

DOES CHOICE MATTER? THE IMPACT OF ALLOWING PROTEGES TO SELECT THEIR  
OWN MENTORS

by

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## ABSTRACT

Many organizations currently implement formal mentoring programs to assist newcomers in their adjustment to organizational norms, standards, and culture. However, very few empirically-established guidelines exist for how to effectively match mentors to protégés in formal programs sponsored by organizations. Typically, organizations attempt to match mentors to protégés based on similarity of goals/interests. However, prior research suggests that even mentors and protégés disagree with respect to their perceived similarity. Consequently, it should be difficult for a program administrator to determine which mentors and protégés are likely to be compatible. Recent research has found that protégés who perceived they had input into their match reported higher quality relationships. The present study extended this research by experimentally manipulating protégé choice and by investigating potential mechanisms through which choice is expected to influence relationship success. Mentors were undergraduate juniors and seniors and protégés were first-semester freshmen randomly assigned to choose their own mentor or to be matched to a mentor by the program administrator. Participants then met online in a private chat room once per week for a period of four weeks (30 minute sessions). Results indicated that when protégés were given the opportunity to choose their own mentors, both mentors and protégés felt more similar to one another. Additionally, protégés had higher expectations for what they would get out of the relationship and were more proactive in soliciting guidance from their mentors. Finally, each instance of coded psychosocial support demonstrated by a mentor related more positively to protégés' ratings of the support they received if they were in the choice condition. In fact, the relationship between coded psychosocial support and protégé ratings of psychosocial support was slightly negative for those

who were assigned to a mentor by the researcher. Pre-meeting expectations were found to fully mediate this effect. Finally, protégé-reported psychosocial support was positively associated with self-efficacy and negatively related stress after the fourth chat session. In summary, the results of this study strongly suggest that protégé involvement in the match process can facilitate the quality of formal mentoring programs.

I would like to dedicate this project to my patient, loving husband, Scott Kendall, who volunteered his computer programming skills to ensure the success of the technical aspects of this study. I also want to recognize my encouraging parents Raymond and Sharon Plummer, and my dear sisters, Amy Mishleau and Carrie Hall. These individuals have been my strong support system through the years; and without them, none of this would have been possible

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## CHAPTER ONE: INTRODUCTION

### Statement of the Problem

In the present fast-paced, technologically-advanced, global business environment, companies are faced with challenges that involve attracting and retaining talented individuals. One way in which companies seek to develop and retain employees is by implementing formal, organizationally-sponsored mentoring programs. Mentoring is conceptualized as a developmental relationship that occurs between a junior-level employee (i.e., protégé) and a higher-level individual (i.e., mentor) who is relatively more experienced (Dreher & Cox, 1996). In contrast to informal mentoring relationships which develop spontaneously between the mentor and protégé, formal programs bring the two individuals together and may even monitor the progress of the relationship. Formal programs can be established to accomplish one specific purpose or a constellation of goals, which may include (a) socializing a protégé to a new organization, (b) helping the protégé reach his/her career or organizational advancement objectives, (c) retaining employees by reducing their stress and broadening their skill sets, and (d) providing qualified women and minority protégés the opportunity to obtain management positions (Noe, 1991).

Although formal mentoring programs are widely implemented and positively regarded (Douglas & McCauley, 1999), they are reportedly not as successful as informal relationships (Chao, Walz, & Gardner, 1992). One reason for this disparity is that the successful matching of mentors to protégés can present a challenge for program administrators. Currently, there are no standard, empirically-derived matching methods; instead, different companies match mentors and protégés by varying criteria (e.g., protégé need, similarity of mentor/protégé goals,

background, or interests) (Hegstad & Wentling, 2004). Even though protégé-perceived similarity has been linked to positive mentorship outcomes in prior studies, correlations between mentor and protégé-reported similarity are consistently low. Thus, it appears that similarity may be in the eye of the beholder. In other words, what is most important to one protégé may be less important to another. This would explain the inconsistent findings regarding gender and race similarity and mentoring outcomes (see Ensher & Murphy, 1997; Ragins & Cotton, 1999).

The practice of matching mentors to protégés on unsubstantiated criteria may be worse than ineffective; it may actually negatively impact relationships by setting expectations that are not fulfilled. Alternatively, individuals who believe they are matched for a reason may seek confirmatory evidence of their similarity, and resulting satisfaction may simply be due to self-fulfilling prophecy. In a recent pilot study, these competing propositions were tested by comparing the satisfaction and gains in self efficacy of two groups of protégés (Kendall, Smith-Jentsch, Scielzo, & Kiley, 2007). Protégés in the first group were told that they would be matched with a mentor based on their levels of similarity on certain variables (i.e., gender, race, personality). In reality, these protégés were assigned to mentors based solely upon convenience (i.e., coinciding of availability times to meet online). In other words, these protégés were led to believe their mentor would be similar to them. The protégés in the second group were truthfully told that they would be matched with a mentor based on availability times only. Thus, both groups were actually paired by convenience matching; however, group one falsely believed they would be assigned a mentor with similar personal characteristics to their own. Despite the fact that both groups were assigned a mentor by identical methods (i.e., convenience matching), those who believed they were matched on similarity reported greater satisfaction and gains in self

efficacy over the course of the program than did those who believed they were matched based on convenience. These findings suggest that simply the belief that one was matched based on similarity appears to have a positive impact on the outcomes of formal mentoring relationships. Additionally, Allen, Eby, and Lentz (2006a) found that the extent to which protégés believed they had input to the matching process was positively related to protégé-reported mentorship quality and role modeling received from the mentor. However, the authors noted that because they did not actually experimentally manipulate choice, it is unclear to what degree perceptions reflect reality. The objective of this study was to manipulate protégé input to the matching process in order to observe the effects on both perceived and actual mentoring processes and outcomes.

#### Purpose of the Current Study

Building on this prior research regarding protégé perceptions of the manner in which they were matched, the current investigation examined the benefits of allowing protégés to choose their own formal mentor. Specifically, protégés who were given the opportunity to choose their mentor were compared against two groups of control protégés. Protégés in both control groups were assigned to a mentor based on convenience only (i.e., correspondence of availability times to meet for online chat sessions). However, half of the control participants were told that they were matched in a purposeful manner by the researcher whereas the remaining control participants were truthfully told that they had been matched to a mentor who shared their time availability. In this way, we examined whether protégé self selection was superior to no matching at all, and whether it was superior to a situation whereby an organization sets expectations by informing participants they would be matched based on similarity but, in

reality, utilizes an ineffectual matching algorithm. Figure 1 presents a model I created to depict hypothesized relationships among variables in the proposed study. According to this model, choice should facilitate protégé perceptions of the mentoring functions they receive in a number of ways. First, mentors may be motivated to put forth more effort because they were specifically “chosen” by their protégé. Second, protégés given the opportunity to self-select may continue to take greater responsibility for the learning process during their mentoring sessions. Third, if similarity is in the eye of the beholder, protégés should be best able to select a mentor who is similar to them in important ways. This should facilitate more interactive mentor-protégé discussion and increase the meaningfulness of their subsequent interaction.

Protégé choice in the matching process may also lead to increased perceptions of mentoring functions received through biases associated with cognitive dissonance (Festinger, 1957). Specifically, cognitive dissonance may lead protégés who select their own mentors to seek confirmatory evidence that their mentor is effective and to justify and downplay evidence to the contrary. In summary, the current study was designed to manipulate and observe the consequences of allowing protégés to choose their own mentors—a factor that may help to increase the effectiveness of formal mentoring programs in organizations. Also, the study provided evidence as to if and how the four abovementioned psychological phenomena affect protégé perceptions of mentorship success. The following portion of the paper contains a literature review, detailing a theoretical foundation for the current study. In the first section of the literature review, an overview of the mentoring literature is presented along with a definition and description of the various functions that mentors provide protégés. Moreover, differences between formal and informal mentorships will be presented, together with theories as to why the

two approaches have not produced comparable results. The third portion of the literature review will outline each hypothesis and present the four key theoretical rationales for why protégés who choose their mentors should report a more successful experience than those who are assigned a mentor.



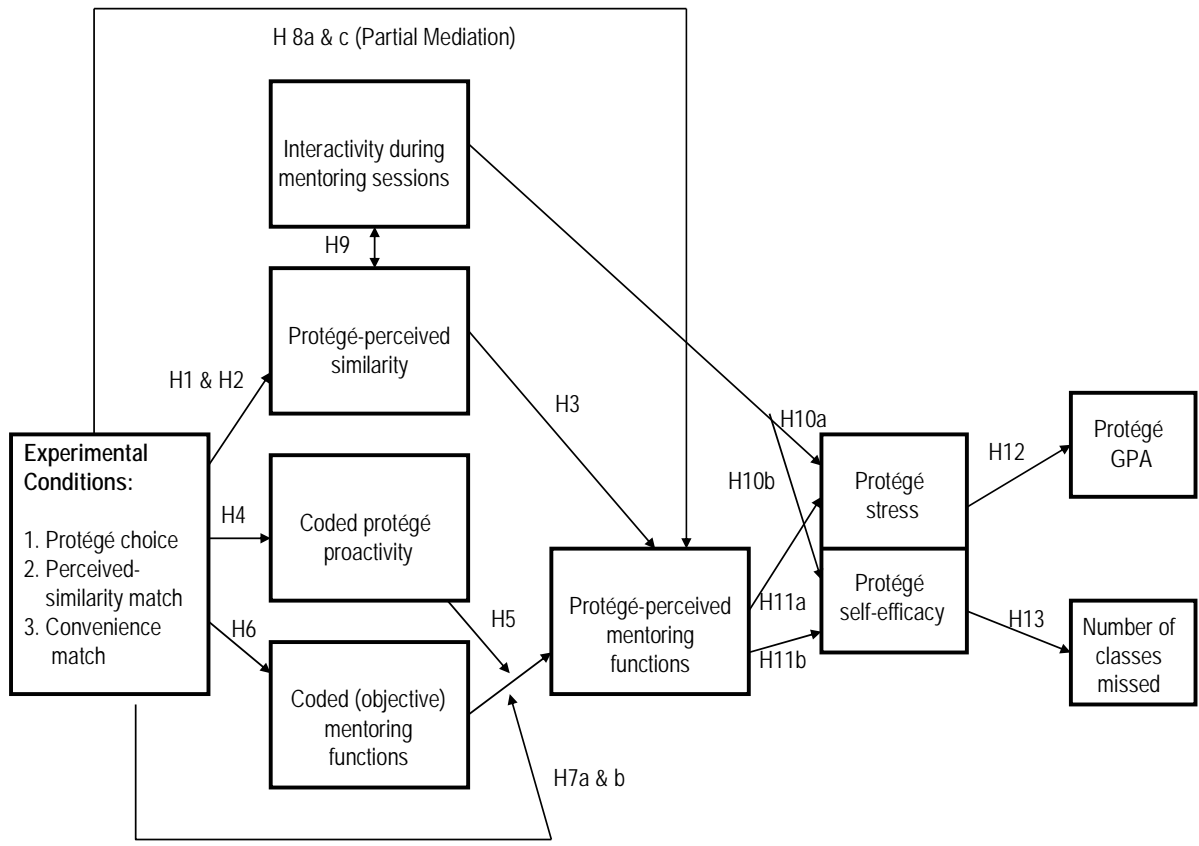


Figure 1 Graphical representation of hypothesized relationships

## CHAPTER TWO: LITERATURE REVIEW

### What is Mentoring?

The concept of a mentor/protégé relationship has a very long history. According to Shae, (1994), the term “mentor” originated in Homer’s classic Greek epic, *Odyssey*. In the narrative, when the king of Ithaca, *Odysseus*, went to fight in the Trojan War, he entrusted the care of his household and young son to “Mentor”. Mentor educated Odysseus’s son until the boy grew up and became self-sufficient. Thus, over the course of time, the expression “*mentor*” began to evoke a mental image of an individual giving of his/her time and personal energy to intentionally develop and edify another person. Presently, a mentor is often regarded by the protégé as a trusted advisor, counselor, teacher, and friend. The word “protégé” originated in the French language, and its original meaning is: “one who is protected” (Merriam-Webster, 2005). Therefore, in the traditional sense, the mentoring relationship is one in which a wise, seasoned individual assists a relatively inexperienced protégé by shielding him/her from individuals and influences that could hinder progress toward important goals.

Within the context of organizational behavior, mentoring traditionally has been defined as a hierarchical developmental relationship between an experienced individual (i.e., mentor) and a relatively less-experienced individual (i.e., protégé) (Darwin, 2000). Note that this definition encompasses a supervisor/subordinate relationship; however, it does not necessarily indicate that all supervisors are mentors (Burke, McKenna, & McKeen, 1991). For instance, it is possible (but certainly not desirable) that a supervisor be unconcerned with actually developing a subordinate by facilitating his or her career goals and/or upward movement in the organization. Traditional definitions have typically been fairly narrow, describing mentoring as a relationship between two

hierarchically-disparate individuals with a higher-ranking individual assisting the person of lower rank (e.g., Noe, 1988; Roche, 1979; Shapiro, Haseltine, & Rowe, 1978). However, researchers have begun to broaden the construct to include mentorships formed between two individuals of the same rank (i.e., peer mentoring) (de Janasz & Sullivan, 2004; Kram & Isabela, 1985). Furthermore, Higgins and Kram, (2001) suggested that mentorships may also extend across organizational boundaries, such that a mentor may belong to one organization, whereas the protégé belongs to another.

### Mentoring Functions

When organizational rank and boundaries cease to be integral to the mentoring paradigm, one may wonder what exactly happens in a mentorship that distinguishes it from a mere acquaintance relationship or a friendship between two coworkers. After conducting several interviews in a qualitative investigation, Kram (1983, 1988) identified the two primary classifications of mentor behaviors (i.e., career development and psychosocial support) that typify a mentoring relationship. These are presented, along with subcategories of example behaviors in Table 1 below.

Table 1 Summary of Kram's (1983; 1988) Classification of Mentoring Functions

Career Development (CD) Functions	Psychosocial Support (PS) Functions
<p>1. Sponsorship</p> <ul style="list-style-type: none"> <li>• Recommend protégé for promotions</li> <li>• Recommend protégé for a lateral moves in the organization.</li> </ul>	<p>1. Role modeling</p> <ul style="list-style-type: none"> <li>• Display appropriate behaviors that protégés can imitate.</li> <li>• Share stories with protégé how you handled the same dilemmas s/he faces.</li> </ul>
<p>2. Exposure and visibility</p> <ul style="list-style-type: none"> <li>• Help protégé cultivate relationships with senior managers.</li> <li>• Clear path for protégé's upward advancement.</li> </ul>	<p>2. Acceptance and confirmation</p> <ul style="list-style-type: none"> <li>• Demonstrate positive regard for protégé.</li> <li>• Cultivate protégé trust so s/he feels comfortable taking reasonable risks.</li> </ul>
<p>3. Coaching</p> <ul style="list-style-type: none"> <li>• Expand protégé's knowledge about the organization.</li> <li>• Offer advice for acquiring important information.</li> </ul>	<p>3. Counseling: More personal than coaching.</p> <ul style="list-style-type: none"> <li>• Listen when protégé shares feelings.</li> <li>• Assist protégé in exploring feelings of doubt and anxiety.</li> </ul>
<p>4. Protection</p> <ul style="list-style-type: none"> <li>• Shelter protégé from harmful encounters with senior personnel.</li> <li>• Intervene on protégé's behalf if protégé is negatively judged prematurely.</li> </ul>	<p>4. Friendship: Often develops naturally over time and sometimes allows a hierarchical mentorship to feel more like a relationship between peers.</p>
<p>5. Challenging Assignments</p> <ul style="list-style-type: none"> <li>• Provide protégé with opportunities to showcase his/her skills and expertise.</li> <li>• Give protégé chances to demonstrate his/her capabilities.</li> </ul>	

As shown above, career development functions represent intentional mentor behaviors that are instrumental to the protégé's career growth and progress. In other words, they serve to clear the path to the protégé's professional goals. Alternatively, psychosocial support functions

characterize mentor behaviors that offer the protégé reassurance and build his/her confidence and trust. Also in the psychosocial support category is the function of role modeling. Social learning theory states that self efficacy and learning are enhanced when individuals directly or vicariously witness appropriate behaviors performed by another person (Bandura, 1977). A mentor can provide a protégé with suitable behaviors to emulate, thereby acting as his or her role model. The bipartite taxonomy of mentoring functions presented in Table 1 has been validated through factor analytic techniques (Ensher & Murphy, 1997; Schockett & Haring-Hidore, 1985; Tepper, Shaffer, & Tepper, 1996) and continues to form the principal theoretical foundation for past and present mentoring research.

### Mentoring Benefits

Mentoring has been shown to yield tremendous benefits for protégés and for mentors. The results of a recent meta-analysis suggest that mentoring is positively associated with both objective and subjective career benefits for protégés (Allen, Eby, Potteet, Lentz, & Lima, 2004). For example, the degree to which protégés reported that they received career development and psychosocial functions from their mentors was positively related to objective career outcomes (i.e., compensation, salary growth, promotion) and subjective outcomes (i.e., satisfaction with career, job, and mentor). Moreover, it has been suggested that individuals new to an organization will actively seek out necessary information from senior members, thereby facilitating a newcomer's adjustment to the novel environment and role requirements (Miller & Jablin, 1991). Mullen (1994) argues that successful mentoring relationships may be formed on the basis of these information exchanges. Subsequently, mentoring has been shown to be an effective tool for easing the socialization process (Allen, McManus, & Russell, 1999; Ostroff & Kozlowski,

1993), providing a cost-effective, personal way for protégés to adjust quickly while reducing their stress levels (McManus & Russell, 1997).

Protégés are not the only ones who stand to gain from a mentoring relationship, but mentors as well. In successful mentorships, mentors often experience a sense of personal and professional accomplishment from passing on wisdom and experience and to another individual (Bozionelos, 2004; Eby & Lockwood, 2005; Ragins & Scandura, 1999). Hall, (2002) also argues that mentoring behaviors do not always occur unilaterally; instead, a senior individual may gain fresh, unbiased insights from his/her protégé. This is particularly the case when the mentor lags behind in technical skills and can stand to gain great deal of knowledge from a younger individual with superior technical expertise.

Some researchers have suggested that the benefits protégés receive through mentoring may, over time, permeate the entire organization. For example, Hunt and Michael (1983) propose that mentoring profits organizations by preparing young employees to assume future managerial roles; ensuring that when top administrators are promoted or choose to retire, there will be a sufficient number of talented individuals to replace them. Additionally, Wilson and Elman (1990) point out that mentoring relationships provide the opportunity for transmitting corporate cultural values to protégés and keeping top management informed of the most talented, up-and-coming individuals. Finally, mentoring has been proposed to enhance organizational learning; particularly when a company is in an upheaval stage, such as downsizing (Kram & Hall, 1989). In these periods of crisis, mentoring may help employees deal with personal stress while acquiring skills that will make them more valuable to the organization. Mentoring

relationships can provide a context in which organization members may exchange essential information, thereby maintaining a continuous learning environment.

Mentoring may occur face-to-face or over the phone or Internet. Online mentoring or “e-mentoring” provides individuals with the flexibility to meet at times and places that are most convenient. Furthermore, e-mentoring can save the sponsoring organization valuable administrative resources. Moreover, e-mentoring allows for a larger pool of potential mentors, providing a protégé many more options than s/he would have otherwise. Due to the recent surge of interest in e-mentoring (Ensher, Heun, & Blanchard, 2003) along with its convenience, the current study will test hypothesized relationships within the context of e-mentoring.

#### Formal and Informal Mentoring Programs

##### *Characteristics of Formal Programs*

Due to the promising results of mentoring research, many organizations sponsor formal mentoring programs. In a survey of 246 U. S. companies, Douglas and McCauley (1999) reported that 52 had implemented some type of formal managerial development plan which included pairing junior and senior level employees. It is noteworthy that the 52 companies that reported implementing mentoring programs were substantially larger, on average, than the 194 remaining companies. This is may be an indirect indicator of the amount of administrative and financial resources required to establish a mentoring program.

Although particular implementation methods vary across organizations, the first step typically involves selecting potential mentors and protégés for participation based on their qualifications and needs/potential, respectively. Then, all participants fill out applications that solicit various pieces of information (e.g., personal background, career goals and interests).

Finally, administrators assess the applications and match mentors to protégés (Murray, 1991). As previously stated, methods for pairing protégés with mentors differs across organizations, and there is debate as to which procedure yields the best results. For example, some practitioners argue that the dyad members should share common outside interests to facilitate interpersonal chemistry, whereas others suggest that a protégé may benefit most from a dissimilar mentor who can challenge old habits and thought patterns (Tyler, 1998).

In contrast to formal programs, an informal mentoring relationship is developed when two individuals in an organization choose one another without any external assistance. In this case, the choice is likely made based on criteria that are fully known only to the dyad members themselves. Therefore, protégés have the opportunity to choose role models who possess the characteristics they desire to emulate, and mentors select protégés whom they feel they can best support and with whom they identify (Ragins & Cotton, 1999).

#### *Effectiveness of Formal Programs*

Overall, mentored individuals receive more positive career outcomes than those who are not mentored (Dreher & Ash, 1990; Dreher & Cox, 1996; Scandura, 1992); however, this finding illuminates but a portion of the total picture. Ragins, Cotton, and Miller, (2000) assert that informal and formal programs are not directly comparable and organizations should not assume that they yield the same benefits for protégés. Although formal mentorships appear to be more beneficial for protégés than no mentoring at all, protégés in formal programs generally report receiving less support (Scandura & Williams, 2001) and fewer favorable outcomes (e.g., salary, job satisfaction, socialization) than protégés in informal relationships (Chao, Walz, and Gardner, 1992). In fact, Ragins and Cotton, (1999) found no significant differences in career outcomes



between individuals with an assigned mentor and those who were not mentored at all. One possible explanation could be that protégés in formal programs report receiving significantly less mentoring functions (i.e., career development, psychosocial support) than protégés in informal relationships (Fagenson-Eland, Marks, & Amendola, 1997).

Thus, those who implement *formal* programs in order to capture the benefits of *informal* mentoring relationships should not automatically expect analogous results from the two methods. Instead, they should plan formal programs very carefully, taking steps to find and remove barriers to the program's effectiveness. In the current study, a formal peer mentoring program will be designed so as to give protégés the freedom and flexibility to choose their own mentor. The next section details how protégé choice is expected to improve the value of a formal program by facilitating better "matches" that, in turn, will lead to successful formal mentoring relationships.

## Hypotheses and Rationale

### *Does Choice Matter?*

There have been several rationales offered for why informal mentorships are relatively more successful than formal ones. One reason is that mentors in formal programs may be less intrinsically motivated and more concerned with obtaining organizational rewards and the recognition that is often associated with participation in such a program (Ragins, et al., 2000). Another explanation is that informal relationships last longer, on average, than formal ones; and in turn, longer mentorships are positively associated with protégé-reported mentoring functions (Fagenson-Eland et al., 1997; Allen & Eby, 2004). However, each of these reasons actually denotes an overall problem inherent in most formal programs: lack of participant freedom and

choice regarding relationship initiation. If protégés are given the choice of a mentor, they may feel a stronger assurance that the individual is committed to their best interests. Furthermore, it is possible that dyads would remain intact longer if members were given the opportunity to adjust to one another before deciding to commit to a more enduring relationship.

Informal mentorships allow the mentor and protégé choose one another based on personal chemistry or perceived similarity (Smith-Jentsch, Kendall, Lima, & Allen, 2007), whereas most formal programs allow protégés little or no input in the matching process. Consequently, an administratively-assigned mentor may represent someone the protégé never would have picked on his/her own. Unfortunately, evidence suggests that such a mismatch can result in an unproductive and/or dysfunctional relationship (Eby & Allen, 2002; Eby & Lockwood, 2005; Lee, Dougherty, & Turban, 2000). For example, when dyad members have incongruent values or work styles, a possible consequence is diminished career guidance received by the protégé (Simon & Eby, 2003). Furthermore, Eby, Butts, Lockwood, and Simon (2004) found that protégés in formal relationships report disproportionately more negative mentoring experiences (i.e., mentor distancing behaviors, lack of expertise) than protégés in informal relationships. In summary, formal programs may be less successful simply because they do not allow individuals to personally discover a mentor or protégé with whom they would be most similar. Allowing protégés to choose their own mentor may be one way to improve the effectiveness of formal programs.

#### *Protégé Choice*

Viator (1999) found evidence that protégés who perceived that they played a role in the selection of their own mentor were more satisfied with the resulting mentorship. Likewise, Allen,

Eby, and Lentz (2006a; 2006b) found a positive relationship between protégé-perceived input in the matching process and mentorship quality. Each of the aforementioned studies were nonexperimental; therefore, the authors noted future research employing an experimental design would be needed in order to determine whether these were causal effects and if there were any mediating variables.

Theoretically, there are four primary reasons to believe that protégé choice matters. First, if given the option, a protégé will likely pick a mentor with whom s/he feels similar. Research shows that individuals are attracted to those with similar personal characteristics (Byrne, 1971), and they tend to like others who reinforce their existing beliefs (Byrne & Clore, 1970). These feelings of similarity, in turn, may produce more positive mentorship outcomes. Second, a mentor who is expressly chosen by a protégé may feel more invested in the relationship and demonstrate a stronger commitment to that individual's career and personal development.

Third, protégés who choose their own mentor may feel motivated take a more proactive role in the ensuing relationship than protégés who are assigned a mentor. Proactive protégés may engage in behaviors such as probing their mentor for information and initiating communication with him or her often. In the current study, all protégés will voluntarily enter the mentoring program; therefore, it is expected that most will be motivated to be proactive. However, protégés who choose a mentor may feel relatively more invested in their own choice and thus be exceptionally motivated to actively influence events so as to reap the maximum benefit from their decision.

Finally, even if protégé choice has no actual effect on the quantity of career development (CD) and psychosocial support (PS) that the protégé receives, the quality of that support in the

eyes of the protégé may be greater due to the fact that such support—coming from a more similar source—is more relevant or accepted. Choice may also impact the relationship between mentor behavior and protégé perceptions of that behavior. In other words, the protégé may be motivated to seek confirming evidence that they made a good choice and to ignore or downplay evidence to the contrary. This sort of bias was demonstrated in the prior study for those who perceived that an external party made the match. Perceptual biases are likely to be even stronger for protégés who know that they themselves were responsible for choosing their own mentor.

To test current study hypotheses (which are delineated below), three experimental groups of protégés were formed for the current study. The first group of protégés (i.e., “protégé choice group”) were allowed to choose their own mentor from an online database of mentors and then meet for mentoring sessions in Internet chat rooms. Single and Muller (2001) argue that in e-mentoring situations, a proper match is even more important than for traditional face-to-face mentoring. In the former case, the mentor and protégé will typically be housed in either in disparate branches of the same organization or in different organizations altogether; therefore, they will probably have fewer commonalities than they would if they were co-located in the same organization. This is a barrier that is often concomitant with e-mentoring, so care should be taken to facilitate a successful matching process for formal program participants. As a possible solution to this concern, several large companies currently allow protégés to choose from an online database of volunteer mentors’ profiles and biographical information (Tahmincioglu, 2004). A primary goal of this study was to experimentally test the effectiveness of this matching method.

A second group of protégés (i.e., “perceived-similarity-match group”) were informed that they were matched with a mentor who possesses similar goals, interests, and characteristics as they do. In reality, however, these protégés were assigned to a mentor by convenience (i.e., the correspondence of availability times to meet online). The rationale for creating this group was rooted in the examination of the ways in which formal mentoring programs are implemented in organizations. Currently, many formal programs match protégés to mentors according to similarity, yet this does not mean that the dyad members themselves will perceive a good fit. Therefore, the perceived-similarity-match group allowed for a test of the benefits of protégé choice against a situation whereby an organization matches protégés to mentors based on criteria that are ineffectual (but not necessarily detrimental). In such case, protégés have expectations that their mentor will be similar to them in some important way.

Finally, the third group of protégés (i.e., “convenience-match group”) were truthfully informed that they were matched with their mentors purely based on corresponding availability times for meetings. This condition was intended to be comparable to a situation whereby an organization does not attempt to match mentors to protégés in any sort of systematic way. In theory, these protégés should have had the least amount of expectations for similarity to their mentors relative to the protégés in the two previous groups.

Together these three groups will enable the investigation of if/how protégé choice impacts perceived similarity. Furthermore, they will make it possible to explore the potential effects of protégé expectations of similarity on subsequent perceptions of perceptions of mentorship effectiveness. It is important to note that mentor and protégé availability times will be a constraint across all three experimental groups. However, protégés in the choice group will

be the only ones that will be matched on other criteria aside from availability times. The following sections outline theoretical arguments for why protégé choice should positively impact perceived similarity and other relationship outcomes.

### *Similarity and Attraction*

It is a well-known, robust finding in the social psychology literature that we like individuals whom we perceive to be similar to ourselves. In his *Social Comparison Theory*, Festinger (1954) proposed that individuals compare themselves to others when evaluating their own opinions, skills, and attitudes. Furthermore, he argued that we are more likely to compare ourselves to similar others rather than dissimilar others when making assessments about our attributes. Festinger's propositions provided the foundation for a fruitful line of research on similarity and attraction (Byrne, 1971). There is plentiful evidence to suggest that similarity breeds liking in several diverse contexts—one of the most notable being the context of romantic relationships. Individuals tend to choose a mate who is similar in attitudes (Aube & Koestner, 1995) as well as physical attractiveness, religion, and education level (Hill, Rubin, & Peplau, 1976). People also choose to personally associate with similar others who are likely to provide feedback that confirms what they already believe about themselves (Joiner, 1994).

In the work setting, Strauss, Barrick, and Connerley (2001) found a positive association between performance ratings—as given by both peer and supervisor raters—and perceived similarity to the ratee. On a relatively superficial level, humans also tend to like other individuals who mirror their own nonverbal behaviors. Chartrand and Bargh (1999) reported that college students rated a confederate as significantly more likeable when he or she mimicked the

student's nonverbal behaviors (e.g., rubbing the nose, shaking the foot) than when the confederate did not imitate the student's behaviors.

In the mentoring framework, Ensher, Grant-Vallone, and Marelich (2002) found protégé-perceived attitudinal similarity to be positively associated with protégé-reported mentoring functions and satisfaction with the mentorship. Overall, the research clearly points to the significance of perceived similarity for explaining variance in people's emotions, cognitions, and behaviors toward others. Thus, it is likely that protégés would choose a mentor with whom they feel similar—presumably someone who can closely identify with their goals, feelings, and needs.

In the pilot study that served as a basis for the current investigation, protégés who falsely believed they were being matched on similarity actually reported feeling higher levels of similarity to their mentors. If it is the case that expectations *alone* can produce feelings of similarity, it is likely that actually allowing protégés the choice of a mentor could cause even stronger perceptions of similarity. After becoming familiar with one another through successive correspondence online, it is expected that these feelings of similarity will endure and perhaps even strengthen as progressively more common ground is established. In contrast, protégés who are assigned a mentor should, on average, experience relatively less chemistry in the relationship with their mentors. Subsequently, they will likely report lower levels of perceived similarity both before and after getting to know their mentors. Therefore:

*Hypotheses 1a and 1b.* Protégés who choose their own mentors will report significantly higher levels of perceived similarity to their mentors both (a) before and (b) after interacting with one another when compared with protégés who are assigned a mentor.

Although methods of matching protégés to mentors vary greatly across organizations, similarity often is used as a criterion for matching (Hagstad & Wentling, 2004). However, it should be noted that simply because the organization makes pairings based actual similarity on some criterion (e.g., gender, race, personality), does not mean the individuals involved will feel similar to one another. This is illustrated by low correlations found between the mentor and the protégé's respective perceptions of similarity (Ensher & Murphy, 1997; Smith-Jentsch et al., 2007), indicating that similarity perceptions are quite subjective and personal. This could also explain the mixed findings regarding the relationship between actual similarity on demographic variables (e.g., race, gender) and relationship success (see Allen & Eby, 2004; Ensher, et al, 2002; Koberg, Boss, & Goodman, 1998; Ragins & Cotton, 1999; Scandura & Williams, 2001). Overall evidence points to the importance of allowing the protégé him/herself to pick a mentor according to his/her own personal criteria—criteria that are unknown to the administrative personnel who would otherwise do the matching.

Nonetheless, personnel implementing formal programs often still rely heavily on survey information (e.g., demographic, personal, and career information) when matching individuals (Murray, 1991). In this situation, when potential protégés are initially informed that they will be matched with a mentor who has similar characteristics (e.g., similar responses to a personality survey), they are likely to expect to receive a similar mentor. Even before meeting his/her mentor for the first time, a protégé will likely anticipate being highly similar to him/her.

Considering the evidence suggesting the extreme subjectivity of similarity perceptions, it is unlikely that the administrative personnel—despite their best efforts—will have the capacity to achieve a good match. In this case, one of two outcomes is possible. First, because of the



protégé's initial expectations for similarity, s/he may look for evidence of similarities in subsequent interactions with the mentor. The theory of confirmation bias (Nickerson, 1998) suggests that if protégés truly believe they and their mentor are alike, they will search for information that is congruent with this expectation and forget, dismiss, or rationalize evidence to the contrary. Second, these protégés may also create a self-fulfilling prophecy, acting on their beliefs in such a way as to influence the outcome of the relationship. These initial beliefs may cause the protégé to behave toward the mentor with trust and enthusiasm, which in turn, inspires greater similarity. In these types of instances, even after extensive interaction, the protégé would likely report higher similarity to his/her mentor *for no other reason* except that s/he anticipated a high level of similarity from the beginning.

*Hypotheses 2a and 2b.* Protégés in the perceived-similarity match group will report higher levels of similarity to their mentors (a) before and (b) after their first meeting than will protégés in the convenience-match group.

Research findings suggest perceived similarity in the mentorship context to be a significant predictor of relationship success. Ensher and Murphy (1997) found that protégé perceptions of similarity to the mentor were positively associated with dyad contact frequency and protégé-reported mentoring functions and satisfaction. Moreover, Lankau, Riordan, and Thomas (2005) found that protégés who perceived deep commonalities with their mentors (e.g., shared values, personality traits, and problem-solving techniques) reported receiving significantly more mentoring functions than protégés who were in less compatible relationships. Similarly, Smith-Jentsch et al. (2007) also found protégé-perceived similarity to be positively related to protégé-reported mentoring functions and satisfaction; and the relationship held, even

when controlling for mentor and protégé personalities and *actual* similarity (as indexed by difference scores on the Big 5 personality trait scales).

Although protégé-perceived similarity has been shown to predict protégé reports of relationship success, the findings regarding actual similarity are vaguer. For instance, one study found that individuals in same-gender mentorships reported receiving more mentoring functions than those in mixed-gender mentorships (Ragins & Cotton, 1999). However, other studies have shown that protégé race and gender similarity do not consistently predict the race and gender of the mentors they choose (Dreher & Cox, 1996) or the outcomes they report receiving from the relationship (Allen & Eby, 2004; Ensher, et al., 2002). These inconsistent findings suggest that perceived (not actual) similarity is the key to predicting mentoring outcomes.

Interestingly, none of the previously mentioned studies found that *mentor* perceptions of similarity predicted protégé-perceived mentoring functions. This introduces the threat of monomethod bias as a possible explanation for the relationship between protégé beliefs about similarity and protégé-reported outcomes. However, Turban, Dougherty, and Lee (2002) also found a positive link between protégé similarity perceptions and protégé-perceived mentoring functions but only in the early stages of the mentorship. Subsequently, this relationship weakened over time as the once-salient dissimilarities relinquished center stage in the awareness of both parties. This indicates that monomethod variance is not the only factor in explaining the relationship. Specifically, the passage of time serves to shape the relationship and protégé perceptions. The Turban et al. findings hint at the notion that, over time, similarity perceptions become less critical for achieving an acceptable match. Regrettably however, most formal programs last merely 6-12 months on average (Murray, 1991), and this is likely an insufficient

timeframe to completely overcome the negative initial feelings of dissimilarity. In summary, if formal mentoring programs are established in organizations, it would behoove administrators to consider similarity perceptions because the mentorships may not endure long enough to allow the early, glaring perceptions of dissimilarity to dissipate. Because the present study will employ a fairly narrow timeframe for a formal mentorship to progress (i.e., 6-8 weeks), this implies that similarity perceptions will play a significant role in reports of mentorship success. Specifically,

*Hypothesis 3.* Protégé-perceived similarity will be positively associated with protégé-perceptions of mentoring functions (i.e., career development and psychosocial support) received.

#### *Protégé Proactivity*

Similarity and the resulting chemistry are likely not the only factors that contribute to protégé perceptions of mentoring functions received. One of the reasons for the relative success of informal mentorships could be that protégés are able to take a more active role in the mentoring process. By initiating a mentorship with an individual who has desirable characteristics, protégés are taking a proactive role in their own career development. Proactive behavior is defined as a person's propensity to purposefully alter his or her environment or circumstances in some manner (Bateman & Crant, 1993) and has been positively associated with job performance (Grant, 1995), and both objective and subjective career success (Seibert, Crant, & Kraimer, 1999). Turban and Dougherty (1994) reported that some protégés are more proactive than others in seeking out career-related advice and support from higher-level individuals in the organization. Not surprisingly, these same protégés indicated that they had received significantly more psychosocial support (PS) and career development (CD) from their chosen mentors than protégés who were less proactive. Together, these findings suggest that protégés may be more

willing to capitalize on the opportunities and counsel provided by a CHOSEN mentor than by an assigned mentor.

Proactive protégés are most likely the types of individuals who assume responsibility for their own personal development and learning. Self-directed learning theory suggests that the learner—rather than the instructor—should take the most active role in the education process (Garrison, 1997). It follows that protégés who choose a mentor will feel relatively empowered and motivated compared to protégés who are not given the opportunity to choose.

Protégés who choose a mentor are defining their own role model as well. An assigned mentor may or may not be the kind of individual that epitomizes who the protégé eventually wishes to become. Manz and Sims (1985) argue that role modeling is an important process that occurs in organizations whereby individuals modify and improve their skills. Nevertheless, the success of this process depends on choosing the correct person to emulate. It is expected that protégés in the choice group will take their decision very seriously and proactively make the most of the relationship. Furthermore, it is expected that initial proactive behavior will prime protégés to continue these behaviors throughout the mentoring relationship. In this way, proactive behaviors build on one another as they become habitual within the context of the program. Therefore it is proposed that:

*Hypothesis 4.* Protégés who choose their own mentor will exhibit more proactive behaviors in the mentorship than protégés who are not given a choice.

When protégés are proactive, they will likely elicit information from their mentors that is highly relevant to their personal needs. These protégés will attempt to dynamically influence the ensuing relationship so as to increase the possibility of achieving the benefits they desire.

Examples of proactive behaviors include probing the mentor for information, contacting him or her often, freely admitting when they need help, and generally taking an energetic role in the mentorship. Behaviors such as these make it possible for a mentor to tailor his or her advice to effectually fill the gaps in the protégé's knowledge base and/or confidence levels. In this way, the mentor can offer premium-quality career development (CD) and psychosocial support (PS) that the protégé will perceive as highly applicable to their individual needs.

There are two different methods for measuring CD and PS provided by the mentor. First, it is possible to ascertain the actual amount of mentor-provided functions by training independent raters to observe and code mentor/protégé interactions. For instance, Smith-Jentsch et al. (2007) indexed CD and PS as a frequency count of the number of times the mentor made statements consistent with these functions. These relatively more objective indicators of CD and PS are helpful because they eliminate the need to rely solely upon the protégé's post-hoc recollections of what happened in the mentorship. The second method for measuring CD and PS is to ask the protégé to indicate the degree to which they felt they received those functions during the course of the relationship. This variable best captures the *quality* of mentoring functions that the protégé provided.

Realistically, the coded and the self-report measures should be positively correlated with one another, but they will reflect different aspects of the same construct. The self-report measure is likely a much more subjective and personal than the coded index. For example, there could be a situation in which a mentor may provide lots of advice and support (which would manifest itself in the coded indices), but the protégé does not find it useful because s/he did not elicit the right types of information to meet his/her unique needs. Conversely, when the protégé is

proactive, s/he guides the conversation to topics of personal or academic interest, ensuring that the mentor's counsel is pertinent to his/her specific concerns. Consequently, the quality of mentoring functions will be most influence by the quantity of functions only when protégés feel that the mentor's guidance is relevant to them. Furthermore, mentors are likely to provide the most germane counsel when protégés ask for the precise information that they need. Hence, this implies that:

*Hypothesis 5.* Protégé proactivity and coded mentoring functions (i.e., quantity) will interact to predict protégé-perceived mentoring functions (i.e., quality). Specifically, the regression line for highly proactive protégés will be steeper than the regression line for less-proactive protégés.

#### *Mentoring Behavior*

The third and final mechanism through which protégé choice was expected to impact protégé-perceived mentoring functions is through objective (i.e., coded) mentoring functions. At this point, it is essential to consider the mentor's perspective. Informal mentorships may owe their success, in part, to the prospect that mentors are more committed to protégés who have actively initiated the relationship than to protégés assigned to them in a formal program. Consequently, informal mentors are likely to be exceptionally motivated to provide PS and CD because they are aware (and perhaps flattered) that protégé sought them out specifically. Thus, they may take extra steps to ensure their protégé's expectations do not go unmet. In contrast, mentors in formal programs are generally aware their protégé was assigned to them by some third party; therefore, they may feel invested in their protégés to a lesser extent than mentors whose protégés exclusively chose them. Hence,

*Hypothesis 6. Protégé-chosen mentors* will provide relatively greater amounts of coded CD and PS than mentors whose protégés did not choose them.

### *Protégé Bias*

It is well known that pre-conceived ideas and expectations can affect the way people observe and interpret the world around them. An individual's unique frames of reference serve as filters through which life's events and circumstances are viewed, and this often results in personal biases that do not necessarily reflect reality. For instance, O'Reilly, Parlette and Bloom, (1980) found that the ways in which an individual views the characteristics of his/her job is really a function of a variety of variables including tenure, salary, parents' education level, job satisfaction, and personal values. These results suggest that two separate individuals can hold the very same position in identical organizational environments but view the job differently based upon their distinctive backgrounds, experiences, and personalities. Further illustrating this point, Smith-Jentsch, Salas, and Brannick, (2001) reported that when trainees were predisposed toward the content of the training, they perceived the climate of the training environment to be more conducive to skill transfer than trainees who were not inclined toward training content. This relationship remained, even when accounting for the *actual* supportiveness of the transfer environment. In summary, regardless of reality, individuals tend to perceive situations and circumstances in unique and dissimilar ways depending on their personal characteristics.

Considering the evidence mentioned above, it is likely that protégé biases and expectations could affect the amount of mentoring functions they report receiving. In a policy-capturing study, Sanchez, Smith-Jentsch, Lorenzet, Lopez, and Bencaz (2005) discovered that both male and female protégés expected to receive greater amounts of psychosocial support (PS)

from female mentors than from male mentors. In another study, protégés credited female mentors with providing more PS than male mentors, even after controlling for actual PS given (Smith-Jentsch, Irving & Weichert, 2006). These results imply that protégés could be succumbing to a bias stemming from the stereotype that females are typically more nurturing and affirming than men. This belief has been blamed for the tainting of the job performance ratings of males and females. For example, Heilman and Chen (2005) found that when women engage in altruistic behaviors in the workplace, they are not rated as highly as men who perform identical behaviors. Moreover, when women did not perform altruistic behaviors, they were penalized more severely than men who were equally negligent in acting charitably. Overall, these pieces of evidence point to the potential for personal bias to enter into an individual's judgments.

The findings from my pilot study suggested that when protégés *falsely* believed they were being matched with a mentor who was similar to them, they reported receiving positive outcomes anyway. One possible explanation for this finding is that protégés seek confirmatory evidence to support their initial beliefs that they and their mentor have characteristics in common. Over the course of the mentorship, they attend only to evidence that reinforces those expectations, thereby creating a confirmation bias. Consequently, they report receiving benefits from the relationship simply because they had such high hopes for the relationship from the beginning. They may even unconsciously give their mentor “extra credit” by indicating that the mentor provided more mentoring functions than s/he actually did.

Mirroring the pilot study design, I utilized three experimental protégé groups for the current study: (1) choice group, (2) “perceived-similarity-match group”, and (3) “convenience-match group”. This design allowed the examination of the role of initial protégé expectations and



how they affect the subjective awareness of psychosocial support (PS) and career development (CD) received in the ensuing mentorship. This matter is of practical importance for individuals who are matching protégés to mentors in formal programs because combining persons based on the semblance of their personality characteristics, interests, and the like does not guarantee a good match from the perspective of the dyad members themselves. This situation could essentially set the protégé up for future disappointment from unfulfilled expectations. Equally plausible is the possibility that the mere anticipation of shared personal characteristics may be enough to convince protégés that they are receiving more mentoring functions than the mentor is actually providing.

Thus, it was predicted that increases in the quantity of coded mentoring functions would be associated with greater increases in protégé-perceived mentoring functions for those in the perceived-similarity match condition than in the convenience match condition. Note that a group matched on *actual* similarity was not included in the study design because that would have entailed arbitrarily picking a variable on which to pair individuals (e.g., shared personality traits, interests, background). Hypothetically speaking, if an effect were to be observed in this group, it would be impossible to determine whether it was due to actual similarity, beliefs of similarity, or a combination of the two. In the current study, even though protégés in the choice condition may have picked a mentor who was *objectively* similar, protégés in the perceived-similarity-match condition should have been no more similar to their mentors than what would have been expected by chance (because they were assigned to a mentor by the same method as the convenience-match group). That is, every instance of a coded PS or CD should have had a

relatively larger impact on perceptions of protégés in the perceived-similarity match group than on perceptions of the convenience match group.

Theoretically, protégés in the choice condition have even more reason to overestimate the mentoring functions they receive than protégés in the similarity-match group. Like the perceived-similarity match group, not only will they have inflated expectations than protégés in the convenience group; but it is likely they will pick someone who will—in reality—be a better fit for them. Thus, the functions they later receive from their mentor will be interpreted as more meaningful and useful—tailored specifically to their needs. This implies that for these participants an increased value may be placed on each instance of coded PS or CD, in part due to confirmatory bias and in part due to real differences in the actual usefulness of the support provided. Thus, it is hypothesized that each instance of a coded mentoring function will have the largest effect on perceptions of protégés in the choice condition in comparison to the protégés in the two matched groups. Together, these arguments suggest an interaction between experimental groups and objectively indexed mentoring functions in predicting protégé-perceived mentoring functions. Specifically,

*Hypotheses 7a and 7b.* There will be an interaction observed between the experimental conditions and coded mentoring functions in predicting protégé-perceived mentoring functions. In particular, (a) the regression line for the perceived-similarity match group will be more steeply positive than the regression line for convenience-match group. Furthermore, (b) the regression line for the choice group will be more steeply positive than the regression lines for the two matched groups.

The previous seven propositions suggest three factors to explain why protégés who choose their own mentor report receiving more PS and CD. First, protégés who choose their own mentors will report feeling more similar to them than protégés who do not self-select a mentor. Second, protégés who choose their own mentors will also be more likely to proactively extract personally relevant information from their mentors. As a result, any objective mentoring functions these protégées receive will seem relatively more useful to them. In contrast, mentors of non-proactive protégés may give great amounts of PS and CD, but these protégés will be less likely to indicate receiving these functions because the advice was not tailored to their unique needs. Thus, the interaction of protégé proactivity and coded mentoring functions will partially mediate the relationship between protégé choice and perceived mentoring functions. Finally, coded mentor behavior serves as the last mediating mechanism through which protégé choice impacts protégé-perceived mentoring functions. Specifically, mentors who are chosen by a protégé may be more motivated to provide PS and CD. However, the positive relationship between objective mentoring functions and subjective mentoring functions will be stronger for the protégé choice and perceived-similarity-match groups than it will be for the convenience-match group. This implies that the interaction of experimental condition and coded mentoring functions will also partially explain the impact of the manipulation on protégé-perceived mentoring functions. In summary, the combined effects of protégé-perceived similarity, protégé proactivity, and coded mentor behavior were proposed to mediate the impact of the manipulation on protégé-perceived mentoring functions. Thus:

*Hypothesis 8a.* Protégé-perceived similarity will partially mediate the relationship between protégé choice and protégé-perceived mentoring functions.

*Hypothesis 8b.* The interaction of protégé proactivity and coded mentoring functions will partially mediate the impact of protégé choice on protégé-perceived mentoring functions.

*Hypothesis 8c.* The interaction of experimental condition and coded mentoring functions will partially mediate the impact of the protégé choice on protégé-perceived mentoring functions.

### *Interactivity*

In close interpersonal relationships, evidence has repeatedly shown that the degree of similarity between two individuals serves to enhance mutual liking and contact (Amodio & Showers, 2005; Eshel, & Kurman, 1994; Murstein & Brust, 1985; Wakimoto & Fujihara, 2004). Likewise, it is reasonable to assume that feelings of similarity would also influence the way in which a mentor and protégé interact with one another. For instance, Ensher and Murphy (1997) reported similarity perceptions to be positively associated with the frequency of mentor/protégé meetings. One explanation for this finding can be found in the theory of reasoned action, which predicts that the manner in which we react to another person is a function of our attitudes and beliefs about the other individual (Ajzen & Fishbein, 1980). This implies that dyad members' perceptions of similarity could lead to feelings of psychological comfort while communicating, thus enhancing the interactivity of their discussions. Interestingly, two recent studies both found that interpersonal comfort mediated the relationship between deep-level similarity (i.e., shared values, interests) and mentoring functions (Allen, Day, & Lentz, 2005; Ortiz-Walters and Gilson, 2005). It should be noted that each of these variables was measured from the perspective of the protégé. According to Allen et al., interpersonal comfort refers to the extent to which the protégé felt that s/he could communicate openly and freely with the mentor about most any topic.

Together, these findings point to the importance of protégé perceptions of similarity for predicting the level of interaction that will occur in the mentorship. Therefore it is expected that:

*Hypothesis 9.* Protégé-perceived similarity will be positively related to the interactivity of discussions with their mentors.

It must be emphasized that this proposition specifies no causal direction. Perceptions of similarity could lead to dynamic, lively discussions; on the other hand, interactive conversations could increase protégé perceptions of similarity. Smith-Jentsch, and Scielzo (2006) reported an example of the latter case in which coded mentor psychosocial support (PS) was positively associated with protégé (but not mentor)-perceived similarity (measured at the conclusion of the mentorship). This suggests that characteristics of interpersonal interactions may influence perceptions of similarity. Nevertheless, this does not rule out a possible reciprocal relationship between similarity perceptions and the nature of interpersonal exchanges. Therefore, this relationship is denoted by a double-headed arrow in Figure 1.

### *Socialization*

During interactive conversations with their mentors, protégés will be more likely to pick up essential pieces of information that will expedite the socialization and adjustment process. The success of the socialization process heavily relies upon the liberal exchange of information between the newcomer and established members of the organization. This idea is essentially forms the basis of Katz and Kahn's (1978) classic role theory, in which individuals look to others in the organization for guidance as to how they should behave. Over time, they acquire knowledge regarding appropriate behavior for their prescribed roles. When newcomers first enter an organization, they often feel a sense of surprise when their personal assumptions and

expectations are not confirmed in the new setting (Louis, 1980). To reduce the resultant uncertainty and anxiety, the newcomer must engage in a process of sense-making, gathering information to familiarize him/herself with how things operate in the new environment (Van Maanen, 1977).

Asking a trusted mentor is perhaps one of the best ways for gaining knowledge about organizational norms and role requirements, particularly if the mentor is not also the newcomer's supervisor. New members may hesitate to ask their manager too many questions for fear of looking silly or incompetent (Miller & Jablin, 1991); however, they may feel more comfortable confiding in a mentor who has little or no direct supervisory authority. Moreover, Feldman, Smith-Jentsch, and Singleton (2005) found that the level of interactivity in dyad meetings (as indexed by the number of dialogue exchanges between the mentor and protégé) was positively related to protégé gains in knowledge and stress reduction. Thus, in the current study, it is predicted that:

*Hypotheses 10a and 10b.* Interactivity will be negatively associated with protégé (a) stress, and positively associated with (b) protégé self-efficacy.

Despite the significant role of interactivity between dyad members, it probably will not be the only predictor of protégé adjustment. For example, it is possible for meetings to be highly interactive, with little or no useful information actually being exchanged. For this reason, it is essential to consider the relationship between perceived mentoring functions and protégé adjustment outcomes. Although the socialization process is often uncertain, frightening, and stressful, participating in a mentoring relationship has been shown to mitigate these harmful effects. For example, Chao (1997) found that protégé-perceived mentoring functions were

positively associated with protégé socialization. In her study, socialization was operationalized as five related facets: (1) performance proficiency, (2) successful work relationships, (3) knowledge of organizational politics, (4) understanding of organizational values and goals, and (5) knowledge of the organization's history. Similarly, in the current investigation, protégé adjustment or socialization will be operationalized and measured as separate but conceptually related variables. More details on these variables are provided below in the *Measures* section.

Allen, et al. (1999) conducted a study in which they examined the relationship between protégé-perceived mentoring functions and socialization (operationalized as the same five dimensions delineated previously). They discovered that protégés who reported receiving high amounts of mentoring functions had corresponding increases in all of the five facets of socialization as well as a reduction in stress levels. Another study that paired freshman business majors with upperclass peer mentors found that protégé-reported mentoring quality was positively associated with commitment to the university and intent to complete their degree (Sanchez, Bauer, & Paronto, 2006). Consequently, this evidence suggests that mentoring functions play a significant role in the prediction of the success of the protégé's socialization process. The next hypothesis reflects an expected replication of these previous findings.

It is worthy of mention that the aforementioned studies demonstrating a link between mentoring functions and socialization outcomes relied solely on protégé self-report data. Although these findings contribute to the understanding of mentoring and socialization, critics may emphasize the fact that monomethod bias could have partially (or exclusively) explained the observed relationships. In order to protect against the threat of monomethod bias, the current study will employ a few relatively objective measures of protégé socialization (i.e., grade point

average and number of classes missed over the course of the semester), which are outlined in full detail in the *Measures* section. In this way, the current study builds on previous studies by incorporating both subjective and objective indicators of protégé socialization. Hence, the final hypotheses state:

*Hypothesis 11a.* There will be a negative relationship between protégé-reported mentoring functions and protégé stress.

*Hypothesis 11b.* There will be a positive relationship between protégé-reported mentoring functions and protégé self-efficacy.

*Hypothesis 12.* There will be a negative relationship between protégé stress and GPA.

*Hypothesis 13.* There will be a negative relationship between protégé self-efficacy and classes missed.



## Summary

In conclusion, this study investigated the impact of the protégé's opportunity to choose a mentor on perceived similarity to the mentor and perceived and actual mentoring functions. The findings of this study hold practical implications for organizations implementing formal mentoring programs to socialize newcomers. Specifically, the primary goal was to determine if protégé choice would enhance the formal program's effectiveness, and even make it feel more like an informal relationship from the protégé's perspective. Organizations that offer protégés a pool of qualified individuals from which to select a mentor may have more successful formal programs that produce benefits comparable to informal relationships.

## CHAPTER THREE: METHOD

### Experimental Design

Three experimental groups were employed for the current study. Potential protégés were randomly assigned to one of three groups when they signed up for the study. Then, the researcher gave both mentors and protégés specific information that differed depending on the experimental group to which they belonged. This information was relayed to participants via e-mail and by telephone. The protégés in the first group, (i.e., the “choice group”), were allowed to pick a mentor from an online database of volunteers. These were the instructions given to protégés in this group:

*“We have volunteer mentors available for you. We have posted their profiles online, so you may choose one. You will be sent an e-mail very shortly with a link to the database of mentor profiles.”*

After being selected, mentors in the choice condition were told:

*“Congratulations! You were selected by a protégé from an online database of mentor profiles.”*

Participants in the second group, (i.e., the “perceived-similarity-match group”) were told by the researcher that they would be paired with a mentor based on commonalities such as shared interests and career goals. These were the verbatim instructions given:

*“Congratulations, you have been paired with a mentor/protégé! You were matched with someone who we felt was similar to you based on his/her responses to the same online survey you completed earlier.”*

In actuality, however, the researcher had assigned each protégé in this group in a convenience manner (i.e., based on the overlap between the two individuals' availability times to meet online).

The participants in the last group, (i.e., the “convenience-match group”) were truthfully told that they would be matched to a mentor based on the coinciding of their availability times to meet for sessions. These were the instructions given to participants in the convenience group:

*“Congratulations, you have been paired with a mentor/protégé! We have matched the two of you based on the times of day that you both were available to meet online.”*

Thus, this study employed a one-way ANOVA design with one, manipulated, three-level independent variable titled *Matching Method*.

#### Participants

#### *Power Analysis*

Before participants were recruited, a power analysis was conducted to determine the number of dyads in each experimental group necessary to yield a power of 80%. Prior research comparing the outcomes of protégés in formal versus informal mentorships generally produce small to medium effect sizes (see Chao, et al, 1997; Ragins & Cotton, 1999). Within-group variability likely contributed to these small effect sizes because the frequency and length of meetings were not controlled in previous studies. In contrast, the current study was conducted in highly controlled conditions, and thus making the detection of an effect more likely than in the field studies mentioned above. Therefore, according to Murphy and Myors, (1998) with an effect

size ( $d = .50$ ) and power of .80 and  $\alpha = .05$ , it was determined that approximately 30 dyads per group were needed.

### *Description of Participants*

Participants in this study were 246 undergraduates from the University of Central Florida, resulting in a total of 123 mentor/protégé dyads. Due to participant attrition, 105 of these dyads were kept for analysis—33 dyads for the convenience group, 35 in the perceived-similarity match group, and 37 in the choice condition. Undergraduates were recruited to participate in a formal peer mentoring program, established for the development of incoming freshmen. Mentors were volunteers recruited from classes, mass e-mails, bulletin board ads, and flyers. To qualify as a mentor, individuals had to be either juniors or seniors in their class standing and have a minimum GPA of 3.0. An imperative objective was to build a pool of mentors that was highly diverse in terms of age, majors, ethnicity, and class standing, so protégés would have a variety of potential different mentors from which to choose. Therefore, a massive recruiting effort was undertaken to reach as many different academic departments on campus as possible. Instructors were contacted to obtain permission to recruit in courses during the 2006 summer and fall semesters. In addition, mass e-mails were sent to all juniors and seniors at UCF who met the minimum GPA requirement.

### *Mentors in the Selection Pool*

The mentor recruiting effort was successful. The selection pool (i.e., group of mentors from which choice condition protégés made their selection) consisted of 56 volunteers, 17 males and 39 females. Ages ranged from a minimum of 19 years to a maximum of 47 years ( $M = 23$  years), and approximately half were juniors and the other half seniors. Approximately 67% were

White, and 13% were Hispanic, 13% were African-American, and the remaining 7% identified themselves as either Asian or “Other”. There were also a broad range of majors represented. Approximately 29% of the mentors in the pool were majoring in biology whereas engineering, nursing, and psychology each represented approximately 9%. The remaining mentors came from a wide variety of majors including computer science, legal studies, education, political science, public administration, social work, English, Spanish, management, marketing, creative writing, anthropology, liberal studies, hospitality, art, finance, and criminal justice. Finally, the mentors indicated a diverse array of free time hobbies including all manner of sports/outdoor activities, pets, parenting, religious activities, activities relating to future career, and some very unusual hobbies were represented (e.g., beekeeping). This diverse pool of mentors maximized the likelihood that protégés in the choice group were able to secure a desirable mentor.

### *Protégés*

Protégés were first or second-semester freshmen, recruited from freshmen seminar and general psychology courses in the summer and fall semester of 2006 with instructors’ permission. In addition, protégés were recruited through mass e-mails, bulletin board postings, and flyers. Protégés in qualifying classes were given the option of receiving up to six course credits for participating. Approximately 76% were female, and ages ranged from 17-21 years old ( $M = 18$  years). About 70% were Caucasian, 10% African American, and 14% Hispanic. Like the mentors, a very wide range of protégé majors were represented, with most coming from the fields of biology, psychology, business, and engineering. Finally, approximately 10% of the protégés indicated that they were the first of their immediate family members to attend college.

### *Orienting Participants*

All participants received two small gifts (i.e., chocolate bar and pen) that served as an incentive to turn in their informed consents. They were also requested to complete an online orientation before the online mentoring sessions began. The orientation provided discussion-starter ideas, tips for success, and rules for what constituted appropriate conversation topics. For example, they were told not to harass one another or to discuss illegal activities. Mentors were promised a letter from a psychology department faculty member detailing their involvement in the program.

### *Participant Attrition*

#### *Mentors*

Analyses were conducted to determine if the participants who did not complete the study differed demographically or on the pre-session measures from those who remained throughout the program. Of the five mentors who dropped out, four were female, and the average age was a bit lower ( $M = 21.8$  years) than for the ones who stayed in ( $M = 23$  years). Two of the dropouts were originally assigned to the perceived-similarity condition, whereas the remaining three were initially assigned to the convenience-match condition. It is interesting to note that the dropouts had lower perceived similarity and ACD averages than those who completed the program (see Table 2), but these differences were not statistically significant ( $t = -.40, ns$ ;  $t = -.33, ns$ , respectively).

Table 2 Comparison of Mentors and Mentor Dropouts

	Stay-In ( $n = 105$ )		Dropout ( $n = 5$ )	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Pre-session Similarity Perceptions	3.78	.96	3.40	.90
Expected ACD	4.75	.78	4.49	1.10
Expected PS	5.11	.72	5.19	.46

*Protégés*

Thirteen protégés did not complete the mentoring program, but only five of these individuals provided pre-session measures of similarity, mentoring functions, stress, and self-efficacy. Ten of the dropouts were female, and all were ages 18-19 years. Seven dropouts were initially assigned to the convenience-match condition, five to the perceived similarity-match condition, and the remaining protégé was in the choice condition. The dropout protégés did not differ significantly from the stay-in protégés on any of the variables listed in Table 3 below.

Table 3 Comparison of Protégés and Protégé Dropouts

	Stay-In ( $n = 105$ )		Dropout ( $n = 4$ )	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Pre-session Similarity Perceptions	3.66	.88	4.64 <sup>a</sup>	1.02
Expected ACD	4.14	.86	2.95	.36
Expected PS	4.34	.97	3.10	1.52
Stress	2.03	.66	2.24	.94
Self-efficacy	4.54	1.22	4.38	1.67

Note. <sup>a</sup> $n = 5$

In summary, mentor attrition proved to be very low (i.e., 4%), whereas protégé attrition was higher (11%). One possibility for this discrepancy is the relative inexperience of the protégés in planning how much responsibility they could reasonably take on in a semester. Many who quit cited stress levels and being overwhelmed as the primary reasons. The protégés were recruited early in the semester; and perhaps at that point, they had not felt the full weight of class work. Thus, when they did begin to experience later strain, they decided to back off on their commitments for the semester. The mentors, on the other hand, were likely more experienced in managing their time and correctly estimating their semester workloads. Overall, there is little evidence that participant attrition was a major issue in this study. When a protégé dropped out, his/her mentor was immediately matched to a protégé on the waiting list, and these resulting dyads were excluded from the analyses.

## Procedure

### *Preparation*

#### *Mentors*

After signing the informed consent (Appendix A), mentors were asked to provide personal information that was to be posted in an online profile for later viewing by potential protégés. This profile included the mentor's gender, ethnicity, major, career goals, life obstacles that were overcome, and free-time interests (see Appendix B). To increase the probability that these pieces of information would be relevant to protégés' interest, I collected qualitative data in the spring semester of 2006 from UCF freshmen regarding their experience after first arriving on campus. In an anonymous survey, freshmen were encouraged to reveal some the challenges they faced while adjusting to university life and culture. Moreover, they were also asked to indicate



the qualities they would desire in a prospective mentor. Finally, a few survey questions addressed the issue of similarity, inquiring as to the importance the protégé placed on gaining a mentor who shared his/her past experiences, personality traits (e.g., quiet, outgoing), demographic characteristics (e.g., age, gender, ethnicity), and career/academic goals. Results of this qualitative survey served as a guide for the type of information solicited from mentors and subsequently viewed by protégés in the choice condition.

### *Protégés*

Like the mentors, protégés also signed an informed consent (see Appendix C) and were asked to provide the same personal information as the mentors provided under the guises of assisting the researchers in the matching process. After the matching, all protégés were officially notified regarding how they were specifically matched with their mentors (please refer to Experimental Design section above).

### *Dyad Matching and Pre-Session Data Collection*

Once all mentor profiles were posted online, researchers matched participants in the *perceived-similarity-match* and *convenience-match* groups based on the coinciding of half-hour time slots for meeting online. This step was completed before protégés in the choice group selected their mentors to ensure that protégés in the other two groups were not receiving mentors who were inferior in any respect to the remaining mentors in the selection pool. It should be noted that in this investigation, all mentors were matched with (or selected by) a single protégé; and the protégés obtained only one mentor. Thus, it was not the case that any one participant ended up with multiple mentors/protégés.

Next, protégés in the choice group were given one week to log into the online database and select one mentor from the pool. Protégés viewed mentor profiles that were listed in a random order, and the order remained consistent for each protégé who logged on to make a choice. When a protégé chose a mentor, his/her profile was marked by this message shown in red lettering: “This mentor has already been selected. Please choose another”. In order to ensure that protégés had a sufficient number of options to make a true choice, many more mentors were recruited than were actually needed. The mentors were forewarned of the possibility of not being chosen, and that they should not be disappointed if that indeed occurred. In the choice group, 37 protégés chose from a total of 56 mentors in the pool. The protégés appeared to choose an equal proportion of mentors from the top of the list as they did from the bottom of the list. Protégés picked 20 mentors from the first 28 profiles, and 17 mentors from the last 28 profiles. This suggests that most protégés did not simply choose mentors whose profiles were conveniently located near the top of the list.

For the current study, it was absolutely critical that protégés in the choice group could obtain a mentor who was their first choice and not be restrained by either a dearth of desirable mentors or an abundance of mentors who did not share the protégé’s time availability. Therefore, as a safety check, seven questions were posed (see Table 4) of the choice group protégés regarding the selection process. The last two questions were included to make certain that protégés were taking their selection seriously. They responded to all questions on a six-point Likert scale that ranged from (1 = *Strongly Disagree*) to (6 = *Strongly Agree*). The results displayed in Table 4 suggest that the majority of protégés in the choice group were happy with their selection and took the process seriously. Additionally, a planned comparison contrasting the

choice group against the matched groups revealed that choice group protégés expected to receive significantly more psychosocial support (PS) than the other protégés ( $t = 2.37, p < .05$ ). This suggests that protégés in the choice group initially anticipated receiving more out of the mentorship, presumably because they were satisfied with their decision.

Table 4 Responses of Choice Group Protégés Regarding Their Selection ( $n = 37$ )

Item	Mean Response (out of a maximum of six)
1. I am satisfied with my choice of a mentor.	5.4
2. I was able to select a mentor who was my first choice.	4.9
3. I could not select a mentor who was my first choice because our availability times did not coincide.	1.6
4. I could have been happy with many of the listed mentors.	4.5
5. Very few of the listed mentors seemed desirable to me.	2.6
6. I picked the first mentor whose availability times coincided with mine.	2.2
7. I put a lot of thought into my mentor choice.	4.7

Researchers took care in randomly assigning dyads to the three conditions, so the groups would be comparable on possible confounding variables. Table 5 below displays the final composition of the groups of mentors on extraneous variables (i.e., variables not of direct interest in the current investigation that were collected before the study began).

Table 5 Comparison of Mentors on Extraneous Variables

	Convenience-Match ( <i>n</i> = 35)	Perceived Similarity- Match ( <i>n</i> = 33)	Choice ( <i>n</i> = 37)
1. Gender	Males: 9 Females: 24	Males: 12 Females: 23	Males: 9 Females: 28
2. Mean age in years	22.15	23.08	21.90
3. Class Standing	Juniors: 18 Seniors: 15	Juniors: 10 Seniors: 24	Juniors: 22 Seniors: 15
4. Race	White: 61% Black: 12% Hispanic: 18%	White: 77% Black: 3% Hispanic: 14%	White: 65% Black: 16% Hispanic: 11%
5. Mean number of weekly, half-hour time slots available	31.88	66.89	61.86

The mentors in the three groups did not vary significantly by gender composition [ $F(2, 102) = .45, ns$ ], age [ $F(2, 101) = .64, ns$ ], or race [ $\chi^2(4, N = 97) = 4.1, ns$ ]. However, for class standing, an  $F$ -test revealed at least one significant difference between/among the groups [ $F(2, 101) = 3.77, p < .05$ ]. Specifically, a Tukey post-hoc analysis indicated that the perceived similarity-match group contained significantly more seniors than choice group (HSD = 3.68,  $p < .05$ ). Finally, the last analysis revealed at least one significant difference between/among the groups regarding the number of available time slots [ $F(2, 102) = 17.95, p < .01$ ]. In particular, the

mentors in the convenience-match group had considerably fewer half-hour time slots available per week than mentors in the perceived similarity-match group ( $HSD = -7.62, p < .01$ ) and the choice group ( $HSD = -6.72, p < .01$ ). In summary, there was evidence that the mentors were comparable across groups on all the extraneous variables measured with the exception of class standing and availability times to meet online.

After participants were paired, but before they began to meet online, they all received an e-mail containing the profile of their mentor/protégé. Additionally, they were asked to respond to a measure assessing the degree to which they perceived commonalities with him/her. This measure captured the extent to which protégés believed that they would be similar to their mentors and represented the first assessment of perceived similarity (pre-session or “Time 1”). Furthermore, protégés filled out a survey that asked them the extent to which they expected to receive academic career development (ACD) and psychosocial support (PS) from their mentor. Finally, pre-session stress and self-efficacy were assessed and for eventual comparison against post-session (“Time 2”) levels.

### *Meeting Online*

After responding to the similarity measure, all protégés met with their mentors through an online chat site once a week for four weeks. Participants were advised not to meet outside of their scheduled sessions or exchange any type of contact information; however, they were free to exchange e-mails as often as they wanted. These guidelines ensured that frequency and duration of meetings remained consistent across all dyads.

At their designated session times, participants logged onto the website that had been especially designed for mentoring research. The website preserved the anonymity of each

individual and sent reminder e-mails to all participants informing them of upcoming sessions. In addition, participants had an internal account at the mentoring website where they could send and receive messages from one another. The website automatically sent messages to participants' personal e-mail accounts asking them to check their internal account on the website when they had received a message from their partner. In this way, participants' contact and personal information were kept strictly private. Finally, the mentoring website saved all dyads' chat logs and e-mails, and these transcripts were saved for later coding.

Although participants had the opportunity to e-mail their mentors/protégés, they overwhelmingly failed to do so. Mentors sent an average of one e-mail, whereas protégés averaged less than one e-mail throughout the entire duration of the program. Consequently, average instances of mentoring functions and protégé proactivity within the e-mails were extremely infrequent (i.e., one or less). Therefore, the decision was made to focus on mentoring functions and protégé proactivity that occurred within the chat sessions only.

#### *Time 2 and Time 3 Data Collection*

At the conclusion of the four weeks of regularly-scheduled, structured sessions (Time 2), both protégés and mentors were asked to reveal the extent to which they received/provided mentoring functions, respectively. In addition, participants responded to the same similarity measure administered at Time 1. Finally, at Time 2, the dyad members were told they could exchange their personal contact information to keep in touch informally throughout the duration of the semester. Of the 210 participants, 74 protégés and 88 mentors voluntarily released their contact information their partner.

At the conclusion of the semester (“Time 3”—approximately four weeks after Time 2), protégés were administered one last survey asking them to indicate the number of classes they had missed over the course of the semester. Furthermore, a manipulation check was also administered in the last survey to both mentors and protégés. It was not administered earlier (e.g., Time 2) because it may have affected their subsequent interactions with one another after their online sessions. The manipulation check consisted of one question asking participants to recall how they were matched with their mentor or protégé. For example, for protégés, it was posed in a multiple-choice format with the stem: *How were you matched with your mentor for this program?* Possible choices will included: (a) *I was matched with a mentor who was available to participate in the chat sessions on the same days and times that I had indicated that I was available*, (b) *I was matched with mentor whom the researcher felt was similar to me based on my mentor’s responses to the same surveys I filled out*, (c) *I chose my own mentor from an online database*, (d) *The researchers did not tell me*, and (e) *I do not know or do not remember*.

Finally, both dyad members were asked to estimate the number of times they met since Time 2 and through which the following medium(s) (i.e., e-mail, Internet chat, telephone, face-to-face). Thirty-two protégés and 37 mentors reported that they had contacted their partners at least once after the conclusion of the formal program. These numbers did not significantly vary by experimental group. Interestingly, mentors and protégés were in fairly high agreement about the number of times they met informally [ $r(80) = .83, p < .01$ ]. After completing the Time 3 measures, each participant was fully debriefed (see Appendices D & E for mentor and protégé debrief forms) and thanked for their participation. Please see Table 6 below for a complete timeline of the study procedure.

Table 6 Timeline of Study Procedure

Timeline	
1. Recruited participants.	8. Collected Time 2 (post-session) data:
2. Asked participants to complete a virtual orientation and sign informed consents.	a. Perceived similarity. b. Perceived mentoring functions c. Protégé stress and self efficacy. d. Protégé satisfaction
3. Randomly assigned participants to experimental conditions.	
4. Posted mentor profiles online.	9. Protégées and mentors exchanged contact information and continued their relationships informally.
5. Protégés either chose a mentor or were assigned one.	10. Collected Time 3 data (end of semester—four weeks from Time 2):
6. Collected Time 1 (pre-session) data: a. Perceived similarity b. Expected mentoring functions c. Protégé stress d. Protégé self efficacy	a. Protégé GPA b. Number of classes protégés missed. c. Manipulation check.
(Note: steps 1-6 took approximately 6 weeks to complete).	
7. Protégés met online with mentors once a week for four weeks.	11. Debriefed and thanked participants.

#### Manipulation Check

As noted in Table 7, protégés and mentors did not accurately indicate which experimental group to which they belonged. The only exception was that protégés in the choice condition had a particularly accurate memory for how they were paired, even when their mentors could not recall being selected. This is probably because protégés in the choice group distinctly



remembered accessing the mentor database and making their selection, whereas mentors who were chosen simply received an e-mail and phone call notifying them of the fact. Thus, in terms of absolute accuracy, the manipulation did not have a particularly strong affect.

Table 7 Manipulation Check Accuracy for all Groups

Condition	Mentors <sup>a</sup>	Protégés <sup>b</sup>
Convenience	43.3%	21.4%
Perceived-Similarity	54.8%	53.3%
Choice	35.1%	93.3%

*Note.* <sup>a</sup> $n = 59$ ; <sup>b</sup> $n = 58$ .

However, Table 8 below indicates the degree to which protégés correctly remembered whether or not they had selected a mentor. Table 8 also displays the extent to which mentors correctly knew that they had or had not been chosen by their protégés. The first column displays the percentage of mentors in the matched groups who correctly knew they had *not* been chosen, and the proportion of protégés in the matched groups who correctly knew they had *not* selected a mentor. Similarly, the second column indicates the percentage of participants who correctly indicated that they were in the choice group.

Table 8 Manipulation Check Accuracy Contrasting Choice Group with Matched Groups

Condition	Mentors <sup>a</sup>	Protégés <sup>b</sup>
Matched by Researcher <sup>c</sup>	100%	100%
Choice <sup>d</sup>	35.1%	93.3%

*Note.* <sup>a</sup> $n = 92$ ; <sup>b</sup> $n = 88$ . <sup>c</sup>Row displays percentage of participants who correctly knew that they were *not* in the choice group. <sup>d</sup>Row displays percentage of participants who correctly indicated they were in the choice group.

In summary, for protégés, the manipulation was fairly effective in distinguishing between the choice and matched groups combined, but ineffective for separating the two matched groups. Protégés in the choice group accurately recalled picking their mentors; however, their mentors did not remember being selected. Finally, both protégés and mentors in the matched groups were generally ineffective in remembering what the researcher had told them regarding how they had been paired.

## Measures

### *Perceived Similarity*

This measure asked participants to indicate the degree to which they felt that they shared several common characteristics with their mentors/protégés (see Appendix F). Some of the items were adapted from similarity measure used in the Smith-Jentsch et al. (2007) study, in which participants were also university students. Other items were added to encompass the areas unique to this study's context. Pre-session items were worded to reflect the level of *expected* similarity, whereas post-session items reflected the level of *current* similarity. This scale contained 11 items

and participants indicated the degree to which they endorsed each statement on a six-point Likert scale that ranged from (1 = *Strongly Disagree*) to (6 = *Strongly Agree*). For internal consistencies, see Table 9 below.

Table 9 Cronbach's Alphas for Perceived Similarity Measure ( $k = 11$ )

	Mentor	Protégé
Pre-Session	.93	.90
Post-Session	.94	.93

### *Mentoring Functions and Proactivity*

#### *Subjective Perceptions*

*Career Development.* Given Kram's (1983, 1988) taxonomy of mentoring functions provided in Table 1, it is obvious that some facets of career development (e.g., exposure, sponsorship) do not necessarily fit with the university-setting context of this study. For example, it would be impossible for an undergraduate student in a junior or senior class standing to recommend a freshman "for promotion" or advocate for him/her to important people in the organization. Rather, the career development (CD) observed in the study's context would likely center around coaching the protégé and familiarizing him/her with the university in general (e.g., norms, professors, policies, where things are located on campus). Thus, for the current study, CD will heretofore be referred to as *academic career development (ACD)*. In their studies using college student participants, Allen, et al. (1999) and Smith-Jentsch et al. (2007) utilized a revised measure of CD that was adapted to fit the academic context (see Appendix G). However, upon reviewing chat transcripts from the pilot study, it was evident that the items this particular scale

may not have been providing adequate coverage of the ACD domain (i.e., CD within the academic context).

Appendix H provides some examples of ACD given by mentors in the pilot study. Whereas some of the topics of conversation seem to clearly reflect instances of ACD, they are not captured by any of the items in the previously-used ACD measure. For instance, mentors gave protégés advice about where to find apartments and how to eat cheaply so as to save money. Moreover, some mentors took care to familiarize protégés with the UCF campus and the Orlando area in general. Finally, mentors often were able to give protégés tips on time management and which professor was best for a particular class. Each of these instances more or less demonstrates a mentor helping the protégé adjust to their role as a college student in an academic environment. Nevertheless, these instances are not appropriately represented in the items of the original ACD measure.

Therefore, to improve construct-coverage, 10 new items were written (see Appendix G for old and new items), and these were added to the established items. In this way, the integrity of the validated scale was maintained while offering the opportunity to explore the utility of the new items. Note that the items in Appendix G reflect the protégé's perspective. However, an identical measure was also given to mentors (except it was re-worded to reflect the mentor's perspective), so they could report the degree to which they provided ACD to their protégés. In summary, the primary goal was to create an ACD scale that would be: (1) true to the original CD construct, and (2) available for future studies conducted in college populations. Participants indicated the extent to which they agreed with each statement on a six-point Likert scale that ranged from (1 = *Strongly Disagree*) to (6 = *Strongly Agree*). Participants filled out this same

measure twice, once before meeting online (pre-session expectations), and once after meeting online (post-session).

*Psychosocial Support.* Like the initial measure of ACD (see Allen et al, 1999; Smith-Jentsch et al., 2007) the previously-used measure of psychosocial support (see Appendix I) appears just slightly deficient. Some of the types of instances of psychosocial support provided by the mentors in the pilot study (for examples, see Appendix J), were not represented adequately in the existing psychosocial support (PS) measure's items. Other pilot study examples revealed that mentors were often assisting protégés in their psychological adjustment to college by suggesting different hobbies and/or clubs on campus centered on specific free time activities (e.g., chocolate club, diving/swimming club). It can be argued that the passing of such information will help the protégé adjust psychologically to university life and provide outlets for tension relief.

Moreover, there were instances in which mentors provided encouragement to protégés who were homesick or whose families had been negatively impacted by a hurricane. Obviously, these functions do not fall under ACD category because they do not directly relate to the academic advancement of the protégés. Instead, they represent PS functions that help the protégé cope with stress, knowing that someone else empathizes and cares about their personal difficulties and challenges. Therefore, four new items were written to help close some of the gaps in the coverage of the construct of PS (see Appendix I for the old and new items). Like Appendix G, the PS items in Appendix I also indicate the protégé's perspective. However, mentors responded to this same survey, much the same as they did for the ACD measure. Participants indicated the extent to which they agreed with each statement on a six-point Likert

scale that ranged from (1 = *Strongly Disagree*) to (6 = *Strongly Agree*). Like the ACD scale, participants completed this same measure before and after meeting online.

The results suggested that the addition of the newly-written scales resulted in more reliable measures of mentoring functions than the existing scales. Table 9 reveals that in no case did the original scales have higher internal consistencies than the revised scales. Although this could be solely due to increasing the number of items, it also could be evidence that the new items contributed to greater construct coverage. Therefore, the revised scales were used in all subsequent analyses.

Table 10 Comparison of Coefficient Alphas for Original and Revised Mentoring Functions Scales

Mentoring Function	Original Scale <sup>a</sup>				Revised Scale <sup>b</sup>			
	Mentors		Protégés		Mentors		Protégés	
	Pre-session	Post-session	Pre-session	Post-session	Pre-session	Post-session	Pre-session	Post-Session
Academic Career Development	.92	.92	.90	.91	.94	.94	.94	.94
Psychosocial Support	.92	.87	.92	.92	.93	.91	.94	.94

Note. <sup>a</sup>Academic Career Development ( $k = 11$ ) Psychosocial Support ( $k = 10$ ).

<sup>b</sup>Academic Career Development ( $k = 21$ ), Psychosocial Support ( $k = 14$ ).

*Protégé Proactivity.* Mentors were also asked to rate their protégé’s level of proactivity in the mentorship (see Appendix K). I wrote this measure to capture the global construct of proactivity. The measure demonstrated an acceptable degree of internal consistency ( $\alpha = .91$ ). None of the items, if deleted, would have improved Cronbach’s alpha; therefore, all the items were retained and averaged for an overall index of mentor-perceived proactivity.

*Coded Behaviors*

To obtain a relatively objective index of the quantity mentoring functions provided, the session transcripts were transported from the mentoring website into Word documents for coding. In the transcripts, the mentor’s name was Socrates, and the protégé’s name was Plato. In this way, it was impossible to tie participants’ identities to the transcripts while coding. Furthermore, to control for possible bias stemming from expectations that a certain gender should provide relatively more PS or ACD (see Smith-Jentsch, Irving et al., 2006), the transcripts

were cleansed of any indicators of mentor or protégé gender and any other gender references (e.g., mentioning of significant others, fraternity/sorority memberships). Five undergraduate research assistants were extensively trained to code each transcript for mentor functions (i.e., ACD and PS) and protégé proactivity using 30 pilot study transcripts. Due to the volume of data generated in the current study, transcripts were randomly divided among coders such that only one coder rated each transcript. While coding each dyad, coders blind as to the experimental condition to which the dyad belonged.

In coding the pilot study data, each rater had demonstrated considerable competence in coding the mentoring functions; however, only three of the five demonstrated proficiency for coding proactivity. Therefore, two of the assistants coded the mentor functions whereas two others coded the proactivity. The fifth rater, who had demonstrated competence in coding both mentor and protégé behaviors, coded half her assigned transcripts for mentoring functions and half for proactivity. Thus, interrater reliabilities were calculated as coefficient alphas for ACD ( $\alpha = .93$ ), PS ( $\alpha = .89$ ) and proactivity ( $\alpha = .95$ ) treating the three raters as items. In summary, three raters coded transcripts for mentor behavior and three individuals coded protégé proactivity. Each transcript was coded twice by two separate raters—once for mentoring functions, and a second time by a different rater for proactivity. Hence, any given rater saw each transcript only once, thereby limiting any biases that may have arisen from coding the same chat record twice.

*Career Development and Psychosocial Support.* Coders were trained using a schema (see Table 11 below) that was fashioned directly from the items in the ACD and PS pencil-and-paper measures, together with examples in the pilot study transcripts. The coders rated all 60 transcripts from the pilot study. Mentor functions were operationalized as word counts for ACD and as



frequencies for PS. This decision was made based upon patterns of communication pilot study transcripts and a previous study conducted in a very comparable population (see Kendall, Smith-Jentsch, Allen, & Lima, 2005). Specifically, PS instances tended to be relatively brief and easy for the coders to separate from the rest of the passage (e.g., “Great job!”). Conversely, passages involving ACD were likely to be longer, in-depth paragraphs—often comprised of multiple, overlapping content. Therefore, PS was operationalized as a frequency count (i.e., straight number of statements disregarding length), and coded ACD was indexed as a count of the actual relevant words typed by the mentor. For example, a mentor may say something like: “It may be a good idea to talk with your professor about your grade”. This piece of advice would count as one instance of ACD and 14 words. Interrater reliabilities were established for ACD word count ( $\alpha = .93$ ), and for PS word frequency ( $\alpha = .89$ ).

Intraclass correlation coefficients (ICC's) were computed on current study's data to ascertain the new interrater reliabilities, taking into account the fact that only one of the three trained raters coded each transcript. In this case, Shrout and Fleiss's (1979) “Case 3” method was used in which the three raters (i.e., judges) were fixed and only one rated each transcript. Although lower than the initial pilot study reliabilities, the ICC's were found to be acceptable for ACD [ICC(3,1) = .88], PS [ICC(3,1) = .71]. Finally, to investigate if mentors behaved consistently across sessions in the current study, Cronbach's alphas were computed, treating the four sessions as items ( $\alpha = .68$ ;  $\alpha = .50$ , for ACD and PS respectively). These measures reveal that mentors were moderately consistent in providing mentoring functions to their protégés across sessions.

Table 11 Mentoring Functions Coding Schema

Academic Career Development (ACD)	Psychosocial Support (PS)
<p><b>Shared personal academic history</b> e.g., “I took that professor and he...”...</p>	<p><b>Shared psychosocial history</b> e.g., “I used to go out with friends to relieve stress”</p>
<p><b>Academic time management</b> e.g., “You should make a to-do list with your priority items” “Don’t take too many classes...”</p>	<p><b>Personal time management</b> e.g., “You may need to minimize the time with your friends, Nintendo, etc”. “Take time to exercise”</p>
<p><b>Personal finances</b>  e.g., “If you are struggling with finances, don’t eat out as much.”</p>	<p><b>Complimentary, empathetic, or encouraging statements</b> e.g., “Great job!” “I felt like that too...” “Don't give up!”</p>
<p><b>Seeking a job</b> e.g., “You might be able to get a job at...”</p>	<p><b>Personal stress issues</b> e.g., “When you feel yourself getting overwhelmed with everything going on, take a step back...”</p>
<p><b>Coaching or tutoring</b> -e.g., “Take professor X”. “When you’re in the test, don’t forget to read each question carefully”</p>	<p><b>Missing friends, culture, family</b> e.g., “Try to find a Hispanic club on campus”.</p>
<p><b>School policies</b> e.g., providing information about end-of-semester professor ratings.</p>	<p><b>Skills or hobbies</b> (not related to academic improvement, but to an individuals sense of being or stress relief).</p>
<p><b>UCF norms</b> e.g., “Remember we have Martin Luther King Day off.”</p>	<p><b>Hurricane prep/post (Non-academic)</b>- Relieving stress, dealing with personal/family concerns.</p>
<p><b>Extracurricular</b> (but with an academic tone- e.g., legal club, pre-med club)</p>	<p><b>Seeking personal information relevant to PS</b> e.g., “How are you feeling about...”. “Do you like that professor?” (Relationship-oriented but specifically related the mentor goal of improving the protégé's mental well-being). Note: Does <i>not</i> include statements like, “How did you feel about that movie?”</p>
<p><b>Hurricane prep/post (Academic)</b> e.g., “Call xxx-xxxx to see if the school is open after the storm” “Charge your laptop”</p>	
<p><b>Seeking academic information from protégé</b> e.g., “What are your future career goals?”</p>	

*Protégé Proactivity.* Coders were trained to rate protégé proactivity using a parallel schema (see Table 12 below) to the one for mentor functions (refer to Table 11).

Table 12 Protege Proactivity Coding Schema

Academic Career Development	Psychosocial Support
Protégé has specific academic-related question (e.g., “Which professor should I take for that course?”)	Protégé talks about how stressed s/he is in general (e.g., “Adjusting to UCF has been very difficult. I’m so stressed!”)
Protégé has question about campus or Orlando area (e.g., “Where is the nearest gas station to campus?”; “What are some good apartment complexes near campus?”)	Protégé has a personal relationship problem (e.g., “My roommates are driving me crazy and I just don’t know what to do.”; “Did you ever have roommate problems?”)
Protégé asks about how to manage his/her finances (e.g., “Where is the cheapest place to buy groceries?”; “How can I make cheap meals at home?”)	Protégé says s/he is feeling down/depressed/homesick, etc.
Protégé admits to not knowing some piece of academic-related information (e.g., “I don’t know where to go for free tutoring on campus). Does NOT include: “I don’t know what I’m going to major in yet”.	Protégé asks mentor what s/he did in a particular non-academic-related situation (e.g., “Have you ever had a bad relationship with a professor? How did you handle it?”).
Protégé asks for mentor to tell a personal experience about how they solve or have solved an academic problem (e.g., “How do you study for tests?”)	Protégé asks for information on how to get involved in non-academic extra-curricular activities (e.g., “Do you know if there are any sports clubs or teams I can join on campus?”).

Proactivity was operationalized as the number of instances in which the protégé either admitted s/he was having a problem or asked a relevant question of the mentor. These admissions and questions were further subdivided into an academic question/admission versus as psychosocial support question/admission. Examples of each may be found in Appendix L.

In order for a question to be classified as “proactivity”, the protégé’s inquiry must have related to an academic goal (ACD) or a personal growth goal (PS). Therefore, an inquiry was irrelevant when it did not relate directly to attainment of knowledge for the purpose of academic or personal betterment. For instance, a protégé who asked, “What did you think of the latest *Matrix* film? Was it any good?” was simply engaging in small talk rather than displaying a real attempt to gain information relevant to a specific academic or personal goal. In contrast, a protégé who said, “Do you know if Professor X is any good? I have to take her for my major’s requirements” was truly seeking knowledge that could potentially shape his/her career objectives and future academic behavior. Thus, the latter example fell under the category of protégé proactivity whereas the former did not.

While rating, coders looked for instances of four separate aspects of proactivity : (a) asking an academic career development (ACD)-related question, (b) making an ACD-related admission, (c) asking a psychosocial support (PS)-related question, and (d) making a PS-related admission. Table 13 below demonstrates that most of these dimensions correlated modestly with one another. Therefore, for each of the four dimensions, the proactivity instances were totaled across sessions and divided by the number of sessions to form averages for each protégé. In turn, these averages for each of the four dimensions were added together to form a composite variable that was used in the tests of hypotheses.

Table 13 Correlations Among Coded Protégé Proactivity Dimensions

Proactivity Dimension	Intraclass Correlation Coefficients	Across-Session Consistency
1. ACD questions	.93	.38
2. ACD admissions	.56	.65
3. PS questions	.79	.55
4. PS admissions	.76	.49

Inter-rater reliabilities were established as well as across-session consistency measures that paralleled the ones described above for the mentoring functions. Table 14 below demonstrates acceptable interrater reliability and moderate across-session consistency for the proactivity dimensions. A final ICC was computed to determine the reliability for proactivity in the current study if only one of three original coders from the pilot study rated each transcript [ICC(3,1) = .87].

Table 14 Inter-rater Reliabilities and Across-Session Consistencies for Proactivity Dimensions

Variable	1	2	3	4
	(.93)			
1. ACD questions				
2. ACD admissions	.528**	(.56)		
3. PS questions	.02	-.08	(.79)	
4. PS admissions	.22*	.39**	.13	(.76)

Note. \* $p < .05$ ,  $p < .01$ . Intraclass correlation coefficients on the diagonal.

*Interactivity.* In general, online conversations vary in the degree of interactivity of the two participants involved. For instance, an outgoing individual may dominate the entire conversation while the other passively “listens” with little contribution. Therefore, interactivity

was indexed as the total number of dialogue changes (i.e., instances of speaker switches) across all chat sessions divided by the number of chat sessions. This index was intended to capture the extent to which both individuals contributed equally to the mentoring sessions. For instance, a session in which a protégé allowed the mentor to continue typing for many paragraphs did not yield as high an interactivity score as if both dyad members had been participating fairly equally and frequently. Treating the four sessions as items, an analysis was performed to determine consistency in dialogue changes across sessions, revealing moderate consistency in interactivity ( $\alpha = .52$ ). Dialogue changes were calculated by a computer program, thereby reducing human counting error.

After the instances of PS, ACD, proactivity, and interactivity were computed for each session, session totals were summed together and divided by the number of chat sessions to yield an overall, average measure of the focal behavior or construct. Cases of PS, ACD, and proactivity in e-mails were originally incorporated into this comprehensive index, but were later excluded. In summary, the primary goal of coding the transcripts was to yield relatively objective indices of PS, ACD, proactivity, and interactivity. It was anticipated that these measures would give insight into how protégé biases about perceived similarity influenced their perceptions of the amount of mentoring functions they received in the mentorship

### *Socialization Outcomes*

Most first-year college students endure an initially stressful period as they adjust to their new role in an unfamiliar setting. The pressures of deciding on a major together with attempting to establish independence from parents (Rice, 1992) can be extremely difficult for young adults. For non-traditional students who are returning to school after working or having families, the

new environment and expectations can also take their toll. Additionally, many new students are unfamiliar with campus and with the surrounding city. To further complicate matters, many freshmen come to UCF from various parts of the world. Therefore, adjusting to a new culture and foreign language can of course be tremendously stressful, particularly during the very first semester. A mentor who has previously faced similar circumstances successfully can provide social support and empathy for new students who are unsure of what to expect during their first semester.

Although there are many possible indicators of socialization that could be examined, for the current study, the primary focus was placed on a select few subjective and objective outcomes. Subjective measures included stress levels, self efficacy, and objective measures of GPA and number of classes missed during the semester were also collected. The latter two indicators provided relatively objective indices of protégé socialization, thereby reducing the threat of monomethod bias.

#### *Proximal Outcomes*

*Stress.* Protégés were asked to report their levels of school-related stress prior to their participation in the mentoring program (Time 1), and again at the end of the semester (Time 3). To measure stress, House and Rizzo's (1972) anxiety-stress questionnaire was used (see Appendix M for items). A sample item from this scale was "Problems with school have kept me awake at night this semester". Respondents indicated their stress levels by checking the items that represent problems that they had experienced in the current semester. The number of statements checked were summed to form indicators of both pre- and of post-program stress ( $\alpha = .83$ ,  $\alpha = .89$ , respectively).

*Self efficacy.* Fifteen items from the College Self Efficacy Inventory (Solberg, O'Brien, Villarreal, Kennel, & Davis, 1993; CSEI) was used to examine pre- and post-program self efficacy ( $\alpha = .85$ ;  $\alpha = .97$ , respectively). Participants were asked to indicate the extent to which they feel confident that they could carry out 15 different academic and interpersonal/social behaviors (See Appendix N). Some example tasks from this scale include “make new friends when you want to” and “research a term paper”. Participants will respond on a 6-point Likert scale (1 = *Strongly Disagree*) to (6 = *Strongly Agree*).

*Satisfaction.* Protégé satisfaction was measured with a five-item scale ( $\alpha = .96$ ) used in Kendall et al (2005), and Smith-Jentsch et al (2007) (see Appendix O). A typical item stated: “My mentor and I enjoyed a high quality relationship.” Protégés responded on a scale from (1 = *Strongly Disagree*) to (6 = *Strongly Agree*).

*Desire to Continue.* Mentors and protégés were asked to indicate their intentions to maintain their relationships after the formal mentoring program. They responded to four items (see Appendix P) that had an internal consistencies of .92 and .97 for mentors and protégés, respectively. An example item from this scale stated: “I hope I get to spend time with my protégé (or my mentor) again, even though the formal program is over. All participants indicated their responses on a scale from (1 = *Strongly Disagree*) to (6 = *Strongly Agree*).

#### *Distal Outcomes*

To assess current semester GPA, researchers obtained permission to access each participant’s GPA during the orientation. Then, at the end of the semester, protégés’ GPA’s were collected from UCF website. Finally, protégés were asked at Time 3 to estimate the total number of classes they missed over the course of the semester.



## CHAPTER FOUR: RESULTS

All analyses were conducted on SPSS 14.0 for Windows statistical software.

First, the data were screened for normality and outliers. Then, the manipulation check was analyzed to verify that the manipulation achieved the intended effect. Finally, the hypotheses were tested. It should be noted that most of the hypotheses feature the protégé as the primary focus (e.g., protégé perceptions, protégé outcomes). Nonetheless, because the mentors also provided valuable data, supplementary analyses were performed on these variables. Thus, both mentor and protégé results are outlined in some of the following sections. Finally, unless otherwise noted, an alpha level of .05 was used for all analyses.

Recall that the manipulation check indicated a substantial number of participants in the matched conditions did not correctly remember whether they had been told they were matched based on similarity or based on convenience. Thus, hypotheses were tested twice, once with the full sample and once with a reduced sample that included only those who correctly recalled the condition to which they were assigned. In some cases, results differed depending on whether the full sample or this “reduced “sample ( $n = 62$ ) were used. Only in those cases, I report both tests. In all remaining cases, only the results from the full sample are presented. Likewise, for analyses involving mentor behaviors and perceptions, a similar process is followed. In this case, the reduced sample consisted of mentors who accurately recalled the experimental condition to which they had been assigned ( $n = 49$ ).

### General Findings

In Table 15, means, standard deviations, and intercorrelations among study variables are displayed. Before a detailed exploration of the specific hypothesis tests, a few general trends in

the data should be observed. First, there are a couple of gender relationships that were not hypothesized, but are noteworthy. For example, it appears that female protégés reported being under more stress than male protégés [ $t(100) = 2.69, p < .01$ , two-tailed], and less coded ACD was given to male protégés [ $t(100) = 2.24, p < .05$ , two-tailed].

Second, coded ACD, but not PS, was positively related to coded proactivity. Third, the interactivity variable—indexed as the number of dialogue changes—demonstrated interesting relationships with other variables. For instance, interactivity was positively associated with both coded and protégé-reported mentoring functions and negatively related to pre and post-session protégé stress. Fourth, the extent of correspondence between mentors' and protégés' similarity perceptions should be noted. In particular, mentor and protégé-reported similarity were positively related both before and after the sessions. Although these effect sizes are modest (see Table 15), they indicate that dyad members had perceptions of one another that were somewhat overlapping.

Fourth, the relationships among mentor and protégé perceptions and coded mentoring functions are noteworthy. In general, mentor perceptions appeared to more closely match reality than protégé perceptions. Specifically, mentor ACD was significantly correlated with coded ACD and likewise for PS. On the contrary, neither protégé-perceived ACD nor PS was significantly related to the coded functions. Furthermore, mentors and protégés did not concur with one another when estimating the amount of mentoring functions provided.

Finally, mentor-perceived protégé proactivity was not significantly correlated with coded protégé proactivity. This suggests that although the coders were trained to use a very similar schema as reflected in the scale in Appendix L (also see Table 12), their frames of references did

not overlap significantly with the mentors'. However, it is interesting to observe that mentor pre-session similarity expectations was positively related to mentor-reported proactivity [ $r(100) = .34, p < .001$ ]. Therefore, it is possible that initial expectations of similarity inaccurately biased the mentor's evaluation of the protégé's subsequent behavior in relationship.

Table 15 Means, Standard Deviations, and Intercorrelations among Study Variables

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
Pre-Session									
1. Mentor gender	1.72	0.45	-----						
2. Protégé gender	1.79	0.41	.19	-----					
3. Protégé first to attend college	.86	0.35	-.01	.05	-----				
4. Mentor similarity	3.76	0.96	.03	.02	.21*	(.92)			
5. Protégé similarity	3.70	0.90	.10	-.18	-.01	.20*	(.90)		
6. Mentor expected ACD	4.74	0.78	-.01	.13	.18	.32**	.13	(.94)	
7. Mentor expected PS	5.11	0.72	.00	.16	.08	.24*	.06	.74**	(.93)
8. Protégé expected ACD	4.10	0.87	.17	.02	.06	.16	.34**	.09	.15
9. Protégé expected PS	4.29	1.02	.25*	.10	.07	.20*	.34**	.02	.08
10. Protégé stress	2.04	0.67	.04	.27**	-.05	.18	-.02	.01	.07
11. Protégé self-efficacy	4.54	0.69	.13	.01	-.02	-.03	.25*	.14	.11
Mentorship Behavior									
12. Coded ACD	112.90	117.42	-.18	-.33**	.02	.08	-.06	-.05	-.07
13. Coded PS	2.76	2.83	-.04	-.11	.02	.21*	.10	.24*	.23*
14. Mentor-reported ACD	3.32	1.09	-.07	-.10	.14	.39**	-.12	.35**	.22*
15. Mentor-reported PS	4.26	1.01	-.08	-.01	.17	.38**	-.13	.43**	.40**
16. Protégé-reported ACD	2.63	0.87	.09	-.03	.09	.16	.30**	.09	.07
17. Protégé-reported PS	4.06	1.19	.12	.06	.11	.10	.22*	.05	.01
18. Coded proactivity	2.92	4.07	.04	-.03	.09	.16	.06	-.10	.06
19. Mentor-reported proactivity	2.41	0.75	.01	.03	.11	.34**	-.10	.33**	.22*
20. Interactivity	51.55	19.06	-.17	-.16	.18	.10	.03	.09	-.03
Post-Session									
21. Mentor similarity	4.11	1.05	.06	.01	.19	.58**	.13	.27**	.17
22. Protégé similarity	4.24	0.93	.14	.02	.05	.23*	.30**	.06	.03
23. Protégé stress	1.91	0.75	.03	.18	-.04	.20*	-.01	.01	.07
24. Protégé self-efficacy	4.75	0.92	.07	.08	.07	.04	.21*	.09	.12
25. Protégé satisfaction	4.63	1.18	.21*	.13	.04	.09	.15	.15	.10
26. Protégé semester GPA	3.11	0.80	-.15	.14	.31**	.02	-.14	.14	.00
27. Number of classes missed	4.52	5.16	.09	-.16	.08	.19	.02	.14	.12
28. # of times met--mentor	1.33	3.03	-.17	.16	.11	.20	.03	.27*	.29**
29. # of times met--protégé	1.52	3.69	-.11	.15	.09	.24*	.07	.24*	.27*
30. Mentor desire to continue	4.54	1.33	.03	.12	.20*	.42**	-.13	.26**	.28**
31. Protégé desire to continue	4.16	1.34	.06	.02	.05	.16	.19	.01	.11

Note.  $n = 85-105$ . \* $p < .05$ ,  $p < .01$ . Reliabilities are on the diagonals. Mentor and protégé gender were coded as 1 = male, 2 = female. Protégé first to attend college was coded as 0 = yes, 1 = no.

Variable	<i>M</i>	<i>SD</i>	8	9	10	11	12	13	14
Pre-Session									
1. Mentor gender	1.72	0.45							
2. Protégé gender	1.79	0.41							
3. Protégé first to attend college	.86	0.35							
4. Mentor similarity	3.76	0.96							
5. Protégé similarity	3.70	0.90							
6. Mentor expected ACD	4.74	0.78							
7. Mentor expected PS	5.11	0.72							
8. Protégé expected ACD	4.10	0.87	(.94)						
9. Protégé expected PS	4.29	1.02	.74**	(.94)					
10. Protégé stress	2.04	0.67	.04	.20*	(.83)				
11. Protégé self-efficacy	4.54	0.69	.06	.12	-.21*	(.85)			
Mentorship Behavior									
12. Coded ACD	112.90	117.42	.05	-.05	-.11	-.01	(.88)		
13. Coded PS	2.76	2.83	.03	.10	-.07	-.04	.06	(.71)	
14. Mentor-Reported ACD	3.32	1.09	.09	.01	.04	.08	.24*	.04	(.94)
15. Mentor-Reported PS	4.26	1.01	.18	.14	.12	.05	.15	.30**	.75**
16. Protégé-reported ACD	2.63	0.87	.34**	.30**	.01	.16	.06	-.03	.07
17. Protégé-reported PS	4.06	1.19	.33**	.39**	-.04	.25*	.04	.02	.01
18. Coded proactivity	2.92	4.07	.14	.13	.05	.10	.29**	.03	.11
19. Mentor-reported proactivity	2.41	0.75	.13	.16	.14	.03	.13	.19	.71**
20. Interactivity	51.55	19.06	-.08	-.07	-.28**	.19	.21*	.24*	.22*
Post-Session									
21. Mentor similarity	4.11	1.05	.01	.15	.16	.23*	.08	.10	.49**
22. Protégé similarity	4.24	0.93	.18	.22*	-.03	.23*	.03	.04	-.03
23. Protégé stress	1.91	0.75	-.04	.12	.63**	-.23*	-.14	.06	.03
24. Protégé self-efficacy	4.75	0.92	.08	.19	-.12	.50**	-.03	.02	.08
25. Protégé satisfaction	4.63	1.18	.18	.21*	-.06	.21*	-.12	.10	.03
26. Protégé semester GPA	3.11	0.80	-.22*	-.13	.08	.12	.09	-.15	.17
27. Number of classes missed	4.52	5.16	.04	-.02	.11	-.17	-.08	.06	.10
28. # of times met--mentor	1.33	3.03	-.18	-.03	.14	.09	-.11	.11	.17
29. # of times met--protégé	1.52	3.69	-.10	.01	.14	.16	-.17	.27*	.09
30. Mentor desire to continue	4.54	1.33	.12	.15	.12	.08	.06	.11	.31**
31. Protégé desire to continue	4.16	1.34	.12	.23*	-.11	.21*	.01	.12	.17

Note.  $n = 85-105$ . \* $p < .05$ ,  $p < .01$ . Reliabilities are on the diagonals. Mentor and protégé gender were coded as 1 = male, 2 = female. Protégé first to attend college was coded as 0 = yes, 1 = no

Variable	<i>M</i>	<i>SD</i>	15	16	17	18	19	20	21
Pre-Session									
1. Mentor gender	1.72	0.45							
2. Protégé gender	1.79	0.41							
3. Protégé first to attend college	.86	0.35							
4. Mentor similarity	3.76	0.96							
5. Protégé similarity	3.70	0.90							
6. Mentor expected ACD	4.74	0.78							
7. Mentor expected PS	5.11	0.72							
8. Protégé expected ACD	4.10	0.87							
9. Protégé expected PS	4.29	1.02							
10. Protégé stress	2.04	0.67							
11. Protégé self-efficacy	4.54	0.69							
Mentorship Behavior									
12. Coded ACD	112.90	117.42							
13. Coded PS	2.76	2.83							
14. Mentor-reported ACD	3.32	1.09							
15. Mentor-reported PS	4.26	1.01	(.91)						
16. Protégé-reported ACD	2.63	0.87	.18	(.94)					
17. Protégé-reported PS	4.06	1.19	.11	.75**	(.94)				
18. Coded proactivity	2.92	4.07	.03	.07	.04	(.87)			
19. Mentor-reported proactivity	2.41	0.75	.69**	.03	.05	.11	(.91)		
20. Interactivity	51.55	19.06	.09	.20*	.25**	.06	.02	-----	
Post-Session									
21. Mentor similarity	4.11	1.05	.46**	.19	.08	.11	.51**	.13	(.94)
22. Protégé similarity	4.24	0.93	.03	.53**	.58**	.16	.08	.04	.29**
23. Protégé stress	1.91	0.75	.17	-.03	-.16	.07	.15	-.31**	.14
24. Protégé self-efficacy	4.75	0.92	.09	.32**	.48**	.06	.03	.18	.20*
25. Protégé satisfaction	4.63	1.18	.08	.54**	.64**	.08	.04	.11	.14
26. Protégé semester GPA	3.11	0.80	.05	-.17	-.19	.09	.12	-.01	.16
27. Number of classes missed	4.52	5.16	.20	.01	.04	.00	.15	-.14	.16
28. # of times met--mentor	1.33	3.03	.19	-.09	.03	.02	.19	.16	.25*
29. # of times met--protégé	1.52	3.69	.19	.03	.17	.00	.17	.16	.23*
30. Mentor desire to continue	4.54	1.33	.41**	.12	.09	.13	.33**	.26**	.52**
31. Protégé desire to continue	4.16	1.34	.21*	.37**	.45**	.06	.14	.26**	.20*

Note. *n* = 85-105. \**p* < .05, *p* < .01. Reliabilities are on the diagonals. Mentor and protégé gender were coded as 1 = male, 2 = female. Protégé first to attend college was coded as 0 = yes, 1 = no

Variable	<i>M</i>	<i>SD</i>	22	23	24	25	26	27	28
Pre-Session									
1. Mentor gender	1.72	0.45							
2. Protégé gender	1.79	0.41							
3. Protégé first to attend college	.86	0.35							
4. Mentor similarity	3.76	0.96							
5. Protégé similarity	3.70	0.90							
6. Mentor expected ACD	4.74	0.78							
7. Mentor expected PS	5.11	0.72							
8. Protégé expected ACD	4.10	0.87							
9. Protégé expected PS	4.29	1.02							
10. Protégé stress	2.04	0.67							
11. Protégé self-efficacy	4.54	0.69							
Mentorship Behavior									
12. Coded ACD	112.90	117.42							
13. Coded PS	2.76	2.83							
14. Mentor-reported ACD	3.32	1.09							
15. Mentor-reported PS	4.26	1.01							
16. Protégé-reported ACD	2.63	0.87							
17. Protégé-reported PS	4.06	1.19							
18. Coded proactivity	2.92	4.07							
19. Mentor-reported proactivity	2.41	0.75							
20. Interactivity	51.55	19.06							
Post-Session									
21. Mentor similarity	4.11	1.05							
22. Protégé similarity	4.24	0.93	(.93)						
23. Protégé stress	1.91	0.75	-.09	(.89)					
24. Protégé self-efficacy	4.75	0.92	.39**	-.36**	(.97)				
25. Protégé satisfaction	4.63	1.18	.72**	-.15	.38**	(.96)			
26. Protégé semester GPA	3.11	0.80	-.06	.00	-.04	-.04	-----		
27. Number of classes missed	4.52	5.16	.11	.16	-.06	.12	-.13	-----	
28. # of times met--mentor	1.33	3.03	.02	.13	.04	.14	.06	.04	-----
29. # of times met--protégé	1.52	3.69	.12	.12	.11	.21	-.05	.05	.83**
30. Mentor desire to continue	4.54	1.33	.23*	.09	.08	.24*	.11	.19	.29**
31. Protégé desire to continue	4.16	1.34	.50**	-.13	.28**	.64**	-.16	.02	.33**

ote.  $n = 85-105$ . \* $p < .05$ ,  $p < .01$ . Reliabilities are on the diagonals. Mentor and protégé gender were coded as 1 = male, 2 = female. Protégé first to attend college was coded as 0 = yes, 1 = no

Variable	<i>M</i>	<i>SD</i>	29	30	31
Pre-Session					
1. Mentor gender	1.72	0.45			
2. Protégé gender	1.79	0.41			
3. Protégé first to attend college	.86	0.35			
4. Mentor similarity	3.76	0.96			
5. Protégé similarity	3.70	0.90			
6. Mentor expected ACD	4.74	0.78			
7. Mentor expected PS	5.11	0.72			
8. Protégé expected ACD	4.10	0.87			
9. Protégé expected PS	4.29	1.02			
10. Protégé stress	2.04	0.67			
11. Protégé self-efficacy	4.54	0.69			
Mentorship Behavior					
12. Coded ACD	112.90	117.42			
13. Coded PS	2.76	2.83			
14. Mentor-reported ACD	3.32	1.09			
15. Mentor-reported PS	4.26	1.01			
16. Protégé-reported ACD	2.63	0.87			
17. Protégé-reported PS	4.06	1.19			
18. Coded proactivity	2.92	4.07			
19. Mentor-reported proactivity	2.41	0.75			
20. Interactivity	51.55	19.06			
Post-Session					
21. Mentor similarity	4.11	1.05			
22. Protégé similarity	4.24	0.93			
23. Protégé stress	1.91	0.75			
24. Protégé self-efficacy	4.75	0.92			
25. Protégé satisfaction	4.63	1.18			
26. Protégé semester GPA	3.11	0.80			
27. Number of classes missed	4.52	5.16			
28. # of times met--mentor	1.33	3.03			
29. # of times met--protégé	1.52	3.69	-----		
30. Mentor desire to continue	4.54	1.33	.28**	(.92)	
31. Protégé desire to continue	4.16	1.34	.38**	.36**	(.97)

Note.  $n = 85-105$ . \* $p < .05$ ,  $p < .01$ . Reliabilities are on the diagonals. Mentor and protégé gender were coded as 1 = male, 2 = female. Protégé first to attend college was coded as 0 = yes, 1 = no.



## Hypothesis Tests

Hypothesis tests will be discussed sequentially—in the order in which they were proposed in the theoretical section. First, I explored the affect of the manipulation on protégé and mentor perceptions of similarity. Second, the impact of the manipulation on protégé proactivity was investigated. Third, analyses were conducted to determine if coded mentoring functions (i.e., academic career development and psychosocial support) interacted with the manipulation or with proactivity to influence protégé-perceived mentoring functions. Finally, relationships among protégé-perceived mentoring and subjective and objective socialization outcomes were examined.

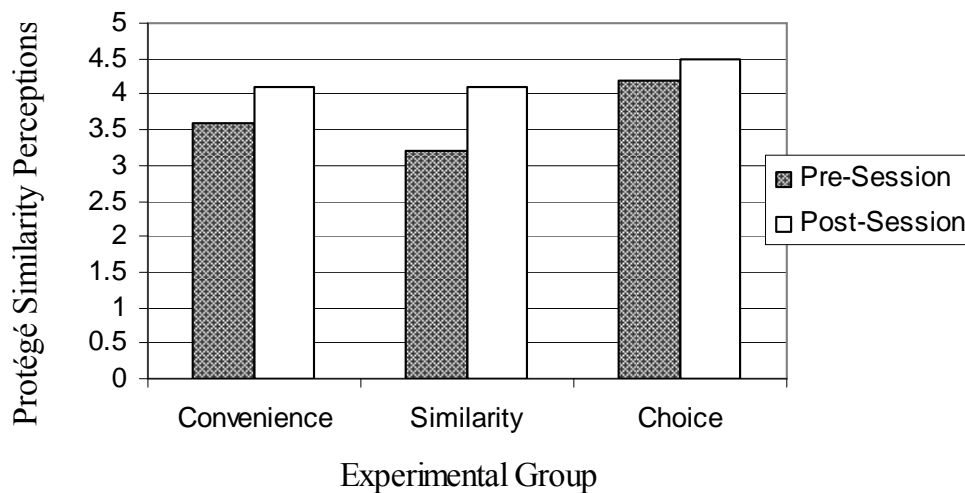
### *Perceived Similarity*

#### *Hypotheses 1 through 3: Protégé Perceptions*

Hypothesis 1 stated that protégés who chose their own mentor would report significantly higher pre-session (Hypothesis 1a) and post-session (Hypothesis 1b) similarity to him/her when compared with protégés who were assigned a mentor. This hypothesis was tested with planned comparisons contrasting the average of the combined convenience and perceived-similarity groups with the mean similarity of the choice group. Results indicated support for Hypothesis 1a [ $t(99) = -4.60, p < .01$ ], with choice group reporting significantly higher similarity before meeting with their mentors than the other two groups combined. In fact, the experimental manipulation accounted for approximately 19% of the total variance in pre-session protégé-reported similarity. Similarly, Hypothesis 1b was also supported [ $t(102) = -2.22, p < .05$ ] with the manipulation accounting for approximately 3% of the variance in post-session similarity perceptions.

Next, Tukey post-hoc analyses were performed to contrast the choice group to each of the two matched groups, individually. Results revealed that the choice group held greater pre-session similarity perceptions than both the convenience group ( $HSD = .42, p < .05$ ), and the perceived-similarity group ( $HSD = .70, p < .001$ ). Interestingly, although means were in the predicted direction, there were no significant differences among the three experimental groups for post-session protégé-reported similarity.

Hypothesis 2 predicted that protégés in the perceived-similarity group would have higher similarity perceptions than the convenience group both before (Hypothesis 2a) and after (Hypothesis 2b) meeting with their mentors. Figure 2 depicts protégé similarity perceptions across the three experimental groups for the two time periods—before and after the online sessions.



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Figure 2 Protégé pre and post-session similarity perceptions for the three experimental groups

A planned comparison test on the full sample revealed a non-significant difference in the opposite direction predicted [ $t(65) = -1.83, p = .07$ , two-tailed]. Similarity perceptions were lower in the similarity group than the convenience group. When the same test was performed on a reduced sample of participants who correctly responded to the manipulation check, this difference was significant [ $t(31) = -2.24, p < .05$ ; two-tailed]. There were no significant differences between the two matched groups regarding protégé post-session similarity perceptions [ $t(65) = .18, ns$ ] for the full sample, and this outcome was the same for the reduced sample as well. Consequently, Hypotheses 2a and 2b were not supported by the data.

Hypothesis 3 stated that protégé-perceived similarity would be positively related to protégé reports of academic career development (ACD) and psychosocial support (PS) received during the mentorship. As indicated in the primary correlation matrix (Table 15), pre-session perceptions of similarity were positively related to both ACD [ $r(100) = .30, p < .01$ ], and PS [ $r(101) = .28, p < .05$ ]. Likewise, post-session perceptions of similarity were also positively related to ACD [ $r(103) = .53, p < .001$ ] and PS [ $r(104) = .58, p < .001$ ]. Overall, the data supported Hypothesis 3 in that both pre and post-session similarity perceptions positively predicted protégé-reported mentoring functions.

#### *Supplementary Analyses: Mentor Perceptions*

Additional analyses revealed noteworthy trends in mentor perceptions of similarity both before and after the chat sessions. The general pattern of means is displayed in Figure 3 below. Because it was expected (but not formally hypothesized) that mentors who were specifically chosen would feel most similar to their protégés, planned comparisons were conducted contrasting the choice condition against the two matched groups. Results indicated that mentors

in the choice condition did feel significantly greater similarity to their protégés both before [ $t(101) = 3.02, p < .01$ ] and after [ $t(100) = 3.14, p < .01$ ] the online sessions. However, there were no significant differences between the two matched groups in mentor similarity perceptions either before or after the sessions [ $t(101) = -1.36, ns; t(100) = .63, ns$ , respectively].

Tukey post-hoc analyses were performed to ascertain any differences in mentor similarity perceptions between the choice and convenience groups and the choice and perceived-similarity groups. For the pre-session perceptions, only the difference between the choice and convenience groups was significant ( $HSD = 4.60, p < .01$ ). Yet, for post-session perceptions, the difference between the choice and convenience groups was significant ( $HSD = 3.61, p < .05$ ) as well as the difference between the choice and the perceived-similarity groups ( $HSD = 4.21, p < .01$ ).

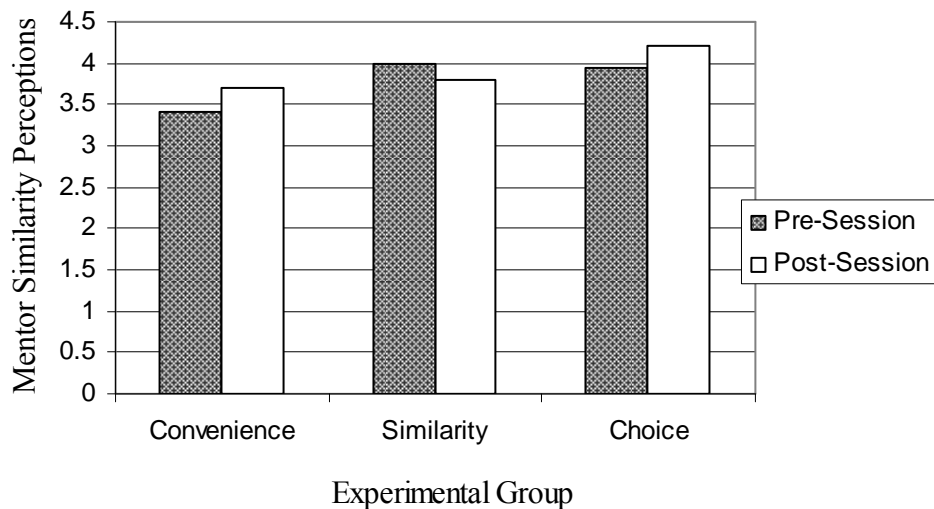


Figure 3 Mentor pre and post-session similarity perceptions for the three experimental groups

## *Protégé Proactivity*

### *Hypothesis 4: Impact of Protégé Choice*

Hypothesis 4 stated that protégés who chose their own mentors would exhibit more proactive behaviors than protégés who were assigned a mentor. This hypothesis was tested separately using mentor ratings of protégé proactivity first (reported first) and coded protégé proactivity second (reported second) as the dependent variables. An ANCOVA was performed to investigate the effect of the experimental manipulation on mentor-reported protégé proactivity, using protégé pre-session stress and similarity perceptions as covariates. These covariates were included because when protégés enter a program under a great deal of stress, they may be too cognitively overwhelmed to assume an energetic role in the mentorship and that mentors who foster interactive discussions enable protégés to take a proactive role. Prior research has shown results consistent with these notions (Smith-Jentsch, Scielzo, Bencaz & Miller, 2007). Additionally, protégés who feel more similar to their mentors probably felt more comfortable asking for specific information and feedback. The results displayed in Figure 4 revealed a significant difference [ $F(4, 95) = 2.76, p < .05$ ] but only between the choice and perceived-similarity groups.

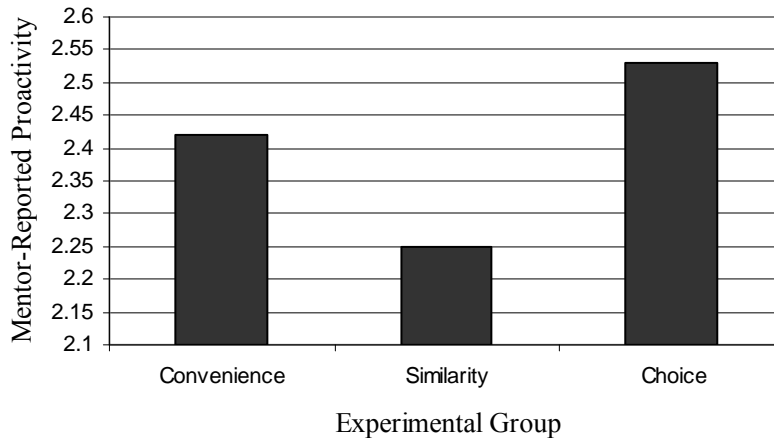


Figure 4 Mentor-reported protégé proactivity across the three experimental groups

In summary, when controlling for stress and interactivity, protégés who selected their own mentors were rated (by their mentors) as playing a more proactive role than were those who were led to believe they were matched to their mentor by the program administrator based on expected similarity. Furthermore, it is interesting to note that the plot of means stemming from this analysis (see Figure 4 above) appears quite similar to the pattern revealed when testing the manipulation's impact on pre-session protégé similarity perceptions (refer to Figure 2).

Hypothesis 4 was tested a second time using coded (instead of mentor-reported) proactivity as the dependent variable. Results of a planned comparison revealed that protégés in the choice group were significantly more proactive than protégés in the other experimental groups combined [ $t(102) = 2.28, p < .05$ ]. Although the two proactivity measures do not correlate with one another, results show that they were similarly impacted by the manipulation.

### *Hypothesis 5: Proactivity and Mentoring Functions*

Hypothesis 5 stated that protégé proactivity and coded mentoring functions would interact to predict protégé perceptions of the mentoring functions they received. Specifically, the regression line for highly proactive protégés would be positive and steeper than the regression line for less-proactive protégés. Two separate analyses were performed for PS and for ACD. For each, the main effects for proactivity and the coded mentor behavior were entered into the equation along with the interaction term for these two variables. Because pre-session protégé expectations, post-session protégé similarity perceptions, and interactivity were related to protégé perceptions of how much mentoring they received, these variables were included in the analyses as covariates. The results displayed in Table 16 below indicate no support for the interaction for either PS or ACD. Thus, Hypothesis 5 was not supported with proactivity as rated by mentors.

Finally, Hypothesis 5 was tested in the same manner as above except for using coded proactivity instead of mentor-reported proactivity as the moderating variable (see Table 17 below). That is, the main effects for coded proactivity and coded mentoring functions were entered together with the interaction of the two. The same covariates were used as in the above analysis: (a) pre-session protégé expectations, (b) post-session protégé similarity perceptions, and (c) interactivity. Also, proactivity was subdivided by PS and ACD, instead of treated as one composite variable to be consistent with the dependent variable of interest. For example, for the analysis for which protégé-reported ACD was the dependent variable, a composite of ACD was formed by summing all protégé ACD questions and admissions across sessions. Likewise, PS questions and admissions were summed to form a PS composite when protégé-perceived PS was

the dependent variable. Despite these attempts to keep the constructs consistent, results revealed no significant interactions (see Table 17 below). Therefore, Hypothesis 5 was not supported for either ACD or PS.

Table 16 Summary of Multiple Regression Analysis for Variables Predicting Protégé Perceptions of Mentoring Functions from Coded Mentoring Functions, Mentor-Reported Proactivity, the Interaction of Mentor-Reported Proactivity and Coded Mentoring Functions, Pre-Session Protégé Expectations, Interactivity, and Pre-Session Similarity Perceptions

Variable	Protégé-Reported Academic Career Development			Protégé-Reported Psychosocial Support		
	<i>B</i>	<i>SE B</i>	$\beta$	<i>B</i>	<i>SE B</i>	$\beta$
1. Coded mentoring functions	.003	.002	.392	-.004	.125	-.011
2. Mentor-reported proactivity	.071	.132	.061	-.016	.167	-.010
3. Coded functions x proactivity	-.001	.001	-.429	-.011	.045	-.078
4. Protégé expectations to receive mentoring	.272	.085	.267**	.375	.097	.308**
5. Interactivity	.008	.004	.170**	.018	.005	.266**
6. Protégé similarity perceptions	.465	.078	.496**	.663	.097	.520**

Note. \* $p < .05$ , \*\* $p < .01$ .



Table 17 Summary of Multiple Regression Analysis for Variables Predicting Protégé Perceptions of Mentoring Functions from Coded Mentoring Functions, Coded Proactivity, the Interaction of Coded Proactivity and Coded Mentoring Functions, Pre-Session Protégé Expectations, Interactivity, and Pre-Session Similarity Perceptions

Variable	Protégé-Reported Academic Career Development (ACD)			Protégé-Reported Psychosocial Support (PS)		
	<i>B</i>	<i>SE B</i>	<i>B</i>	<i>B</i>	<i>SE B</i>	<i>β</i>
1. Coded mentoring functions	.000	.001	.030	-.059	.559	-.141
2. Coded proactivity	.003	.029	.013	.101	.094	.078
3. Coded functions x coded proactivity	.000	.000	-.088	.017	.011	.117
4. Protégé expectations to receive mentoring	.186*	.077	.205*	.400**	.092	.324**
5. Interactivity	.009*	.004	.197*	.020**	.005	.317**
6. Protégé similarity perceptions	.464*	.079	.495**	.635**	.095	.317**

Note. \* $p < .05$ ,  $p < .01$ .

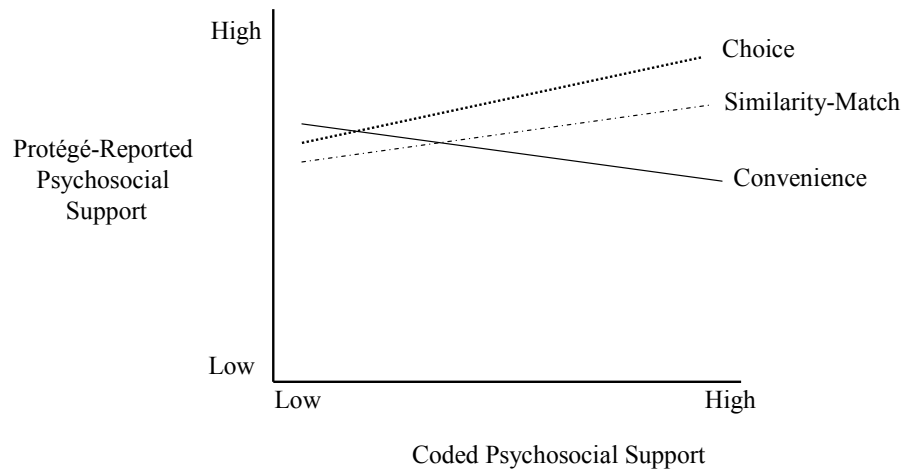
In Hypothesis 6, it was proposed that mentors who were chosen by a protégé would provide greater amounts of coded career and psychosocial support when contrasted with mentors who were assigned a protégé. To test this projection, two planned comparisons were conducted for ACD and PS separately contrasting the choice group against the two combined match groups. Results indicated that the experimental condition had no impact on ACD [ $F(2, 104) = 2.04, ns$ ] or PS [ $F(2, 104) = .30, ns$ ]. The analysis was re-run on the reduced sample (i.e., the sample that included only mentors who correctly remembered whether or not their protégés chose them).

This analysis was also non-significant, most likely due to a lack of power associated with a relatively sparse sample size.

Hypotheses 7a and b stated that the experimental manipulation and coded mentoring functions would interact to predict protégé-perceived mentoring functions. Specifically, the regression lines for the choice groups would be more steeply positive than the two matched conditions and that the perceived-similarity match condition would show a regression line that was more steeply positive than the convenience group. To test these hypotheses, separate regressions were run for each dependent variable (i.e., protégé-perceived ACD and PS). Post-session protégé-perceived similarity was included as a covariate because of its demonstrated relationships with protégé-reported mentoring functions. The three experimental groups were dummy-coded into two vectors before being added to the equation. The first vector (i.e., convenience vector) was coded a “1” if the dyad was assigned to the convenience group, and a “0” if they were not in the convenience group. The second vector (i.e., similarity vector) was coded a “1” if the dyad was assigned to the perceived-similarity match group, and a “0” if they were in one of the other two groups. Hence, if both vectors were coded “0”, this indicated the dyad was in the choice condition. Finally, interaction terms were computed among the two vectors and coded ACD (for the first analysis) and coded PS (for the second analysis).

The results revealed that for ACD, the interaction term failed to reach significance [ $\beta_{(\text{experimental condition} \times \text{coded ACD})} = 2.21, ns$ ]. However, for PS, the interaction term was significant [ $\beta_{(\text{experimental condition} \times \text{coded PS})} = 1.84, p < .05$ ]. As seen in Figure 5, the nature of the interaction is in accordance with original predictions. Namely, for protégés in the choice group, the simple slope was positive and steeper than the other regression lines. Surprisingly, the line for the

convenience-match group was actually negatively sloped. This suggests that protégés in the choice group placed a higher positive value on PS instances than protégés in the matched groups. Conversely, the protégés in the convenience group actually placed a negative value on PS provided by their mentors. The regression line for the perceived similarity group was positive like the one for the choice group, but less-so. In summary, Hypothesis 7a and b supported for PS, but not for ACD.



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Figure 5 Depiction of the interaction between the experimental manipulation and coded psychosocial support in predicting protégé-reported psychosocial support

## *Protégé-Perceived Mentoring Functions*

### *Hypothesis 8*

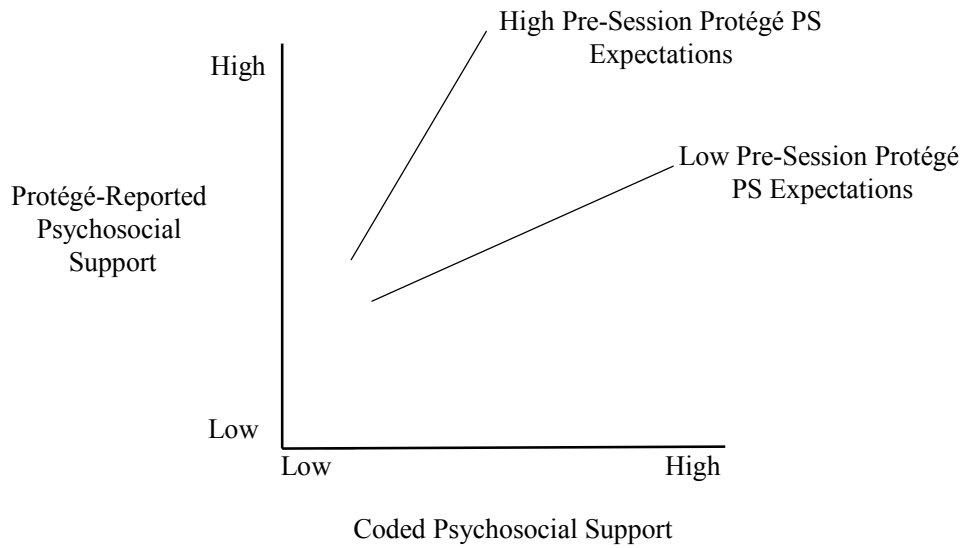
Hypotheses 8a through c predicted that three variables would each partially mediate the relationship between protégé choice and protégé-perceived mentoring functions: (a) protégé-perceived similarity, (b) protégé proactivity, and (c) coded mentoring functions. According to Baron and Kenny (1986), there are four conditions that must be met to establish mediation. First, there must be a relationship between the independent variable and the dependent variable. Second, there must be a significant relationship between the assumed independent variable and the mediator. Third, there must be a relationship between the mediator and the dependent variable. Finally, when controlling for the mediator, the proposed independent variable should explain less (i.e., partial mediation) or no (i.e., full mediation) variance in the proposed dependent variable. Because the experimental manipulation had no main effect on protégé-rated ACD [ $t(100) = 1.73, ns$ ] nor on protégé-rated PS ( $t(100) = 1.10, ns$ ), Hypotheses 8a through c could not be tested.

### *Supplementary Analyses*

Although experimental condition did not exert a main effect on protégé rated PS, it did interact with coded PS to predict protégé-reported PS. Thus, potential mediators of this relationship were examined. As reported earlier, the manipulation directly impacted similarity. Thus, a supplementary analysis was conducted to determine if perceived similarity mediated the relationship between the interaction term and protégé-reported PS. Specifically, an interaction term was computed for similarity and coded PS and entered into the equation along with the main effects for the two variables. Results indicated that the interaction term was nonsignificant

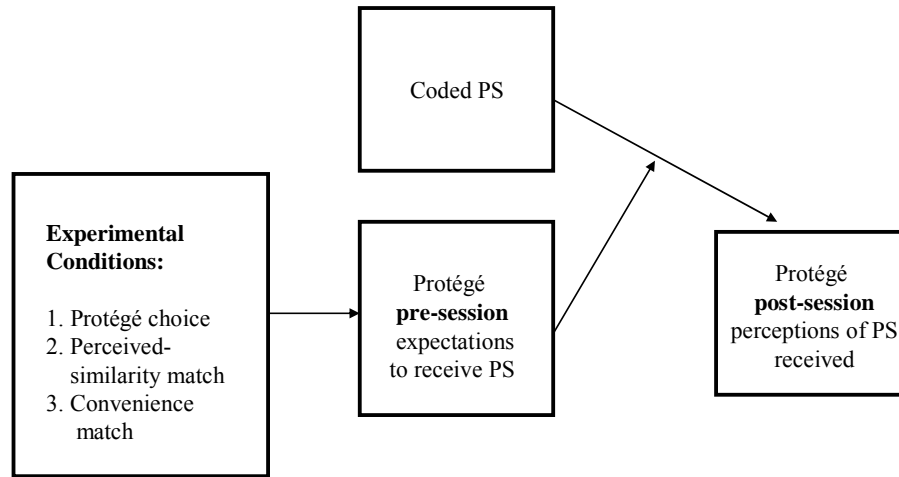
$[\beta_{(\text{protégé-reported similarity} \times \text{coded PS})} = .07, ns]$ . Thus, similarity did not explain why experimental condition interacted with coded PS to predict protégé-rated PS. Likewise, although the manipulation affected protégé proactivity, it was reported earlier that proactivity did not interact with coded PS or ACD to predict protégé rated PS or ACD.

Finally, although it was not put forth as a formal hypothesis, protégés who chose their own mentors did have significantly higher *pre-session* expectations to receive PS than protégés in the matched groups. Thus, one last supplementary analysis was conducted to ascertain if these expectations explained why the manipulation interacted with coded PS to predict protégé rated PS. Specifically, an interaction term was computed for protégé expected PS and coded PS and entered into the equation along with the two main effects. The results indicated that the interaction term was significant  $[\beta_{(\text{protégé expected PS} \times \text{coded PS})} = .310, p < .01]$ . The nature of this interaction, displayed in Figure 6, indicated that the regression line for protégés with high pre-session expectations was positive and steeper than the positive slope of the regression line for the protégés with relatively lower expectations.



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Figure 6 Interaction between pre-session protégé expectations of receiving psychosocial support and coded psychosocial support in predicting post-session protégé-reported psychosocial support




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Figure 7 Moderated mediation in which the interaction of protégé expectations with coded psychosocial support mediates the relationship between the experimental manipulation and protégé-reported psychosocial support

The pattern of relationships in Figure 7 above suggests moderated-mediation.

Specifically, protégé choice directly impacts pre-session protégé expectations to receive PS; and in turn, these expectations moderate the relationship between coded and perceived PS. In order to test for mediation, Baron and Kenny's (1986) four steps were outlined above as follows. First, in support of Hypothesis 7, the interaction between the experimental condition and coded PS in predicting post-session PS perceptions was significant [ $\beta_{(\text{experimental condition} \times \text{coded PS})} = 1.84, p < .05$ ]. Second, a planned comparison was conducted contrasting the choice group against the two

matched groups to determine if the match method impacted pre-session protégé expectations to receive PS. Results indicated support for this hypothesis [ $t(100) = 2.37, p < .05$ ]; therefore, the second condition for mediation was met. Third, as mentioned previously, the proposed mediator (expectations) was found to moderate the relationship between coded PS and post-session protégé PS perceptions [ $\beta_{(\text{protégé expected PS} \times \text{coded PS})} = .310, p < .01$ ].

Finally, satisfying the last requirement, the interaction terms for the experimental condition explained no additional variance above and beyond that explained by (a) the main effects for pre-session, coded, and post-session PS, (b) pre-session protégé-perceived similarity (entered as a covariate because it correlated with post-session PS perceptions), and (c) the interaction between expectations and coded PS. As seen in Table 18, adding the interaction terms for the manipulation to the equation containing the above elements caused an insignificant change in R-squared ( $\Delta R^2 = .001, ns$ ).



Table 18 Hierarchical Regression Analysis with Post-Session Protégé Perceptions of PS as the Dependent Variable

Variable	Post-Session Protégé-Reported PS					
	Step 1			Step 2		
	<i>B</i>	<i>SE B</i>	$\beta$	<i>B</i>	<i>SE B</i>	$\beta$
1. Convenience vector	-.318	.293	.029	.171	.308	.066
2. Similarity vector	-.252	.287	.045	.187	.311	.074
3. Pre-session protégé-perceived similarity	.687**	.104	.507**	.655**	.100	.507**
4. Pre-session protégé expectations for PS	.365**	.101	.327**	.407**	.097	.329**
5. Coded PS	-.009	.033	-.071	-.016	.043	-.038
6. Protégé expectations X coded PS	.124**	.035	.265**	.120	.037	.256**
7. Coded PS X convenience vector				-.011	.025	-.052
8. Coded PS X similarity vector				-.008	.024	-.037
$\Delta R^2$						.001
$R^2$			.486			.487
Adjusted $R^2$			.454			.444

Note. \* $p < .05$ ,  $p < .01$ .

Together these results suggest that pre-session expectations of PS fully mediated the relationship between the interaction and post-session PS perceptions. Therefore, the model displayed in Figure 7 was totally supported.

In summary, although the manipulation impacted similarity, similarity did not correspondingly interact with coded PS (as did the experimental condition) in predicting protégé-reported PS. However, protégés in the choice condition had significantly higher expectations of receiving PS than protégés in the matched groups. In turn, the positively-sloped regression line predicting post-session PS perceptions from coded PS was steeper for protégés with high expectations than for protégés with relatively low expectations. Furthermore, similarity fully mediated the interactive impact of the manipulation and coded PS upon post-session perceptions

of PS. Therefore, although Hypotheses 8a through c were not supported as originally predicted, an interesting pattern of results emerged, revealing the complex effects of protégé choice.

#### *Hypothesis 9: Similarity and Interactivity*

Hypothesis 9 predicted that protégé-perceived similarity would be positively related to the interactivity of discussions with mentors. As seen in Table 15, results indicated neither pre nor post-session protégé perceptions of similarity were significantly related to coded interactivity that occurred during chats. Therefore, Hypothesis 9 was not supported by the data. For mentors, the same analysis was performed, but neither pre nor post-session mentor-reported similarity was significantly correlated with interactivity.

#### *Hypotheses 10 and 11: Subjective Protégé Adjustment*

Hypotheses 10a and b proposed that interactivity would be (a) negatively related to post-session protégé stress and (b) positively related to self efficacy. Additionally, Hypotheses 11a and b stated that protégé-perceived mentoring functions would be negatively related to stress but positively associated with self-efficacy. To test these assertions, two multiple regressions were performed; one for each for each presumed dependent variable (i.e., stress, self-efficacy). Multiple regressions were used to account for pre-session stress and self-efficacy and other variables in the model proposed to also be associated with the presumed dependent variables. The results of these analyses are displayed in Tables 19-20. For the first analysis, post-session stress was regressed on interactivity, pre-session stress, and protégé-perceptions ACD and PS. For the last analysis, protégé self-efficacy was regressed on the same four predictor variables. In Table 19, it can be seen that, besides pre-session stress, protégé-perceived PS emerged as the only unique predictor of post-session stress. However, although interactivity was did not account

for unique variance in stress, the significant zero-order correlation [ $r(103) = .31, p < .01$ ] lent partial support to Hypothesis 10a.

Therefore, Hypothesis 10a partially supported, and Hypothesis 11a was supported for PS. Furthermore, Table 20 demonstrates that protégé perceptions of PS contribute uniquely to post-session self-efficacy, in partial support of Hypothesis 11b. However, interactivity did not uniquely contribute self-efficacy; therefore, Hypothesis 10b was not supported.

Table 19 Summary of Multiple Regression Analysis for Variables Predicting Post-Session Protégé Stress from Interactivity, Protégé-Reported ACD and PS, and Pre-Session Protégé Stress.

Variable	<i>B</i>	<i>SE B</i>	$\beta$
1. Interactivity	-.005	.320	-.119
2. Protégé-reported ACD	.137	.099	.162
3. Protégé-reported PS	-.160*	.073	-.258*
4. Pre-session protégé stress	.650**	.089	.580**

Note. Adjusted  $R^2 = .423$ . \* $p < .05$ , \*\* $p < .01$

Table 20 Summary of Multiple Regression Analysis for Variables Predicting Post-Session Protégé Self-Efficacy from Interactivity, Protégé-Reported ACD and PS, and Pre-Session Protégé Self-Efficacy.

Variable	<i>B</i>	<i>SE B</i>	$\beta$
1. Interactivity	-.001	.004	-.024
2. Protégé-reported ACD	-.121	.125	-.116
3. Protégé-reported PS	.369**	.094	.484**
4. Pre-session protégé self-efficacy	.545**	.110	.408**

Note. Adjusted  $R^2 = .381$ . \* $p < .05$ , \*\* $p < .01$

### *Hypotheses 12 and 13: Objective Protégé Adjustment*

Hypothesis 12 stated that there would be a negative relationship between protégé stress and semester GPA, and Hypothesis 13 predicted a negative relationship between self-efficacy and classes missed. According to Table 15, there was no relationship between post-session stress and GPA ( $r(99) = .00, ns$ ). Likewise, for Hypothesis 13, there was no relationship between post-session self-efficacy and number of classes missed ( $r(86) = .06, ns$ ). Please see Table 21 below for a summary of the results of all the hypothesis tests described above.

Table 21 Summary of Results of Study Hypotheses

Hypothesis	Result
1. Hypothesis 1:	
a. Protégés who choose their own mentors will report significantly higher levels of <i>pre-session</i> similarity than protégés who are assigned a mentor.	Supported
b. Protégés who choose their own mentors will report significantly higher levels of <i>post-session</i> similarity than protégés who are assigned a mentor.	Supported
2. Hypothesis 2:	
a. Protégés in the perceived-similarity match group will report higher <i>pre-session</i> similarity to their mentors than will protégés in the convenience-match group.	Almost-significant difference, but in opposite direction of original prediction.
b. Protégés in the perceived-similarity match group will report higher <i>post-session</i> similarity to their mentors than will protégés in the convenience-match group.	Not supported
3. Hypothesis 3:	
Protégé-perceived similarity will be positively associated with protégé perceptions of mentoring functions (i.e., career development and psychosocial support received).	Supported
4. Hypothesis 4:	
Protégés who choose their own mentor will exhibit more proactive behaviors in the mentorship than protégés who do not select a mentor.	<i>Mentor-reported proactivity</i> : Choice group greater than perceived similarity group when controlling for pre-session protégé stress and interactivity.  <i>Coded proactivity</i> : Supported.

*Note.* ACD = academic career development; PS = psychosocial support

Hypothesis	Result
5. Hypothesis 5:	
Protégé proactivity and coded mentoring functions will interact to predict protégé perceptions of mentoring functions they receive.	Not supported
6. Hypothesis 6:	
<i>Protégé-chosen mentors</i> will provide relatively greater amounts of coded mentoring functions than mentors whose protégés did not choose them.	Not supported
7. Hypothesis 7a and b:	
There will be an interaction between the experimental manipulation and coded mentoring functions in predicting protégé-perceived mentoring functions.	Using post-session protégé similarity perceptions as a covariate: <i>not supported</i> for ACD as the DV, but <i>supported</i> for PS as the DV.
<i>Note.</i> ACD = academic career development; PS = psychosocial support	

Hypothesis	Result
8. Hypothesis 8:	
a. Protégé-perceived similarity will partially mediate the effect of protégé choice on protégé-perceived mentoring functions.	Not supported
b. The interaction of protégé proactivity and coded mentoring functions will partially mediate the impact of protégé choice on protégé-perceived mentoring functions.	Not supported
c. The interaction of the experimental manipulation and coded mentoring functions will partially mediate the effect of protégé choice on protégé-perceived mentoring functions.	Not supported
9. Hypothesis 9:	
Protégé-perceived similarity will be positively related to the interactivity of discussions with their mentors.	Not supported
10. Hypothesis 10:	
a. Interactivity will be negatively associated with protégé post-session stress.	Zero-order correlation significant, but interactivity did not contribute uniquely to stress when accounting for pre-session stress, and protégé-reported ACD and PS.
b. Interactivity will be positively related to protégé post-session self-efficacy.	Not supported

*Note.* ACD = academic career development; PS = psychosocial support

Hypothesis	Result
11. Hypothesis 11:	
a. There will be a negative relationship between protégé-reported mentoring functions and protégé stress.	Supported only for PS.
b. There will be a positive relationship between protégé-reported mentoring functions and protégé self-efficacy.	Supported only for PS.
12. Hypothesis 12:	
There will be a negative relationship between protégé stress and GPA.	Not supported
13. Hypothesis 13:	
There will be a negative relationship between protégé self-efficacy and classes missed.	Not supported
<i>Note.</i> ACD = academic career development; PS = psychosocial support	



## CHAPTER FIVE: DISCUSSION

### Summary of Results

The objective of the current investigation was to determine the impact of protégé choice in the selection of a formal mentor on relationship quality. Results demonstrated support for the notion that protégé choice facilitated formal mentoring processes and outcomes. First, protégés randomly assigned to the choice condition felt more similar to their mentors than did those who were not. Moreover, although they generally did not remember whether they had been chosen or matched by the administrator, mentors who were chosen also reported feeling more similar to their protégés than did mentors who were matched. Unexpectedly, protégés who were told they were matched for similarity actually reported lower perceptions of similarity to their mentor than did those who believed they were matched for convenience despite the fact that they were in fact both matched in the same manner.

Second, coded ratings of session transcripts revealed that protégés who chose their own mentors were more proactive than those in the matched conditions. Protégé proactivity was positively correlated with coded ACD, however it did not interact with coded mentor behavior to predict perceptions of that behavior as predicted.

Third, although protégé choice did not affect coded mentor behavior it did influence the value protégés placed on the statements of psychosocial support provided. In other words, the relationship between coded and perceived psychosocial support was moderated by experimental condition. Specifically, the slope of the relationship between these two variables was steeply positive for those in the choice condition, less steeply positive for those who were led to believe they had been matched for similarity, and slightly negative for those who were told they were

matched simply on convenience. Pre-session expectations of receiving PS were found to mediate this effect. Thus, choice seems to have raised protégé expectations, leading them to place greater value on the support they received.

Finally, protégé ratings of the PS they received was related to proximal indicators of adjustment (i.e., post-session stress and self-efficacy). These proximal outcomes, however, did not predict more distal outcomes (i.e., GPA, absenteeism) as expected.

In sum, the effect of the manipulation on actual and perceived mentoring functions appeared to be quite complex, and this intricacy could not have been fully understood without experimental research and objective measures of mentoring functions. Field research in mentoring typically employs surveys assessing perceptions only, assuming them to be an accurate portrayal of reality. (As previously stated, there is little support for such an inference.) In contrast, the current investigation puts the mentorship under a microscope, attempting to tease apart perceptions from reality. This study's findings underscore the necessity of finding creative ways to capture what really takes place in mentorships, rather than relying solely on self-report measures.

## Theoretical Implications

### *Protégé Choice*

The central goal of the current study was to examine the effect of protégé choice on similarity perceptions, protégé-proactivity, and mentoring functions received. Theoretically, protégé choice was intended to affect perceptions of both the mentor and the protégé during their relationship. However, the impact of choice was stronger on protégé perceptions than on mentors' perceptions and only had an effect on protégé behavior. It is important to note that

because random assignment was used, there is no reason to believe that the mentors in the choice condition were more effective (e.g., smarter, enhanced interpersonal skills) than the other mentors. Additionally, mentors in the choice condition did not even provide more mentoring functions than the mentors in the matched groups. Therefore, the selection threat can be effectively ruled out as a potential explanation for why protégés in the choice condition were more proactive.

In the current study, it was protégés who chose, not mentors. Allen et al (2006a) reported that both mentor and protégé perceptions regarding their involvement to the matching process contributed uniquely to subsequent ratings of mentorship quality. In the current study, a majority of the mentors were unaware as to whether or not their protégé specifically chose them. Their perceptions were faulty; but even if they were accurate, the manipulation may not have impacted actual mentoring functions because mentors did not contribute to match. However, the fact that mentors in the choice condition generally did not remember how they were matched, but still reported higher levels of similarity to their protégés (both before and after meeting with them), suggests that those protégés may have picked mentors who were in actuality similar to themselves. Nonetheless, similarity did not mediate the relationship between protégé choice and perceived mentoring functions. It was the interaction of expectations and coded PS that explained that relationship instead. In summary, future research on protégé/mentor match should focus on the mentor's involvement in the match and subsequent perceptions and behavior in the ensuing relationship.

### *Similarity Perceptions*

One of the primary findings of the current study showed that, when given the choice, protégés picked mentors with whom they expected to feel similar. In turn, mentors who were chosen felt a higher degree of pre-session similarity to their protégés than did mentors in the matched conditions. Given that mentors did not seem to know that they were chosen suggests that the protégés did in fact pick mentors who were, in actuality similar, to themselves. This is not surprising, considering the significant amount of research showing individuals are drawn to like-minded others (Byrne, 1971; Klohnen & Luo, 2003; Morry, 2005). Moreover, at the conclusion of the chat sessions, protégés in the choice condition still felt relatively more similar to their mentors than did the other protégés, and their mentors reciprocated this belief. Although mentor and protégé similarity perceptions were more overlapping than other studies have found (e.g., Ensher & Murphy, 1997) it is still objectively a small amount of overlapping variance (i.e., 9%).

Additionally, pre-session protégé similarity perceptions were positively related to protégé-perceived mentoring functions, and post-session self-efficacy. Although, this could be partially due to monomethod bias, these findings are in line with existing studies (e.g., Ensher et al., 2002; Feldman, Folks, & Turnley, 1999; Jaina & Tyson, 2004). Perhaps when a protégé perceives the mentoring relationship is progressing smoothly, s/he feels a greater connection to the mentor. However, the fact that choice was manipulated provides evidence suggesting that similarity impacts mentorship outcomes rather than vice versa. In any case, protégé similarity perceptions in particular seemed to play crucial role in how protégés viewed the success of the mentoring relationship. Yet, it should be noted that negative effects stemming from dissimilarity

among individuals have been shown to weaken or disappear over time (Harrison, Price, & Bell, 1998). In the current study, the mentoring program only lasted a few weeks; but for longer relationships, dissimilarity (or complementary fit) may be beneficial in the long run (Harrison et al., 1998).

### *Mentoring Functions*

The results of this study indicate that protégé choice affected protégé-reported mentoring functions through the interaction of protégé expectations and coded PS. Unexpectedly, protégé choice did not impact coded mentoring functions. This is likely because the manipulation did not have a strong enough effect on the mentors. At the end of the program, mentors did not correctly recall the details regarding how they were matched. Accordingly, they seemed equally motivated across experimental conditions to provide mentoring functions. Mentors in the different experimental groups did not vary in their expectations to provide mentoring functions before the sessions began; but as mentioned above, there was a difference in protégé expectations (i.e., the choice condition protégés expected more). This is further evidence that the manipulation was more successful for the protégés than for the mentors. Therefore, until future studies can establish a stronger manipulation for mentors, it is unknown if mentors in general are equally motivated to provide mentoring functions regardless of how they were paired with their protégés. It is also unclear as to whether awareness of the match would have been enough to alter perceptions and outcomes. Perhaps it is not simply being cognizant of the matching process, but rather the actual participation in the process that makes all the difference.

Finally, protégé post-session perceptions of mentoring functions received were surprisingly unrelated to class absenteeism and GPA. A prior study using a very similar

population did report these links (Smith-Jentsch, Scielzo, & Singleton, 2007); however, it had twice as many dyads as the current study and thus greater power. Moreover, those authors gained access to additional variables (e.g., attendance at tutoring sessions) that were highly related to GPA and thus used as covariates. In this study, the only covariate collected was whether or not the protégé was first in their immediate family to attend college; however, including this variable in the analyses did not change the results. Because there are so many factors that contribute to GPA, it may be necessary for researchers to collect a reasonable assortment of covariates if they wish to find significant relationships between mentoring functions and GPA.

#### *Protégé Proactivity*

As predicted, protégés in the choice group were significantly more proactive than the protégés in the matched groups. A majority of choice condition protégés indicated that they carefully considered their decision and had not simply chosen the first mentor on the list who met their availability criteria (see Table 4). Consequently, these protégés probably felt committed to their choice and were determined to make the most of their opportunity.

According to the mentors, protégés in the perceived similarity-match condition were the least proactive of all the protégés. Incidentally, protégés in this group also reported feeling the least similar to their mentors before the program began. One possibility for this outcome is that in the pre-measures, protégés were asked to indicate some characteristics of their “ideal mentor”, and they were told that this information would be used to assist the researchers in the matching process. This likely raised those protégés’ expectations. Then, later on, they were informed that they were matched to a similar mentor and presented with that mentor’s profile. Thus, they were

probably quite disappointed at that point when they realized their assigned mentor was not someone they had expected or wanted. Moreover, perhaps they began to implicitly believe that their mentors would not understand or empathize with their unique problems. Carrying this distrustful mind-set into the relationship, they were not as vulnerable and open about their needs in the mentoring sessions.

As the program progressed, there may have been an analogous lack of trust occurring in the convenience group. This is evidenced by the relationship between coded and protégé-perceived PS being unexpectedly negative for the convenience group. It was almost as if those protégés in that group did not perceive their mentors' PS statements as genuine, such that the more PS was given, the less the meaningful it was to the protégé. This finding corroborates with prior research showing that the probability of dysfunctional mentoring relationships is greater in formal programs because of the potential for harmful mismatches (Eby & Allen, 2002; Eby & Lockwood, 2005). Although the role of interpersonal trust in the context of virtual and face-to-face teams in organizations has been researched (e.g., Krebs, Hobman, & Bodia, 2006; Wilson, Straus, & McEvily, 2006), it has not yet been seriously considered in the mentoring literature. Future researchers should examine role of trust in mentorships and its relationship to protégé proactivity and perceptions of mentoring functions received.

#### *Perception or Reality?*

The relationship between coded mentoring functions (i.e., quantity) and protégé-perceived functions (i.e., quality) was not moderated by protégé proactivity as was predicted. Originally, it was proposed that proactive protégés would pull more meaningful and relevant information from their mentors, but this conjecture was not supported by the data. Instead, it was

pre-session expectations of PS that moderated the relationship between quantity and quality of PS. Thus, protégés who received the most personally meaningful PS from their mentors were the ones who anticipated it from the very beginning. Figure 5 shows that at the lowest levels of PS, protégés in the choice condition actually believe they receive less PS than protégés in the two matched groups. In contrast, at the highest levels of coded PS, there is a sharp distinction in the positioning of all three regression lines, with protégés in the choice condition having the steepest, positive slope, followed by the perceived-similarity match group, and finally, the convenience group with a negatively-sloped line.

In summary, the evidence suggests that both similarity and mentor behavior perceptions may indeed be “in the eye of the beholder” (the protégé). Oftentimes, individuals enter a mentoring relationship with preconceived notions such as gender-related biases (i.e., Sanchez et al., 2005), or in this case, expectations about what they think they will receive from their mentors. These expectations influence the things that protégés notice in the mentoring sessions. Therefore, given the same amount of actual PS, post-session PS perceptions vary depending on early expectations. Furthermore, it should be noted that PS seems much more influenced by perceptions than ACD. This is likely because ACD is generally more task oriented and objective, with less room for protégé interpretation. Conversely, PS statements can be quite subjective and can be construed in different ways, depending on the recipient.

These findings hearken to the necessity of collecting independent ratings when conducting mentoring research. Objective ratings offer a heightened standard of accuracy and an alternate perspective that may be well worth the extra effort and expense it takes to collect them. With online programs, obtaining chat transcripts is a relatively simple process. However,



participants' privacy should always be a considerable priority, and there are methods available for ensuring participants' confidentiality. Obviously, identifying information such as names and gender references can be scrubbed from chat transcripts, and participants must be informed beforehand that their behavior will be observed for research purposes.

Aside from the research ethics/privacy issues, there is the dilemma of external validity. Eliciting natural behavior in a contrived setting such as an online formal mentoring program can be concerning for researchers. Nevertheless, some evidence from this study suggests that much of the participants' behavior was uninhibited, despite the knowledge that they were being observed. For instance, the coders related anecdotes about participants freely disclosing intimate, highly personal details to their mentor/protégé. In fact, a few of the dyads had to be sternly warned by the researchers to cease the discussion of participating in illegal activities. Notwithstanding these warnings, some would simply continue their inappropriate conversation the very next week, only to be scolded by the researcher again. The Internet allows individuals to feel a high level of interpersonal comfort (Ahuja & Galvin, 2003), possibly helping to make individuals feel psychologically safe enough to discuss very personal topics—even though they are fully aware of being monitored. This can be beneficial for research purposes because it provides assurance that participants are not behaving radically different from the way they normally would behave when not observed.

## Practical Implications

### *Matching Process*

This study has a number of practical implications for administrators of formal mentoring programs. First, giving protégés a choice makes them feel similar to their mentor, raises their

expectations for the mentorship, and encourages their proactivity. However, it is imperative that if given the choice, they must receive a well-qualified mentor who is committed to their development. To reach this goal, programs to motivate and train mentors may need to be implemented. Second, the pattern of data displayed in Figure 5 also suggests caution in raising expectations by attempting to match based on similarity, if administrators do not have an empirically-valid matching algorithm. In the current study, protégés in the perceived-similarity match group initially felt less similar to their mentors and had a trend toward less pre-session PS expectations than the convenience group. Thus, if participants anticipate being matched to one another based on similarity, and they perceive that the administrators did a poor job of doing so, the resulting boomerang effect can be more harmful than a random match.

Third, the results offer insight as to how and when to inform mentors and protégés about how they will be matched. As previously stated, although it was generally effective in separating protégés by whether or not they chose their mentors, the manipulation was less effective in distinguishing between the two matched groups. Even still, it did negatively impact pre-session similarity perceptions for the perceived-similarity group—conceivably because of the timing of the presentation of the match information. Prior to the first online session, protégés were sent an e-mail containing the information regarding how they were matched, their mentor’s profile, and a link to a survey assessing similarity perceptions, expectations of receiving mentoring functions, stress, and self-efficacy. Thus it is likely that most protégés filled out their survey with the match information and their mentor’s profile fresh in their minds. As mentioned above, it is almost as if perceived-similarity match protégés were disappointed when they saw the profile, realizing that their mentor was not the type of individual they had expected. In this frame of mind, they

probably responded more negatively to the items on the similarity measure than protégés in the convenience group who had no reason to expect to get a similar partner. Incidentally, the initial differences in similarity perceptions between the two matched groups diminished by the end of the formal program (i.e., four weeks later); and by the end of the semester (an additional four weeks later), a majority of these protégés could not even recall how they had been matched.

The results of the current study are slightly different from the results of the pilot study, in which there were only the two matched groups (i.e., no choice condition). In the pilot study, protégé similarity was not significantly affected by the match; however, the perceived-similarity match group reported higher levels of post-session satisfaction and self-efficacy. Although not specifically hypothesized, in the current study, none of these variables were affected by match method. A partial explanation for the discrepancy is that in the pilot study, protégés were informed on how they were going to be matched and then one to two weeks later, they began their online sessions without ever receiving any information about their mentor. Conversely, in the current study, protégés were given their mentor profile concurrently with the manipulation. Thus, in the pilot study, it is unlikely that the perceived-similarity match protégés were faced with disconfirming evidence so quickly and in such a salient manner as in the current study. Instead, they were able to draw their own conclusions over the course of time, giving confirmation bias a better chance to mold perceptions.

Practically speaking, the combined results of two studies offer insight into the importance of the timing of the presentation of information to mentoring participants—both in research and in practice. For example, participants who are informed they will be matched on similarity—but are not immediately presented with either confirming or disconfirming evidence

—may fail to experience any significant let-down. Meanwhile, those who are confronted with disconfirming evidence directly after being told they would be matched with someone similar may lose their trust in the system and become discouraged. Practitioners implementing formal mentoring programs should take these possibilities into consideration when matching and communicating with participants. The current study results imply that giving participants input into the matching process is a fairly simple way to avoid these issues.

### *Managing Expectations and Biases*

In summary, the current study results suggest only one potential downside to allowing involvement in the match process—the scenario in which the protégé picks a mentor and the mentor fails to provide the expected support. Protégés in the choice group paid more attention to PS and probably considered it more pertinent to their unique needs. Thus, the screening and training of mentors is vital to the success of protégé choice. Furthermore, involving mentors in the matching process is one way to encourage them to become more invested in the relationship.

Protégés who chose their own mentors perceived more commonalities with them and were also more proactive in the relationship. Also, the interaction shown in Figure 5 shows that either protégés in the perceived-similarity match and choice groups overestimated the amount of PS they received, or the PS they did get was more meaningful than the actual number of coded PS statements would reflect. Even if protégés were biased and overestimated the amount of PS they received, they may have obtained some attendant benefits from this slanted viewpoint (i.e., post-session self-efficacy, less stress, and satisfaction). Furthermore, these results suggest that matching based on similarity (even if it is no better than a convenience match) does not significantly harm protégés in the long-term. Although they at first felt very dissimilar from their

mentors, this perception dissipated over time. In fact, Figure 5 shows that they, like the choice group, demonstrated a positive relationship between coded and post-session PS perceptions whereas the convenience group displayed a negative relationship. Although it should be noted that this was simply a perception (they were not actually receiving any more coded PS than the other groups), it seemed to be a valuable belief because they thought they received more PS than they actually did. Therefore, there seemed to be some benefit in being in the perceived-similarity match condition. However, overall, the results regarding perceived-similarity match were mixed. Although they were disappointed in the beginning, perhaps as time went by, they found that they had more in common with their mentor than previously thought. Thus, by the end of the sessions, there were no more differences in similarity perceptions between the two matched groups

#### *Selection Process*

Finally, before allowing protégés to pick a mentor, it is important to have a large enough pool of volunteers from which to choose. Yet, sometimes organizational constraints (i.e., size, homogeneity) prevent individuals from obtaining an ideal mentor. Therefore, when resources permit, administrators of formal mentoring programs should consider allowing participants a voice in the match process. This could be achieved most easily in distance mentoring contexts with a database, as was employed in this program. However, there are other options available such as interview/focus group techniques, in which participants are asked the qualities that they desire in a potential mentor or protégé. Next, the larger pool of volunteers may be narrowed down qualified individuals who may then be interviewed by the participants themselves. Essentially, it can be argued that administrators should remain somewhat removed from the matching process in order to allow the employees to manage their own career/personal growth.

## Limitations

### *Generalization Issues*

One significant barrier to generalization of the results of this study is that the mentoring occurred online where there is much more ambiguity and room for interpretation than in face-to-face relationships. For instance, there is more opportunity to “see what you want to see” in online relationships, and this would include similarity perceptions and expectations for mentoring functions. It could be that prior expectations/biases play a larger role in the online environment than in the face-to-face context. Also, in order to test the posited theories, a tightly-controlled experimental design (rather than a field study in an organization) was necessary. Therefore, students were used as participants, and the program was of relatively short duration compared to the formal programs implemented in other types of organizations. It is important to be aware that the pattern of results could change if this study were conducted in the field. For example, because individuals tend to feel less dissimilar over time, protégés involved in longer-term mentorship may derive rich benefits from a disparate mentor. Future research should explore this possibility using longitudinal designs. Finally, it should be noted that the current study implemented a voluntary formal peer mentoring program. Therefore, it is unknown whether the findings would extrapolate to involuntary formal programs. For instance, if a protégé must choose a mentor against his/her wishes, the positive benefits of choice could be diminished.

### *Effect of the Manipulation*

As aforementioned, the manipulation failed to have its fully-intended effect on the mentors. It did have an effect on mentor similarity perceptions, but not on coded or perceived mentoring functions. Unfortunately, a majority of the mentors misunderstood how their protégés

contributed to the matching process. Many prior studies have relied on measuring mentor and protégé perceptions of input into the mentoring process. One of the primary advantages of the current study is that input was manipulated, so I could examine the extent to which participant perceptions matched reality. In this case, it is evident that perceptions can be quite misguided. Despite the fact that all participants were administered the manipulation twice (once by phone and once by e-mail), they still could not accurately recall how they were matched at the end of the program, eight weeks later. (The manipulation check was not administered earlier so as not to bias the mentor and protégé's ongoing interactions with one another). Even in the context of this controlled experiment where a concerted effort was made to communicate match information clearly to the mentors, they still did not comprehend it. Therefore, it can be assumed that these types of misunderstandings also occur on a regular basis in organizational contexts.

One possible reason for the mentors' memory deficiency regarding matching is that they just did not feel as invested in the process because they were not involved in the process. In fact, it has been shown that mentor perceptions of match input contribute to protégé-reported mentorship success beyond protégé-perceived input; likewise, protégé-perceived input contributes to mentor-reported success beyond mentor-perceived input (Allen et al., 2006a). This suggests that it is important to give both the mentor and protégé input into the matching process when implementing formal programs. Nevertheless, the results of the current study should serve as a caution to researchers who rely solely upon measures of perception. Although these provide important information, they should be used in conjunction with objective measures when feasible.

In future studies, manipulations regarding match should be administered in a more salient way to participants—perhaps in the form of a picture/graphic/song that will remain in the memory. Because this was an online program, the researchers did not interact with each participant face to face; however, communicating in this manner may have proved more effective. Perhaps having the participants repeat the information back to the researcher would have been helpful. In summary, perceptions of match can be faulty. Future research should be devoted to ascertaining if involvement with the match can increase the accuracy of beliefs about nature of matching process. This proposition should be examined more closely because it proved effective for the protégés in this study. The protégés who most actively participated in the matching process (i.e., chose a mentor) had the most accurate perceptions of all.

#### *Assignment to Conditions*

It was my original intent to assign participants to conditions using a process that was as close to random as possible. However, even in real-world organizations, certain restraints exist (e.g., availability times), that are difficult or impossible to overcome. Despite my efforts to equalize the groups on extraneous variables, mentors in the convenience group had significantly few half-hour time slots available per week to meet with their protégés than mentors in the choice and perceived similarity-match groups. It is unknown if and how this could have biased the results.

For example, the argument could be made that better-qualified mentors would have less availability due to their commitment to their studies and extra-curricular activities. If this were the case, then the mentors in the convenience group may have been more effective in some way. A second explanation is that mentors who carved out large blocks of time in their schedules did



so simply to ensure they could be matched with a protégé. In fact, the researchers encouraged mentors to provide wide availability times to increase the chances they would be matched. In this case, mentors in the perceived similarity-match and choice groups would have been most motivated to mentor. Some evidence for this scenario was observed in Hypothesis 7 where the relationship between perceived and coded psychosocial support was actually negative for protégés in the choice group. As previously stated, protégés in the convenience group seemed to manifest a lack of trust, perceiving their mentors as insincere. It is unknown if or how mentor availability times could be connected to this phenomenon. Despite this potential selection threat, it is unlikely that it seriously impacted results. Recall there were no differences among groups in the amount of coded or protégé-perceived academic career and psychosocial support given by mentors. Thus, it is improbable that mentors in any one particular group were more effective from the beginning.

#### *Measurement Issues*

This study contributes to the existing knowledge base by offering improved measures of mentoring functions that are specific to the college context. Based on these new measures, coding schemas were devised for both mentor and protégé behavior that were successfully tested by the independent raters. However, along with these accomplishments were a few measurement issues that should be considered for future mentoring research.

For example, the index for interactivity (i.e., dialogue changes) was not likely as true to the construct as it could have been. The purpose of the index was to capture the extent to which one of the dyad members dominated the conversation, not allowing the other to participate equally. However, the chat interface somewhat prevented one member from overtaking the

conversation because the little box in which the message was typed was only large enough to see one or two sentences at a time. At a certain point, an individual would not be able to see what they were typing, so they would have to press “Enter” and send the message up to the chat screen for the other person to see. If the message box had been large and had had scrolling capability, then one person could easily overtake the conversation, but that not the case in this study. Interactivity was related to protégé stress as well as coded and perceived mentoring functions, and it was a significant covariate in some of the analyses. Nonetheless, it was not related to similarity or to protégé self-efficacy, and its operationalization could have been a contributing factor.

Finally, mentor-reported protégé proactivity failed to establish convergent validity with coded proactivity. Although both measures separately demonstrated acceptable internal consistency and interrater reliability was satisfactory for coded proactivity, two measures were unrelated. Mentors responded to the proactivity survey after they had completed their online sessions, so they had to rely heavily on their memories regarding what had happened over the past four weeks. In contrast, the coders had the transcripts right in front of them as they rated. Consequently, their ratings may have been more accurate relative to the mentors’ ratings. Yet, the manipulation did impact mentor-perceived proactivity (see Figure 4), so it was likely picking up some aspects of the construct. Perhaps in future studies, mentors should be asked to read over the transcripts—much like the coders do—before rating proactivity.

### Conclusion

The current study adds to the existing literature in two primary ways. First, it is one of the first investigations specifically aimed at closely examining the protégé’s behavior rather than

focusing solely on mentoring functions given by the mentor. This is significant because protégés are not simply passive recipients in the mentoring process. These results point to the protégé's power to work with the mentor in shaping his/her own development. Second, this is the first known attempt to create a systematic, objective way to quantify proactive behaviors. It is hoped that over time, the coding schema may be further tested, refined, and possibly extended to other mentoring contexts.

The results of the current investigation suggest that protégé choice matters, for four major reasons. First, protégés chose mentors with whom they feel similar—which may be a key ingredient for the success of relatively short-term formal programs. Second, protégés who choose their own mentors are more proactive. Third, when protégés pick their own mentors, the impact of objective, coded PS is more positive on their perceptions. Finally, these reports regarding the amount of PS they received are positively related to self efficacy and negatively related to stress.

Not only is protégé input crucial, but the results also strongly hint that mentor involvement matters as well. These ideas are not new—prior research has attested to the criticality of employee voice and participation when implementing any program in an organization (Avery & Quinoes, 2002; Thibaut & Walker, 1975). These principles should now be applied to formal mentoring programs. Technology and the Internet are making it easier than ever before to compile databases of volunteer mentors/protégés who are waiting to be chosen. To the degree that formal programs feel “informal” to participants (i.e., individuals have some control and investment in the process), the greater the chance of realizing the benefits that were formerly seen primarily in informal mentorships.

Future research should be dedicated to understanding the long-term mentoring relationship and determining if/when similarity fades as a central theme. If individuals usually choose a similar other, will they miss out on fresh perspectives and differing viewpoints to sharpen their skills? Also, it would be fruitful to learn about the areas where similarity is essential versus the aspects in which it does not matter or is even harmful. Also, it is essential to think about how to structure formal programs so as to give women and minorities the best chance of success (Blake-Beard, 2001). If these individuals can receive more control and options, they may finally gain the confidence and trust to ask for what they need.

In summary, the current study contributes to the existing mentoring literature by testing ways to increase the effectiveness of formal mentoring programs. In addition, the importance of innovative ways to assess mentoring functions and protégé proactivity was emphasized. Finally, this study both answers and raises questions about the role of similarity perceptions in finding and maintaining a successful mentorship.

APPENDIX A: MENTOR INFORMED CONSENT

## Mentor Informed Consent

1. You are invited to voluntarily participate in a research study titled: **“Investigating Mentor/Protégé Interactions”**. As a mentor, you will participate in a series of communication sessions with a first-semester freshman (your “protégé”). Various questionnaires will be collected at both the beginning and end of the program, and the text from the electronic chat sessions will be saved and transcribed for coding. Electronic communications and data collected from this study will be safely stored under lock and key. You do not have to answer any questions that you do not wish to answer on any of the questionnaires, and have the right to examine the questionnaires before signing this informed consent form. Please inform the researcher if you choose to do so. The purpose of this research study is to investigate the variables that impact the success of mentoring relationships.
2. Your part in the program (Note: The following should not take more than 3-4 hours of your time over the course of the entire fall semester):
  - a. You must go through a brief, virtual orientation ([www.ucfmentoring.com](http://www.ucfmentoring.com)) that will help you to be an effective mentor. You must also fill out a short survey before being matched with a protégé.
  - b. You will meet with your protégé for online chats for four half-hour sessions in the fall semester. You will also have access to an internal e-mail system to communicate with your protégé for up to six months. This is not required for participation in the study, but may be utilized by participants if they so desire.
  - c. A second brief survey after your last online session.
  - d. A third brief survey at the end of fall semester.
4. The investigator believes that there will be no risks or discomforts to you as a result of participating.
5. You understand that you will receive no direct benefit other than:
  - Knowledge that participation in this study will aid efforts to improve the performance of future students that participate in the program.
  - A copy of any publications resulting from the current study if requested.
  - An opportunity to do volunteer service by coaching a freshman.
  - You will receive a letter of completion from Dr. Jentsch detailing your participation activities.
6. Your identity will be kept confidential. Your confidentiality during the study will be ensured by assigning you a coded identification number prior to the first data collection. The list connecting your name to this number will be kept in a locked file. Your name will not be directly associated with any data. The confidentiality of the information related to your participation in this research will be ensured by maintaining records only coded by identification numbers. Copies of electronic communications will be kept under lock and key and will only be viewed by members of the research team.
7. If I have any questions about this study I should contact the following individuals:

**Principal Investigator: Dr. Kim Jentsch Phone: 407-823-3577**  
E-mail: [kjentsch@mail.ucf.edu](mailto:kjentsch@mail.ucf.edu)

**Assistant Investigator: Dana Kendall: 407-733-2765**  
E-mail: [info@ucfmentoring.com](mailto:info@ucfmentoring.com)
8. My participation in this study is completely voluntary and will not affect my grade or status in any program or class.
9. My participation in this study may be stopped by the investigator at any time without my consent if it is believed the decision is in my best interest. There will be no penalty or loss of benefits to which I am otherwise entitled at the time my participation is stopped.

10. No out of pocket costs to me may result from my voluntary participation in this study.

11. If I decide to withdraw from further participation in this study, there will be no penalties. To ensure my safety and orderly withdrawal from the study, I will inform the Principal Investigator, Dr. Kimberly Jentsch.

12. Official government agencies may have a need to inspect the research records from this study, including mine, in order to fulfill their responsibilities.

13. I have been informed that my consent form will be stored under lock and key. This informed consent form will be kept in a locked filing cabinet separately from any other data associated with this study, and destroyed after a 3 year period. All data from the study will be destroyed once the researchers have completed their analyses.

14. I have been informed that the text from my communications will be transcribed and will be kept under lock and key.

15. If I have any questions about my rights in the study, I may contact:

Barbara Ward, UCFIRB Office, University of Central Florida Office of Research, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3246, 407-823-2901

16. I have been given an opportunity to ask questions about this study and its related procedures and risks, as well as any of the other information contained in this consent form. I have been given the opportunity to review the questionnaire items that I will fill out. All my questions have been answered to my satisfaction, and I understand what has been explained in this consent form about my participation in this study. I do not need any further information to make a decision whether or not to volunteer as a participant in this study. By my signature below, I give my voluntary informed consent to participate in the research as it has been explained to me, and I acknowledge receipt of a copy of this form for my own personal records. Furthermore, I acknowledge that I am over 18 years of age and am able to give consent to participate in this study.

\_\_\_\_\_  
Mentor Signature

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Date

**Please drop off this signed for at the Psychology Office (Howard Phillips Hall, Room # 302. 3<sup>rd</sup> floor) in Dana Kendall's box.**

I, the researcher, was present during the explanation referred to above, as well as during the volunteer's opportunity to ask questions, and hereby witness the signature.

\_\_\_\_\_  
Investigator Signature

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Date

## APPENDIX B: EXAMPLE OF AN ONLINE MENTOR PROFILE



## **SOCRATES 215**

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### **Availability**

Mon: 1-5pm  
Tue: 2-3pm  
Wed: 10am-12pm  
Thur: 1-9pm  
Fri: N/A  
Sun: N/A

**Gender:** Female

**Age:** 20

**Ethnicity:** Hispanic

**Class Standing:** Junior

**Major(s):** Management/International Relations

**Three personality traits that best describe me:** Ambitious, Witty, Caring

**What I see myself doing 5 years after I graduate:** I would like to work for my family's business.

**An obstacle I've overcome to get where I am today:** My grandfather died suddenly when I was 12. We were very close.

**Activities I enjoy in my spare time:** Music, Reading, Working out.

APPENDIX C: PROTÉGÉ INFORMED CONSENT

## Protégé Informed Consent

1. You are being asked to voluntarily participate in a research study titled: **“Investigating Mentor/Protégé Interactions”**. As a protégé, you will participate in a series of communication sessions with a junior or senior at UCF (your “mentor”). Various questionnaires will be collected at both the beginning and end of the study, and the text from the electronic chat sessions will be saved and transcribed for coding. Electronic communications and data collected from this study will be safely stored under lock and key. You will not have to answer any questions that you do not wish to answer on any of the questionnaires, and you have the right to examine the questionnaires before signing this informed consent form. Please inform the researcher if you choose this latter option. The purpose of this research study is to investigate the variables that impact the success of mentoring relationships.
  
3. Your part in the program (Note: The following should not take more than 3-4 hours of your time over the course of the entire Fall semester):
  - a. You must read a brief, virtual orientation (**www.ucfmentoring.com**) that explains the mentoring program. You must also fill out a brief survey right before meeting with your mentor.
  - b. You will meet with your mentor for online chats for four half-hour sessions in the fall semester. You will also have access to an internal e-mail system to communicate with your mentor for up to six months. This is not required for participation in the study, but you may utilize it if you desire.
  - c. A second brief survey after your last online session.
  - d. A third brief survey at the end of fall semester.
  
4. The investigator believes that there will be no risks or discomforts to you as a result of participating.
  
5. You understand that you will receive no direct benefit other than:
  - Knowledge that participation in this study will aid efforts to improve the performance of future students who participate in the program.
  - A copy of any publications resulting from the current study if requested.
  - An opportunity to gain advice, information, and support from some who has been where you are now and come through successfully.
  - You may receive up to 6 points of extra credit if your instructor is offering the opportunity, and you fulfill all study requirements.
  
6. Your identity will be kept confidential. Your confidentiality during the study will be ensured by assigning you a coded identification number prior to the first data collection. The list connecting your name to this number will be kept in a locked file. Your name will not be directly associated with any data. The confidentiality of the information related to your participation in this research will be ensured by maintaining records only coded by identification numbers. Copies of electronic communications will be kept under lock and key and will only be viewed by members of the research team.
  
7. If I have any questions about this study I should contact the following individuals:  
  
**Principal Investigator: Dr. Kim Jentsch Phone: 407-823-3577**  
E-mail: [kjentsch@mail.ucf.edu](mailto:kjentsch@mail.ucf.edu)  
  
**Assistant Investigator: Dana Kendall: 407-733-2765**  
E-mail: [info@ucfmentoring.com](mailto:info@ucfmentoring.com)
  
8. My participation in this study is completely voluntary and will not affect my grade or status in any program or class.



APPENDIX D: MENTOR DEBRIEFING FORM

### Mentor Debriefing Form

You participated in a study that was designed to examine how mentors can help protégés increase their knowledge and help them achieve their academic goals. Many organizations match new, incoming employees with senior members in order to help the newcomers gain important information as well as confidence. In this study, the primary objective was to see if protégés who chose their own mentor would have a similar experience as protégés who were assigned to a mentor by the researcher. Thus, your protégé either picked you as a mentor or was assigned to you by us. The results of this study will yield information about how organizations from Fortune 500 companies to educational institutions can implement successful mentoring programs.

We as researchers cannot do our work without your help, so we want you to know that your participation in this study was greatly appreciated! If you would like to discuss your experience as a mentor, or if you would like to learn more about the study's purpose or findings, please feel free to contact Dana Kendall at (407) 733-2765 or [dana1976@gmail.com](mailto:dana1976@gmail.com)

Thanks again for your participation! We hope your experience was enjoyable.

APPENDIX E: PROTEGE DEBRIEFING FORM

### Protégé Debriefing Form

You participated in a study that was designed to examine how mentors can help protégés increase their knowledge and help them achieve their academic goals. Many organizations match new, incoming employees with senior members in order to help the newcomers gain important information as well as confidence. Many organizations match protégés to mentors based on similar goals and interests. However, in these cases, the mentor and protégés themselves may not feel similar.

To further investigate this problem, we led some protégés in our study into believing that we would match you with a mentor based on similarity, but in actuality, we matched them on the basis of your coinciding availability times for chatting online. This deception was necessary, because it allowed us to see if your expectations of being similar to your mentor would affect your mentoring experience. If you would like to discuss your experience regarding this deception, please feel free to call Dana Kendall at: (407) 733-2765 or Dr. Kim Jentsch at: (407) 823-3577.

To other protégés, we provided the opportunity to pick a mentor from an online database of mentors. Finally, we truthfully informed still other protégés that we would match them on the basis of coinciding availability times for meeting online. The results of this study will yield information about how organizations from Fortune 500 companies to educational institutions can implement successful mentoring programs.

We as researchers cannot do our work without your help and cooperation, so we want you to know that your participation in this study was greatly appreciated! If you would like to discuss your experience as a protégé, or if you would like to learn more about the study's purpose or findings, please feel free to contact Dana Kendall at (407) 733-2765 or [dana1976@gmail.com](mailto:dana1976@gmail.com)

Thanks again for your participation! We hope your experience was enjoyable.



## APPENDIX F: PERCEIVED SIMILARITY MEASURE

## Perceived Similarity

Please indicate on the scale from 1-6 your level of agreement or disagreement with the following statements.

	Strongly Disagree					Strongly Agree
1. My mentor/protégé and I view things in much the same way.	1	2	3	4	5	6
2. My mentor/protégé and I are similar in terms of our outlook, perspectives, and values.	1	2	3	4	5	6
3. My mentor/protégé and I are alike in a number of areas.	1	2	3	4	5	6
4. My mentor/protégé and I think alike in terms of coming up with similar solutions to problems.	1	2	3	4	5	6
5. My mentor/protégé and I analyze problems in a similar way.	1	2	3	4	5	6
6. My mentor/protégé and I share several common interests.	1	2	3	4	5	6
7. My mentor/protégé and I seem to have a lot in common.	1	2	3	4	5	6
8. My mentor/protégé and I have the same or similar majors.	1	2	3	4	5	6
9. My mentor/protégé and I share similar free-time hobbies.	1	2	3	4	5	6
10. My mentor/protégé and I have overcome similar obstacles in our pasts.	1	2	3	4	5	6
11. My mentor/protégé and I want to pursue similar career paths when we graduate from college.	1	2	3	4	5	6

APPENDIX G: PROTEGE-PERCEIVED ACADEMIC CAREER DEVELOPMENT

Original Academic Career Development Items from  
Allen et al, (1999) and Smith-Jentsch et al., (2007)

Please indicate on the scale from 1-6 the extent to which the following statements describe the relationship you had with your mentor.

	Very Slight Extent			Very Large Extent		
	1	2	3	4	5	6
1. My mentor reduced unnecessary risks that could threaten the possibility that I would advance through my program of study.	1	2	3	4	5	6
2. My mentor helped me review assignments/tasks or meet deadlines that otherwise would have been difficult to complete.	1	2	3	4	5	6
3. My mentor offered to help me meet with other students.	1	2	3	4	5	6
4. My mentor gave me ideas for increasing contact with school administrators and faculty.	1	2	3	4	5	6
5. My mentor gave me ideas for activities to prepare me for an internship or job.	1	2	3	4	5	6
6. My mentor gave me ideas for activities that will present opportunities for me to learn new skills.	1	2	3	4	5	6
7. My mentor provided me with practical tips on how to accomplish academic objectives.	1	2	3	4	5	6
8. My mentor offered to introduce me to others who can provide me with academic opportunities.	1	2	3	4	5	6
9. My mentor helped my mentor develop interpersonal communication, leadership, or team skills through feedback.	1	2	3	4	5	6
10. My mentor helped me to develop study skills.	1	2	3	4	5	6

	Very Slight Extent			Very Large Extent		
	1	2	3	4	5	6
11. My mentor offered to recommend me to faculty, staff, employees, etc., for desired opportunities.	1	2	3	4	5	6
<b>New items written for current study:</b>						
12. My mentor gave suggestions on how to better manage my time in order to complete my academic tasks successfully.	1	2	3	4	5	6
13. My mentor provided suggestions for how to better manage my finances.	1	2	3	4	5	6
14. My mentor suggested different places where I could apply for a job.	1	2	3	4	5	6
15. My mentor provided tips for taking exams successfully.	1	2	3	4	5	6
16. My mentor provided information about which courses to take.	1	2	3	4	5	6
17. My mentor provided information about which professors are good.	1	2	3	4	5	6
18. My mentor took time to look up academic or job-related information for me.	1	2	3	4	5	6
19. My mentor taught me about school policies.	1	2	3	4	5	6
20. My mentor provided me with information about the area around the university.	1	2	3	4	5	6
21. My mentor suggested places to live near or on campus.	1	2	3	4	5	6

## APPENDIX H: EXAMPLES OF ACADEMIC CAREER DEVELOPMENT

### Examples of Academic Career Development (ACD) from Pilot Study

#### **Example #1: Mentor provides advice on reaching career goals.**

**Plato:** I just gotta keep trucking to get into nursing school. They only take 50 students a semester

**Socrates:** I would talk to current nursing students to see what you can do to make yourself more competitive

---

#### **Example #2: Mentor gives protégé information on UCF policies.**

**Socrates:** At the end of the semester you have to fill out an evaluation for your professors

**Plato:** Oh I didn't know that

**Plato:** Does the school keep a database of the overall evaluations?

**Socrates:** I'm not sure how seriously they take bad evaluations though since it could be that the student is just mad that they didn't get a good grade

**Plato:** right

**Socrates:** What they tell us is that the department looks at the evaluations and records what is said and they give a compilation of that to the professors

**Socrates:** I haven't found anyone that knows for sure if they are only used for the professors to get feedback or if the department actually pays attention to them

**Plato:** It'd be a waste if they didn't pay attention heh

---

#### **Example #3: Mentor gives test-taking advice.**

**Socrates:** Then a major thing you should do is make sure that you take time to read the question thoroughly, that way you completely understand the question. You are more likely then to pick out the best answer because you know what he is asking for.

---

**Example # 4: Mentor inquires about protégé's career goals.**

**Socrates:** Are you planning on staying in Florida to work or going out of state eventually?

---

**Example #5: Mentor gives protégé advice on how to save money on food.**

**Socrates:** Well is there anything else that is on your mind or that you would like to talk about?

**Plato:** I could use tips on good but cheap eating

**Socrates:** Hmm ok... well eating out is the easiest to do but it really isn't always the cheapest

**Socrates:** How good are your cooking skills?



APPENDIX I: PROTEGE-PERCEIVED PSYCHOSOCIAL SUPPORT

Original Psychosocial Support Items from  
Allen et al, (1999) and Smith-Jentsch et al., (2007)

Please indicate on the scale from 1-6 the extent to which the following statements describe the relationship you had with your mentor.

	Very Slight Extent			Very Large Extent		
1. My mentor shared the history of his/her academic career with me.	1	2	3	4	5	6
2. My mentor encouraged me to prepare for academic advancement.	1	2	3	4	5	6
3. My mentor encouraged me to try new ways of behaving in school.	1	2	3	4	5	6
4. My mentor demonstrated good listening skills in our conversations.	1	2	3	4	5	6
5. My mentor discussed my questions and concerns regarding feelings of competence.	1	2	3	4	5	6
6. My mentor discussed my questions and concerns regarding commitment to academic advancement.	1	2	3	4	5	6
7. My mentor discussed my questions and concerns regarding relationships with peers.	1	2	3	4	5	6
8. My mentor discussed my questions and concerns regarding relationships with faculty.	1	2	3	4	5	6
9. My mentor discussed my questions and concerns regarding work/family conflicts.	1	2	3	4	5	6
10. My mentor shared personal experiences as a different perspective to my problems.	1	2	3	4	5	6

	Very Slight Extent			Very Large Extent		
11. I expect that my mentor will provide suggestions for how to manage my personal stress levels.	1	2	3	4	5	6
12. I expect that my mentor will suggest ways to be involved in <i>non-academic</i> extracurricular activities.	1	2	3	4	5	6
13. I expect that my mentor will suggest ways to deal with personal concerns.	1	2	3	4	5	6
14. I expect that my mentor will encourage and support me.	1	2	3	4	5	6

## APPENDIX J: EXAMPLES OF PSYCHOSOCIAL SUPPORT

### Examples of Psychosocial Support (PS) from Pilot Study

#### **Example #1: Mentor offers encouragement.**

**Socrates:** I think you will do great, just believe in yourself

---

#### **Example #2: Mentor offers support regarding hurricane.**

**Plato:** I'm okay I have been stuck here though my whole screen enclosure came off from the hurricane.

**Plato:** Helping my family pick up.

**Socrates:** Wow, I am sorry to hear that.

**Socrates:** Well be careful.

---

#### **Example #3: Mentor shares personal experience with roommate issues.**

**Plato:** Well me and my roommate...well let's say we are total opposites...and don't have much in common...so we really don't get along very well...but I'm learning to live with it

**Socrates:** That sucks about the roommates....I had two really crazy roommates when I lived on campus  
(coded as PS)

**Socrates:** She would eat my foot and when I asked her about it she would lie straight to my face

**Plato:** That is terrible

**Socrates:** I would start leaving notes in the food saying DON'T EAT THIS

**Socrates:** I laugh about it now

**Plato:** That's hilarious

---

#### **Example #4: Mentor helps discouraged protégé feel better about grades.**

**Plato:** Truthfully, is it bad if i got 2 A's, 1 B, and 1 C? The B might be an "A"? I'm really scared that that is horrible

**Socrates:** Noooooo

**Socrates:** Most people have to go on probation their first semester

**Plato:** Oh really

**Plato:** Wow

**Socrates:** I have over a 3.5 now, but my first semester I had 1 A and 3 C's (Note: this particular statement would technically fall under ACD because the mentor is sharing his/her personal *academic* experience with the protégé).

**Plato:** I really feel like I'm a failure if I get that

**Socrates:** No way! You are getting above average grades in college...people can't even get into college

**Plato:** Yea I just feel like that one C might kill me

**Socrates:** That is a great start. You can make up for that C....plenty of time!

**Socrates:** You're doing fine so far

**Socrates:** A C or 2 happens....

APPENDIX K: MENTOR-REPORTED PROTÉGÉ PROACTIVITY

### Protégé Proactivity

To what extent did your protégé:	Very Slight Extent			Very Large Extent		
1. Try to gather as much information as possible from you (through chat sessions and/or e-mail)?	1	2	3	4	5	6
2. Try to form a good relationship with you?	1	2	3	4	5	6
3. Solicit your opinion regarding classes to take?	1	2	3	4	5	6
4. Solicit your opinion regarding which professors are good?	1	2	3	4	5	6
5. Ask for your advice regarding how to handle financial issues?	1	2	3	4	5	6
6. Inquire about university rules, policies, or student services?	1	2	3	4	5	6
7. Ask for help in looking for a place to live in the area?	1	2	3	4	5	6
8. Ask for help in navigating the campus or Orlando area?	1	2	3	4	5	6
9. Ask for advice on how to manage his/her time effectively?	1	2	3	4	5	6
10. Ask for advice on how to develop study and/or test-taking skills?	1	2	3	4	5	6
11. Ask you to share your own personal academic experiences with him/her?	1	2	3	4	5	6
12. Admit having an academic problem that s/he did not know how to handle?	1	2	3	4	5	6
13. Admit to needing assistance to solve an academic problem?	1	2	3	4	5	6
14. Reveal feelings of general stress and anxiety?	1	2	3	4	5	6
15. Ask for advice about a personal relationship problem (e.g., family, significant other, roommate)?	1	2	3	4	5	6
16. Ask you to share your own personal non-academic experiences with him/her? [This could include how you handle(d) family issues, cultural adjustment, roommate problems, psychological issues, stress & strain, etc.].	1	2	3	4	5	6



To what extent did your protégé:

	Very Slight Extent			Very Large Extent		
17. Ask you for information regarding extra curricular (nonacademic) activities on campus?	1	2	3	4	5	6
18. Ask for your advice on adjusting to being away from home?	1	2	3	4	5	6
19. Admit to needing your assistance to solve a non-academic problem?	1	2	3	4	5	6
20. Ask you for advice on how to make new friends?	1	2	3	4	5	6

## APPENDIX L: EXAMPLES OF PROTÉGÉ PROACTIVITY

### Examples of Protégé Proactivity from Pilot Study

#### **Example #1:**

**Socrates:** I'm not sure what the requirements are for a minor but I'll pull it up real quick if you would like me to suggest some classes.

**Plato:** I have the requirements in a booklet at home, but it'd be awesome to know what profs are good  
*(coded as ACD question).*

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#### **Example #2**

**Socrates:** Most people take physio psych and I really enjoyed it with Professor X. I would recommend him.

**Plato:** Okay.

**Plato:** Do you know if Professor Y teaches physio psych too? *(coded as an ACD question)*

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#### **Example #3:**

**Socrates:** Ok, I'm just trying to figure out where you want to go with this because depending on what you plan on doing, you may need to start getting involved on campus and getting experience in the field.

**Plato:** I'd love to get experience but I'm not sure how and where *(coded as ACD admission)*

**Socrates:** What type of experience?

**Plato:** Anything really.

**Plato:** I do have some more pressing issues on hand though

**Plato:** Namely financially *(coded as ACD admission).*

**Socrates:** Ok then we can talk about that instead..... leave this till later.

#### **Example #4:**

**Plato:** I'm starting to get used to campus life and my roommates.

**Socrates:** So does that mean you will not have any need for me your super mentor? with all this training under your belt you should be well equipped for UCF

**Plato:** I can still use all the help I can get (*coded as PS admission*).

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**Example #5:**

**Socrates:** I know they have a dental club, unaware of the details but u should check it out, maybe u could do job shadowing or something to find out if that what u really want to do.

**Plato:** But I still might join.

**Socrates:** Ok...good start.

**Plato:** So are there any clubs or organizations that you would suggest me joining? (*coded as PS question*)

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**Example #6:**

**Plato:** Does the bookstore hire workstudy people? (*coded as ACD question*)

Socrates: ya

## APPENDIX M: PROTÉGÉ STRESS

Protégé Stress (House & Rizzo,1972)

There are many physical symptoms associated with stress. During the past thirty days, how often did you experience each of the following symptoms?

1.	An upset stomach or nausea	None	1	2	3	4	More than 4
2.	A backache	None	1	2	3	4	More than 4
3.	Trouble sleeping	None	1	2	3	4	More than 4
4.	A skin rash	None	1	2	3	4	More than 4
5.	Shortness of breath	None	1	2	3	4	More than 4
6.	Chest pain	None	1	2	3	4	More than 4
7.	Headache	None	1	2	3	4	More than 4
8.	Fever	None	1	2	3	4	More than 4
9.	Acid indigestion or heartburn	None	1	2	3	4	More than 4
10.	Eye strain	None	1	2	3	4	More than 4
11.	Diarrhea	None	1	2	3	4	More than 4
12.	Stomach cramps (not menstrual)	None	1	2	3	4	More than 4
13.	Constipation	None	1	2	3	4	More than 4
14.	Heart pounding when not exercising	None	1	2	3	4	More than 4
15.	An infection	None	1	2	3	4	More than 4
16.	Loss of appetite	None	1	2	3	4	More than 4
17.	Dizziness	None	1	2	3	4	More than 4
18.	Tiredness or fatigue	None	1	2	3	4	More than 4

APPENDIX N: PROTÉGÉ SELF EFFICACY

Protégé Self Efficacy (Solberg et al., 1993)

How confident are you that you could successfully complete the following tasks?

	Not at all Confident					Extremely Confident
1. Research a term paper.	1	2	3	4	5	6
2. Write course papers.	1	2	3	4	5	6
3. Do well on your exams.	1	2	3	4	5	6
4. Take good class notes.	1	2	3	4	5	6
5. Keep up to date with your schoolwork.	1	2	3	4	5	6
6. Manage time effectively.	1	2	3	4	5	6
7. Understand your textbooks.	1	2	3	4	5	6
8. Participate in class discussions.	1	2	3	4	5	6
9. Ask a question in class.	1	2	3	4	5	6
10. Get a date when you want one.	1	2	3	4	5	6
11. Talk to your professors.	1	2	3	4	5	6
12. Talk to university staff.	1	2	3	4	5	6
13. Ask a professor a question.	1	2	3	4	5	6
14. Make new friends at college.	1	2	3	4	5	6
15. Join a student organization.	1	2	3	4	5	6



## APPENDIX O: PROTÉGÉ SATISFACTION

## Protégé Satisfaction

Please indicate on the scale from 1-6 your level of agreement or disagreement with the following statements.

	Strongly Disagree					Strongly Agree
1. The mentoring relationship between my mentor and I was very effective.	1	2	3	4	5	6
2. My mentor effectively utilized me as a protégé.	1	2	3	4	5	6
3. My mentor and I enjoyed a high-quality relationship.	1	2	3	4	5	6
4. Both my mentor and I benefited from the mentoring relationship.	1	2	3	4	5	6
5. I was extremely satisfied with my mentor.	1	2	3	4	5	6
6. I am satisfied with the relationship that developed between my mentor and myself.	1	2	3	4	5	6

APPENDIX P: DESIRE TO CONTINUE RELATIONSHIP

### Desire to Continue

For the following items, please circle the answer that best represents your response.

	Strongly Disagree					Strongly Agree
1. I would like to continue the relationship with my mentor (protégé).	1	2	3	4	5	6
2. I hope I get to spend time with my mentor (protégé) again, even though the formal program is over.	1	2	3	4	5	6
3. I am not interested in trying to continue a relationship with my mentor (protégé).	1	2	3	4	5	6
4. My mentor (protégé) and I have developed a relationship that will continue beyond this mentoring program.	1	2	3	4	5	6

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