers that prevent the development of traditional mentoring relationships. Parenthetically, it must be noted that eMentoring will not work for everyone who desires to develop and/or participate in a mentoring program or relationship. Achievement of the desired outcomes depends on the quality and quantity of the communication, which rests with the participants, but can be influenced by programs.

Through a thorough review of literature, coupled with a careful analysis of an eMentoring program, a pragmatic approach may be devised and utilized to improve the concept of mentoring to meet the needs of the 21<sup>st</sup> century student. Examining combinations of successful measures from different types of mentoring programs to identify and synchronize their strengths in order to achieve desired program outcomes

may be the key to maximizing a mentoring programs' potential. Adapting to the communication methods of the 21<sup>st</sup> century may be the solution to erase the barriers that perpetuate the generational gap, and prevent youth from utilizing the wisdom of more experienced and diverse individuals.

### **Statement of the Problem**

By and large, school-based mentoring programs that address academic outcomes in K-12 education have specific academic objectives. Community-based programs are typically focused on life skills and utilize activities not centered on school-related tasks. Improved academic performance is often a positive side effect of this type of mentoring program. The focal point of school-based mentoring programs is typically grounded in academic outcomes. The tendency of school-based mentors' to focus on school progress often comes at the expense of the kinds of social activities that help to build close bonds between mentors and mentees (Rhodes, 2002). Upon close examination of community and school-based programs, problems and limitations are easily identifiable. Unfortunately, researchers have not been able to identify significant academic improvement as an outcome of mentoring programs.

Mentoring beyond the academic realm often requires a significant time commitment, carefully screened and selected matches, funding to engage in different activities, and training to assist mentors with relationship development. Mentoring in the K-12 academic realm can be subject to increased security parameters, restricting the amount and type of contact pairs can have together and ultimately reducing the quality of interactions. Innovative approaches to school-based mentoring should be

investigated. These include, for example, a hybrid “school-plus” mentoring model in which mentors and youth have the opportunity to spend time together outside of the school setting (Harris, 2009). The lack of innovative yet feasible mentoring programs, which provide well-rounded experiences with measurable social and academic outcomes, suggests that program evaluators need to go beyond surface level mentoring to synthesize and develop programmatic strengths of new and different programs. According to Wheeler, Keller, & DuBois (2010), three recent large-scale randomized control trials of school-based mentoring programs (Big Brothers Big Sisters of America, Communities in Schools of San Antonio, and the U.S. Department of Education’s Student Mentoring Program) report found that the programs were not effective at improving academic achievement, but did have modest effects on students perceived academic ability, decreasing truancy, and school-related misconduct.

A central distinguishing feature of school-based mentoring programs is that meetings between youth and their mentors are typically structured to take place only in the school setting (Dubois et al., 2010). Some programs are so rigid in their structure that they seem artificial. Mentoring operates under the assumption that there is a relationship between participants. Program planners must consider which mentoring model will work for which students under which circumstances (Bernstein, et al., 2009). Additionally, the value of school-based mentoring cannot be underestimated, as its pragmatic functionality is second to none. School-based mentoring is clearly an important complement to more intensive community-based programs and a promising strategy for reaching large numbers of at-risk children and youth (Jucovy, 2000).

Not addressing the limitations of community-based and school-based mentoring can also prevent bridging the gaps between home, school, and community, which is critical to nurturing a meaningful mentoring relationship. As social beings, humans are deeply reliant on positive relationships, and in today's society, technology facilitates communication and relationship building. Close relationships often occur in school-based mentoring programs. But "very close" relationships are not as frequent, as other participants have reported, for the typical community-based program (Herrera, 2004). Therefore, it is imperative that we harness the technology pervading each and every one of our lives, in a manner conducive to achieving desired outcomes.

It is counterproductive to hinder relationship development in school-based mentoring programs and still expect to achieve individual and programmatic outcomes. Allowing a mentor to meet with a student away from the school provides opportunities for the youth to engage in new experiences and for the mentor and youth to develop a deeper relationship (Jucovy, 2000). In an analysis of teacher surveys regarding student participation in a eMentoring program, Lewis (2002) discovered the vast majority of teachers witnessed significant improvement in writing skills, self-directed learning, teamwork, critical thinking skills, career and workplace knowledge, desire to go to college, subject grades, and science comprehension and ability.

The empirical evidence that has been examined to guide this research is in the areas of school-based mentoring, eMentoring, and online immediacy. Unfortunately, there is a lack of evidence focused on teaching life skills in school-based eMentoring programs. Although there is literature that focuses on communication patterns based

on academically centered inquiry, an extensive search of the literature resulted in no objective measures to determine the perceived quality of school-based mentoring relationships. This topic should be studied to learn how to engage participants in an eMentoring program.

### **Rationale**

The dominance of electronic communication throughout society, justifies the need to examine ways to leverage this medium to meet the needs of 21<sup>st</sup> century students in school-based mentoring programs. This comprehensive examination of the communication frequency in an eMentoring program can provide insight to the utilization of electronic communication to foster success in such programs through the identification of variables that may predict quality relationships. By producing empirical evidence to support these claims, more program designers are likely to consider the viability of a comprehensive model to match mentor and mentee pairs, as well as nurture the mentoring relationship.

Grossman and Johnson (1999) recommended that mentoring programs track three key dimensions: youth and volunteer characteristics, match length, and quality benchmarks. This study explores the effects of participant characteristics on communication frequency as well as the perceived quality of the relationships in an eMentoring program. This is accomplished by collecting and analyzing the date of each message sent, date of the site visits, demographic data, and interviews with mentors who participated in the program. The association between relationship quality and outcome measures extends over the two broad domains of academic achievement and

self-esteem (Rhodes, Reddy, Roffman, & Grossman, 2005). The quantity of emails sent is measured cumulatively and across multiple time periods, and will coincide with site visits. Additional variables may emerge from the qualitative analysis.

### **Purpose of the Study**

The purpose of this study is to (1) gather empirical evidence based on the communication frequency from a school-based eMentoring program, (2) identify key factors that influence relationship development in eMentoring, and (3) identify key factors that influence communication frequency in eMentoring.

The overall goal of this research is to determine what factors influence communication in an eMentoring program. Meeting this goal requires an analysis of the communication patterns of participants in a school-based eMentoring program as well as an analysis of interviews with mentors who participated in the eMentoring program. Furthermore, a thorough examination of the limitations of such a program will help achieve the goal of this research by finding ways to improve the quality and effectiveness of mentoring programs in the 21<sup>st</sup> century by combining positive attributes of school-based and community-based mentoring programs with electronic communication.

This research is specifically intended to examine the communication frequency and relationship quality between at-risk high school students and corporate professionals from a service oriented organization, who communicated during a 17 week eMentoring program. According to Dubois, Holloway, Valentine, and Cooper (2002) utilization of mentors with a background in a helping role or profession was a

significant moderator of effectiveness in youth mentoring programs. Communication frequency is used as a measure of interaction intensity, which will then produce objective results to be interpreted as a measure of the quality of the relationship. Additionally, interviews with mentors who participated in the eMentoring program will yield perceptions about the relationship quality. In an evaluation of a school-based mentoring program, Slicker and Douglas (1993) found that effective mentoring occurred through the quality and length of the mentoring relationships and ultimately produced better academic outcomes. The program being examined could serve as an illustration of the effectiveness of eMentoring and its limitations as well as provide a deeper understanding of how the interactions can be interpreted as they relate to the quality of the relationships.

### **Significance of the Study**

Electronic communication is woven into the fabric of the 21<sup>st</sup> century society and its foundation is sound enough to rely upon in this continuously developing global community. According to Harris (2004), eMentoring programs must pursue a combination of strategies that support mentor and mentee growth into these roles. Therefore, designers of mentoring programs must employ a progressive approach to harness the power of the technological advances that transcend nearly every conceivable barrier or boundary. Furthermore, exploring ways to improve the quality of current mentor programming is necessary to envision what form mentoring should potentially take in the 21<sup>st</sup> century. While most research on mentoring programs focuses on either community-based or school-based mentoring programs, a



complementary approach using both strategies is likely the best way for programs and funders to reach a wide, diverse group of youth and volunteers (Herrera et al., 2007). The focus of this study was to analyze the results of a school-based eMentoring program, which incorporated elements of community-based mentoring, and ultimately determine recommendations for designing and implementing future eMentoring programming.

While there is a small body of research that addresses the academic impact of school-based eMentoring programs, the social aspect of the 21<sup>st</sup> century student is virtually untouched because of the academically driven, transactional nature of these programs. eMentoring program designers must move beyond superficial relationships by examining why and how meaningful relationships develop. The Public and Private Ventures (PPV) analysis of Big Brothers Big Sisters school-based mentoring (2007) also suggests that improving the quality and continuity of school-based mentoring relationships is an important factor. The results of this study provides a description of factors that influence communication frequency and relationship quality, which may inform future programs and research on how to optimize the mentoring relationship for enhanced social and academic outcomes.

### **Definition of Terms**

1. *Community-based Mentoring* is the process of mentoring conducted within the community, outside of the school walls. A mentoring agency matches mentors and mentee and they visit at each other's homes or at places within the community.
2. *eMentoring* is the process of mentoring using electronic communication.

3. *Mentor* is defined as a senior individual, experienced in subject matter and life skills.
4. *Mentee* is defined as a less experienced student.
5. *Pair* is defined as the combination the mentor and mentee.
6. *Program Manager* is defined as the person responsible for selecting mentors and mentees, matching the pairs, developing the curriculum, monitoring communication, coordinating site visits, and developing activities to engage participants.
7. *School-based Mentoring* is the process of mentoring within a school structure. Supervised activities and communication occur at the school.
8. *Site Visits* are occasions when the mentors physically came to the school to meet with the mentees in one-on-one and group settings.
9. *eMentoring* or *tele-mentoring* is the process of mentoring using electronic communication as the primary method of communicating.

## **Summary**

To sustain the vitality of mentoring programs, future programming must begin to utilize the dominant electronic tools used in our society. By identifying the factors that influence communication in an eMentoring program, the mentoring community may be able to harness the power of the available tools and produce empirical evidence to prove the effectiveness of mentoring. Many schools are searching for programs and tools to engage students and increase academic outcomes, but previous research has identified that increased academic improvement is not a consistent outcome of

mentoring programs. However, it is possible that the transactional nature of mentoring programs prohibits participants from taking advantage of the connections. Placing more emphasis on relationship development may be the key to proving the authenticity to mentors and mentees, which could lead to achieving the desired outcomes.

## CHAPTER 2

### LITERATURE REVIEW

#### **Introduction**

Over the past few decades, technology has drastically changed our society. The integration of technology in society has added convenience to many aspects of life. Conversely, technology usage has also increased the amount of work for other aspects of life. This review of literature consists of a review of theoretical concepts applicable to the process of mentoring. Additionally, the 21<sup>st</sup> century student, online communication, school-based mentoring, eMentoring, online immediacy, and matching practices are examined. Lastly, a summary of components in the reviewed literature related to this eMentoring project are discussed to provide a basis for conducting this study.

#### **Theoretical Influences**

The process of mentoring can be theoretically traced to several learning and developmental theories. Particularly, one could argue that Bandura's (1977) Social Learning Theory, as well as Lave and Wenger's (1983) Situated Learning Theory provide the theoretical foundation for mentoring programs. Additionally, mentoring programs seemingly operate under the assumption that positive relationships will develop as outlined by Altman and Irwin's (1973) Social Penetration Theory.

**Social learning theory.** Social Learning Theory states that most human behavior is learned observationally through modeling: from observing others one forms an idea of how new behaviors are performed, and on later occasions this coded information serves as a guide for action (Bandura, 1977). Ultimately, this theory is based on the idea

that people learn from one another within particular social contexts and may not always be dependent on a change in behavior. Additionally, this theory suggests that learning through observation is based on four components: attention, retention, motor reproduction, and motivation.

According to Bandura (1973) the *Attentional Process* determines what is selectively observed in the profusion of modeling influence to which observations and what information and meaningful experiences are extracted from such exposure. Ultimately, the modeled behavior is viewed and analyzed by the observer and then interpreted as either meaningful or not applicable. The *Retention Process* concerns the observer's ability to retain and recall the activity or behaviors through actions or verbal communication. During this component, the modeled behavior is symbolically internalized and visually rehearsed. The *Motor Reproduction Process* uses action to reproduce the behavior in the appropriate situation. If the learner has all of the cognitive and physical skills necessary to integrate into the action, the modeled behavior is closely replicated through practice. If the cognitive and physical components are lacking, the enactor of the behaviors will not produce a desired result. Lastly, the *Motivational Process* asserts that observations of the reenacted behaviors produce positive or negative feedback from internal cognition and external sources. The learner is likely to adopt the new behavior if they receive positive feedback and less likely to adopt the behavior when negative feedback is received.

In Brown and Dugeid's (2000) analysis of the retention of information and the social implications that can serve as a measure of importance, they note that people

successfully learn when the action or information is a social task. The utility of a task in a social setting may be a predictor of the interpreted meaning and retention of the information acquired. Thus, if students saw concrete social value in learning a skill or behavior, more than likely they will retain and replicate the skill or behavior. Brown (2008) further explains that social learning concerns not only "learning about" the subject matter but also "learning to be" full participants in the field. That involves acquiring the practices and norms of established practitioners in that field or acculturating into a community of practice. The desire to be apart of the community can serve as a catalyst to acquire information and ultimately interact within the community.

Designing learning experiences can be challenging. Powell (2005) notes that we do not understand how to design for the sub-conscious mind – we design for the conscious mind and we only pay attention to content. But humans pay attention to context as well as content, that is how we make sense out of the world. Experiences should be designed to account for the subliminal experience the learning may produce, which affects our interpretations. The goal for the designers of social learning experiences should be to produce the meaningful experience for the conscious and subconscious encounter. In Demirbas and Yagbasan's (2006) study of science education in middle school, educational activities based on social learning theory were more effective in improving students' scientific attitudes. In the analysis of a program designed to bring black men into the classroom to teach and mentor black boys, Wells-Wilbon and Holland (2001) noted that principles of social learning theory were validated

in an analysis of male student responses regarding the male teaching assistant's in the Project 2000 mentoring program.

Technological advancements can facilitate the opportunities to engage in meaningful social learning experiences. What we have done in the past may no longer be sufficient to meet the needs and expectations of the 21st-century learner. Social learning perspectives offer promising opportunities for extending and enhancing the design, development, and implementation of web-based learning experiences (Hill et al. 2009). Engaging the students using the technologies they are familiar with has the potential transform the practice of social learning experiences. However, it was also noted that social interaction in the form of writing is challenging due to the lack of facial expression, body language, and tone of voice. Some learners may delay responses to reflect before they write, while others may be too impatient to wait for others' responses. This communication dynamic can positively or negatively influence the constructed meaning of the experience.

**Situated learning theory.** Situated Learning Theory posits learners inevitably participate in communities of practitioners and that the mastery of knowledge and skill requires newcomers to move toward full participation in the sociocultural practices of a community (Lave and Wenger 1990). The central thought of this theory is called "Legitimate Peripheral Participation." This idea depicts how new learners interact with experienced teachers to become a part of a community of practice. This notion also suggests that one's intention to learn is engaged and the meaning of the learning experience is constructed during the process of learning new knowledge and skills. The

ultimate level of engagement and subsequent participation hinges upon whether the learner internalizes the acquisition of the new knowledge or skill as relevant to participating within the community of practitioners.

In a very real sense, individuals who cannot participate in these community practices are no longer members of the community (Cobb & Bowers, 1999). Disengagement ultimately occurs, which then deprives the community and the individual of the opportunity to grow. The ramifications of disengagement over time can produce negative outcomes for the community and the individual. Those who feel blocked from academic achievement may be tempted to quit trying, misbehave or seek other anti-social avenues of achievement and recognition (Simons-Morton et al., 1999). According to Yuan and McKelvy (2004), in order to truly assess the effectiveness of situated learning, we need to know about communication interactivity effects over time, whether they are linear or nonlinear, what kinds of interactions and emergent dynamics there are between individual learning and group learning, and how different kinds of environmental contexts affect emergent individual and group learning. Delving deeper into the context of the communication during the learning experience may assist in further explaining how and why learning does or does not occur in specific learning situations.

**Social penetration theory.** Social Penetration Theory outlines the process of relationship development. Specifically, it focuses on overt interpersonal behaviors that occur within social interactions and how internal processes guide relationship development based on the interactions. According to Altman and Taylor (1973),



interpersonal exchanges move from gradually superficial, nonintimate areas to more intimate, deeper layers of the selves of the social actors. Specific situations may determine the speed of this transition. Certain situations are conducive to an accelerated transition, while other situations may hinder mutual exploration between people.

Social Penetration Theory operationalized consists of multiple stages and dimensions working simultaneously as the catalyst to the relationship. The stages include orientation, exploratory affective change, affective change, and stable exchange. The dimensions of relational behaviors include richness of the interactions, uniqueness of the interactions, efficiency of exchange, substitutability and equivalency, synchronization and pacing, permeability and openness, voluntariness and spontaneity of exchange, and evaluation.

Stage one of the social penetration process is called *Orientation*. Social actors typically meet in public places and only make a small part of themselves accessible through verbal and nonverbal communication. Their responses are not very rich or broad, are often stereotyped, reflect only the most superficial aspects of their personality, are often cloaked in clichés, reflect socially desirable modes of response, and demonstrate little personal uniqueness (Altman et al., 1973). The orientation stage is typically a first meeting, characterized by brief communication and quick evaluations of others.

The second stage in the social penetration process is called the *Exploratory Affective Exchange*. This stage represents a deeper level of communication where the

social actor's personalities are explored in-depth to gain a better understanding of the uniqueness of the partner. Although more personal information is obtained and analyzed, the relationship is only casual.

The third stage of the social penetration process is typically a close friendship. The social actor's have evaluated the preliminary information and determined that they are comfortable with one another. Modes of communication are often interchangeable based on the pairs' comfort levels. Positive and negative evaluations and well as love and hostility are passed back and forth during this stage. Most barriers to intimacy are down by the time this stage is reached, leaving each person vulnerable.

*Stable Exchange* is the final stage in the social penetration process. Spontaneity and openness characterize this stage because communication is clearly understood on multiple levels. Messages are interpreted with great accuracy. Additionally, both parties can easily predict feelings and behaviors in public and private places. This is the deepest level of a relationship.

It must be noted that this process is very fluid and it does not necessarily progress in a smooth manner. Relationship may digress and stagnate, as well as plateau or skip stages in the development process. Regardless of age, people are very unpredictable and personal circumstances can often suppress the development process. However, under optimal conditions, Social Penetration Theory can serve as an identifying marker to track relationship progression.

In many cases, technology has expedited the relationship development process. Essentially, people engaged in social media are constantly using social penetration

theory by displaying self-disclosure in their online activities. In an analysis of social media and social penetration theory, Pennington (2008) noted that online communication has become the most prevalent source of communication for young adults, altering concepts of personal vs. private information and willingness to communicate with people based on information garnered online. What used to be private information one would only think of sharing with close friends, now has become the vehicle by which individuals develop their public image via social media.

The relative anonymity of the Internet can also contribute to close relationship formation through reducing the risks inherent in self-disclosure (Bargh and McKenna, 2004). The notion that the internet has made individuals more comfortable with self disclosure is an apparent reality that has transcended demographic characteristics. In an analysis of relationship formation through the internet, McKenna, Green, & Gleason (2002) concluded that people were better able to express their “true” selves (those self-aspects they felt were important but which they were usually unable to present in public) to their partner over the Internet than when face-to-face. The minimal risk involved with revealing personal information online can contribute to more open disclosure because the individuals at risk are less likely to have to deal with face-to-face rejection.

### **The 21<sup>st</sup> Century Student**

According to the Frand (2000) study, most students entering our colleges and universities today are younger than the microcomputer, are more comfortable working on a keyboard than writing in a spiral notebook, and are happier reading from a

computer screen than from paper in hand. For them, being in touch with friends and family at any time and from any place is of utmost importance (Frاند, 2000; Caplan, 2003; Kvavik, 2004; Moore et al., 2006). Additionally, it is commonplace for students to begin working on computers in elementary school.

Despite socioeconomic status, today's students typically have some level of access to high speed internet connections, whether it be from home, a cell phone, or provided by their school in one of its computer labs. Most of the students today have been using computers since they were young children; therefore, they tend to be very comfortable communicating with friends, family and faculty on a regular basis via the Internet. Today's students are also described by Moore, Moore & Fowler (2006) as busy, instant messaging, blogging, downloading music and videos, and playing video games with an international network of friends and acquaintances. Frاند (2000) reinforced the need to work thoughtfully and creatively with Net Generation students' changing mindsets. Today's multitasking, digitally native students do not view computers as technology. Baby Boomers and Gen-Xers populate the professional community and they generally have different mindsets. In order to ensure that productive teaching and learning exchanges occur across generations of learners, these different mindsets may need to be reconciled (Frاند, 2004). On the other hand, in the Kvavik (2004) study, he expected to find that Net Generation students would demand greater use of technology in teaching and learning in the classroom. He did not. What he found was a moderate preference for technology among the Net Generation population.

Kvavik (2004) also expected that it would be increasingly necessary for teachers to use technology in order to appeal to this generation of students. Ironically, he found that many of the students most skilled in the use of technology had mixed feelings about using technology in education. Most students are still in their exploratory stage of life and have frequent encounters with unfamiliar concepts and people. Allowing students to communicate with teachers or mentors via email and/or other widespread forms of communication should help the learners adjust to different social and learning situations because they are so comfortable with those forms of communication.

### **Online Communication**

In general, individuals use e-mail for a variety of reasons: to share and process data, to participate in decision-making, to develop relationships, to express hostility, to seek feedback from others, to seek employment and gather information about organizations, and to broaden participation in communication exchanges (Baldwin, 1998; Bloch, 2002; Bruhn, 1995; Caplan, 2003; Duran et al., 2005; Flowers, 2004; Frand, 2000; Gruber, 1997; Kvavik, 2004; Makin, 1998; Messing, 2002; Minsky, 1999; Morton 1998; Surry, 2000; Waldek, 2001; Pena-Sanchez et al., 2005). Obviously, students rely on e-mail for many of the same reasons. Although the use of email is convenient, it should not be the sole means of communication because face-to-face communications is still extremely important (Messing, 2002). In Bruhn's (1995) article, he vividly described email as an intermediate medium between a telephone conversation, which is too rapid for rigorous thought-expression, and letter writing, which is rigorous and leads to drawn-out dialogue. Bruhn also describes changes in the way he communicates with

other people after he obtained a modem and an e-mail address while noting that email messages range from the specific to the general, from the mundane to the esoteric. Due to its convenience, moderate speed, anonymity and economy, e-mail makes intelligent conversation more practical and more frequent (Bruhn, 1995; Bloch, 2002; Caplan, 2003; Duran et al., 2005; Flowers, 2004; Frand, 2000; Gruber, 1997; Kvavik, 2004; Minsky, 1999; Morton, 1998; Surry, 2000; Waldek, 2001).

Gruber (1997) stated because of email, many people are writing more, and to more people, on a regular basis. On the principle that more is better than less and some better than none, e-mail is almost bound to make us all more competent or at least more comfortable as writers (Bloch, 2002; Gruber, 1997; Surry, 2000; Morton, 1998). To the extent that the medium itself prompts us to the exercise some of our own ideas, e-mail should at the same time strengthen our ability to construct meaning. And where these ideas are formulated and extended in ongoing conversations that otherwise would not have transpired, e-mail may further accelerate the development and distribution of the general knowledge base, that vast network of information and ideas out of which any society must construct its future (Gruber, 1997).

Over the past decade, the use of email has rapidly evolved into a dominant form of communication, specifically in professional environments, higher education, middle and high school settings, as well as within social networks across all generations. Thus, the 21<sup>st</sup> century student has the potential to become an extremely versatile communicator due to the widespread use of email.

Most students are more likely to communicate online when the recipient provides an immediate response. Waldeck, Kearney, and Plax (2001) found that there is a strong relationship between teacher immediacy and student learning. Electronic communication between teachers and students can be immediate and thus, should elicit similar positive outcomes similar to those associated with traditional, face-to-face teacher immediacy behaviors. While most of the literature review concerns student to teacher relationships, the concept of immediacy is applicable to any type of relationship using online communication.

Communication via email can be efficient and effective but it can also be problematic. In the Caplan (2005) study, findings revealed that individuals who lack presentation skills are more likely to prefer online social interaction to face-to-face communication. This preference for online interaction fosters compulsive Internet usage, which could result in negative interpersonal outcomes. Turkle (2004) notes that information technology has made it possible to have the illusion of companionship without the demands of friendship. Conversely, these same individuals have a viable way to express themselves through this preferred mode of communication.

Turkle (2007) further asserts that experiences with relational artifacts can be based on the fiction that they know and care about us. Thus, intimate relationships are being developed with machines. However, just going through the motions leaves humans to question the authenticity of the relationship. The same principle can be applied to eMentoring relationships. The online communication can essentially make us feel good, but the face-to-face visits can authenticate the emotion conveyed during the

online communication and strengthen the bond between individuals. Additionally, technology can be used as a vehicle to encourage direction through appropriate guidance and individuals may make better choices based on the guidance received.

Thompson (1999) noted that educational institutions could also build upon their reputation if they choose to explore more ways to have faculty become more responsive to their student body. As suggested from the evidence of the Thompson study, students would benefit from higher quantities of informal interaction, such as the exchange of emails. Therefore, educators and mentoring program designers should be encouraged to use email as a medium to share their attitudes, interests, experiences, and values. When faculty members disclose personal information with students, the students tend to do much better in their courses (Bloch 2002; Flowers 2004; Minsky 1999; Waldek 2001). It can be deduced that eMentors' disclosing personal information should elicit positive outcomes from mentees as well.

New information technologies such as text messaging and online social networking make online encounters even more commonplace. Communicating via text message also operates under the premise of immediacy. "Facebooking" is one of the most used social networking activities these days. The idea of facebook stems from school year books. The web amplifies this concept through some routine Internet tools, which give students much more control over their information as well as how and when it is shared. A simple profile with an image links to a straightforward e-mail and discussion boards, yet the innovative part of the site is locating individuals of interest (Harper, 2006). The evolution of social media in the information age has caused us all to



become heavily reliant upon the internet for learning and communicating. In Carr's (2008) article, he discussed how he felt that he has been reprogrammed by the internet, to take in information the way the Net distributes it: in a swiftly moving stream of particles, reducing his capacity for concentration and contemplation.

Social networking will continue to permeate the educational landscape as new systems are developed and the utility of these systems are exposed. Ultimately, students may feel much more connected to a teacher or mentor within their social network, which could lead toward developing a more personal relationship rather than the task driven, transactional nature of academically focused student-teacher and mentoring relationships. Two ways that technology can now transform our learning landscape are immersion and intelligent tutoring systems (Brown, 2008). With the right systems and structures in place, eMentoring has the potential to serve in both capacities.

### **School-Based Mentoring**

Schools offer the opportunity to reach students that may be in need of the additional attention provided by a mentor. Adolescents who form a positive affiliation or social bond with their school are more likely than adolescents who fail to establish this social bond to engage in a variety of prosocial behaviors and achieve up to their potential academically, and less likely to engage in problem behaviors such as fighting, bullying, truancy, vandalism and substance use (Simons-Morton et al., 1999). Mentoring is an extremely powerful human relationship, and just as in all personal relationships, trust is key component (Erdem, 2008). School-based mentoring is clearly an important complement to more intensive community-based programs, and a promising strategy

for reaching large numbers of at-risk children and youth (Jucovy, 2000). While it may be difficult to reach certain students in particular stages in their lives, other students grasp at the opportunity to interact on a personal level with someone outside of their normal social circle.

The quality of interactions between youth and adults has been noted as an integral component to successful mentoring relationships (Dubois, Holloway, Valentine, & Cooper, 2002; Grossman & Johnson, 1999; Herrera, Sipe, McClanahan, Arbreton, & Pepper, 2000; Rhodes, 2002). Students participating in a school-based mentoring program have been shown to increase academic test scores, raise self-esteem, decrease negative stereotypes of other races or ethnic groups, and enhance comprehension of content and skills (O'Neill 1996; Perez, 2001; Rea, 2001; Lewis, 2002; DuBois et al., 2002; Herrera et al., 2007; Henry, 2009). The benefits of program participation among youth from multiple backgrounds are undeniable. Schools must continually find innovative ways to engage students, especially in environments where traditional methods of teaching are not producing the desired results.

Teachers and support staff can identify at-risk children they feel would benefit from a mentor in school based programs, while community-based programs pair children with caring adults according to common interests, compatible personalities, and convenient distance from each other (Henry, 2009). It is important for the people most familiar with the students to be able to identify traits that may be vital to the success of a mentoring relationship. Many students with social, behavioral, and academic needs, may not have the parental structure to support positive growth in

these areas. In a study of parental monitoring and delinquent behavior, Johnson (2005) revealed that parental monitoring is an important predictor of delinquency regardless of family structure. In essence, parental support and mentoring may be very important components to improve the lives of today's youth. Youth are well informed about their neighborhoods and can serve as worthy contributors when working with adults as community partners (Jones & Perkins, 2005). So, to transform communities, the leaders must learn new ways to engage our youth, and school based mentoring provides an avenue for change.

Within particular school-based mentoring programs, weekly on-site supervision is provided by a Big Brother Big Sister case manager, and active dialogue between the case manager and school staff is ongoing (Henry, 2009). The purpose of this frequent communication is to evaluate the progression of each student toward the program goals and make appropriate adjustments when necessary.

Because of the place-based nature of the meetings, school mentoring may not be a good approach for programs whose goals are to help youth develop job-readiness skills, provide career exploration opportunities, or expose youth to other experiences requiring activities that take place away from the school (Jucovy, 2000). Conversely, coordinating the right experiences within the school walls can provide meaningful experiences under the right conditions. Strong ties develop when mentors adopt a flexible, youth-centered style in which the young person's interests and preferences are emphasized, rather than when they focus predominantly on their own agendas or expectations for the relationship (Morrow & Styles, 1995). Participation must be

legitimate in order for most students to buy into the activities, so they must see the relevance in the tasks and activities, especially students who have not been successful in the classroom setting.

### **eMentoring**

Using the Internet to make mentoring more accessible could improve overall engagement. Electronic communication has given the process of mentoring additional momentum in many instances, due to the ability to engage in asynchronous dialog without the constraints of time and space. One convenient, efficient, cost-effective, and easy-to-use method of connecting students with practicing professionals would be an electronic mentoring program (Mahayosnand, 2000). eMentoring allows mentees and mentors to communicate using email to discuss topics. eMentoring, often called tele-mentoring or electronic mentoring, is one way to reduce the effects of some of the barriers that prevent the development of traditional mentoring relationships. These barriers include having access to mentoring programs, finding professionals willing to participate in programs, extended time commitments, and geographical distance between pairs. Pioneers in the field of e-mentoring envisioned how the increased connectedness brought about by the Internet could be used to facilitate social equity and educational attainment (Single & Single, 2005). With eMentoring, a student no longer has wait on a weekly visit from a mentor to communicate nor does a teacher have to rely on the businesses in his or her community as the only resource for mentor (Foster, 1999).

eMentoring programs operate under the assumption that communication via email is more alluring to volunteers because of the reduced time commitment and is conducive to recruiting larger groups of participants. eMentoring helps bridge the digital divide separating those who regularly use new information technologies from those who don't (Siegel, 2003). These programs can provide learning opportunities for the students, teachers, mentors, and program designers. The process of asynchronous mentoring allows reflective learning (Fordeman, 2002), where learners think about the problem themselves before discussing the issue with someone else to develop a solution. Indeed, eMentoring is distinguished from face-to-face mentoring because of its boundaryless configuration and the egalitarian nature of the exchange (Bierema, 2002).

There are three main types of tele-mentoring relationships: Ask an Expert, Pair Mentoring, and Group Mentoring (Harris, 1999; Perez, 2001). The *Ask an Expert* method requires a student to pose a question to an expert in a particular field, typically related to a classroom project. The expert responds to the student with an answer to the question, which concludes the interaction. Sometimes these interactions can continue throughout the duration of a project, semester, or school year. *Pair Mentoring* consists of a mentor and student develop a one-on-one relationship for an extended period of time. These pairs primarily focus on educational outcomes related to a specific subject. Occasionally, social outcomes garner attention within this relationship. The other type of eMentoring is called *Group Mentoring*. These relationships match groups of students with an expert or a group of experts. The interactions can also be singular or extend across a period of time if determined by the program guidelines. The common gap in

these programs is that none are designed to focus on social interactions or life skills, with the understanding that increased academic outcomes are a naturally occurring by-product of the mentoring relationship.

eMentoring programs also require a facilitator or program manager. A classroom teacher typically fills this role. As an integral component of eMentoring programming, the role of the facilitator is critical to the success of the program. Harris and Figg (2000) outline the functions of eMentoring facilitator as listed below:

- Set up and test communications facilities (accounts, filters, etc.)
- Introduces pairs
- Facilitates pairs getting to know each other personally and professionally
- Sets realistic project goals and expectations
- Gets answers to procedural questions
- Adjust goals and expectations according to project developments
- Keeps communication flowing throughout the project period
- Identify, address and resolve miscommunications
- Structure and participate in different kinds of online activities
- Evaluate individual and group contributions to learning/teaching

Over the last fifteen years, there have been several large-scale school-based eMentoring programs developed for specific audiences with specific purposes. The International Tele-mentor Program is a project-based academic mentoring environment designed to connect primary and secondary students with experts to assist with coursework. In an analysis of teacher surveys to determine the effective elements of the

program, Lewis (2002) found that the vast majority of teachers witnessed significant improvement in writing skills, self-directed learning, teamwork, critical thinking skills, career and workplace knowledge, desire to go to college, subject grades, and science comprehension and ability. Additionally, 81% of teachers reported their students took more responsibility for their learning as a result of being involved in a tele-mentoring project. Similarly, the Electronic Emissary is an eMentoring services and resources center designed to help K-12 teachers and students with experts across disciplines, to participate in academically driven electronic communication.

Harris (1999) found that subject matter experts and teachers talked, more online, respectively, than students, even though students' inquiry was the focus of each online project and requests or reports directly related to curriculum content comprised a surprisingly small portion of total message functions identified. Additionally, MentorNet is an organization that focuses on furthering the progress of women and other underrepresented groups in scientific and technical fields through eMentoring. In an analysis of a tele-mentoring program sponsored by Big Brothers and Big Sisters, Brotherton (2001), found that students expressed a desire to meet face to face with the mentors more often. While email may serve as the primary conduit to tele-mentoring, face-to-face visits are an integral part of nurturing the relationship and should not be neglected.

Bonnett, Wildemuth and Sonnenwald's (2006) research on eMentoring found that message frequency and utilizing strategies to build relationships might foster successful interactions between protégé's and mentors. Frequent communication may

be interpreted as an indicator of positive relationship development. However, the context of these correspondences will also provide insight into the relationship. The nature of these messages may be personal and/or transactional, therefore, must be considered when assessing quality of the relationship. Either way, constant communication is a great way to hone specific skills. eMentoring relationships have shown to improve writing skills and expose students to the business world (Brown, 2002; Paerdams, 2008).

In an analysis of a tele-mentoring project, EMPATHY Net-Works, Loureiro-Koechlin and Allen (2010) concluded that face-to-face meetings facilitated online interactions especially at the start of the program, meeting in person helped students to get to know each other, and time perceptions for mentors and mentees were completely different. Working adults typically segment their day's to determine what work need to be done, how to complete the work, and how much time to allocate toward specific tasks. Although students may be familiar with the process of time management, they may not have developed expertise with this particular skill at such a young age.

Academic content was the catalyst for all of the school-based eMentoring programs reviewed. A prominent theme in the literature on eMentoring was program design. By and large, eMentoring research focuses on identifying elements that contribute towards success, to inform the designers of future programs. Upfront training should be used to explore improving outcomes and the initial training should clarify participant's roles (O'Neill et al., 2005) and establish goals and expectations



(Muller, 1997). Early eMentoring research outlined the programmatic framework that current programs utilize. Caron (2008) noted that defining the goals of the eMentoring program, locating mentors, explaining student benefits are critical to the success of a program.

Most of the unanticipated problems associated with eMentoring programs can be prevented if the program design guidelines are followed. The guideline developed by Sanchez and Harris (1996, p. 59) include:

- A clear purpose and topic for the exchange at the beginning of communications
- A motivated student with active support for participation from adults
- A committed expert with a genuine interest in teaching
- Evidence of a developing personal friendship among expert, student(s), and teachers or parents involved
- Reliable access to electronic mail
- A clear goal for the project that is built into the curriculum
- Scheduling enough time at frequent intervals and adhering to the schedule
- Keeping lines of communications open between the teacher, parent and subject matter expert on how the student is reacting to the mentoring

There are many factors that could influence the frequency of communication. Miller et al., (2008) noted that the most significant problem in the nursing eMentoring program was delayed or no response from the mentors participating in the experience. The lack of a response can certainly send a negative message to the other participant about the mentoring relationship. Brotherton (2001) denotes that mentors should be

trained to initiating conversation to facilitate communication and establish trust within the tele-mentoring relationship. The notion of the mentor facilitating communication and establishing trust is critical to the success of a relationship, as students may not feel comfortable communicating openly in a vertical mentoring relationship. In vertical relationships, trust increases with the fairness and the readiness of the person with wider resources (Erdem, 2008). The establishment of trust can help the student utilize the social and cultural capital the mentor has to offer. Friedman et al., (2000) note that online interactions can establish some measure of trust by diminishing the saliency of the barriers of social class.

Harris (1996) established that frequent, regular contact and inquiry-based and student-centered communication are a measure of successful tele-mentoring relationships. A strong case can be made that those two previously mentioned elements are not enough to gauge relationship quality. Other eMentoring studies have tried to categorize the content of messages to determine the patterns of the communication (Harris, 1999; Jones, 2001). The main categories were requesting information, reporting information, and other (salutations, planning, thanking, complaining, & apology). Interestingly enough, both studies revealed there were no discernable patterns to the message flow and function.

In Allen's (2007) analysis of literature related to interaction frequency in mentoring relationships, inconsistent results were revealed. Frequency of contact may serve as a proxy for the dosage of attention the mentee receives (Karcher, Davis, & Powell, 2002). In general, the interaction frequency was related to support, but not to

psychosocial mentoring. In Karcher's (2005) study of mentor attendance on mentee outcomes, mentor attendance was positively related to changes in mentees' self-reported rule compliance (self-management), social skills, and self-esteem, specifically in self-perceptions of attractiveness. DuBois et al. (2002) outlined best practices of successful mentoring programs. They include clarifying expectations about frequency of meetings, structuring activities for the mentors and mentees, involving parents, providing mentors ongoing training, and monitoring program implementation. The research team noted that when these factors are present, the effectiveness of the program doubles.

The administration of a mentoring program involving large numbers of participants can benefit from technological infrastructure to maintain a database of participants, track progress of mentoring pairs, deliver training and coaching, link data about participants to their evaluative responses to surveys for analysis, provide ready reports to stakeholders, and countless other conveniences (Muller, 2009). Thorough analyses of the quality of the programs are evermore important since most organizations are faced with fiscal challenges. It would belie the rationale of operating social programs if sponsors are not informed of the benefits of the funded programs.

### **Matching Practices**

The topic of gender in youth mentoring pairs is an integral dimension of mentoring programming and the process of matching mentors and mentees. Rhodes (2002) noted that girls want mentors who talk with them (psychosocial), whereas boys want mentors who engage in activities with them (instrumental). Tannen (2007)

explains how boys learn in childhood to maintain relationships primarily through their activities (often sports), so conversation for males often involves competition, reflecting whether "he [is] either one-up or one-down." Girls, on the other hand, are socialized as children to believe that "talk is the glue that holds relationships together." Because of the high value that adolescent girls place on intimacy and connection, a close, warm mentoring relationship may be better received and more helpful. Mentoring interventions that are more verbally based may not be as useful or helpful for males (Darling, Bogat, Cavell, Murphy & Sanchez, 2006). Understanding and evaluating the validity of these differences in communication styles could provide valuable insight for program planners as they develop experiences activities. Depending on program structure, the differences may cause the relationships to take on greater meaning and importance to women (Rhodes et al., 2008).

Surprisingly, few studies have focused on how gender might shape youth mentoring relationships (Bogat & Liang, 2005; Rhodes, 2008). Ragins and Cotton (1993) found gender differences in willingness to mentor others and experience as a mentor among lower- and midlevel managers and employees, but Ragins and Scandura (1994) found no differences between executive-level men and women. The conclusion drawn was that gender differences in willingness to mentor others can be a function of gender differences in rank, position, and resources. Sosik and Godshalk (2000) found that female–female mentoring relationships offered a greater level of friendship, counseling, and personal support than did other gender combinations. Conversely, protégés in gender dissimilar dyads of longer duration reported receiving more mentoring and

benefits than did protégés in gender similar dyads (Turban, Dougherty, & Lee, 2002). Additionally, a meta-analysis of mentoring program revealed that among those programs that did utilize matching procedures, different types of criteria for matching (i.e., gender, race/ethnicity, or interests) were not significant moderators of effect size (Dubois, Holloway, Valentine, & Cooper, 2002).

In an analysis of cross-gender mentoring, Noe (1988) found that mentors in cross-gender relationships reported that they were more effectively utilized by their protégé than did mentors in same-gender relationships. Further examination revealed that male mentors with male protégés reported a lower quality relationship than did female mentors with female protégés and did cross-gender dyads. In professional mentorships among older individuals, the sexual innuendo that often accompanies cross-gender mentorships can constrain the level of comfort between cross-gender dyads (Hurley & Fagenson-Eland, 1996). Pairing youth with same gender mentors helps to reduce the possibility of inappropriate interactions that can often be found in older cross-gender mentoring. Dyadic friendships between women tend to be more communal, whereas the men friendships tend to be more instrumental (Rhodes, 2005).

Kram (1985) noted that individuals with previous mentoring experiences likely appreciate the benefits of mentoring due to their firsthand knowledge. That notion suggests that individuals with experience in mentoring programs, will probably make good mentors. Based on feedback from mentors, Allen (2007) reported that previous mentoring experience relates to future willingness to mentor. Individuals who have been protégés are motivated to reciprocate the help they have received by being

mentors to others (Allen, Poteet, & Burroughs, 1997). By serving as a sounding board and providing a model of effective adult communication, mentors can help children and adolescents better understand, express, and regulate both their positive and negative emotions (Rhodes, 2008).

Matching by shared interests (to the extent possible) helps the relationship get off to a good start (Jucovy, 2000). In another analysis of a mentoring program, Allen and Eby (2003) reported that mentors in relationships with others perceived to be similar reported the mentorship to be of higher quality and greater learning than did mentors in relationships with less similar others. Additionally, MentorNet is an organization that focuses on furthering the progress of women and other underrepresented groups in scientific and technical fields through eMentoring. In a study conducted by the program's founder, Muller (2004) found that although protégés of underrepresented ethnic minority backgrounds sometimes indicated a strong preference for being matched with a mentor of the same background, at the end of eight-month-long mentoring relationships, there was no difference in satisfaction with the mentoring match between those who had been matched with someone of the same ethnic group, and those who had not. Matching mentors and mentees based on commonality may or may not fuel conversation and help facilitate relationship development.

### **Summary**

Several gaps in the literature were identified, which this study addresses. None of the literature on school-based eMentoring reported an emphasis on life and/or social skills. Social skills are a major asset to an individual and should be the focus or at least

an aspect of mentor programming. Another gap in the literature was the lack of relationship evaluation. There were a few eMentoring studies that examined message content, but they did not examine quality of the relationships. In those studies, messages were coded into categories to determine the frequency of the different types of messages. Lastly, none of the school-based eMentoring programs encouraged communication beyond the walls of the school or the secure email environment. This study is designed to address the issues identified and gaps in the school-based eMentoring research, communication frequency and relationship quality in a life skills curriculum.

## **CHAPTER 3**

### **METHODS**

#### **Introduction**

The present chapter includes a description of the eMentoring program, research design, research aim, limitations of the study, a description of the participants and site, ethical considerations, and an outline of its quantitative phase and qualitative phase, as well as the follow-up phase that describes how the data were analyzed to explore the research questions.

#### **Program Description**

The eMentoring program was designed to help students learn life skills while substantially improve reading, writing, and computer skills, through communicating with mentors via email. The eMentors were trained to show interest in student's schoolwork and personal lives by exchanging weekly email messages through the Internet. This type of communication was designed to enhance learning through the exchange of messages, which gave students the opportunity to practice new skills with a caring adult outside of their normal social circle. The email correspondence occurred within a secure email system, and was monitored by the program manager as well as the organization sponsoring the eMentoring program.

The program manager was responsible for recruiting participants, designing a curriculum to guide participants' online discussions, matching the mentors with the mentees, facilitating site visits, and overseeing the program throughout its duration. This particular program lasted seventeen weeks during the 2009-10 school year. The



program was designed to have one site visit at the beginning, to introduce pairs in a face-to-face meeting. At the request of the eMentors and mentees, a total of three site visits occurred. During the first site visit, the program manager provided an overview of the program and its purpose, followed by an icebreaker to introduce pairs while they enjoyed a continental breakfast. Mentors and mentees spent about an hour in the group session and thirty minutes in one-on-one conversation. The second site visit consisted of a group lunch and one-on-one conversation between the pairs. The third and final site visit also consisted of a group lunch and one-on-one conversation, but pairs also said their formal in-person goodbyes since the program was ending.

### **Research Design**

This study used a mixed methods design, which focused on collecting, analyzing, and mixing both quantitative and qualitative data in a single study, in order to provide a better understanding of research problems than either approach alone afforded (Creswell & Plano-Clark, 2010). A convergent parallel mixed methods design was used. The researcher synthesized newly collected qualitative data with the quantitative secondary data obtained. The de-identified quantitative and qualitative data were analyzed separately and the findings were compared for a final interpretation. Creswell & Plano-Clark (2010) suggest using the Convergent Parallel Design when the researcher feels that there is equal value for collecting and analyzing qualitative and quantitative data to understand the problem. A secondary data analysis was conducted using email frequency data collected from the eMentoring program piloted during the 2009-10 school year. Interviews with mentors from the eMentoring program were the source of

qualitative data used to triangulate findings. This design is consistent with DuBois' (2009) assertion that qualitative research by itself generally does not constitute a reliable indicator of effectiveness in evidence-based practice models.

Both quantitative and qualitative research methods have their respective strengths and limitations. Qualitative research can study a few individuals in depth but lose the ability to generalize the results. Conversely, quantitative studies can examine many individuals without gaining a deep understanding of a single subject. Hence, a combination of qualitative and quantitative research can provide a more complete understanding of a research problem, since the strengths of one method can offset the limitations of the other method.

**Strengths and challenges of the convergent parallel design.** Creswell & Plano Clark (2010) thoroughly discussed the strengths and challenges of the convergent design.

The strengths of the convergent design include:

1. The design makes intuitive sense.
2. The design is efficient, as both types of data are collected roughly at the same time.
3. Each type of data can be collected and analyzed separately, using techniques traditionally associated with each data type.

The challenges of the convergent design include:

1. Much effort and expertise is required, particularly because of the concurrent data collection and the fact that equal weight is given to each data type.
2. It can be challenging to analyze two sets of very different data and their

results in a meaningful way.

3. Researchers may face the question of what to do if the quantitative and qualitative results do not agree.

### **Research Aim**

The aim of this research was to identify factors that influenced communication in the eMentoring program. The specific aim was constant across the quantitative and qualitative analysis. The goals of utilizing the qualitative data to complement the quantitative data in this study was to (1) understand the context in which identified factors influenced the communication, and (2) to generate applicable results that will enhance the process of eMentoring by evaluating elements of a program.

### **Limitations**

The findings of the study will be conditional since 1) the small sample size may be accurate and appropriate for a case study, but may lack the ability to make generalizations regarding a larger population of eMentoring participants, 2) there were several planned and unplanned events that took place during the program which could have affected the data, 3) relationship quality has never been measured in this manner and 4) the researcher was also the program manager, so researcher bias could have been introduced to the study.

### **Quantitative Phase**

This section of the study used quantitative measures to gather nominal and categorical data, analyze the data and report findings on communication frequency as measured by quantity of emails, as well as email response time as a proxy measure of

online immediacy. Data were collected from eMentor pairs (n=17) across the 17 week duration of the program. The mentors were working professionals across multiple departments at a local medical center and the students were from an alternative high school for at-risk youth in a large urban community. The program manager worked with the mentors during a summer externship at the hospital, and also taught computer applications to the student participants during that school year.

### **Quantitative Data Collection**

The quantitative data were made available through the program sponsor, a nationally recognized school-based mentoring network serving the metropolitan area. The source of the quantitative data was the log of email communication transmitted through the secure email system. The date of each message sent between pairs was automatically stored within the email system.

### **Definition of Variables**

***Pair Classification*** refers to the combination of mentor and mentee work status (manager or non-manager) and high school grade level (junior or senior). These four groups were defined and coded as:

1. Junior & Manager
2. Junior & Non-Manager
3. Senior & Manager
4. Senior & Non-Manager

***Match Rationale*** refers to how the mentor-mentee pairs were matched in the program. The program manager either arbitrarily matched the pair based on his

knowledge of one or both participants or intentionally matched the pair based on the familiarity with both participants. These groups were defined and coded as:

1. Arbitrarily Matched Pair
2. Intentionally Matched Pair

**Pair Gender** refers to the gender of the pairs. Mentors and Mentee were purposely matched with same sex partners. These groups were defined and coded as:

1. Male Mentor & Male Mentee
2. Female Mentor & Female Mentee

**Site Visits** refers to occasions when the tele-mentors came to the school to have face-to-face meetings with the mentees. There were three site visits throughout the course of the program.

**Time Periods** refers to the spans of time the program data was divided into. Two of the time period spanned across 6 weeks and one time period consists of 5 weeks, for a total of 17 weeks. The time period were coded as:

1. Site Visit 1
2. Site Visit 2
3. Site Visit 3

**Quantity of Emails** refers to the total number of emails sent between the tele-mentoring pair. These numeric data were ratio variables.

**Email Response Time** refers to the number of days between email responses between eMentoring pairs. These numeric data were ratio variables.

## **Measures**

Measures for this study were selected from the data obtained regarding the eMentoring program. Variables of interest were used only if they were measured across all participants. There were two main dependent measures, communication frequency and email immediacy.

**Communication Frequency.** Quantity of Emails was the frequency measure that was explored as a dependent variable in this study. This was operationalized as a continuous measure. Although each eMentoring pair had at least one email sent during the program, some pairs did not send any emails during some of the time periods measured. These data range from two (2) emails to thirty-five (35) emails sent between the eMentoring pairs. All other numbers represent the actual value of emails sent between the pairs throughout the program.

**Email Immediacy.** Email Response Time was the frequency measure explored as a dependent variable in this study. Email response time was operationalized as a continuous measure. These values range from zero (0) to fifty-nine (59). Zero (0) represented a same day response to an email sent between the eMentoring pairs. All other number represent their actual value in days taken to respond to emails sent.

### **Research Questions**

The goal of the quantitative phase of this study was to answer the following questions regarding the eMentoring program:

1. Is there a significant difference in the Quantity of Emails between Genders?
2. How does the Quantity of Emails differ between Pair Classifications?
3. How does Email Response Time differ between Pair Classifications across

time periods?

4. Is there a significant difference in the Quantity of Emails between arbitrarily and intentionally matched Pairs?
5. How does quantity of emails differ between Match Rationale across time periods?

### **Hypotheses**

The purpose of this study was to identify the factors that influence communication in an eMentoring program. Based on the literature reviewed, the following research hypotheses were developed and tested:

H1: There is a significant relationship between quantity of emails and pair gender.

H2: There is a significant relationship between pair classification and quantity of emails.

H3: There is a significant difference in email response time across time periods between pair classifications.

H4: There will be a significant difference in the quantity of emails between arbitrarily and intentionally matched pairs.

H5: The quantity of emails will increase for intentionally matched pairs across time periods.

### **Data Analysis**

Quantitative data were assessed using descriptive statistics to ascertain if the assumptions related to each statistical analysis to be performed are satisfied. The descriptive statistics were calculated to describe the sample and variables that were

measured. These data analysis using SPSS calculated frequencies, means, variance structure, kurtosis, and skewness of the variables measured (Green et al., 2004). The output was summarized in text as well as visual forms.

The research question *“Is there a significant difference in the Quantity of Emails between Gender?”* required an independent t-test for analysis, since the researcher compared the means of male and female eMentoring pairs. The independent t-test assumed that the distribution of scores in each condition was normal and that the two distributions have equal variance (Levin, 1999). The results of from the analysis were also reported in text and tabular form. The means, standard deviations, and sample sizes are the statistics that were reported in text and visual form. The p-value was set at .05.

The research question *“How does the Quantity of Emails differ between Pair Classifications?”* required a One-way ANOVA since the researcher focused on the influence of a single variable with several levels. This analysis of variance is essentially an average of the squared deviations from the mean (Keppel & Wickens, 2004). The p-value was set at .05.

The research question *“How does Email Response Time differ between Pair Classifications across time periods?”* required a One-way Repeated Measures ANOVA since the researcher compares how the participant’s response time varied in three different time periods by match rationales. This statistical test assumed the groups were independent, population variances were homogenous, and the distribution was normal. The statistics are reported in text and visual form. The p-value was set at .05.



The research question, *“Is there a significant difference in the Quantity of Emails between arbitrarily and intentionally matched Pairs?”* required a t-test since the means of arbitrarily and intentionally matched pairs were compared. The test assumed that the distribution of scores in each condition is normal and that the two distributions have equal variance (Levin, 1999). The results of from the analysis were reported in text and tabular form. The means, standard deviations, and sample sizes are the statistics are reported. The p-value was set at .05.

The research question *“How does quantity of emails differ between Match Rationales’ across time periods?”* required a One-way Repeated Measures ANOVA since the researcher compares how the participant’s response time varied in three different time periods by match rationales. This statistical test assumed the groups were independent, population variances were homogenous, and the distribution was normal. The statistics are reported in text and visual form. The p-value was set at .05, so there was a 95% chance the differences observed reflect real differences and a 5% chance the difference is due to chance.

### **Qualitative Phase**

This section of the study used qualitative methods to gather interview data, analyze the data and report findings regarding the factors that influence communication in an eMentoring program.

The source of the qualitative data was in-depth semi-structured interviews. The content of the protocol (Appendix D) was grounded in the developed qualitative and quantitative research questions. The specific foci of the interview questions were to

elicit perceptions regarding mentor engagement, relationship quality, and communication frequency. The interview protocol included a variety of open-ended questions, and was pilot tested. The pilot test was used to evaluate the content of questionnaire based on the responses. Interviews were analyzed and issues were identified, and the questionnaire was refined in order to systematically address some of the problems. The types of modifications were:

- revising questions to improve clarity and garner concise responses
- reordering questions to improve the flow of the interview
- eliminating questions to remove redundancy and/or irrelevant questions
- adding questions to gather appropriate data to address the research question

Upon completion of the pilot test, email invitations (Appendix B) were sent to the fifteen mentors whom participated in the eMentoring program.

The goal of the qualitative phase of this study was to answer following research question regarding the eMentoring program: “What factors influenced communication in the eMentoring program?”

### **Qualitative Data Analysis**

Qualitative research methods were chosen because I didn’t know a priori what the results would be and anticipated that the data I collected was much more detailed than in a traditional quantitative study. A content analysis was performed to identify themes. Tables were created to depict themes, categories, concepts and meaning units within the context of the program. A narrative summarizing the findings was developed for a final interpretation. It must be noted that due to the small sample size, the findings may

be slanted toward either the positive or negative experiences of the participants.

Qualitative data were analyzed using a generic six step process outlined by Creswell & Plano-Clark (2010). The phases of the thematic analysis are:

- Prepare the data for analysis (organize the data)
- Explore the data (read through the data)
- Analyze the data (code the data)
- Represent the data (use coding to generate a categories or themes for analysis)
- Interpret the results (determine how categories and themes will be represented in the narrative)
- Validate the data (ask others to examine the data)

The interview data were recorded and sent to a professional transcriptions service. The verbatim text from the transcripts were examined thoroughly and words, phrases and statements were organized by content. The verbatim content was examined again to organize the units into concepts. The concepts were then examined and grouped into specific categories. Finally, the categories were analyzed and placed into themes. Once the thematic analysis was complete, the narratives were analyzed for a final interpretation of the qualitative data.

### **Comparative Phase**

The goal of the follow up phase of this study was to answer following research question regarding the eMentoring program:

“To what extent do the quantitative and qualitative results converge on certain themes or categories?”

The same concepts, influential factors affecting communication and relationship quality, were assessed in the qualitative and quantitative phase of this research. Hence, the aim of the study guided the convergent analysis. Creswell and Plano-Clark (2010) outline the steps to converge and analyze the qualitative and quantitative data:

- Collect qualitative and quantitative data
- Independently analyze both types of data
- Specify the dimensions by which to compare the data
- Specify what information will be compared across the dimensions
- Complete refined qualitative and/or quantitative analyses to produce comparisons
- Represent comparisons
- Interpret combined results

### **Trustworthiness**

To ensure trustworthiness several measures were taken. According to Lincoln and Guba (1985), qualitative inquiry hinges on four main criteria: credibility, transferability, dependability, and confirmability. The following steps were used to ensure credibility:

- Well established research methods were used
- Triangulation: a wide range of participants were interviewed to elicit a variety of viewpoints, as well as the use of multiple data sources
- The researchers independent status was emphasized to garner honest feedback
- Probing questions were used to gather more detailed data

With community-based and school-based mentoring programs all across the country, transferability is ensured since the findings can be used to improve current and/or future programming. A detailed description of the research design and how it was implemented ensures dependability, so another researcher could easily repeat this work. Lastly, a data oriented audit trail was created to limit researcher biases and confirmability. As Maxwell (2005) stated, the goal in a qualitative study is not to eliminate reactivity, but to understand it and to use it productively. This study was designed to maximize the researcher's role, since eliminating the influence is not realistic.

### **Ethical Considerations**

Due to the nature of this study and its research questions, de-identified data were collected and analyzed to maintain participant anonymity. The researchers status as a graduate student and familiarity with participants did not pose a threat to anyone involved in the study. To maintain compliance with the regulation of the Human Subjects Committee (HSC), a HSC application (Appendix A) was formally filed, which provided an in-depth description of the project, the purpose, methods and procedures, description of the sample, and the significance of the project. Although a summary of data will be reported to the professional mentoring community, it will not be possible to trace the finding back to individuals or organizations involved in this study.

## CHAPTER 4

### QUANTITATIVE RESULTS

#### Introduction

This chapter provides the research results, which include demographic characteristics as well as the results for the Quantitative Phase of this study. The results from the Quantitative Phase consist of descriptive statistics related to each step in the analysis, which describes the sample and variables that are measured. In-depth results are reported for the examined questions: (a) the quantity of emails exchanged based on Pair Gender using the Independent Samples t-test (b) the quantity of emails exchanged of each pair classification using the One-way ANOVA (c) Email Response Time based on pair gender across time period using the One-way Repeated Measures ANOVA (d) the quantity of emails exchanged based on Match Rationale using the Independent Samples t-test and (e) quantity of emails based on matched rationale across time period using the One-way Repeated Measures ANOVA.

#### Quantitative Sample Characteristics

There were a total of thirty-two participants in the eMentoring program. Seventeen of the participants were mentees, while fifteen of the participants were mentors. There were eight male mentor & male mentee pairs, eight female mentor & female mentee pairs, and one pair with a female mentor & male mentee. These pairs were classified into four groups; High School Junior & Manager, High School Junior & Non-Manager, High School Senior & Manager, and High School Senior & Non-Manager. The participants were also grouped by Match Rationale, Arbitrarily Matched Pairs and

Intentionally Matched Pairs.

### Hypotheses Testing

The following Hypotheses were tested:

*H1: There is a significant relationship between quantity of emails and pair gender.*

The Independent Samples t-test was conducted to test the hypothesis that there would be a significant difference in the quantity of emails and pair gender. Table 1 shows the pairs that were female & female had higher numbers of emails exchanged at the end of the program than those that were male & male.

Table 1

*Comparison of average # of emails by pair genders*

	Pair Gender	N	Mean	Std. Deviation	Std. Error Mean
Total # of emails	Male & Male	8	12.88	9.891	3.497
	Female & Female	8	18.63	9.425	3.332

The equality of variance assumption was met ( $p = .991$ ). eMentoring pairs had a higher number of email exchanges at the end of the program if they were female & female ( $M = 18.63$ ,  $SD = 9.43$ ) vs. male & male ( $M = 12.88$ ,  $SD = 9.9$ ). The mean differences of 5.75 emails was not statistically significant ( $t(14) = -1.190$ ,  $p = .254$ ). Cohen's effect size ( $d = .60$ ) was moderate to large.

The female eMentoring pairs had a higher number of emails exchanged than the male eMentoring pairs, which supports previous findings regarding females being more communicative (Sosik & Godshalk, 2000; Rhodes, 2002). However, there was not a statistically significant difference between the groups. Conversely, the moderately high effect size suggests that there is practical significance regarding the result. Additionally,

the outlier eMentoring pair contained a female mentor and a male mentee. The number of emails exchanged between this pair was higher than the overall average of all pairs and higher than the average of the female pairs. This result aligns with findings from Turban, Dougherty, & Lee's (2002) study which noted that protégés in gender dissimilar dyads of longer duration reported receiving more mentoring and benefits than did protégés in gender similar dyads. Not only does this suggest that female to female eMentoring pairs will most likely have a higher communication frequency, but also that female mentors may be better facilitators of communication in eMentoring programs. Multiple cross-gender eMentoring pairs were not examined in this study.

*H2: There is a significant relationship between pair classification and quantity of emails.* The One-way ANOVA was conducted to test the hypothesis that there is a significant relationship between pair classification and quantity of emails. Table 2 provides the descriptive statistics by pair classifications, i.e., Manager vs. Non-Managers for juniors and seniors. The range of total number of emails sent among all groups was 2 – 35. Figure 1 graphically represents the descriptive statistics.

Table 2

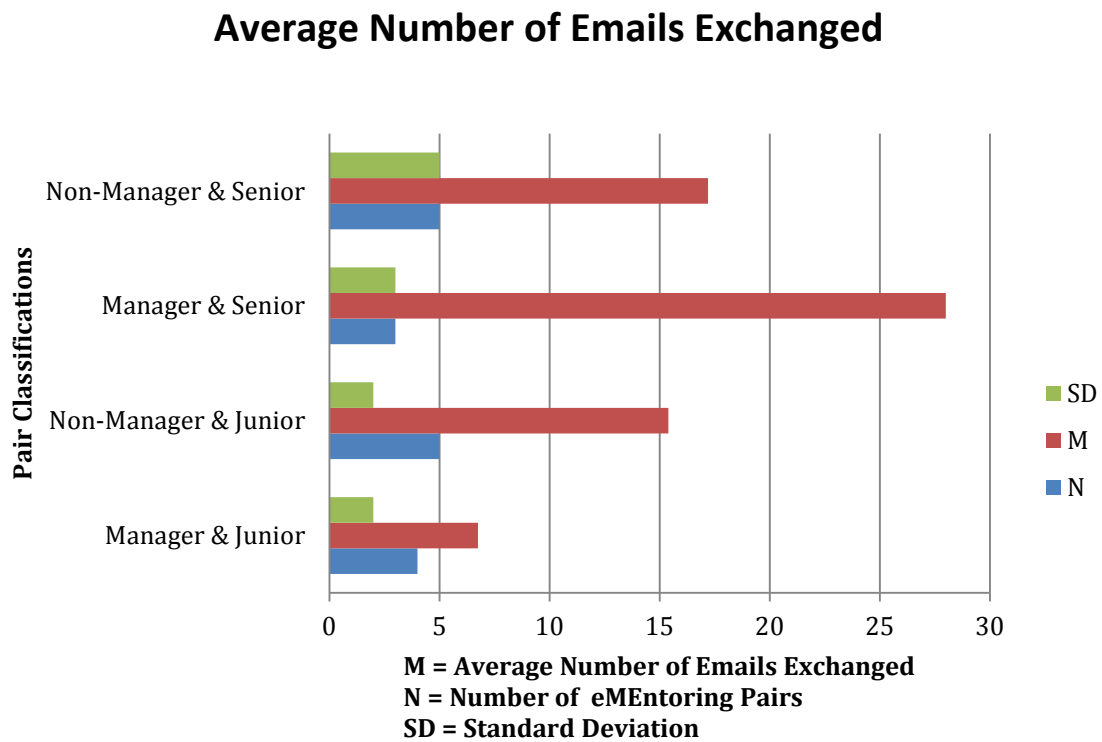
*Total # of emails by pair classification*

Pair Class.	N	Mean	Std. Deviation
Manager & Junior	4	6.75	4.113
Non-Manager & Junior	5	15.40	9.127
Manager & Senior	3	28.00	6.245



Non-Manager & Senior	5	17.20	7.596
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Figure 1. Average Number of Emails Exchanged



The assumption of homogeneity of variance is met (Levene's  $F=1.408$ ,  $p=.285$ ). There is a statistically significant between group difference ( $f=4.898$ ,  $p=.017$ ) in the quantity of emails between the different pair classifications. Follow up multiple comparisons tests revealed there was a statistically significant difference. There is a significant difference ( $p = .010$ ) in total number of emails between the Manager & Junior group ( $M=6.75$ ,  $SD=4.113$ ), and the Manager & Senior group ( $M=28.00$ ,  $SD=6.245$ ).

However, there were no significant differences between the Manager & Junior group (M=6.75, SD=4.113) and the Non-Manager & Junior group (m=15.40, sd=9.128), or between the Manager Senior group (M=28.00, SD=6.245) and Non-Manager & Seniors groups (M=17.20, SD=7.596). Additionally, the Manager Junior group (M=6.75, SD=4.113) and the Non-Manager Junior group (M=15.40, SD=9.128) were not significantly different from the Non-Manager Senior group (M=17.20, SD=7.596).

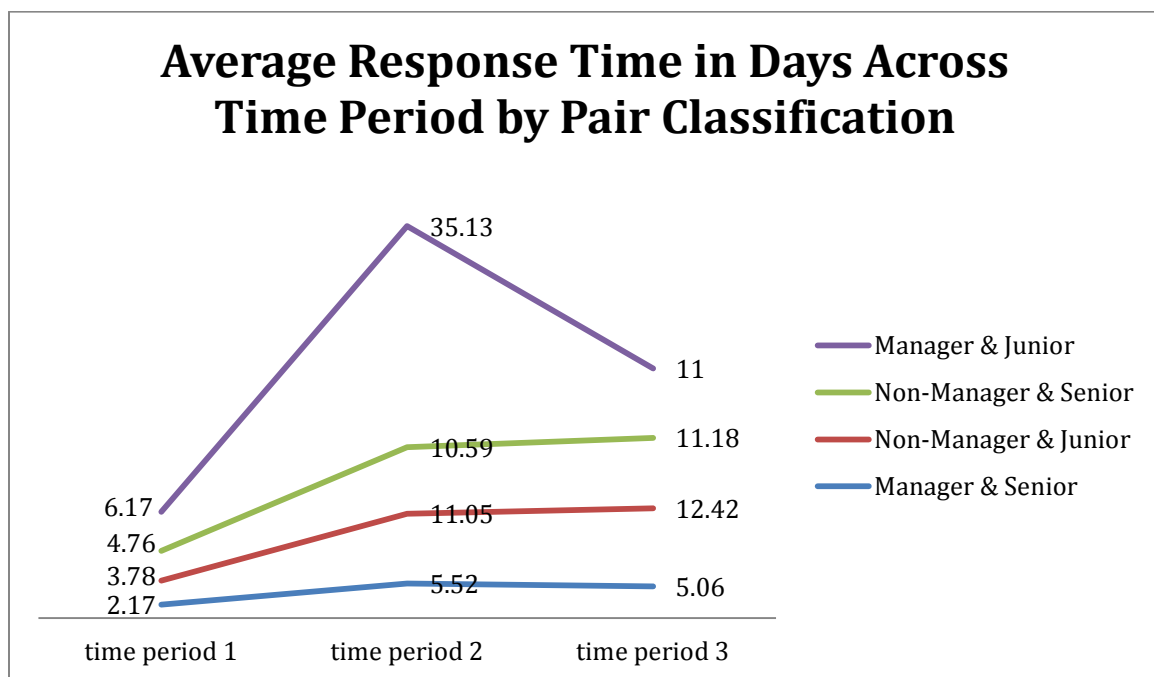
The Manager & Senior eMentoring pairs had statistically significantly higher numbers of emails exchanged than the Manager & Junior eMentoring pairs. This result suggests that Manager & Senior eMentoring pairs developed relationships that facilitated consistent and meaningful communication over the duration of the program, while Manager & Junior eMentoring pairs did not form a meaningful relationship and may have been uncomfortable communicating with each other. The Non-Manager & Senior and Non-Manager & Junior eMentoring pairs had an average overall email exchange throughout the program, consistent with the prescribed amount of communication per week. This result suggests that Non-Manager & Senior and Non-Manager & Junior eMentoring pairs were active participants in the program over time and potentially benefited from the communication facilitated by this eMentoring program. Conversely, the Non-Manager & Senior and Non-Manager & Junior eMentoring pairs may have been adhering to the minimum participation requirement to get through the end of the program without breaking their commitments.

These findings support the conclusions drawn by Ragins and Cotton (1993) as well as Ragins and Scandura (1994), who noted that gender differences in willingness to

mentor others can be a function of gender differences in rank, position, and resources. The senior executives may have been more willing to maintain email communication with the high school senior mentees more so than any other group because of their rank, position, and resources.

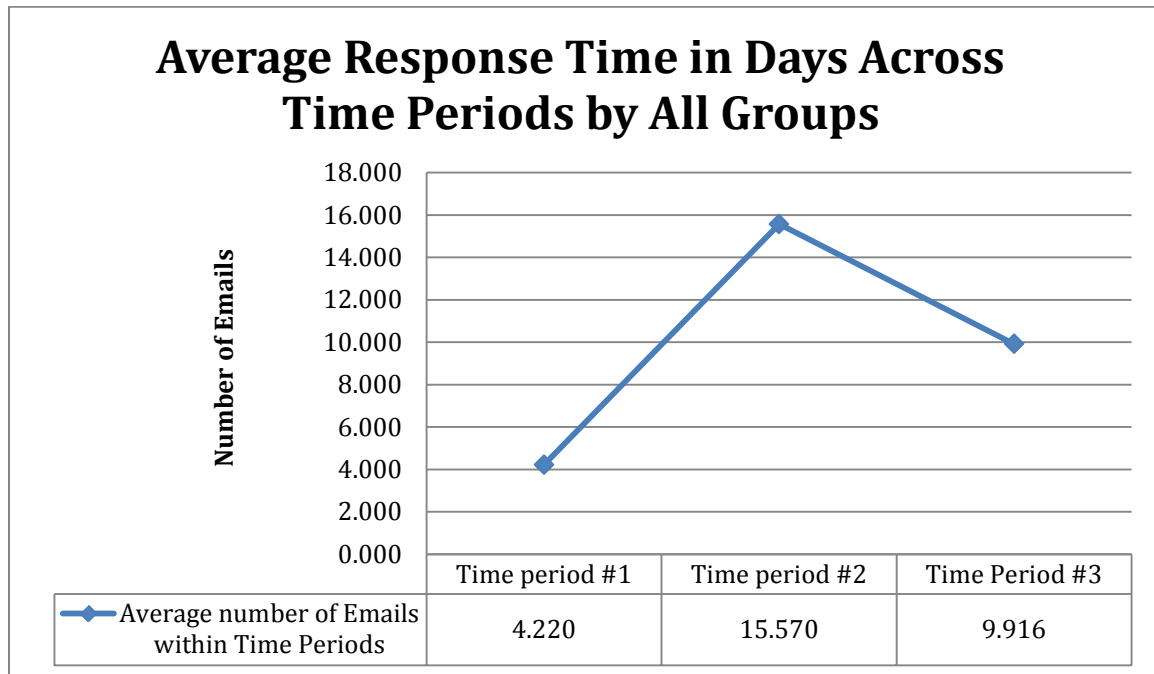
*H3: There is a significant difference in email response time across time periods between pair classifications.* An analysis of variance (ANOVA): Repeated Measures was conducted to test the hypothesis that there would be a significant difference in the email response time across three time periods (SV1 vs. SV2 vs. SV3) between pair classifications. The results for the Repeated Measures ANOVA indicated the following: Mauchly's test statistic (.423) was nonsignificant ( $p > .05$ ) so equality of variance was met. Figure 2 shows there was no significant interaction effect between time and pair classification ( $f=1.558, p=.216$ ).

Figure 2. Average Response Time in Days Across Time Period by Pair Classification



The test of within subject effects shows that there is a significant difference ( $f=5.300$ ,  $p=.015$ ) across time periods between pair classifications. Using pairwise comparisons, there was a significant difference ( $p=.036$ ) between time period 1 ( $M=4.220$ ) and time period 2 ( $M=15.570$ ). There is not a significant difference between time period 1 ( $M=4.220$ ) and time period 3 ( $M=9.916$ ) as shown in Figure 3.

Figure 3. Average Response Time in Days Across Time Periods by All Groups



There was a significant difference in email response time between time period 1 and time period 2, however, there was not a significant difference between time periods 1 and 3 or between time periods 2 and 3. The Manager & Junior eMentoring pairs had the highest average number of days between email responses, while the Manager & Senior eMentoring pairs had the lowest average number of days between email responses. These results are consistent with the quantity of emails exchanged between pairs and suggest that the level of engagement between Manager & Senior

eMentoring pairs was much higher than all other groups. The average number of days between email responses increased for all groups over time, which suggests either that overall engagement in the program consistently declined throughout the duration of the program or that relationships were not developing between the eMentoring pairs over time.

*H4: There will be a significant difference in quantity of emails between arbitrarily and intentionally matched pairs.* The Independent Samples t-test was conducted to test the hypothesis that there would be a significant difference in the quantity of emails between arbitrarily and intentionally matched (match rationale) pairs. Table 4 shows that the pairs that were intentionally matched had higher numbers of emails exchanged at the end of the program than those that were arbitrarily matched.

Table 4

*Mean number of emails by match rationale*

Match Rationale	N	Mean	Std. Deviation
Arbitrarily Matched Pairs	8	12.25	8.582
Intentional Matched Pairs	9	19.56	9.580

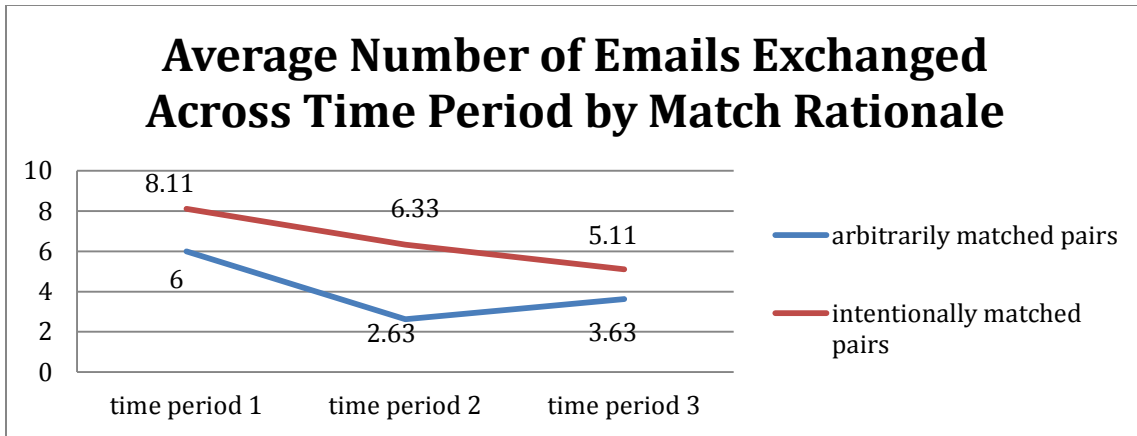
The equality of variance assumption was met ( $p=.120$ ). The eMentoring pairs had a higher number of email exchanges if they were intentionally matched ( $M=19.6$ ,  $SD=9.58$ ) vs. arbitrarily matched ( $M=12.3$ ,  $SD=8.58$ ). The mean differences of 7.31 emails was not statistically significant ( $t(15) = -1.647$ ,  $p = .120$ ). Cohen’s effect size ( $d=.80$ ) was large.

The intentionally matched eMentoring pairs had a higher number of emails

exchanged than the arbitrarily matched eMentoring pairs. However, there was not a statistically significant difference between the two groups. Conversely, the high effect size suggests that there is practical significance regarding the result and using specific criteria such as career interests, gender, and/or personal interests may increase the chances for more frequent communication in an eMentoring program. Mentors and students may not be well matched, or both may have brought expectations to the relationship that cannot be satisfied (O'Neill & Gomez, 1996). These findings support the Harris (1996) assertion that having an eMentoring program manager familiar with some of the mentors and mentees can facilitate the matching process to attempt to ensure the best possible outcomes.

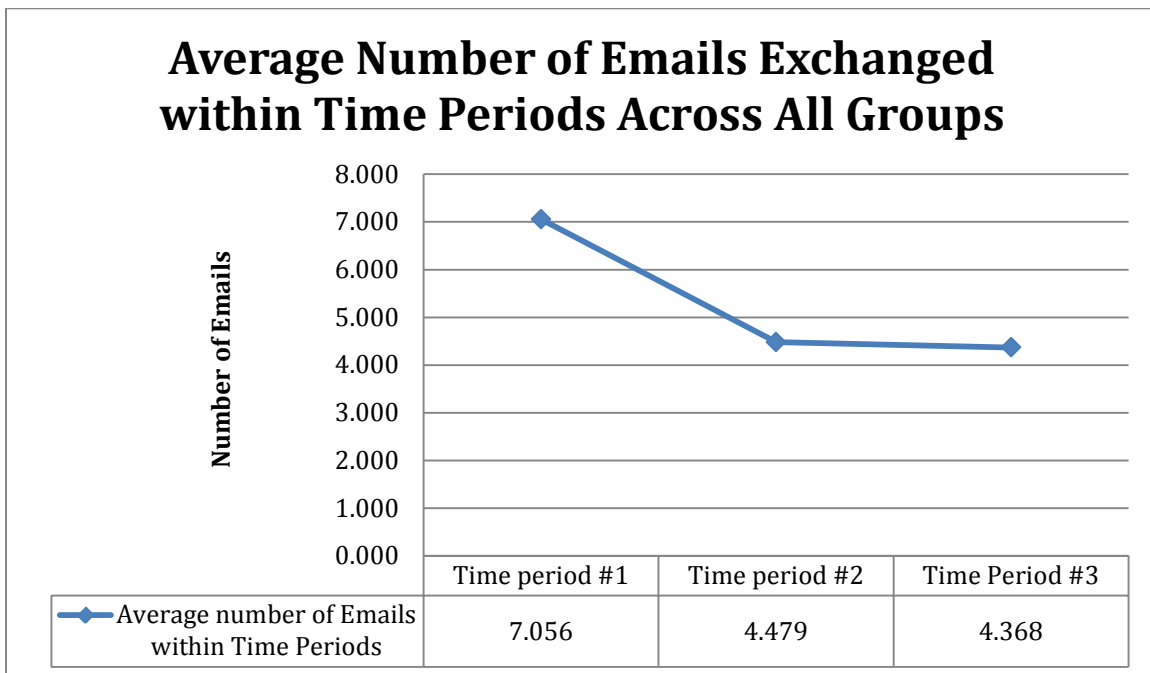
*H5: The quantity of emails will increase for intentionally matched pairs across time periods.* An analysis of variance (ANOVA): Repeated Measures was conducted to examine if there would be a significant difference in the quantity of emails across three time periods (SV1 vs. SV2 vs. SV3) between pairs categorized by match rationale. The results for the Repeated Measures ANOVA indicated the following: Mauchly's test statistic (.176) was nonsignificant ( $p > .05$ ) so equality of variance was met. Figure 4 shows there was no significant interaction effect between time and match rationale ( $f=.735, p=.488$ ).

Figure 4. *Average Number of Emails Exchanged Across Time Period by Match Rationale*



The test of within subject effects shows that there is a significant difference ( $f=5.178, p = .012$ ) across time periods between match rationales'. Using pairwise comparisons, there was a significant difference in average number of emails exchanged ( $p = .040$ ) between time period #1 ( $M=7.065$ ) and time period #3( $M=4.368$ ). There was not a significant difference in between time period #2( $M=4.479$ ) and time period #3( $M=4.368$ ) as shown in Figure 5.

Figure 5. Average Number of Emails Exchanged within Time Periods Across All Groups



Although there was a significant difference in the quantity of emails sent by both arbitrarily matched pairs and intentionally matched pairs between time period 1 and time period 3, there was not a significant difference between time periods 1 and 2 or between time periods 2 and 3. The fact that the quantity of emails declined over time suggests that the trend was to correspond less via email throughout the duration of the program regardless of the match rationale. These results are consistent with prior findings that the average number of days between email responses increased for all groups over time.

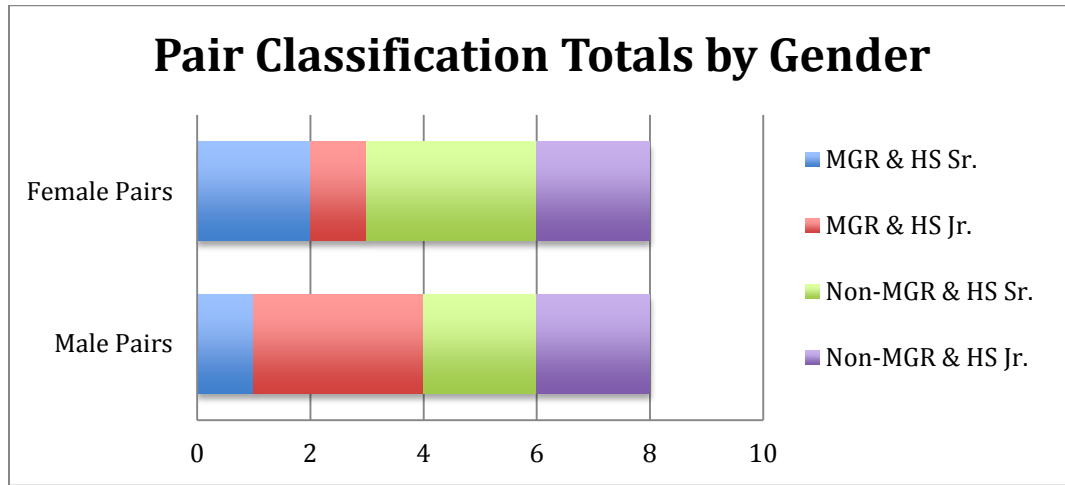
### **Summary**

The quantitative results indicated that female eMentoring pairs ( $M=18.63$ ) had a higher average number of emails exchanged at the end of the program than those that were male & male eMentoring pairs ( $M=12.88$ ). This outcome is supported by previous research on female communication preferences (Bogat & Liang, 2005; Darling, Bogat, Cavell, Murphy & Sanchez, 2006; Rhodes, 2002; Rhodes, 2005; Sosik & Godshalk 2000; Tannen, 2010). The Manager & Senior group ( $M=28$ ) had a significantly higher difference in total number of emails than the Manager & Junior group ( $M=6.75$ ). The fact that rank and position was a significant predictor of communication frequency confirms Ragins and Scandura's (1994) conclusion that willingness to mentor others may be a function of gender differences in rank, position, and resources. Figure 6 illustrates the gender breakdown of the pair classifications, which further supports the idea that female managers were more communicative than the male managers. The most communicative groups, Manager's and High School Seniors along with Non Managers



and High School Juniors featured more female pairs (5, or 62%).

Figure 6. *Pair Classification Totals by Gender*



There was a statistically significant difference in email response time in days among all pairs between time period 1 (M=4.220) and time period 2(M=15.570). This results suggests that pairs that had steady communication were the pairs that replied within the allotted time period(one week) and did not allow too many days to pass before responding to emails, which is consistent with previous research based on immediacy (DuBois, Holloway, Valentine, & Cooper, 2002; Harris, 1996; Karcher, Davis, & Powell, 2002; Miller, Devany, Kelly, & Kuehn, 2008). Intentionally matched pairs (M=19.6) a higher average number of email exchanges than arbitrarily matched pairs (M=12.3). Finally, there was a statistically significant difference in average number of emails exchanged within both groups based on match rationale between time period 1 (M=7.065) and time period 3(M=4.368). Jucovy (2000) and Rhodes (2005) stated that matching based on shared interest provides a good foundation to the mentoring relationships, and their claims are consistent with the evidence revealed this study.

## **CHAPTER 5**

### **QUALITATIVE RESULTS**

#### **Introduction**

This chapter provides the research results, which include demographic characteristics as well as the results for the Qualitative Phase of this study. This section gives explanation to the analysis of the questionnaire administered to mentors who participated in the eMentoring program. Responses were broken into meaning units using the exact words, phrases and statements from the respondents, then grouped by concept. The concepts were grouped into specific categories based on the content. The focus questions in the questionnaire were derived from the three themes: Mentor Engagement, Relationship Quality, and Communication Frequency.

#### **Qualitative Findings**

The research question guiding the qualitative phase of this study was: “What factors influenced communication in the eMentoring program?” Qualitative description was used to describe the interview data from each mentor. Interview were then transcribed and analyzed. As depicted in Figure 6, meaning units were developed from participant responses, then grouped by concept. Concepts were grouped into specific categories and ultimately tied back to the themes, which corresponded with the focus questions.

## Thematic Analysis Diagram

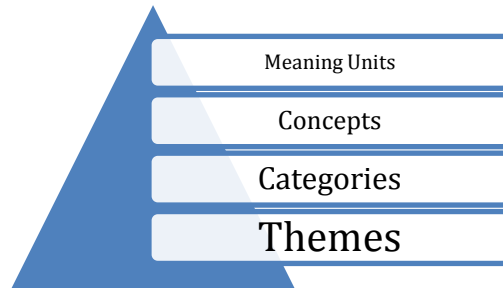


Figure 6. *Thematic Analysis Diagram*

### Qualitative Sample Characteristics

A total of fifteen individuals were asked to participate in the study. Five of the fifteen mentors that participated in the eMentoring Program elected to participate in a semi-structured interview. Two of the participants were Managers that were paired with High School Seniors, two were Non-managers paired with High School Seniors, and one participant was a Non-manager paired with a High School Junior.

Another three of the fifteen mentors indicated that they were willing to participate, but were unavailable when the interview time came. The researcher attempted to follow up with each of the three participants two additional times, but to no avail. Two of the fifteen mentors, one male and one female verbally declined to participate. The rationale offered from the male participant who declined was, "I didn't have a good experience. Me and my mentee just didn't have much to talk about. I guess it's a guy thing." The female participant who declined participation said, "I just wasn't a good match for my mentee. You should look into how these matches are assigned."

The other five mentors did not reply to the phone call or email invitation to

participate in the study. Due to the thirty-three percent response rate, the participants did not reflect the entire scope of positive and negative experiences. It is plausible that the individuals who declined to participate may have had negative experiences. It must be noted that there were pairs that had as little as two emails exchanged over the duration of the program. Conversely, there was one pair that was dismissed from the program because the mentor would pick the student up from school and the mentee would spend the night at the mentor's house. The mentee made a drastic improvement in her academic performance and behavior after she began the relationship with the mentor. The relationship was a success, just not by the program standards.

All of the interviews with the mentors were recorded using a Sony ICD-PX312D digital voice recorder. The interviews were transcribed by a professional transcription services, then thoroughly analyzed multiple times for a careful interpretation. All data were securely kept on an encrypted computer and destroyed at the end of the project.

### **Themes**

The three major themes (Table 5) that were analyzed in-depth were (1) Mentor Engagement (2) Relationship Quality, and (3) Communication Frequency. Several categories and concepts emerged from the interviews with the mentors.

*Thematic Analysis Findings*

Theme	Categories	Concepts
Mentor Engagement	Participation Rationale	<ul style="list-style-type: none"> <li>• Personal Mentoring Experience</li> <li>• Program Flexibility</li> </ul>
	Topics Discussed	<ul style="list-style-type: none"> <li>• Goal Setting</li> <li>• Communication Strategies</li> </ul>
	Extended Communication	<ul style="list-style-type: none"> <li>• Monitoring Progress</li> </ul>
Relationship Quality	Mentor's Perception of the Mentoring Relationship	<ul style="list-style-type: none"> <li>• Relationship Growth</li> <li>• Relatability</li> </ul>
	Influences on the Relationship	<ul style="list-style-type: none"> <li>• eMentoring Program Structure</li> <li>• Interaction Strategies</li> <li>• Face-to-Face visits</li> <li>• Broken Commitments</li> <li>• The Mentee's Home Life</li> </ul>
	Mentor's Suggestions to Improve Relationship Quality	<ul style="list-style-type: none"> <li>• More Face-to-Face Visits</li> <li>• Removing Limitations on Communication</li> </ul>
Communication Frequency	Perceptions of Email Frequency	<ul style="list-style-type: none"> <li>• Appropriate Frequency</li> <li>• Higher Frequency Desired</li> </ul>
	Perceived Impact of Face-to-Face visits on Email communication	<ul style="list-style-type: none"> <li>• Enhanced Email Communication</li> </ul>
	Perceptions of How Unexpected Events Influenced Communication Frequency	<ul style="list-style-type: none"> <li>• Maintained Commitment (no overall effect)</li> <li>• Reduced Communication</li> </ul>
	Perceptions of Programmatic Barriers to Communication	<ul style="list-style-type: none"> <li>• No Perceived Barriers</li> <li>• Communication Limitations</li> <li>• Immediacy</li> </ul>
	Suggestions to Improve Communication Frequency	<ul style="list-style-type: none"> <li>• Modifications to the Program Structure</li> <li>• Alternative Methods of Communication</li> </ul>

**Mentor Engagement**

Mentor engagement in this study concerns why the mentors participated in the eMentoring program, what they discussed during the program, and communication with a mentee after the program. The interviews covered three specific topics related to engagement in the eMentoring program. Participation Rationale, Topics Discussed with

Mentee's, and Extended Communication were the categories that produced the different concepts related to this topic.

The participants spoke openly about their reasons for participating in the eMentoring experience during the interviews. The two concepts that emerged and aligned with the literature were (1) Personal Mentoring Experience and (2) Program Flexibility. Allen (2007) noted that previous mentoring experience relates to future willingness to mentor. Mahayosnand (2000) described electronic communication as an easy-to-use and efficient way to provide mentoring. The interview data to support each category are presented below.

The first concept that emerged from the analysis was how personal mentoring experiences had led them to a desire to influence the youth. All five (100%) of the participants had prior exposure to traditional mentoring throughout their lives, which led them to want to provide guidance to the youth in this program. For example, some participants had a history of being mentored:

- "It's very vital to our young people and growing up as a young person having mentors myself, it's a great way of giving back to the community, giving back to our youth."
- "I think it's that I have at points in my educational experience and my career would have benefit from mentoring and have had opportunities for some less formal mentoring."

Two of the five participants (40%) did not have mentors while growing up:

- "I didn't get into the IT field until ... that really wasn't an option when I was a kid

I guess. Computers weren't as big a deal then. I never really had anybody to help steer me into that area, so I saw it as an opportunity."

- "As a child at our age we only had our mother, our father and our grandparents. They were mainly just teaching you how to survive in life, go to church. We didn't have anybody to talk to you when we were going through personal issues."

One participant indicated that watching her children benefit from mentoring contributed to her participation in the eMentoring program by saying, "I also have three children and I think that they have greatly benefited from opportunities to be mentored by people that can influence them above and beyond their parents, but also that they can see as role models."

All of the participants expressed an understanding of the powerful influence mentoring can have based on their experiences. One participant reflected on her own life and spoke about how a mentor could have helped her: "I think had I had someone to mentor me and to talk to I probably wouldn't have made some of the mistakes that I made in my life as I was coming up as a young person." Other comments about participation motives were:

- "The opportunity to give back was probably a bright side to me."
- "I've always been appreciative of the service of mentors."
- "When I had an opportunity to do it, honestly, in the way that young people need to be mentored and prefer to be mentoring, I jumped at the opportunity."
- "I saw it as a way to provide more influence out in the community, and of a way to reach out to the next generation."

- “It was always on my heart to develop a relationship with one of the kids.”

Three of the five participants (60%) noted that their participation in the eMentoring program was influenced by the flexibility of the program. A minimal time commitment was an attractive factor as described below:

- “The eMentoring was especially appealing, because it didn’t require any extra time. It seemed to me to be a pretty efficient use of time.”
- “I felt that an e-mentoring program would be one that I could help someone that I believe would benefit from mentoring opportunities, but wouldn’t be as time consuming as face-to-face mentoring.”
- “eMentoring allows you to do it during the weekends... to be with that person whether you’re 100 miles or 1,000 miles away, to still have that contact.”

The two concepts that emerged from the category of Topics Discussed during the program were (1) Goal Setting and (2) Communication Strategies. The ability to set goals provided an opportunity to strive to achieve the goals through the guidance of the mentor. Being able to develop goals, then watch a mentee accomplish short and long-term goals is one way to keep a mentor engaged in a mentoring program.

The most prevalent concept that emerged from the analysis of the topics discussed between mentors and mentees was goal setting. Four of the five of the participants (80%) recalled discussing a variety of goals with their mentee ranging from educational aspirations to athletics goals to entrepreneurial desires. For example, one mentor discussed the wide range of goals that were covered and how to achieve the goals. He said, “We were setting goals for him, and what he was he doing to work



towards those goals and have a plan of action to work towards those goals. Education goals, I think athletic goals and professional goals and general goals for the future.”

Another male mentor recalled coaching the mentee on starting his own business: “We talked about locations and how you get started and maybe applying for grants for new businesses and things like that, that might help be sources of funding for something like that. I would send articles on different things that would reinforce some of his ideas.” One female mentor also described a wide range of topics that were discussed, including more tailored topics related to the student specific situation at the time:

We would talk about the importance of education a lot and that she was almost at the end of her road... Sometimes it was just the generic topics about her family that she wanted to talk about and some of the challenges that she was having. I think there was... I talked to her a lot about my career and how I got into it and some of my things that were rough when I first started... a lot of the ones that I most remember are when I felt like it had been communicated with me that she was slipping a little bit in school and that she needed some motivation.

Mentoring at-risk youth presented opportunities to work on intrapersonal communication as well as interpersonal communication skills with different people in the mentee’s life, such as family, teachers, and friends. One female mentor said this about topics she discussed with her mentee’s:

A lot of the topics were handling adversity, handling anger when they felt like

they were right, but the teachers were constantly telling them they were wrong. I taught them how to express their feelings and their anger without being disrespectful to their teacher... I taught them also how to handle issues in their home, because they all came from broken homes, without letting it affect their education. They needed their education to better themselves. So as they become adults they don't have to grow up in the same environment, or have children coming up in the same environment as they did.

In regards to the different topics that were discussed, another female mentor said, "I remember talking about some pretty significant issues about work and relationships and getting along with teachers and things like that."

Mentors were asked if they maintained communication with their mentee after the program ended. Two of the five mentors (40%) noted that they did not continue communication with their mentees after the program ended. Three of the five participants (60%) indicated that they did stay in touch with their mentee's once the program concluded.

Watching the mentees accomplish the short-term and long-term goals that were set together with the mentors, seemed to keep the mentor's engaged beyond the prescribed length of the program. One female mentor who officially mentors two girls and unofficially mentored another girl said this about maintaining communication after the program ended:

I went to all three of my girl's graduation. They probably would not have graduated had I not interacted with them on the level that I did. I couldn't have

taken anything but that, to actually see them walk across the stage, then run down and give me a big hug, telling me thank you, we're here because of you. All my girls graduated.

Graduation was mentioned by all of the mentors who maintained communication with the mentees. One female mentor said this:

I did keep in communication with her for a short time after she graduated and some of the things that we had talked about she didn't follow through on. She had some real family challenges, but I'm hoping that she was able to get things together and benefit from some of the conversation.

A male mentor who maintained communication with his mentee, provided this summary of the extended relationship, "I was able to definitely to do that [keep in touch] afterwards for at least for the first year and I think he had moved or had gone to school and I hate I didn't keep in contact with him."

### **Quality of Relationships**

The participants spoke openly about their perceptions of the quality of the relationships during the interviews. The four categories covered were (1) Mentor's Perception of the Mentoring Relationship, (2) Positive Influences on the Relationship, (3) Negative Influences on the Relationship, and (4) Mentor's Suggestions to Improve Relationship Quality). The data to support each category are presented below.

Mentors were asked about their personal perception of the relationship they had with their mentee. The two emergent concepts were (1) Relatability and (2) Relationship Growth. All five participants (100%) indicated that their perception of the

relationship was good and the relationship grew over time. Additionally, they all felt that the mentee they were paired with was a good match.

Being able to relate to the mentee on some level was a concept that was expressed by all of the mentors. The interviews revealed that gender and the recollection of being young and dealing with certain issues allowed the mentors to relate to the mentees. One male mentor said this:

I think we were a good match. I saw that some of the things that I grew up with, you're looking for direction when you're at that late teenage stage 16, 17, 18. I think those are really tough times. You're getting pressure to go to college and figure out what you're going to do in the next step of your life. I felt a lot of... I could relate really well to the student I believe."

Another male mentor expressed that he could relate to his mentee due to them being of the same age at one point and the same gender. He said, "I think we were great matches. I think it was a great match, he was a young man and I was young myself, so it was great to mentor to a young man." One female mentor indicated that she relate so well with her mentee's because she could see her younger self in the mentee's, providing this explanation:

I was given the young ladies that really nobody can really handle. I became their friend. I became someone that they felt comfortable talking with and the relationships I felt like we had they trusted me because first of all they respected me. If they don't respect you they won't trust you, so that was probably a plus to gain these young ladies respect... We were perfect matches, because I saw so

many little me's.”

Another female mentor indicated that her and the mentee she was paired with, were a great match. The mentor referenced that she enjoyed from the experience and that she saw the potential as well as the opportunity for the mentee to be successful. She said:

I thought we were a great match. I really enjoyed working with Ashley. I think she had a lot of opportunities to be successful and hopefully she benefited from the relationship too. She certainly was delightful to talk with and I know that I benefited.

The mentors also spoke openly about the positive and negative influence on the mentoring relationship. The three concepts that emerged as positive influences were (1) the eMentoring Program Structure (2) Interaction Strategies, and (3) Face-to-Face Visits. Additionally, two concepts emerged as negative influences, which were (1) Broken Commitments and (2) the Mentee's Home Life.

The first concept that emerged from the analysis of influential factors on the relationship was the eMentoring Program Structure. All five of the mentors (100%) cited the eMentoring Program as being structured in a way conducive to developing a meaningful relationship. Additionally, all five of the participants (100%) indicated that specific aspects of the program structure were positive influences on the relationships. For example one mentor mentioned the length of the program was a positive influence on the relationship. He said this:

I think the longevity of it - getting to know family members, my family, his family, I think the family demographic, the dynamics worked good. Over the length of

time you get more comfortable with an individual, you're able to share more, you're able to trust the person that you're talking to or it's relative. The mentor trusting... the mentee trusting the mentor.

Furthermore, all of the mentors listed several aspect of the program that were helpful in developing the relationships. Two of the five mentors (40%) said the face-to-face visits had a great impact. For example, one female mentor said this:

I think it was [effective], when we were allowed to not just do e-mails. When we got to work with our students face to face and kind of talk to them, because behind the scenes it just wasn't a personal feeling, but when we got to go to have lunch with them and actually talk with them it made a better impact on the young people.

The flexibility of the program was a prominent meaning unit as it relates to the structure of the program. Mentors found the flexibility to communicate to be very appealing and effective. They said:

- "By texting or e-mailing you're able to get thoughts off your mind right off hand"
- "I think more face-to-face contact would have made it that much better, but I think the electronic portion was effective."
- "It appealed to me immediately, because of the ease of doing it. The way it promoted writing, they use technology in that way, which was great."

Another concept that emerged from the interviews was Interaction Strategies. Three of the five mentors (60%) mentioned interaction strategies they used or observed, which facilitated relationship development. One female mentor referenced the program

managers' involvement and the group dynamics during the face-to-face visits as being helpful. She said:

When we had some of the lunches that we did with the students where we interacted with them as a group, I think that was positive, because I think there was a little bit of comfort in numbers, so they would sit with their friends and we would talk as a group. It wasn't like an adult talking to a high school student. They were a little bit more relaxed in their own environment, so I think that was good. Again, I think that when you gave us topics to cover, because sometimes it was getting a little hard in the middle to think of things to talk about without a direction. Knowing a little bit about what was happening with the student at the time and also a specific topic was very helpful.

Another male mentor also referenced the Program Manager's involvement as being a positive influence. He said this:

I think obviously working with [the program manager] in the classroom and things like that... it was just good to see adults caring about the next generation or the kids in that school in particular, seeing faculty take time out to help coordinate things - for the kids to have more options, more people to touch base with and talk to... in different areas that maybe they wouldn't have had a chance to come in contact with in an everyday basis.

One female mentor said this about the program structure, "they used the class to sit down and write. I think that kind of structure probably helped them, because if we are depending upon somebody finding a computer and doing it, I don't know how well

that would necessarily work.” Additionally, she further noted that reserving her judgment of the mentee was helpful. She said:

I certainly didn’t try to be judgmental. I didn’t try to do anything related to scolding, or reprimand, or redirecting as far as when he would talk about what was going on. I tried more to be just kind of a sounding board and do a little problem solving.

Four of the five mentors (80%) said having the face to-face visits with the mentees had a positive impact on the relationship. One of the comments to support this concept came from a female mentor:

I think they were helpful. I think having the face and having the one-to-one interaction was good. I think it really supported the e-mail communication, the eMentoring part. I think if we hadn’t have had those it would have been challenging to really start to build a relationship.

One male mentor said this about the impact of face-to-face visits:

When you’re eMentoring or you’re e-mailing, obviously you can’t always see what the person’s facial expressions are. I think the face-to-face I’m given the opportunity to look at both sides, facial gestures, body language, response, eye contact - those things that come out from face-to-face visits. I think it gave a good balance between the two.

Other comments lending support to the positive impact of face-to-face visits were:

- “I think you can do some things... as far as keeping in touch, e-mailing is good, but I think the face-to-face is really important personally.”



- “I was able to look them in the eye and we looked each other in the eye. I got to read their body language and things like that... so we actually got a closer bond that way.”

Four of the five participants (80%) also noted that having more face-to-face visits with the mentees would contribute to continued relationship development. One mentor said, “They [the mentee] knew that somebody actually cared about them, because I took the time out on my lunch break to come and be there for them. I wasn’t getting paid to do it. That let them know that I cared about them and their wellbeing.” In regards to more face-to-face visits being helpful, another female mentor said:

I think we’re still accustomed to knowing who we’re talking to. I think things are kind of shifting in the direction of; I can talk with you a long time and get really close without meeting you. However, at that point I think we were still at the point; you know I’m kind of curious and it sure would be good to know who I’m actually talking to.”

One mentor alluded to establishing a more frequent schedule to have face-to-face visits. He said, “I think more of that [face-to-face visits] would have been good or maybe scheduled check-in times like once a month.” Conversely, one of the five participants (20%) indicated that more face-to-face visits may not have been helpful to developing the relationship because of the increased usage of technology. He said this:

Not really though. I think constantly ... I don’t know. I think it could have been a good opportunity of interaction, but I think for children nowadays, people nowadays, I think mostly text me or they e-mail me more than they talk to me

face-to-face.”

All of the five mentors (100%) mentioned more face-to-face visits and/or different types of face-to-face visits would have been helpful for relationship development in some form. One female mentor referenced the desire in more face-to-face meetings, but also the challenge that would present due to having a busy schedule. She said, “I think that the face-to-face meetings were really important, but having the time and opportunity to do those more frequently would have been challenging. That might have been helpful in improving the relationship.” One male mentor said this, “more face-to-face probably would have led to a little more e-mail interaction as well.” Another male mentor offered this suggestion, “I think extending the relationship was something that may have enhanced it.”

One female mentor noted that broken commitments by the mentee was a negative influence on the relationship. She said this:

I don't know what difference it may have made to actually meet him. I guess not meeting, you could say is possibly a drawback. I think that's about all. Perhaps his attendance at school... it may have been a little irregular. That's kind of a factor.”

The other negative influence noted by one mentor was the mentee's home life. She was able to observe a lot of negativity coming from the home during their interactions. She summarized her observation with this statement:

When they went back home to their broken homes, where the negativity was fed into them. It was hard for them to decipher what I'm trying to instill in them

when they have to go home to a parent, or older sibling and there is turmoil in the home.

The mentors also discussed ways to improve the relationship development process in the eMentoring Program. The two concepts that emerged were (1) More Face-to-Face Visits and (2) Removing Limitations on Communication. There were a variety of comments that support these concepts and they are presented below.

Another concept that emerged from the interviews was removing limitations on communication. Two of the mentors referenced different ways of interacting with the mentees. Ways to improve the relationship included, “[to] spend more time with them interacting in their classroom,” and “possibly an outing, or something. You know just kind of having some fun together.” One male mentor suggested that mentoring younger students would be helpful too. He said, “Mentoring at the middle school age, because those are crucial years or early on sixth grade.”

### **Communication Frequency**

The participants also discussed their perceptions of the communication frequency between themselves and their mentees during the interviews. The five categories that were covered were (1) Perceptions of Email Frequency, (2) Perceived Impact of Face-to-Face visits on Email communication, (3) Perceptions of How Unexpected Events Influenced Communication Frequency, (4) Perceptions of Programmatic Barriers to Communication, and (5) Suggestions to Improve Communication Frequency. Karcher, Davis, & Powell (2002) noted that frequency of contact may serve as a proxy for the dosage of attention the mentee receives. The

findings to support the literature are presented below.

The mentors spoke openly about their perceptions of the email frequency between themselves and their mentees. The two concepts that emerged were (1) Appropriate Frequency and (2) Higher Frequency Desired. There were variances in the responses the mentors gave. Three of the five mentors (60%) indicated that the prescribed amount of one email per week was enough. Two of the five mentors (40%) indicated that a higher frequency of email exchanges would have been better. One of the mentors who desired a higher frequency also expressed concept of communication difficulty from the mentees.

Three of the five mentors (60%) indicated that they were comfortable with the frequency of the email exchanges. Rhodes (2005) explained that dyadic friendships between women tend to be more communal, whereas the men friendships tend to be more instrumental, which may explain why the females wanted more communication and the males thought the communication frequency was appropriate. One male mentor also talked about the trend of email exchanges over time. He said this:

I thought they[Frequency of the Email Exchange] were not too bad. I think we e-mailed more early on and then it drifted off towards the end. I don't know if the student was out of class for a while or what, but sometimes there'd be a while for him to respond and I might get busy at work and it might take me a little while to respond after they finally did.

Another male mentor said this about the appropriateness of the email exchanges and the desired impact of the communication, "I think it was well enough

from the standpoint it was not overbearing, but enough to make an impact to know that we were there.” One female mentor expressed the appropriateness of the prescribed amount of emails per week, but then noted that she sometimes sent more email to help the mentee become more comfortable with her. She said:

I think they were pretty much right on for what we were trying to accomplish in e-mails... I think sometimes we communicated twice a week just because I wanted to get her to open up a little bit. I think maybe one more time a week would have been good, just a little bit more frequency and I think maybe the expectation for myself was I didn't have to write anything really long, but just show her that I was still thinking about her and interested.

Regarding the desire for increased email frequency, one female mentor said, “ I think more would have been better, not necessarily every day, but two to three times a week anyway.” In addition to the desire for more email communication, another female mentor described her displeasure for the restrictions attached to the emails as well as the communication difficulties she observed in her mentees.

[Email Frequency was] too little... They don't know how to express themselves in words, so they tend to write things to vent, versus being in person talking to somebody and doing that eye to eye contact. The e-mails didn't allow them... there were certain restrictions in e-mails. You can't say this, you can't say that. They cut this out, they cut that out to where it was kind of generic instead of reality. We had different formats that we had to follow and it gets critiqued. You can't say this, you can't ask them that. When it becomes scripted, then it's not

for real and if you don't make it for real you're going to miss what these children really need to help them with whatever their struggle was.

The mentors noted that face-to-face visits enhanced email communication. Four of the five mentors (80%) indicated that the face-to-face visits enhanced the email communication. Two of the mentors said this:

- “I think that having the opportunity to talk with her and learn a little bit more about her and her situation [face-to-face] was helpful in thinking of things I wanted to talk to her about.”
- “[when] we've already texted or e-mailed and I think it enhanced it [communication], from the standpoint that even though when we met face-to-face we pretty much knew each other based on what we had already e-mailed.”

Another male mentor mentioned the complementary affect of the face-to-face visits. He said:

More face-to-face probably would have led to a little more e-mail interaction as well. I think a lot of times when you discuss things face-to-face then you can address topics later on in e-mails, because you've already discussed some of them or I can reference something that he told me or an idea he had or something, that maybe doesn't always come out in an e-mail.

The mentors also discussed how life events may have impacted their participation in the eMentoring program. The concepts that emerged were that they either (1) Maintained their Commitment or (2) Reduced Communication.

Two of the five mentors did not allow their other life events to hinder the

commitment. They said:

- “We were in a really busy time here at work, but I tried to make sure we made time for it still.”
- “I tried not to let them. I felt like that was a commitment that I had made and that there was an expectation from both you and from her, that I would fulfill that responsibility.”

Two of the five mentors explained how personal circumstances prevented them from communicating with their mentee’s as much as they may have liked. One male mentor said, “having kids of my own and a personal life of my own, I think it had a major affect. It subsided the contact with me and the mentee.”

A female mentor explain how her own circumstances prevented her from communicating as much as she wanted, and also noted the feelings she experienced when she felt like her response was too late. She said the following:

I was teaching some classes, so I wasn’t able to e-mail them as much. When they needed something I would go on later that evening and check and I would see that they sent me something. I felt bad, because they needed me at that point and I am just now getting to them, because my job ... I wasn’t able to get to the e-mail to respond back to them. I felt like I let them down, or they may have needed me at that point and I wasn’t there for them.

Four of the five mentors (80%) did not feel there were programmatic barriers to communication with the mentees, which aligns with Waldeck, Kearney, and Plax’s (2001) notion that there is a strong relationship between teacher immediacy and

student learning. However, probing questions revealed a concern over immediacy. The one mentor who openly said there were barriers to communication, talked about the limitations on the communication with the mentees.

One of the five mentors openly discussed the limitations to the program. She explained:

We weren't really supposed to do the phone conversations, personal cell phone numbers and things like that. I did it anyway, but that's the relationship I had with them... There are just too many limits on us. If we're calling it a mentoring program, even though it's an e-mentoring program, we are reaching out to the young people through e-mails. We are opening ourselves up and we're opening the children up to make them think somebody cares. When you're putting limits on them and we can only talk through e-mail at this time, then the kids don't buy in.

One female mentor expressed concern about the student not responding in a timely manner, stating:

I recall there are a couple of times when I would send her a note or an e-mail and she wouldn't respond and then I would I think... then I would communicate with you and you would either encourage her to communicate back with me or it would be that she was going through something, that her finals or something that was causing her to be distracted.

Each of the five mentors were asked to discuss ways to improve communication frequency. Two concepts emerged from the respondents. They were (1) Modifications



to the Program Structure and (2) Alternative Methods of Communication.

Four of the five mentors offered suggestions to improve communication. Their comments are as follows:

- “maybe scheduled times probably would have been good and I think more scheduled face-to-face times would have been good as well.”
- “I think the oversight [in the classroom] which she was given and the rigor of insuring that that was happening regularly would have ... did and would help”
- “I gave them the option as to how they wanted to interact with me, via our e-mails, or the telephone, or do you want us to write letters...”
- “I think that maybe some set times from the school to communicate might have been good... Maybe their grade could just be based on frequency... but just maybe some structured incentives”

Three of the five mentors (60%) did not think having a scheduled time for email communication would have been helpful due to reduced flexibility, while two of the five mentors (40%) indicated they could have benefited from a scheduled time to email with mentees due to spotty responses.

All of the mentors were asked about alternative ways to communicate with mentees in an eMentoring program. Four of the five mentors (80%) thought it would be a good idea to engage in social media (i.e., facebook and twitter) with the mentee. They explained:

- “If we could post pictures of ourselves so there was some visualization along with the straight text, it would be nice.”
- “You’ve got all kinds of social media’s out there which you can reach people in all kinds of way.”
- “I think social media would be big as well. Some kind of portal where you could keep up with what they’re doing or during the... that would be a good way to get to know the person more.”
- “Facebook is a good place to be, because that’s a 24-hour communication, where they have no restrictions as far as communicating, getting on, sending me a message.”

One of the female mentors talked about phone conversations. She said, “I think telephoning is certainly a possibility.” One of the male mentors discussed the use of instant messenger as it related to immediacy. He said, “maybe chat sessions would be cool too. It leverages that technology to get instant responses back and forth.” All five of the mentors were comfortable with text messaging as a communication medium.

They said the following:

- “It’s a quick and easy way and it certainly would probably facilitate more rapid response and more frequent.”
- “I think the texting is a very good way nowadays of communicating.”
- “Personally, I texted a lot and I e-mailed a lot. Those are my two main methods of communication.”
- “I’m fine with that [text messaging]”

The idea of web conferencing was well received by all five of the mentors. Many of them talked about the additional face-to-face time. Their comments include:

- “That’s okay, because that gives us face to face. “
- “I think that’d be a great idea... the more you’re able to see them, the easier it is for the conversation.”
- “Web conferencing with them with Skype or something.”
- “Web conferencing... Yes, that’s awesome... I know we communicate on that level in the business world.”
- “I think web conferencing would be good too... definitely. That would help with the face-to-face time.”

Classroom Interactions as an alternative method of communication was suggested by one female mentor. She said, “I would like to be in their classes, in the classroom, because that’s where their struggle.” Another idea that was well received by all of the mentors was having outings with the mentees outside of school. The two male mentors expressed having the outing in a public place so the visit doesn’t get misconstrued. Some of their comments were:

- “That would definitely be positive. Again, it’s like anything else, you’d have to wrap some rules around it, but I think you can meet in public places.”
- “I think if we had the opportunity, that would be good... Getting outside the school and outside of the environment and doing something good and fun with them would have been neat.
- “I think outside the school meeting with them at remote locations where there’s

generally other people, I think that's a great tool."

- "Maybe one outing during the semester."

### **Summary**

An analysis of qualitative findings revealed a wealth of information. The factors that influence communication in an eMentoring program are: Mentor Engagement, Relationship Quality, and Communication Frequency. Keeping the mentors engaged can be linked to their personal reasons for participating the program and the topics that were discussed during the program. Engagement can also be measured by sustained communication with the mentee after the program ended. The perceived quality of the relationship also influenced communication during the relationship, as the mentors noted that there were several positive and negative factors that impacted the relationships. Communication frequency was a theme that also influenced overall communication. Mentors perceptions of the impact of the face-to-face visits enhanced the communication, while perceptions of programmatic barriers reduced electronic communication. Unexpected personal events had inconsistent findings, due to some mentors not allowing those events affect communication, while other mentors acknowledged that certain personal events reduced communication.

## CHAPTER 6

### DISCUSSION

#### Introduction

The purpose of this mixed methods study was to identify the factors that influence communication in an eMentoring program. The following discussion reviews the major study findings related to communication frequency, relationship quality, and mentor engagement. A comparative analysis and interpretation of the two types of data will follow. Next, the limitations of this study are covered. Finally, the implications for the mentoring community and recommendations for future research are discussed and the final conclusions are presented.

#### Communication

**Communication frequency.** The quantity of emails was a clear indicator of engagement within the eMentoring program. In the interviews, two male mentors felt that the prescribed frequency of one email per week was the appropriate frequency to maintain meaningful communication, while two of the female mentors explained their desire for more email communication per week. Dubois (2002) noted that establishing expectations for frequency of contact is considered a “Best Practice.” The third female mentor indicated that one email per week was enough but discussed how she sometimes sent more than one email per week to get the mentee to “open up a little bit.” These results suggest that one email per week may be effective for most eMentoring relationships, especially for male mentors, but female mentors desire to communicate more than once per week. In addition to the desire for more email

communication, one of the female mentors also noted that the email system was too restrictive and reduces authenticity in the relationship. This notion suggests that relationships may develop quicker if there were more frequent emails and less restrictive rules regarding what can be said within the email system.

Pair gender was a predictor of the quantity of emails exchanged throughout the program. The female pairs sent more emails than the male pairs. The male pairs sent an average quantity of emails that was consistent with the program parameters of one email per week. Due to the difference in communication preferences between males and females, the male pairs may have been communicating more outside of the email system through activities.

Four of the five mentors interviewed indicated that the face-to-face visits in addition to the email exchanges enhanced email communication. The findings suggest that the complementary approach is an effective tool to facilitate relationship development. According to Loureiro-Koechin & Allen (2010) face-to-face meetings are helpful in facilitating online interactions at the beginning of eMentoring programs. Additionally, they assert that at the start of the online activities, students drew on their knowledge of face-to-face interactions and tried to mimic those in the iCohere environment. When planned and executed strategically, email communication and face-to-face visits can be utilized in tandem to strengthen bonds between the pairs. There is also the possibility that more face-to-face visits lead to more email communication as one mentor suggested.

In regard to unexpected events influencing communication frequency, two of

the participants indicated that despite a variety of personal and work-related events occurring during their participation in the program, they still made time to uphold their commitment and maintain communication with their mentees. These actions can be attributed to the mentors wanting to uphold the social contract to which they agreed or it could be a testament to their discipline. Conversely, two mentors indicated that they noticed a reduction in their communication frequency due to the unexpected events, even though they would have liked to communicate more frequently with their mentees. So, despite the best intentions, often times our personal engagements trump other activities in which we have agreed to participate. Gender was not a predictor of maintaining or a reducing communication in the eMentoring program in relation to unexpected events.

By and large, the mentors did not identify the program as having barriers that hindered communication in the eMentoring program. However, it was noted that the mentees possibly may not buy into the program or relationship if there are too many limitations. Although the intent of the rules and procedures may exist to protect the mentees, these limitations may give the mentee the impression that the mentor is not fully committed to the relationship. Additionally, immediacy was identified as a concern. When the mentee did not respond to emails in a timely manner, it made the mentor wonder why the mentee was distracted and unresponsive. This finding suggests that participants may disengage if they feel that their partner is not engaged in the program despite what the reasons for being unresponsive may be. Having the Program Manager as a resource to communicate to participants why one party may not be responsive is an

effective method to keep participants engaged.

Some of the suggested modifications to the program to improve communication frequency were to schedule more face-to-face visits and provide a set time in the classroom for the students to respond to emails. More face-to-face visits would traditionally be difficult to accomplish, but with modern technology, web conferencing could easily be the most practical and effective supplement for additional in-person meetings. More in-person visits and scheduled time for email communication could reduce the flexibility of the program and subsequently reduce participation, especially since flexibility was one of the most attractive aspects of the program that led the mentors to participate.

Other modifications to improve communication included engaging in social media with the mentee. By doing so, mentors and mentees would always be connected and have the ability to deduce some of their partners interests, which could provide additional information and serve as a catalyst to relationship development. Conversely, the notion of being too connected could become an issue because the prolonged exposure could essentially serve as an expedited route to judging the partner based on personal interests. Other suggestions included synchronous instant messaging or chat sessions, text messaging, phone calls, classroom interactions, and what mentors referred to as a “fun meeting” outside of school. These suggestions are supported by Bierema and Merriam (2002) and Fodeman (2002) as they noted the process of mentoring can be facilitated in the technological age by methods of computer mediated communication such as e-mail, chat groups, listservs, and computer conferencing that



all become more affordable while high speed internet connectivity continues to expand.

Having a fun meeting outside of school could be a critical element in the relationship development process, perhaps serving as a team-building mechanism and jumpstarting the bond between pairs. These suggestions allude to the fact that having multiple methods of communication could vastly improve communication between eMentoring pairs.

## **Relationships**

**Relationship quality.** O'Neill et al. (2004) argue that the potential for eMentoring to support deeper and more authentic school learning will not be fully realized unless researchers pay more conscious attention to the developmental character of eMentoring relationships. As it pertains to relationship quality, being able to relate to the mentee on some level was a consistent finding that emerged from the interviews. In some cases, relatability was due to having the same gender, being of the same race, or having similar interests. In all, it is important for the mentor to perceive being matched appropriately with the mentee. This perception could serve as the catalyst that allows the mentor to become comfortable guiding and investing social capital in the mentee.

Developmental mentors tend to devote their efforts in the early months of the match to establishing a strong connection with the young person (Spencer, 2007). Many of the eMentors referenced the importance of establishing a bond with the mentee, that would ultimately facilitate more meaningful communication. Additionally, it is important for the mentor to identify the mentoring relationship as continually

developing. Perceiving this growth allows the mentor to feel that the efforts to develop the relationship is paying off and, subsequently, continue to engage with the mentee in an effective way.

The mentors interviewed identified multiple positive and negative influences on the relationships. The program structure was identified as a positive influence. The 17 week duration of the program, the face-to-face visits, the flexibility to communicate asynchronously using specific interaction strategies during the site visits, and having the program manager facilitate communication were all cited as positive influences.

The duration of the program was noted to be conducive for the pairs to get to know each other, and in some cases their families. Sipe (1998) synthesized the literature on mentoring and concluded that successful mentors tended to be a steady and involved presence in the youths' lives, respecting the youths' viewpoints, and seeking supervision from support staff when needed. If mentoring relationships are to develop, sufficient time is necessary to gain the comfort level necessary for both parties to open up and share thoughts, feelings, concerns, struggles, and successes. Face-to-face meetings as a complementary approach to email communication, were also cited as an effective way to nurture the relationships. Having the ability to see who you are corresponding with can help make the relationship more authentic simply by being able to see facial expressions, hearing intonations, and reading body language. Using web conferencing technologies may serve as a catalyst in the relationship development process as a substitute to in-person visits as they relate to eMentoring.

Since eMentoring is a natural extension of online education, facilitating teaching

and learning in a way that is not obtrusive to busy schedules is of critical importance. Given the fact that most working adults have very busy schedules, it is also important to note that the flexibility to communicate asynchronously was cited as an effective way to communicate with the mentees, and was appealing to the mentors. Additionally, the program manager was referenced as a positive influence on the relationships. Being able to develop and coordinate the program through meeting planning and execution, maximize mentor and mentee time by relaying information to mentees and mentors about their partners, and provide an opportunity for the mentees to go into the classroom to write messages were all helpful aspects of the Program Manager's participation. In reference to program managers, Keller (2007) noted that as representatives of the program, these mentoring professionals would serve as excellent models of the very attributes they wish to see in mentors: being consistent, attentive, and responsive and providing appropriate structure and guidance to program participants.

One mentor indicated that being able to reserve judgment about the mentee was an effective strategy she used while developing a relationship with her mentee. That strategy was consistent with Rhodes (2011) directive for mentors to exercise good judgment and to take precautions to ensure that the potential biases inherent in their own backgrounds do not lead to prejudicial treatment of their mentees. This clearly is an essential strategy that should be a part of the mentor training process, especially when mentoring at-risk youth.

The two negative influences that were described during the interviews were

broken confidences and the mentee's home life. One of the mentors explained how the mentee missing the in-person meetings may have had a negative impact on the relationship, a characteristic that Spencer (2007) noted leaves the partner feeling disappointed and may lead to early termination of the relationship based on a perceived lack of interest. Communicating with someone for an extended period of time, building a bond, then having an individual miss the in-person meeting can be extremely disappointing from the mentor's perspective. It is of great importance for each participant to uphold the social contract entered to avoid disappointing the partner and ultimately produce a negative affect on the relationship.

Another mentor described how the mentee's home life was negatively affecting the relationship. Despite a mentor's good intentions and the mentee's desire to apply the knowledge and skill he or she has learned, a negative home life can create a difficult situation for the mentee. Mentees have to live and survive in their concrete reality versus waiting patiently for the abstract dreams and unfamiliar lifestyle to materialize and allow them to escape an unhealthy environment. In Spencer's (2007) analysis of the termination of mentoring relationships in a mentoring program, the findings outlined how some mentors failed to anticipate how great the needs of the youth might be and were unable to deal with the beleaguered feelings after visiting the youths' homes and seeing the reality of their living conditions and the difficulties the families faced.

## **Engagement**

**Mentor engagement.** All of the mentors spoke openly about the reasons for participating in the eMentoring program. The interviews revealed the concepts of

personal mentoring experience and program flexibility. For some mentors, having exposure to traditional mentoring led them to want to influence youth through this program and allow others to benefit from their experiences. For others, not having mentors at critical moments in their lives provided the impetus to participate in a mentoring program. Additionally, the minimal time commitment that was required to participate was attractive to the mentors. Being able to communicate at convenient times is critical from a recruiting perspective.

Setting goals was a prevalent concept that emerged from the interviews. Being able to set goals together and watch and assist the mentee in accomplishing the goals seemed to be an effective way to keep the mentee and mentor engaged. Identifying and striving to achieve tangible outcomes not only provides meaningful conversation over time but also achieves other positive outcomes such as boosting a mentee's self confidence, improving a particular skill set, and gaining a better understanding of other cultures and social issues. Teaching the mentees' how to improve intrapersonal and interpersonal communication skills with different groups of people was also discussed in two interviews. Understanding how to respond to difficult situations can be a critical skill to apply regardless of social or economic status. Many of these mentees were in the alternative school system for the very reason that they consistently responded inappropriately to adverse situations, and eMentoring provided multiple opportunities to obtain advice and practice honing a more acceptable, effective, way to communicate in difficult situations.

Many of the mentors noted that they had maintained communication with the

mentees after the program had ended. Watching the mentees accomplish the short-term goals served as a method of developing the relationship. Some of the eMentoring pairs set long-term goals together and may have wanted to continue communication with each other to see if the goals would be accomplished, or they may have developed a strong bond over the duration of the program and did not want the relationship to end. Siegle (2003) explained the goal of eMentoring programs generally is to provide individualized academic, motivational, and emotional support by using technology to bring adults into children's school experiences. If Siegle's assertion is correct, and the mentor begins to feel like an important part of the mentees' life, one could easily understand how these relationships could extend beyond the life and/or parameters of an eMentoring program.

### **Comparative Phase**

The follow up phase of this study conveys how compared findings either converge or diverge with each other. The themes of mentor engagement, communication frequency, and relationship quality were assessed in the qualitative and quantitative phase of this research. The qualitative themes aligned with the quantitative data from the communication logs. Some results were supported in the opposing data set while others indicated a divergence when compared. Table 6 depicts the areas of convergence and divergence.

Table 6

Compared Findings

<i>Topic</i>	<i>Quantitative</i>	<i>Qualitative</i>	<i>Comparison</i>
Communication Frequency	Female sent more emails. The Female mentor Non-manager paired with the Male Junior sent 22 emails, which was slightly above the 18.63 average of female/female pairs.	Both of the male mentors were okay with the prescribed frequency. All three female mentors desired more email communication.	The qualitative and quantitative findings <b>converge</b> to support each other.
Mentor Engagement Communication Frequency	Managers and seniors sent the most emails.	4/5 respondents were paired with seniors. Goal setting was a prominent concept that emerged from the interviews with the mentors.	The qualitative and quantitative findings <b>converge</b> to support each other.
Communication Frequency Relationship Quality	There is a significant difference in emails exchanged between time period #1 and time period #3 across both pair types.	A variety of factors could have influenced the quantity of emails exchanged. Goal setting and follow up, limits on communication, or the mentee and mentors communicating outside of the email system, which could not be tracked.	The qualitative and quantitative data revealed <b>discrepant</b> findings.
Mentor Engagement Communication Frequency	Intentionally matched pairs had a significantly higher number of email exchanges overall.	Three of the four subjects that were Intentionally matched pairs maintained communication after program ended	The qualitative and quantitative findings <b>converge</b> to support each other.

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Mentor Engagement	All pair classifications had overall increasing average email response times over the three time periods.	All of the mentors interviewed indicated that their relationship with the mentee grew over time.	The qualitative and quantitative data revealed <b>discrepant</b> findings.
Communication Frequency			
Relationship Quality			

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The quantitative findings revealed the female eMentoring pairs sent more emails than the male eMentoring pairs. The qualitative findings revealed that all three female mentors interviewed desired more email communications. The qualitative and quantitative findings converge to support each other. Females could potentially be the better facilitators of communication in eMentoring programs. Females may also want to communicate more frequently to strengthen the relationship. Males could possibly be the more effective communicators and may not need a high frequency to convey messages.

The quantitative findings revealed the Manager and Senior eMentoring pairs sent the most emails. Four of the five mentors interviewed were all paired with Seniors, and the qualitative findings revealed that goal setting was a prominent concept that emerged. The qualitative and quantitative findings converge to support each other. By virtue of being paired with a graduating senior, the mentors could have been setting short-term and long-term goals revolving around graduation, which most likely sustained the level of engagement from both participants. Realizing the urgency related to graduation, the mentors could have used it as a conversation starter and motivational



tool to help the mentee succeed.

The quantitative findings revealed a significant difference in emails exchanged between time period 1 and time period 3 across both intentionally matched pairs and arbitrarily matched pairs. The qualitative findings revealed that a variety of factors could have influenced the quantity of emails exchanged. The limitations on types of acceptable communication could have served as a hindrance to more frequent communication. The qualitative and quantitative findings revealed discrepant findings. Although the quantity of emails that were exchanged consistently declined over time, many of the pairs were communicating using other methods such as telephone, in-person visits, and text messaging, leaving no record of the communications that occurred.

The quantitative findings revealed a large difference in the quantity of emails exchanged between intentionally matched pairs and arbitrarily matched pairs. The qualitative findings revealed that a three of the four subjects that were intentionally matched pairs maintained communication after program ended. The qualitative and quantitative findings converged to support each other. The intentionally matched pairs may have developed a stronger bond based on common interests or gender. Match support is thus essential for mentors and youth, particularly during the early, more fragile stages of the relationship (Rhodes 2007). When developing an eMentoring program, organizations must use a method to the pairing process to achieve optimal results.

The quantitative findings revealed a significant difference in an increased

average email response time over the three time periods across all pair classifications. The qualitative findings revealed that all of the mentors perceived that the relationship grew over time. Different events in the mentors' or mentees' lives could have occurred to disrupt the consistency of the response time. Again, communication limitations could have served as a barrier, and/or the eMentoring pairs may have started communicating outside of the email system. The qualitative and quantitative findings revealed discrepant findings. Although the average email response time increased over time, many of the pairs were using alternative methods to communicate, which could not be tracked.

### **Limitations**

This study was limited by several factors. The sample size for the secondary quantitative and qualitative data was smaller than hoped for. The smaller sample size was the result of an unexpected reduction in the funding that supported the online mentoring program. Because of the small sample size, it was somewhat difficult to determine which of the factors (gender, student grade level, managerial experience, and intentionally matching) were the most influential on the outcomes. Due to the fact that the time lapse between eMentoring participation and interviews with the mentors was over 2 years, recall bias could have factored into the qualitative phase of this study. Additionally, the researcher was the program manager. The Program Manager's role also was a source of distraction due to the constant monitoring and correspondence with the sponsoring organization, mentors, and mentees. Despite the limitations, the data revealed vivid descriptions of factors that influence communication and

preliminary data on how these factors may impact relationship development and mentor engagement in eMentoring programs.

### **Implications and Future Research**

In this study, factors that influence communication in an eMentoring program were identified and examined. Awareness of the mentors' level of engagement before, during and after the program may provide valuable insight regarding into the relationships. Future studies should examine the mentor and mentee perceptions of their engagement levels and see if strategic adjustment can make a difference in overall engagement over time. Additionally, a study could be designed to also examine the impact of a program manager on facilitating communication and relationship development. Virtually no literature exists on this integral role which serves as a lynchpin in mentoring programs. Keller (2007) offered a strikingly appropriate comparison when he summarized the role of the program manager as being tantamount to a child welfare worker who screens and licenses foster parents, places children in foster homes, and monitors relationships among the child, foster parent, and biological parent.

With new modes of communication being developed based on new technologies, future studies concerned with the effectiveness of eMentoring should attempt to identify the most effective methods of facilitating communication. By introducing multiple mediums of communication, one might find that specific populations have certain preference regarding communication methods. Using web conferencing and a social media application may provide more insight into the 21<sup>st</sup> century model of

relationship development if behaviors and actions are identified and appropriately interpreted. According to Nielsen's Social Media Report (2012), individuals polled ranging from age 18 to 24 spend an average of 11 hours per day using social media, while individuals age 65 and older spend an average of 4 hours per day using social media. There is a consistent decline in usage time that correlates with age. With all age ranges using social media, it is plausible to assume that if the technology is harnessed correctly, eMentoring programs could find great success.

The utility of eMentoring is infinite. Future studies could examine whether an eMentoring application is an effective recruiting tool by pairing college students with high school seniors interested in a common major, then examining if the high school student applies and is accepted into the college and department their mentor attends. Another application of an eMentoring tool that could be studied would be for companies using the application to pair workers with college students, to identify up-and-coming talent in any field. Many organizations are modernizing mentoring by using the Internet to spread the practice to all employees (Francis, 2007; Francis, 2009; Galli, 2005). A study could be designed to examine how many mentees who participate in the program, are subsequently hired by their mentors' company.

## **Conclusion**

Mentoring is a method to provide knowledge and guidance through a synthesis of teaching and learning, powered by relationships. Since relationship intensity can vary, it is important for participants in mentoring relationships to capitalize on each opportunity to develop specific skills. As we've seen over the past two decades,

electronic communication has been a catalyst for increased outcomes related to productivity as well as professional and personal networking. Communication is integral to creating and sustaining an active online learning community (Vitale, 2010).

Relationships are forming and developing at a rapid pace due to the permeation of email, text messaging, social networking, and web conferencing. Being able to harness the available technologies and apply them toward mentoring is critical to future of high quality and effective mentoring programs.

DuBois and Silverthorn (2005) noted that mentoring relationships alone are not enough to meet the needs of at-risk youths and therefore should be incorporated into more comprehensive interventions. eMentoring has the potential to transform the way formal mentoring programs operate, and should be considered as an integral element as a part of a comprehensive school reform plan. Bonk (2009) contends that with the development of web technology, super “e-mentors” and “e-coaches” will become widely available, providing timely advice on learning pathways. The practical application of eMentoring can forever change the landscape of the school-based and community-based mentoring process. Success requires motivation, commitment, and flexibility by the adult and youth, along with concerted effort by the program to support each match in all of its complexity (Rhodes, 2007).

eMentoring programs are generally evaluated based on academic outcomes, but to achieve the desired outcomes, the operational methods must foster achievement by nurturing relationships rather than facilitating generic transactions. If scaled up appropriately, a national eMentoring program could be beneficial to a variety of youth,

professionals, and organizations. Ultimately, the youth would receive guidance and organizations would become more engaged in a variety of communities. Additionally, Mahayosnand (2000) explained how the evaluation of a national program could allow more diversity and suitable matches, provide geographical freedom for students, provide relief from the cost of school administration, and facilitate the development of best practices for a new eMentoring model. As noted throughout the research, there are tremendous benefits for mentee's when a program operates and executes effectively. How to successfully develop, execute, evaluate, and revise mentoring programming to meet designated outcomes is the challenge that educational leaders are facing. Data from scholarly endeavors should continue to surface, as they will be the guiding force of the transformation process.

At the core of our global economy and society is the process of information exchange, operationalized by people and ideas. Bonk (2010) predicts an educational future that includes free e-books, the emergence of e-mentors and e-coaches, the growth of global learning partners, and global academic degrees. Developing and utilizing effective and efficient tools and implementing best practices will be the keys to successfully move toward improving the lives of individuals through eMentoring.

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## APPENDICES

### Appendix A

#### Human Subjects Approval



9/6/2012  
HSCL #20209

Edward Wilson  
[REDACTED]

The Human Subjects Committee Lawrence Campus (HSCL) has received your response to its expedited review of your research project

20209 Wilson/Aust (ELPS) Factors that Influence Communication in an E-mentoring Program

and approved this project under the expedited procedure provided in 45 CFR 46.110 (f) (7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies. As described, the project complies with all the requirements and policies established by the University for protection of human subjects in research. Unless renewed, approval lapses one year after approval date.

The Office for Human Research Protections requires that your consent form must include the note of HSCL approval and expiration date, which has been entered on the consent form(s) sent back to you with this approval.

1. At designated intervals until the project is completed, a Project Status Report must be returned to the HSCL office.
2. Any significant change in the experimental procedure as described should be reviewed by this Committee prior to altering the project.
3. Notify HSCL about any new investigators not named in original application. Note that new investigators must take the online tutorial at [http://www.rcr.ku.edu/hsc/hsp\\_tutorial/000.shtml](http://www.rcr.ku.edu/hsc/hsp_tutorial/000.shtml).
4. Any injury to a subject because of the research procedure must be reported to the Committee immediately.
5. When signed consent documents are required, the primary investigator must retain the signed consent documents for at least three years past completion of the research activity. If you use a signed consent form, provide a copy of the consent form to subjects at the time of consent.
6. If this is a funded project, keep a copy of this approval letter with your proposal/grant file.

Please inform HSCL when this project is terminated. You must also provide HSCL with an annual status report to maintain HSCL approval. Unless renewed, approval lapses one year after approval date. If your project receives funding which requests an annual update approval, you must request this from HSCL one month prior to the annual update. Thanks for your cooperation. If you have any questions, please contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'Christopher Griffith, J.D.'.

Christopher Griffith, J.D.  
Assistant Coordinator  
Human Subjects Committee- Lawrence

cc: Ronald Aust

## Appendix B

### Email Invitation to Participants

Hi XXX,

As you may recall, a few years ago, you participated in an eMentoring program that I managed with Fairview High School students.

I am currently finishing my doctoral studies at the University of Kansas, and my dissertation investigates relationship quality and communication frequency as they relate to eMentoring.

Since you have participated in this type of program, I was wondering if you would be interested in participating in a 15-20 minute phone interview about your experience and perceptions of eMentoring.

If you are willing to participate, please reply to this email with a few potential times you would be available, or you can call me to set up a time at: (c)816-682-0014 or (w)913-588-1696. No times are off limits for me, I will work around your schedule.

There is no compensation for participating in this study. However, your thoughts will certainly contribute to the growing body of work related to eMentoring.

Thank you in advance for your consideration.

Edward Wilson



## Appendix C

### Oral Consent

As a student in the University of Kansas's Department of Educational Leadership & Policy Studies, I am conducting a research project about "Factors that Influence Communication in a E-Mentoring Program." I would like to ask you a few survey questions to obtain your views on this topic since you participated in an E-mentoring program.

The purpose of this study is to (1) gather empirical evidence based on the communication frequency from a school-based eMentoring program, (2) identify key factors that influence relationship development in eMentoring, and (3) identify key factors that influence communication frequency in eMentoring.

You have no obligation to participate and you may discontinue your involvement at any time. Participation in the interview indicates your willingness to take part in this study and that you are at least 18 years old. I will be recording your answers to my question on a digital recorder for transcription purposes. You have the option to stop the recording at any point or you can elect to not have the interview recorded at all, as the recording is not required to participate in the study. Any information you share will be confidential. This means that while I may publish and share the information you provide for research purposes, your name and identity will be omitted. All responses will be kept under lock and key and will only be accessible to me the dissertation committee. I will transcribe the interview for data analysis. All interview data will be destroyed at the end of this project. There is no compensation for participation. This interview should take about 20-25 minutes.

If you agree to voluntarily participate in the interview, please say yes .

If you agree to having the audio recorded during the interview, please say yes.

The set of questions I'll be asking you are about your perception of the factors that influenced communication during your participation in the e-mentoring program. I plan to analyze your answers, develop themes, and synthesize the results with other data collected.

Should you have any questions about this project or your participation in it you may ask me at [wilsonjr@ku.edu](mailto:wilsonjr@ku.edu) or my faculty supervisor, Dr. Ronald Aust at [aust@ku.edu](mailto:aust@ku.edu).

If you have any questions about your rights as a research participant, you may call the Human Subjects Protection Office at (785) 864-7429 or email [irb@ku.edu](mailto:irb@ku.edu).

## Appendix D

### Interview Protocol

1. What made you want to participate in the eMentoring program?
  - a. Were there any specific events throughout your life, which influenced you to participate in mentoring youth?

### Relationship Quality

I'd like to discuss the topic of relationship quality:

2. Please describe your perception of the mentoring relationship with your mentee?
  - a. How did the relationship evolve over time?
3. Do you think that you and your mentee were a good or bad match?
  - a. Why?
4. What were some of the topics you remember discussing with your mentee?
5. How did the face-to-face meetings affect the quality of the relationship?
6. In your opinion, would more face-to-face meetings have been helpful in developing the relationship?
  - a. Why?
7. Tell me about any factors that positively influenced the relationship over time.
8. Tell me about any factors that negatively influenced the relationship over time.
9. Was the program structure conducive to developing a meaningful relationship with your mentee?
  - a. Please explain
10. What, if anything, could have been done differently to improve the quality of the relationship between you and your mentee?
11. Overall, what kind of impact do you feel that you had on your mentee?
  - a. Please explain
12. Did you stay in touch with your mentee after the program ended?

### **Communication Frequency**

Now I'd like to talk about the amount of communication between you and your mentee. Specifically:

13. What did you think about the frequency of the email exchanges?
  - a. Please explain.
  
14. How did the face-to-face meetings affect your email communication?
  
15. How did unexpected events in your work or personal life, which occurred during the eMentoring program, influence your ability to maintain steady communication with your mentee?
  
16. Could you have benefited from having a scheduled time for email communication?
  - a. Please explain why you feel this way
  
17. Were there any programmatic barriers to communicating with your mentee?
  - a. What were they?
  
18. What, if anything, could have been done differently to improve the communication frequency between you and your mentee?
  
19. Please list all of the methods of communication you and your mentee utilized.
  - i. Ex: MentorMail, personal email, f2f, text, in-person meetings
  
20. What alternative method(s) of communication, if any, would you be willing to explore to communicate with a mentee?
  - a. Why would you prefer that method?
  - b. How would you feel about communicating with your mentee via:
    - i. Social Media- Which forms (twitter, facebook, etc.)?
    - ii. Web-conferencing
    - iii. Text messaging.
    - iv. Personal email.
    - v. In-person meetings outside of school.