

ABSTRACT

DOES SELF-EFFICACY CROSSOVER BETWEEN MENTORS AND PROTEGES WITHIN MENTORING DYADS? EXAMINING THE FACILITATING ROLE OF PERSPECTIVE TAKING IN THE CROSSOVER PROCESS

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Extensive research on mentoring shows that mentoring programs within organizational settings enhance various individual outcomes. The current dissertation specifically examined how mentors enhanced protégé self-efficacy. Three studies were designed to investigate whether efficacy beliefs transfer from mentors to their respective protégés. The studies also focused on the conditions and the psychological processes that facilitated the transfer of efficacious beliefs between the members of the mentoring dyad.

Drawing on social comparison theory, I proposed that when shared experience exists between mentors and protégés, protégés are able to take the perspective of their mentors. I further proposed that the perspective taking a protégé engages in enables them to ascribe positive aspects of their mentor (i.e., efficacious beliefs) to themselves. Precisely, a protégé's perspective taking bolsters the transfer of efficacious beliefs from the mentor to the protégé. Study 1 and Study 2 adopted an experimental design (i.e., vignette study) and Study 3 adopted a survey design with protégés in an e-mentoring program. Results from all the three studies provided evidence for the transfer of efficacy beliefs from the mentor to the protégé.

The findings also supported the postulation that shared experience between the protégé and the mentor facilitates perspective taking on behalf of the protégé. Although the findings

of the experimental studies showed that a protégé's perspective taking moderated the positive transfer of efficacy beliefs from the mentor to the protégé, the field study failed to replicate this finding. The current research's findings have implications for training and developing employees. Mentors are able to encourage protégés to attempt and pursue stretch goals or tackle challenges by instilling domain specific efficacy beliefs in them. The research findings also underscore the role of shared experience and psychological process such as perspective taking in making mentoring relationships efficient and effective.

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BY

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TABLE OF CONTENTS

| | Page |
|---|------|
| LIST OF TABLES | vi |
| LIST OF FIGURES | vii |
| LIST OF APPENDICES | viii |
| Chapter | |
| 1. INTRODUCTION TO THE STUDY AND LITERATURE REVIEW | 1 |
| Problem Statement | 1 |
| Mentoring in the Workplace | 6 |
| Mentoring Functions | 7 |
| Mentors as Promoters of Self-Efficacy | 9 |
| The Role of Shared Experience | 11 |
| Similar Shared Experience and Perspective Taking | 13 |
| Crossover of Self-Efficacy Between Mentors and Protégés | 15 |
| The Role of Perspective Taking in Self-Efficacy Contagion | 17 |
| Research Question and Hypotheses | 20 |
| Overview of the order of Hypothesis Testing | 21 |
| 2. METHOD | 22 |
| Method: Study 1 | 22 |
| Participants and Procedure | 22 |
| Measures | 24 |
| Perspective Taking | 24 |

| Chapter | Page |
|---|------|
| Interpersonal Closeness | 24 |
| Similarity Manipulation Check | 25 |
| Results: Pretests and Study 1 | 25 |
| Pretests Overview | 25 |
| Study 1 | 26 |
| Exploratory Analysis | 32 |
| Discussion: Study 1 | 34 |
| Method: Study 2 | 37 |
| Participants and Procedure | 37 |
| Measures | 38 |
| Perspective Taking | 38 |
| Self-Efficacy | 38 |
| Results: Study 2 | 39 |
| Discussion: Study 2 | 41 |
| Method: Study 3 | 44 |
| Participants and Procedures | 44 |
| Measures | 46 |
| Self-Efficacy | 46 |
| Perspective Taking | 46 |
| Perceived Similarity | 47 |
| Results: Study 3 | 47 |
| Justification for a Cross-Lagged Panel Analysis | 47 |
| Testing for Directionality and Spuriousness | 48 |

| Chapter | Page |
|---------------------------------------|------|
| Testing the Theoretical Model | 51 |
| Discussion: Study 3 | 56 |
| 4. DISCUSSION | 59 |
| Limitations and Future Research | 64 |
| Practical Implications | 69 |
| REFERENCES | 71 |
| APPENDICES | 79 |

LIST OF TABLES

| Table | Page |
|--|------|
| 1. Means and Standard Deviations by Conditions | 27 |
| 2. Means and Standard Deviations of Additional Pretests by Conditions | 28 |
| 3. Means, Standard Deviations, and Correlations of Study 1 Variables | 28 |
| 4. Moderated Multiple Regression Analysis Predicting Protégé Self-Efficacy in Study 1 | 30 |
| 5. Means, Standard Deviations, and Correlations of Study 2 Variables | 39 |
| 6. Moderated Multiple Regression Analysis Predicting Protégé Self-Efficacy in Study 2 | 40 |
| 7. Means, Standard Deviations, and Correlations of Study 3 Variables | 52 |
| 8. Moderated Multiple Regression Analysis Predicting Protégé Self-Efficacy in Study 3 | 53 |

LIST OF FIGURES

| Figure | Page |
|--|------|
| 1. Theoretical Model Depicting the Process of Self-Efficacy Contagion Between the Mentor and the Protégé | 6 |
| 2. Moderating Effect of Perspective Taking on the Transfer of Self-Efficacy From Mentors to Protégés | 32 |
| 3. Moderating Effect of Perspective Taking on the Transfer of Self-Efficacy From Mentors to Protégés | 42 |
| 4. Relationships Between Mentor Self-Efficacy and Protégé Self-Efficacy at Both Time 1 and Time 2 | 49 |
| 5. Moderating Effect of Perspective Taking on the Transfer of Self-Efficacy From Mentors to Protégé | 55 |

LIST OF APPENDICES

| Appendix | Page |
|--|------|
| A. VIGNETTES TO BE USED IN STUDIES 1 AND 2 | 79 |
| B. QUESTIONS FOR PRETEST | 82 |
| C. SELF-EFFICACY MEASURE | 84 |
| D. INCLUSION OF OTHER IN SELF SCALE (IOS) | 86 |
| E. PERCEIVED SIMILARITY MEASURE | 88 |
| F. PERSPECTIVE TAKING MEASURE | 90 |
| G. DEMOGRAPHIC VARIABLES | 92 |

CHAPTER 1

INTRODUCTION TO THE STUDY AND LITERATURE REVIEW

A majority of Fortune 500 companies (e.g., Intel, Google, General Electric, etc.) have well-developed mentoring programs for new and existing employees (Bryant, 2015).

Mentoring programs are often implemented by organizations to enhance their employees' career and personal development (Dreher & Ash, 1990). Anecdotal and empirical evidence illustrate the significance of mentors in shaping career paths of successful employees.

Successful executives within corporate and not-for-profit organizations often acknowledge the role their mentors played in molding their career succession (Schipani, Dworkin, Kwolek-Folland, & Maurer, 2009).

Mentoring is associated with various individual outcomes within organizational settings such as rapid career advancement, substantial increase in promotion rate, career success, higher compensation, and personal learning (Bozionelos, et al., 2016; Chao, Walz, & Gardner, 1992; Dreher & Ash, 1990; Eby et al., 2013; Lankau & Scandura, 2002) and organizational outcomes such as increase in organizational commitment (Mitchell, Eby, & Ragins, 2015) and reduction in voluntary turnover (Payne & Huffman, 2005). Mentors enable their mentees attain outcomes by performing two functions: career related mentoring and psychosocial mentoring (Kram, 1988). Mentors delivering career related support engage in activities such as enhancing the protégés' learning by assigning them to challenging projects, making protégés visible by introducing them to important people in the field. Knowing

“important people” is key, as they are central resources in terms of seeking job opportunities or expertise development. Mentors who extend psychosocial support engage in activities that increase the protégé’s sense of identity, competence, and effectiveness in their respective roles within organizations. Psychosocial support often manifests in the form of role modeling, counseling, providing acceptance, confirmation for behaviors displayed by protégés, and extending friendship towards the protégé (Allen, Eby, Poteet, Lentz, & Lima, 2004).

In addition to contributing to long-term career success, a key outcome associated with mentoring relationships is enhancement of protégé self-efficacy. Some research shows that mentors are able to promote self-efficacy among their protégés (Chopin, Danish, Seers, & Hook, 2012; Powers, Sowers, & Stevens, 1995). The current set of studies is aimed at examining how mentors are able to promote self-efficacy among their protégés. Employee self-efficacy is associated with various organizational outcomes; past literature provides evidence for the positive impact of self-efficacy on adaptability to new and advanced technology (Hill, Smith, Mann, 1987), managerial performance (Wood, Bandura, & Bailey, 1990), generating novel ideas (Gist, 1989), adjusting to new organizational environment (Saks, 1995), and skill acquisition (Mitchell, Hopper, Daniels, George-Falvy, & James, 1994). As the presence of mentors can enhance protégé self-efficacy and efficacious beliefs can result in lucrative organizational outcomes, it is imperative to devise research to understand how the presence of a mentor can augment a protégé’s efficacy beliefs.

As of now, there is a scarcity of studies with experimental control that examines the underlying mechanisms of how a mentoring relationship enhances self-efficacy in protégés (Allen et al., 2004; Eby et al., 2013). This is an important gap because promoting self-efficacy

among protégés has strong implications for employees and their organizations. For example, an individual's efficacy beliefs determine the nature of activities he/she is likely to pursue. Precisely, individuals are likely to avoid activities for which they do not possess efficacious beliefs and undertake activities that they believe they are capable to perform (Bandura, 1977; Pajares, 1996). Research also shows that efficacy beliefs are important antecedents of persistence; efficacious individuals are likely to initiate effort and persist at a task even when faced with adversities (Bandura, 1977). In other words, self-efficacy determines an individual's self-regulatory behaviors such as goal setting, goal commitment, and goal attainment (Bandura, 1991; Locke, Fredrick, Lee & Bobko, 1984). The research discussed here elaborates on how self-efficacy is likely to affect initiation of constructive behavior and maintenance of self-regulatory actions. Furthermore, individuals who eventually sustain such behaviors tend to perform well on the job; high levels of employee performance are positively associated with an organization's productivity levels (Gist, Schwoerer, & Rosen, 1989). In sum, self-efficacy is a key motivational construct; it determines the choices individuals make, the effort they exert, and the extent to which they cope and persist. Hence, understanding a mentor's role in promoting and enhancing self-efficacy of individuals in the workplace is important.

Prolific researchers in the field of mentoring call for more empirical research that investigates the direct link between mentoring and subjective individual outcomes such as self-competence and self-efficacy (Allen et al., 2004; Eby, Allen, Evans, Ng, DuBois, 2008; Eby et al., 2013). Although mentoring theory originally proposed by Kram (1983) states that mentors (through psychosocial and career-related mentoring) are able to enhance protégé's

subjective perceptions of competence or efficacy, this has not been the focus of many research projects lately (Allen et al., 2004). Additionally, these researchers also make a call for more research that can refine mentoring theory by investigating how mentoring relationships impact subjective perceptions of ability or competence. This dissertation is a direct attempt to address these questions.

In addition to theory building, the current research has strong implications for the infamous matching dilemma in the field of formal mentoring. Theoretical frameworks (Ragins, 1997) regarding mentoring relationships underscore the importance of demographic composition of the mentoring dyad. Some scholars argue that it is emotionally comforting to receive guidance from a mentor who has resolved problems that concerns one's demographic group; it is easier to trust someone who resembles members of the in-group than to trust someone who resembles the "other" (Ragins, 1997; Sosik & Godshalk, 2005). Contrarily, there is good reason to assume that demographic diversity within a mentoring relationship is lucrative for the protégé. Sosik and Godshalk (2005) theorize that choosing a mentor who has access to power and is part of the predominant culture is likely to have more resources for the protégé. Hence, choosing a white male as a mentor is likely to provide a protégé (regardless of their gender/race) access to opportunities they may not have had access to in demographically homogenous mentoring relationships.

Along with the theory regarding the matching dilemma being limited, empirical research examining the perks of being involved in demographically homogenous mentoring relationships provide inconsistent conclusions. A relatively recent study on students in the STEM field illustrated that being in a demographically homogenous relationship colored

protégés' feelings towards the mentoring relationship (e.g., feeling that the protégé received more help). However, with regard to practical outcomes such as developing self-efficacy beliefs or beliefs about being a good fit to their field of major or actual increase in GPA, being in a same-gender or same-race relationship did not matter (Blake-Beard, Bayne, Crosby, & Muller, 2011). These researchers astutely point out that it is not surprising that people tend to believe that being in same-gender or same-race mentoring relationships is likely to be more satisfactory or productive as our society is stratified by race and gender. However, they reconcile their inconsistent findings by pointing out that the matching process should take into account factors other than superficial characteristics. They assert that often race and gender are thought to be proxies for shared background or experiences, however the experiences of individuals of ethnic minorities or women are substantially varied that we cannot assume that members of the same demographic group will make a productive mentoring dyad. These researchers emphasize the need for future research to examine the impact of similarities that are deep seated. This dissertation attempts to address this gap in the literature by examining whether similarity in work-related challenges faced by the mentor and the protégé can facilitate practical outcomes such as boosting protégé's self-efficacy.

In this dissertation, I postulate that when a mentor expresses efficacious beliefs by sharing past experiences, these efficacy beliefs can be transferred from the mentor to his/her protégé. I further propose that, when a protégé perceives similarity between his/her own current experiences and the mentor's past experiences he/she is likely to engage in perspective taking. This perspective taking is further hypothesized to strengthen the transfer or the

contagion of self-efficacy between the mentor and the protégé. Figure 1 is pictorial representation of the theoretical model.

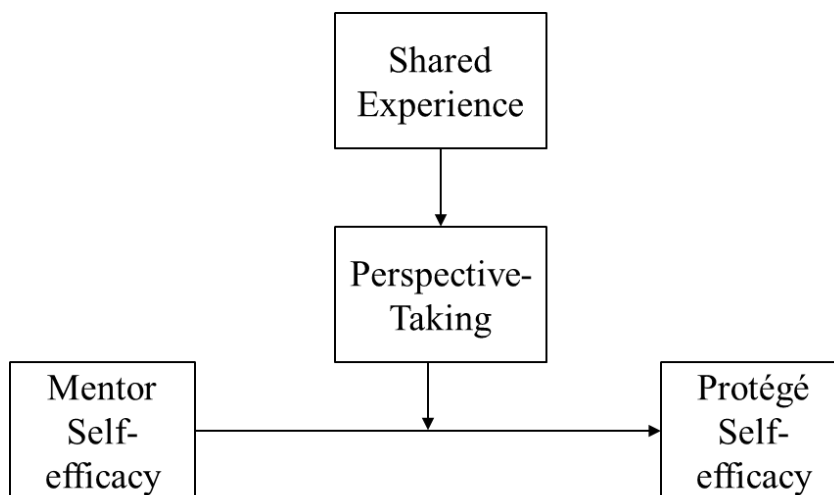


Figure1. Theoretical model depicting the process of self-efficacy contagion between the mentor and the protégé.

Subsequent sections of this introduction will provide foundational information on mentoring in the workplace. Additionally, the following sections will detail past research and theory that supports the various links depicted in the theoretical model.

Mentoring in the Workplace

A traditional perspective defines mentoring as a developmental relationship in which a senior person who is usually more experienced and knowledgeable than their respective protégé provides the protégé with guidance, support, and upward mobility (Ragins & Cotton, 1999). Kram (1988) theorized that a mentoring relationship is mutually enhancing in nature.

Her qualitative research provided some evidence to this postulation. Various studies underscore the importance of a mentoring relationship to protégés by identifying the positive outcomes encountered by protégés in their professional life. Formal and informal mentoring programs have shown to result in the enhancement of professional skills, augmentation of self-confidence, and an increase in scholarly productivity among graduate students (Clark, Harden, & Johnson, 2000). Similarly mentoring within corporate organizations has shown to result in greater monetary compensation and other career outcomes such as increased networking opportunities and challenging assignments (Ragins & Cotton, 1999). The mutually enhancing and reciprocal nature of mentoring relationships is reiterated by research that highlights how mentors benefit from mentoring relationships. Mentors report immense sense of satisfaction with their own career and professional life as result of being a mentor. Mentors also receive organizational recognition and are viewed as “good citizens” which in turn influences their performance appraisals and promotions in the future (Coates, 2012).

Mentoring Functions

Kram (1988) argues that mentoring functions delivered by mentors foster development in the domain of personal growth and career advancement. The two broad categories of mentoring functions are *career-related* mentoring and *psychosocial* support. The former includes sponsoring mentees; exposure and visibility (which includes assigning them with responsibilities that showcases their potential); coaching (helping the protégé understand effective strategies that can enable them to accomplish work objectives or attain recognition); challenging assignments (delegating stretch opportunities to protégés so that they can develop

their expertise and cultivate new competencies). Psychosocial support focuses on the interpersonal dimension of the mentoring relationship. This form of support is manifested in the form of role modeling (which, as described above, involves the mentor being an inspirational person the protégé can aspire to be in the future); acceptance and confirmation (this involves the mentor acknowledging the protégé's effort and providing him/her with a confirmation that he/she is carrying out appropriate steps to be successful); counseling (which includes having open conversations/interactions about personal barriers that might hinder performance e.g., anxieties regarding performance); friendship (this involves engaging in social interactions with the protégé such as having lunch). Kram explains that the ability of mentors to fulfill their career-related functions is contingent on their position within an organization, the power they hold and their influence. Contrarily the foundation of psychosocial support is the mutual trust and intimacy that develops because of robust interpersonal relationship between the mentor and protégé.

An important feature of career-related mentoring and psychosocial support is that these functions are not mutually exclusive. For instance, a mentor providing a protégé with a stretch opportunity is probably aimed at expertise development, however in the process of performing well at the new opportunity may also enhance the protégé's self-confidence and acceptance of the self. Similarly, during a counseling session, a mentor is aiming to understand a protégé's interpersonal problem within the workplace, yet this exercise could also include the mentor coaching the protégé on effective strategies related to socialization/political skills that may help the protégé effectively manage relationships and resources within the workplace (Kram, 1988). The interdependent nature of mentoring

functions is integral to the current study. Although role modeling is conventionally classified as form of psychosocial support, a mentor could role model behaviors within the career domain that may deliver psychosocial outcomes such as augmenting a protégé's efficacy related beliefs (Hayes, 1998).

Mentors as Promoters of Self-Efficacy

A copious body of literature provides substantial evidence for mentors being able to instill feelings of efficacy in their protégés. Past research indicates that nurse practitioners who received high levels of mentoring indicated high levels of efficacy beliefs regarding their ability to deliver patient care (Hayes, 1998). Similarly, a study on doctoral students illustrate the significance of faculty mentoring. The findings of this study revealed that students who received mentoring from their faculty advisors on best practices for conducting research were more likely to report high levels of research efficacy (Love, Bahner, Jones & Nilsson, 2007). Furthermore, a study on school teachers and their mentors demonstrated that teachers who shared high quality mentoring relationships with their mentors, expressed higher levels of efficacious beliefs about teaching their respective classes (Clifford, 1999).

The suggestion that mentors can be promoters of efficacy beliefs among their protégés is rooted in mentoring theory. Mentoring theory states that a protégé's self-esteem, sense of confidence, and efficacy beliefs are augmented through career-related and psychosocial mentoring they receive from their respective mentors (Kram, 1983). Specifically, mentors are thought to enhance efficacy beliefs through vicarious experiences (i.e., mentor sharing personal experiences), verbal persuasion (i.e., encouraging/expressing trust in protégés'

capabilities), or by providing opportunities to attain mastery experiences (Chopin et al., 2012). Among the various sources mentioned here, I am particularly interested in how vicarious experiences of mentors can be the source of self-efficacy boost.

Using vicarious experiences to induce expectations of mastery among protégés has practical implications. When individuals undertake long-term activities (e.g., pursuing a doctoral program or running a marathon) that require discipline and perseverance they are unlikely to come across opportunities that will help them attain mastery immediately. Instead, protégés are likely to look up to someone who has been in similar circumstances and has attained success. Additionally, in situations where individuals are novices and have had limited experience by which to gauge their own level of competence, vicarious experiences of others are very informative in forming their own efficacy beliefs (Zeldin & Pajares, 2000). Hence, learning about experiences of similar others has shown to influence self-efficacy (Vianen, 1999). These experiences tend to enhance one's expectations of mastery when they indicate success rather than failure (Kazdin 1974, 1975).

Although vicarious experiences shared by the mentor serve as the initial source of efficacy beliefs, this study will examine the manner in which these efficacy beliefs transfer from the mentor to the protégé. In other words, this study investigates whether there is a process that may account for why might the protégé express efficacious beliefs of their own after being exposed to his/her mentor's efficacy beliefs. I propose this underlying process to be perspective taking. However, the current research further argues that perspective taking on behalf of the protégé is elicited by another variable: shared experience. Specifically, protégés

are prone to undertake the perspective of the mentor only when they tend to have shared experiences with their mentor.

The Role of Shared Experience

Mentoring literature initially emphasized the role of surface-level similarity in bolstering mentoring relationships. For instance, Ragins (1997), in her framework on diversified mentoring, notes that the efficiency of a mentoring relationship is contingent on the demographic composition of the mentoring dyad. Precisely, Ragins posited that mentoring functions such as role modeling and psychosocial support will be stronger in demographically homogenous mentoring relationships. Empirical evidence related to the role of surface-level diversity in mentoring relationships is mixed. Some studies note that protégés who have same gender mentors or mentors from similar ethnic backgrounds report higher levels of comfort with their mentoring relationship (Allen, Day, & Lentz, 2005) and psychosocial support (Kark & Shilo-Dubnov, 2007). Contrarily, another study revealed that MBA students who were assigned to cross-gender mentoring relationships reported higher levels of psychosocial support in comparison to those who were assigned to same-gender mentoring relationships (Sosik & Godshalk, 2005). Similarly, Blake-Beard et al. (2011) failed to observe a boost in academic outcomes among protégés who were assigned to same-gender and same-race mentoring relationships. These inconsistent findings beg the question of whether it is surface-level similarity or deep-level similarity between the mentor and the protégé that determines the success of a mentoring relationship.

Empirical findings from the mentoring literature and research on group functioning suggest that deep-level similarities play a more significant role than surface-level similarities in fostering mentoring relationships. In a study that examined surface-level and deep level similarity, perceived attitudinal similarity (a deep-level similarity) was found to be the primary predictor of protégés' satisfaction with their mentors, and all the types of mentoring (i.e., career-related mentoring, psychosocial support, and role modelling) they received. Attitudinal similarity in this instance explained significant variance in all the mentoring outcomes (e.g., mentor satisfaction) above and beyond similar demographic characteristics (Ensher, Grant-Vallone, & Marelich, 2002). Similarly, a study on team functioning revealed that deep-level differences played a crucial role in determining social integration when members within the group interacted over a long period of time. Research has consistently shown that in ad-hoc and temporary groups demographic homogeneity may have a positive influence on interaction and other group processes. However, in groups that are required to interact over a longer period of time, being able to perceive similarity at a deeper level dictates the effectiveness of group processes (Harrison, Price, & Bell, 1998; Watson, Kumar, & Michaelsen, 1993). A mentoring relationship is characterized by frequent interactions between the mentor and the protégé during which both members are likely to disclose both personal and work-related information to each other. According to Harrison and colleagues' findings, a mentoring relationship that is likely to span over a long period of time and requires constant interactions is likely to be bolstered when the members of the mentoring dyad share deep-level similarities.

The current research operationalizes deep-level similarity differently from past research. Research on deep-level similarity within mentoring relationships tends to focus on similarity between mentors and protégés with regard to the attitudes they hold, their personality traits, work styles, and problem-solving styles. However, the current research operationalizes similarity as shared experience (i.e., barriers or challenges protégés and mentors have in common). The present research postulates that shared experience as a form of similarity is likely to lead to perspective taking on behalf of the protégé.

Humberd and Rouse (2016), in their recent theoretical paper on personal identification in mentoring relationships, posit that when a protégé or a mentor recognizes that there are similarities (e.g., common challenges such as striking a balance between family and work) between themselves and the other member of the mentoring dyad, they are likely to see themselves in the other by acknowledging the characteristics (e.g., challenges) they have in common. Other researchers further elaborate the link between shared similarity and self-other overlap. Specifically, some researchers argue that in interpersonal relationships similarity leads to perspective taking which in turn results in individuals seeing themselves in the other or the other in themselves (Galinsky, Ku, & Wang, 2005).

Similar Shared Experience and Perspective Taking

In accordance with Humberd and Rouse's (2016) and Galinsky et al.'s (2005) theorization, the current research proposes that a protégé's similarity with the mentor in terms of having faced similar challenges will incite the perspective taking process. Past research has used social comparison theory (Festinger, 1954) to understand the role similarity plays in

strengthening perspective taking. According to this theory, individuals look up to similar others when they are uncertain about how they should feel or behave in a situation.

Individuals prefer to refer to similar others because information gleaned from them is likely to be most informative to make evaluations regarding the self (Tesser, 1988). In a study on burnout contagion, results indicated that participants were more likely to endorse negative attitudes (burnout) when they were exposed to videotape of a colleague who was in a similar profession and rank than when they were exposed to a videotape of a colleague from a different profession and rank (Bakker, Westman, & Schaufeli, 2007).

Although extensive research (Barnett, Tetreault, & Masbad, 1987; Hodges, Kiel, Kramer, Veach, & Villanueva, 2010) has established that individuals are likely to exhibit empathetic reactions towards a target's misfortunes when they can draw from similar past experiences, studies examining perspective taking within this context are rare. Early research has shown that individuals who identify as survivors of rape are able to more readily adopt perspectives of other rape victims and rape survivors (Smith & Frieze, 2003). Additionally, a recent study examined the various antecedents that determine the ease of perspective taking. In this vignette study, participants were required to take the perspective of the protagonist in the vignette. The findings of this study noted that participants were able to adopt the perspective of the protagonist with more ease when they had a past experience similar to the challenge faced by the protagonist than when they did not have a similar past experience (Gerace, Day, Casey, & Mohr, 2015). Therefore, the current research proposes that protégés who have mentors that have experienced challenges that are similar to the ones they are currently facing are more likely to adopt the perspective of their mentor. The mentor here

poses as the similar other. The protégé is able to use the information gleaned about the mentor in a similar challenging situation for self-evaluation purposes.

Crossover of Self-Efficacy Between Mentors and Protégés

Crossover is defined as the transmission of states of well-being from one individual to another who are either related to each other (e.g., spouses) or work with each other in an interdependent manner (e.g., teammates) (Westman, 2001). Past research conducted on the crossover phenomenon has primarily focused on the transmission of negative states such as anxiety (Westman, 2001), burnout between individuals (Bakker, Le Blanc, & Schaufeli, 2005), and marital dissatisfaction between couples (Westman, Etzion, & Horovitz, 2004). Westman (2001) argued that there is a need to broaden the definition of crossover to include transmission of positive states. She further argued that if negative events within the workplace can lead to the crossover of strain between colleagues or spouses, then positive feelings or thoughts that emerge from positive events within the workplace should also crossover between colleagues or spouses. Westman's suggestion has received substantial empirical evidence. Recently researchers have made a case for the occurrence of positive crossover. Crossover of work engagement (a state of well-being characterized by dedication and vigor) was witnessed among individuals who are closely related to each other such as working couples (Bakker & Demerouti, 2009). Similarly, a study on flow at work (which is marked by total immersion in an activity, intrinsic motivation and absorption) showed that flow transferred from music teachers to their students with whom they worked closely on a daily basis (Bakker, 2005).

Although past work has not made a case for crossover of self-efficacy, it is plausible to foresee the transfer of self-efficacy between individuals that work closely with each other. According to Westman's suggestion, positive experiences like negative experiences (e.g., strain) are prone to transfer between individuals who are interdependent on each other. Self-efficacy can be construed as a positive experience. Precisely, self-efficacy is defined as a sense of confidence in one's own capabilities to perform well in a specific domain or a variety of domains. These domains may range from being relatively easy to being more taxing. (Beas & Salanova, 2006). Even though there is little research that looks at the transfer of efficacy beliefs from a mentor to a protégé, past research has shown that when individuals observe similar others perform successfully in challenging situations they experience an efficacy boost (Bandura, 1986; Schunk, 1987).

Furthermore, like work engagement, self-efficacy is a positive state of mind. If the former is likely to crossover between individuals, so should the latter. Efficacious beliefs enable individuals to develop a positive outlook towards the task or job at hand (Bandura, 1977). Similarly, work engagement enables individuals to experience vigor, be dedicated, and be absorbed in their job (Schaufeli, Salanova, Gonzalez-Roma, & Bakker, 2002). Researchers posit that crossover occurs through a conscious process; individuals tend to consciously process other individuals' emotions as information (Bakker & Demerouti, 2009). For instance, a colleague's work engagement can spur feelings of engagement in his/her peer, as the enthusiastic feelings expressed by the colleague may goad the peer to focus on the aspects of work that may elicit similar feelings within himself/herself. Similarly, a mentor expressing efficacious beliefs about a challenging task signals success to the protégé. The protégé is able

to imagine him or herself exerting similar effort as their mentor and being able to perform a comparable task successfully. Hence, the current research proposes that self-efficacy crossover is likely to be witnessed in a mentoring dyad.

The Role of Perspective Taking in Self-Efficacy Contagion

The main objective of this research is to understand the contagion process. Precisely, this research aims to address how self-efficacious beliefs transfer between individuals in a close relationship such as a mentoring relationship. This research postulates that under conditions in which shared experiences are emphasized, protégés are likely to take the perspective of the mentor, which will strengthen the crossover of efficacy beliefs between the mentor and the protégé. To elaborate further, this tendency to take the perspective of the mentor is likely to occur when the protégé sees that the mentor has experienced a challenge that is similar to the one they are currently facing. These postulations are based on past research findings that suggested that perspective taking moderated the contagion or crossover of work engagement between spouses. Precisely, men who reported they had higher levels of perspective taking, were able to readily adopt their partner's point of view and were more likely to be influenced by their partner's work engagement when compared to their counterparts who reported having lower levels of perspective taking (Bakker & Demerouti, 2009). Although contagion of positive states like self-efficacy could occur under other circumstances, perspective taking as per past research appears to be one of the prominent moderators that play a role in strengthening the crossover process. In the sections below, I

further elaborate on how perspective taking as a psychological process could play a role in moderating the contagion process.

Perspective taking is the cognitive component of empathy. It is a cognitive process in which the individual who takes the perspective of a target is able to understand or identify with the target's experiences (Egan, 1990) or to be concerned about the target's misfortunes (Betancourt, 1990), or even experience pleasure regarding the target's achievements (Aron, Aron, & Smollan, 1992). Additionally, perspective takers are able to identify the role the target's effort and hard work play in achieving positive outcomes and are able to acknowledge the role of external circumstances that may limit the ability of the target to achieve optimal outcomes (Galper, 1976).

Recent theory (Humberd & Rouse, 2016) that elaborates on the mechanisms that account for personal identification in mentoring relationships helps to explain why perspective taking is a viable mechanism for self-efficacy contagion. These scholars suggest that identification in a mentoring relationship can either occur through recognition and/or integration. During the various interactions protégés have with their mentors, protégés are able to recognize similarities between current characteristics (e.g., having international work experience) of their mentors and their own personal goals (e.g., I hope to work for companies that have offices abroad). Alternatively, protégés can also integrate certain aspects of their mentors in their own sense of self. When a good relationship exists between a mentor and a protégé, a protégé may discover aspects of the mentor that he/she may not share with the mentor, but due to a sound relationship between the two the protégé may integrate those aspects into their sense of self. For example, a protégé who is a doctoral student may only see

him/herself as a researcher but observing that his/her mentor embraces a researcher and a teacher identity may goad the protégé to do the same. Protégés often embrace aspects of their mentor into their own sense of self to become more similar to their idealized mentor (Humberd & Rouse, 2016). This integration leads to changing one's initial conception of the future self. This integration process, which involves taking aspects of a close other by imagining oneself in circumstances that the close other is currently in, corresponds with what other researchers (Aron et al., 1992; Galinsky & Moskowitz, 2000) define as perspective taking. Hence, the current research proposes that when protégés perceive their mentors as efficacious in resolving challenges, they are likely to imagine themselves in pertinent circumstances and incorporate that aspect of their mentor in their own sense of self.

Furthermore, it is theorized that when individuals make an effort to take another person's perspective, they are likely to experience an overlap between the mental representations they have about the self and the mental representations they hold of other individuals (Galinsky & Moskowitz, 2000). Galinsky and colleagues (Galinsky et al., 2005; Galinsky & Moskowitz, 2000) argue that perspective taking can also lead to self-other overlap when individuals include others in their mental representation (i.e., see more of others in themselves). Hence, perspective taking can result in individuals assimilating and including social comparison information they derived from others into their self-description (Tiedens & Jimenez, 2003). Further evidence of applying mental representations of others to the mental representation of the self can be garnered from the self-stereotyping literature. Members within a group often assimilate traits that are thought of as being descriptive of the group into their mental representations of their respective selves. Members are likely to modify their

public or private image to be consistent with an image that is typical of their in-group (Pickett, Bonner, & Coleman, 2002). Therefore, perspective taking is likely to modify the behavioral tendencies and self-description of the perspective taker. This research at the group level can be applied to a dyadic relationship like a mentoring relationship in which the perspective taker (protégé) is able to include positive attributes of the other (mentor) within his/her mental representation of the self. For example, my mentor thinks that he/she can be successful in a challenging situation hence I think I can succeed in a similar situation.

Additionally, Humberd and Rouse (2016) posit that when a protégé takes the perspective of their mentor they consequently develop a better idea of what their ideal selves ought to be. A logical step towards creating their idealized self is to embrace the positive aspects (e.g., being efficacious as their mentor in a certain domain) of their mentor. Consequently, the current research proposes that when a protégé engages in perspective taking it will enable him/her to ascribe his/her mentor's levels of self-efficacy to him/herself. In other words, the contagion or the crossover of self-efficacy between the mentor and the protégé is likely to be stronger when the protégé engages in high levels of perspective taking.

Research Question and Hypotheses

Can the transfer of self-efficacy between the mentor and the protégé be moderated by the protégé's perspective taking?

Hypothesis 1: Shared experience between the mentor and the protégé will be positively associated with the protégé's perspective taking.

Hypothesis2: Mentor self-efficacy beliefs will be positively associated with the protégé's self-efficacy beliefs.

Hypothesis3: Protégé's perspective taking will moderate the positive relationship between mentor self-efficacy and protégé self-efficacy such that higher levels of protégé's perspective taking will strengthen the positive relationship.

Overview of the Order of Hypothesis Testing

Both Study 1 and Study 2 adopt an experimental design, whereas study 3 adopts a survey design. Study 1 was designed to test hypothesis 1 (i.e., investigates whether shared experience evokes perspective taking in the protégé); however, I was also able to conduct initial tests for hypothesis 2 and 3 within this data collection effort. Study 2 was designed to test hypothesis 2 and 3. Hypothesis 1 was not tested in this study because the shared experience variable was held constant. Finally, Study 3 tests for all three hypotheses using a field survey design within a mentoring program where all variables were measured and not manipulated.

CHAPTER 2

METHOD

Method: Study 1

In this study, mentor's self-efficacy and shared experience were manipulated. This study was conducted primarily to test whether shared experiences between the mentor and the protégé lead to perspective taking on behalf of the protégé.

Participants and Procedure

Participants for this study were recruited from the general population using a crowdsourcing platform called Amazon's Mechanical Turk (Mturk). Participants were presented with a recruitment statement that briefly explained the ostensible aim of the study, which is to examine how interpersonal relationships in the workplace influence their work experiences. They also read an informed consent statement that elaborated on their rights as research participants. The study was administered online and survey software called Qualtrics was used to randomly assign participants to one of the four conditions.

The effect size of the analysis of interest was reported as $\eta^2 = 0.26$ in a previous study (Galinsky, Maddux, Gilin, & White, 2008). A power analysis was carried out using the parameters- $\alpha = 0.05$, power = 0.80, and the sample size was estimated to be 150. A total of 247 participants started the survey on Mturk; 42 participants were deleted as they responded

to less than 1% of the survey. Thus, the final analyses were conducted on 205 participants. The final sample was predominantly female, 52.2% (107); 2% (4) of the participants did not disclose their gender. The racial composition of the sample was as follows: 72.2% (148) Caucasian, 11.2% (23) African American, 5.4% (11) Hispanic, 6.8% (14) Asian, 1% (2) American Indian/Alaskan Native, 1.5% (3) Other, and 2% (4) of the sample did not provide any information on their ethnicity. Participant ages ranged between 19 -70 years ($M = 36.87$).

The study adopted an experimental design in which participants were presented with a vignette that was systematically varied across the different conditions. Participants were initially presented with a description of a challenge. They were requested to imagine that they are required to tackle this challenge in the near future. Subsequently, depending on the condition participants were assigned to, they either read about a mentor who tackled a challenge that is similar to the challenge they are currently facing or about a mentor who was unable to draw on a similar experience. The vignette also provides information on whether the mentor expresses high/low self-efficacy regarding his/her ability to overcome the challenge. Thus, the study employed a 2 (experience: similar or not) X 2 (mentor self-efficacy: high or low) between subjects design. Participants were then requested to respond to measures of perspective taking and interpersonal closeness.

These vignettes were pretested before administration to the actual sample of this study (see Appendix B for pretest items). The vignettes to be used in both study 1 and study 2 were administered to students who opted to take an upper level psychology class during the spring semester. I intended to collect a minimum of 120 participants such that each cell would have a minimum of 30 participants. However, a total of 151 students chose to participate. Each

participant viewed one vignette and the general instructions associated with administration of the vignette. The vignettes were pretested to determine whether participants viewed the mentor as expressing efficacious beliefs or not and whether participants perceived that there is a similarity between the challenge they were presented with and the challenge faced by the mentor in the past. Finally, participants were also requested to rate the ease of understanding the vignette.

Measures

Perspective Taking

The extent to which participants are able to adopt the perspective of the mentor portrayed in the scenario was measured using a four-item perspective-taking scale developed by Grant and Berry (2011), which is an adaptation of the scale developed by Davis, Conklin, Smith, and Luce (1996). Grant and Berry's measure was worded such that individuals were required to take perspectives of their respective band mates. The measure was adapted for this study such that the participant was required to take the perspective of the mentor portrayed in the vignette. The perspective taking scale is comprised of four items ($\alpha = 0.80$; e.g., "In this mentoring relationship, I would frequently try to take the perspective of my mentor"). The response options ranged from 1 (*Does not describe me at all*) to 5 (*Describes me very well*).

Interpersonal Closeness

Perceived interpersonal closeness was measured using the Inclusion of Other in the Self (IOS) scale developed by Aron et al. (1992). This scale comprises of seven Venn

diagrams. These diagrams depict different degrees of overlap between the self and the other. This measure was administered to test whether interpersonal closeness or identifying with the mentor (in lieu of perspective taking) could be another mechanism that could account for the transfer of self-efficacy between the mentor and the protégé.

Similarity Manipulation Check

To ensure that the similarity manipulation was successful, three-items were administered (e.g., “The difficulty of the challenge faced by the mentor and the challenge I am expected to resolve is similar”). The response options ranged from *1 = Strongly disagree* to *5 = Strongly agree*.

Results: Pretests and Study 1

Pretests Overview

This dissertation proposed that shared experience between mentor and the protégé is a key factor that is likely to incite perspective taking within the protégé. Hence, it was imperative to ensure that the vignettes that portrayed a mentor sharing a similar experience to the challenge the participant was expected to resolve was indeed perceived as similar by the participants. Contrarily, the aim of pretesting the vignettes in which the mentor was unable to share a similar experience was to ensure that the participants perceived an absence of similarity when they were presented these vignettes. A *t*-test analysis showed that participants who were assigned to the “shared experience” condition were more likely to perceive the experiences shared by the mentor as similar to the challenge they were required to tackle

compare to those who were assigned to the “absence of shared experience” condition ($M = 3.82$ vs 2.83) ($t(149) = 5.22, p < .001$). Refer to Table 1 for additional analysis related to similarity manipulation.

In both study 1 and study 2, the second manipulation varies the levels of the mentor’s efficacy beliefs. Thus, I pretested the vignettes to determine whether (depending on conditions) participants actually perceived the mentor to have high/low efficacy beliefs. A t -test analysis revealed that the individuals who were assigned to the high efficacy condition perceived their mentor as someone who was confident in resolving a challenge similar to what they were required to resolve. Contrarily, individuals who were assigned to the low efficacy condition did not perceive their mentor as someone who as confident in resolving a similar challenge ($M = 3.78$ vs 2.58) ($t(149) = 6.19, p < .001$). Refer to Table 1 for additional analyses related to mentor’s self-efficacy manipulation.

Other pretests results revealed that vignettes were easy to understand, and that the mentor portrayed in the various vignettes came across as someone who was genuine and caring. Please refer to Table 2 for means, standard deviations of the results of these analyses.

Study 1

Please refer to Table 3 for correlations, means, standard deviations, and reliabilities of the various study variables. The purpose of this study was to determine whether protégés were likely to adopt the perspective of their mentors when they perceived similarity between themselves and their mentors (hypothesis 1). In order to ensure that the similarity manipulation was successful, the data was succumbed to a t -test analysis. The dependent

Table 1

Means and Standard Deviations by Conditions

| Items pretesting similarity manipulation | Conditions | | | |
|---|--|------|------------------------------|--------|
| | Shared experience | | Absence of shared experience | |
| | Mean | S.D | Mean | S.D |
| 1. In this scenario, the past experiences the mentor shares are similar to the challenge you are required to tackle. | 3.82 | 0.99 | 2.83** | 1.30 |
| 2. In this scenario, the mentor is unable to share an experience that is similar to the challenge with you are expected to deal with. | 2.23 | 1.12 | 3.58** | 1.34 |
| Items pretesting efficacy manipulation | High Efficacy | | Low Efficacy | |
| | Mean | S.D | Mean | S.D |
| | 1. In this scenario, the mentor expresses themselves as confident in resolving the challenge you shared with them. | 3.78 | 1.02 | 2.58** |
| 2. In this scenario, the mentor comes across as someone who knows how to deal with interpersonal issues | 3.37 | 1.22 | 2.76* | 1.38 |
| 3. In this scenario, the mentor does not express themselves as confident in resolving the challenge you shared with them. | 2.27 | 1.12 | 3.35** | 1.28 |

Note. Means were significantly different at either ** $p < 0.001$, * $p < .01$ levels. The response options of all these items ranged from 1 = *Strongly Disagree* to 5 = *Strongly Agree*.

Table 2

Means and Standard Deviations of Additional Pretests by Conditions

| Other pretests | High efficacy Shared Experience | | High efficacy absence of shared experience | | Low efficacy shared experience | | Low efficacy absence of shared experience | |
|--|---------------------------------|------|--|------|--------------------------------|------|---|------|
| | Mean | S.D. | Mean | S.D. | Mean | S.D. | Mean | S.D. |
| 1. This scenario was easy to follow and understand. | 3.84 ^a | 1.09 | 3.52 ^a | 1.21 | 3.42 ^a | 0.9 | 3.75 ^a | 1.07 |
| 2. The mentor described in this scenario came across as genuine. | 3.81 ^a | 0.99 | 3.67 ^a | 1.00 | 3.56 ^a | 1.02 | 2.94 ^b | 0.99 |
| 3. The mentor described in this scenario came across as someone who cares about you. | 3.65 ^a | 1.03 | 3.43 ^a | 0.96 | 3.39 ^a | 1.15 | 2.86 ^b | 1.07 |

Note. Means that have the same letter in their superscript are not significantly different from each other at the 0.05 level.

Table 3

Means, Standard Deviations, and Correlations of Study 1 Variables

| | Means | S.D | 1 | 2 | 3 | 4 | 5 |
|--------------------------|-------|------|--------------------|--------------------|--------------------|------|---|
| 1. Perspective Taking | 3.60 | 0.98 | 0.87 | | | | |
| 2. Protégé self-efficacy | 3.49 | 0.66 | 0.31 ^{**} | 0.72 | | | |
| 3. Mentor Self-efficacy | - | - | 0.19 ^{**} | 0.13 ^{**} | - | | |
| 4. Shared Experience | - | - | 0.21 ^{**} | 0.001 | -0.005 | - | |
| 5. IOS | 3.37 | 1.04 | 0.61 ^{**} | 0.36 ^{**} | 0.36 ^{**} | 0.09 | - |

Note. ^{**}p <.001. Reliability coefficients are provided on the diagonal. *N* ranges from 201-203. Variables that do not have means, S.D and reliability coefficients are dichotomous. IOS scale is comprised of only one item, hence a reliability coefficient cannot be calculated.

variable in this analysis was comprised of a three-item similarity composite. Specifically, these items requested participants to rate the extent to which they thought the challenge they were tackling and the challenge the mentor experienced in the past were similar in terms of content and difficulty. The *t*-test analysis revealed that participants assigned to the similarity condition were more likely to perceive their challenge and their mentor's challenge to be similar than the participants who were assigned to the absence of similarity condition ($M = 3.82$ vs 2.86 ; $t(203) = 6.89$, $p < .001$). A linear regression was carried out to test hypothesis 1. The shared experience variable was dummy coded such that individuals assigned to the absence of shared experience condition was assigned a value of 0 and those assigned to the shared experience condition was assigned a value of 1. The model explained 4.7% of the variance, $F(1, 201) = 9.91$, $p = 0.001$. Shared experience between the mentor and the protégé (participant) positively predicted the protégé's perspective taking, $b = 0.41$, $t(201) = 3.14$, $p = 0.001$. Therefore, hypothesis 1 was supported.

Additionally, in this study the mentor's self-efficacy was manipulated and the protégé self-efficacy measure was administered. Hence, I could test hypothesis 2 and 3 using a series of linear regressions (see Table 4). Mentor self-efficacy (IV) was entered in Step 1, followed by perspective taking (moderator) in Step 2, and finally the interaction in Step 3. In addition to the interaction between mentor self-efficacy and perspective taking, the interaction between shared experience and perspective taking was also entered. All continuous variables were mean-centered. According to the proposed theoretical model, shared experience between the mentor and the protégé influences the contagion process through perspective taking. Therefore, the interaction between mentor self-efficacy and perspective taking should explain

Table 4

Moderated Multiple Regression Analysis Predicting Protégé Self-Efficacy in Study 1

| Predictors | Model 1 | | | Model 2 | | | Model 3 | | | Model 4 | | |
|---|---------|------|---------|---------|------|---------|---------|------|---------|---------|------|---------|
| | b | S.E | β | b | S.E | β | b | S.E | β | b | S.E | β |
| Mentor self-efficacy | 0.17 | 0.09 | 0.13* | 0.09 | 0.08 | 0.07 | 0.09 | 0.09 | 0.07 | 0.10 | 0.08 | 0.07 |
| Perspective Taking | | | | 0.20 | 0.04 | 0.30* | 0.21 | 0.04 | 0.31** | 0.03 | 0.07 | 0.05 |
| Shared experience | | | | | | | -0.89 | 0.09 | -0.06 | -0.05 | 0.08 | -0.04 |
| Mentor self-efficacy X Perspective taking | | | | | | | | | | 0.34 | 0.09 | 0.33** |
| Perspective taking X Shared experience | | | | | | | | | | 0.03 | 0.09 | 0.03 |
| R^2 | 0.017 | | | 0.104 | | | 0.164 | | | | | |
| F | 3.49** | | | 11.52** | | | 9.67** | | | | | |

Note. ** $p < .001$ * $p < .05$ using one-tailed significance tests for directional hypotheses. For Mentor self-efficacy, low efficacy was coded as 0 and high efficacy was coded as 1. $N = 200$.

a greater amount of variance in protégé self-efficacy than the interaction between perspective taking and shared experience.

Mentor self-efficacy was dummy coded such that individuals assigned to the high-efficacy condition in which the mentor portrayed high efficacy beliefs were assigned a value of 1 and those assigned to the low-efficacy condition were assigned a value of 0.

Hypothesis 2 was supported such that the mentor's self-efficacy beliefs were positively associated with the protégé's (participant's) self-efficacy beliefs, $b = 0.17$, $t(200) = 1.86$, $p = 0.03$. The model explained 1.70% of the variance in the dependent variable, protégé self-efficacy; $F(1,200) = 3.49$, $p = 0.03$. Furthermore, the main effect of perspective taking on protégé self-efficacy was significant, $b = 0.20$, $t(199) = 4.38$, $p < .001$. This model explained 10.4% variance in protégé self-efficacy; $F(2,199) = 11.52$, $p < .001$. Hypothesis 3 was supported such that perspective taking strengthened the transfer of self-efficacy from the mentor to the protégé. The interaction between mentor self-efficacy and perspective taking was significant, $b = 0.34$, $t(197) = 3.69$, $p < .001$ (See Figure 2). This model explained 16.4% of the dependent variable- protégé self-efficacy; $F(4,197) = 9.67$, $p < .001$. Simple slopes analysis revealed that individuals who engaged in high levels of perspective taking were more likely to mirror the efficacy-beliefs of their mentor, $b = 0.42$, $t(197) = 3.43$, $p < .001$. Contrarily, protégés who engaged in lower levels of perspective taking were less likely to mirror their mentor's efficacy beliefs even when their mentor expressed high efficacy beliefs, $b = -0.23$, $t(197) = -1.91$, $p = 0.02$.

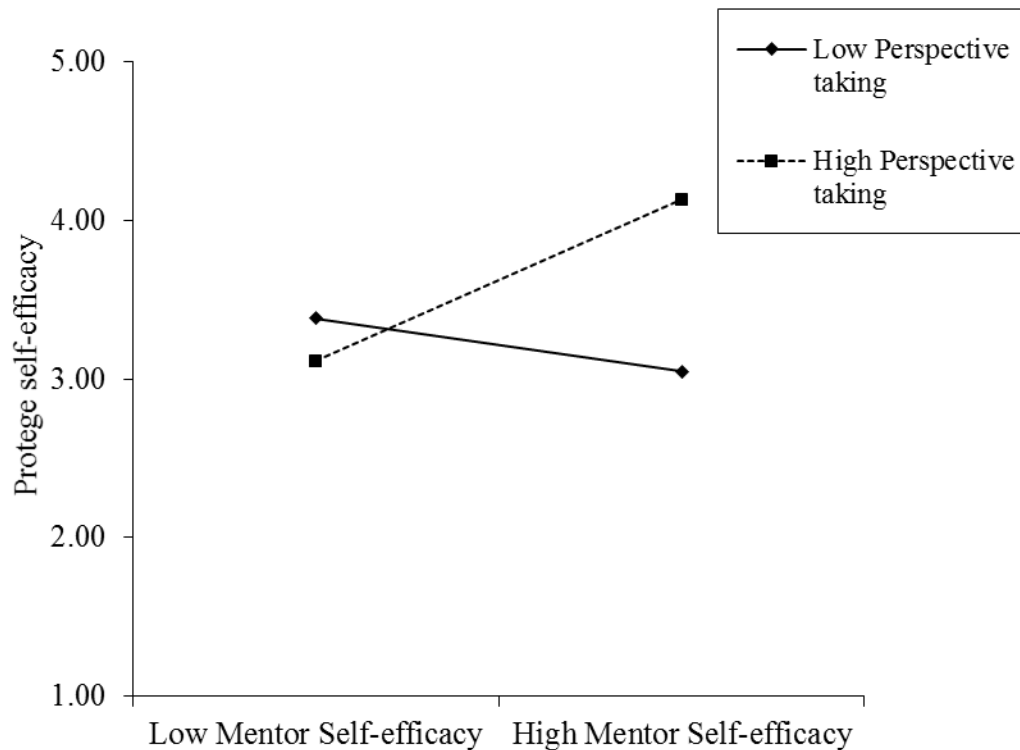


Figure 2. Moderating effect of perspective taking on the transfer of self-efficacy from mentors to protégés.

Additionally, the interaction between perspective taking and shared experience was not significant ($b = 0.03$, $t(197) = 0.33$, $p = 0.73$) suggesting that perspective taking indeed mediated the effect of shared experience on the contagion process.

Exploratory Analysis

There is some research that suggests that identification with the mentor is a plausible mechanism that could account for a boost in self-efficacy among protégés (Gibson, 2004). In this dissertation, the Inclusion of the Other in Self (IOS) scale was used as proxy to measure a

protégé's identification with the mentor. This variable (interpersonal closeness) was an appropriate proxy because research shows that there is a greater overlap between one's mental constructs of the self and other when they identify with a close other (Aron et al., 1992).

Before testing for the contagion process, I examined whether having a shared experience with the mentor elicited perceptions of interpersonal closeness within the protégé. A linear regression did reveal that shared experience positively predicted perceptions of interpersonal closeness, $b = 0.70$, $t(198) = 2.69$, $p = 0.008$. This model explained 3.5% of the variance, $F(1, 198) = 7.28$, $p = 0.008$.

To examine whether identification with mentor is a possible moderator of the self-efficacy contagion process a series of linear regressions were carried out. In this model, mentor self-efficacy was entered as the IV, interpersonal closeness was entered as the moderator, and the interaction between these variables was entered in the final step in the model. The main effect of mentor self-efficacy on protégé self-efficacy was significant as seen in the previous model, $b = 0.16$, $t(198) = 1.82$, $p = 0.03$. This model explained 1.7% of the variance in the variable-protégé self-efficacy, $F(1,198) = 3.34$, $p = 0.03$. The main effect of interpersonal closeness on protégé self-efficacy was also significant, $b = 0.07$, $t(197) = 2.87$, $p = 0.002$. This model explained 5.6% of variance, $F(2,197) = 8.24$, $p = 0.002$. However, interpersonal closeness did not moderate the contagion process; the interaction was not significant, $b = 0.01$, $t(196) = 0.21$, $p = 0.82$. The model with the interaction did not explain any additional variance (5.6%) in protégé self-efficacy when compared to the previous model, this model was not significant, $F(3,196) = 0.056$, $p = 0.82$.

Discussion: Study 1

The primary purpose of this study was to examine whether shared experience would elicit perspective taking within a mentoring context. Although past research (Smith & Frieze, 2003; Glainksy et al., 2005) has established that similarity between individuals facilitate perspective taking, this relationship has not yet been studied within mentoring relationships. The results of this study suggest that when protégés perceive that their mentors have experienced challenges that are similar to the challenges they are currently facing, they were more likely to adopt the perspective of their mentor, as compared to when the mentor is unable to share similar past experiences. This finding is consistent with past research findings; individuals who had past experiences that were similar to the target's experiences found it easier to adopt the target's perspective (Gerace et al., 2015).

Additionally, this finding also provides preliminary evidence for Humberd and Rouse's (2016) theorization. These scholars theorized that one of the mechanisms through which protégés tend to identify with their mentors is by acknowledging that their mentor has had similar aspirations or has overcome similar challenges. When they recognize these similarities, they tend to adopt a viewpoint that is consistent with their mentor's viewpoint and embrace their mentor's values and beliefs. The current study's results indeed illustrate that when protégés perceived that their mentor overcame a similar challenge, they were more likely to adopt their mentor's point of view than protégés who perceived an absence of similarity. Although Humber and Rouse do not explicitly discuss the role of perspective taking in their theoretical paper, they postulate that processes such as recognition of similarity on behalf of the protégé enables him/her to adopt the mentor's viewpoint and change their

sense of self to be more like their mentor. This adoption of another person's viewpoint is defined as perspective taking by many scholars (e.g., Galinsky et al., 2005).

Although past literature has examined the crossover of states of well-being such as work-engagement and flow (Bakker & Demerouti, 2009; Bakker, 2005), the crossover of self-efficacy, especially within a mentoring or work context, has not been examined. This study adds to the crossover literature by examining whether a less studied state of well-being such as self-efficacy does crossover between individuals who work closely with each other. This study showed that individuals who were exposed to a highly efficacious hypothetical mentor did indeed report higher levels of efficacious beliefs than individuals who ever exposed to less efficacious mentor. In other words, this study provides evidence for that transfer/contagion of efficacy beliefs between individuals who tend to closely work with each other.

This finding also underscores the importance of having a mentor that is efficacious. In terms of applying this finding to a real-life situation, when matching mentors and protégés, it would be beneficial to protégés if they are matched with mentors who are efficacious in domains that the protégé is lacking or requires help. Moreover, this finding also bolsters the postulations of mentoring theory; mentors are theorized to be promoters of efficacy beliefs. However, this transfer of efficacy does not occur in vacuum instead mentors are able to instill efficacious beliefs in their protégés by sharing their past experiences, i.e., through vicarious experiences. The findings of this study indeed highlight that mentors sharing their challenges/triumphs with their protégés can facilitate crossover.

Additionally, the current study findings demonstrate that perspective taking on behalf of the protégé could potentially account for the contagion process. Precisely, among protégés

who engaged in high levels of perspective taking, the transfer of self-efficacy was strengthened. In other words, protégés were likely to report efficacy beliefs that were consistent with their mentors' efficacy beliefs when they were able to adopt the mentor's viewpoint. Contrarily, if they were unable to adopt their mentor's perspective, they were less likely to benefit even from an efficacious mentor. Therefore, being able to adopt the viewpoint of an efficacious mentor appears to be integral in order for protégés to internalize their mentor's efficacious beliefs. Nonetheless, the ease of adopting an efficacious mentor's viewpoint appears to be facilitated by the protégé's perception of similarity between him/herself and his/her mentor. All these findings in conjunction suggest that having superstar mentors may not necessarily benefit protégés who are unable to see similarities between themselves and their mentors and thereby not being able to see things from their mentors' vantage point.

As there is limited research on perspective taking as a moderating mechanism for self-efficacy contagion it was imperative to replicate this finding. As per Study 1 results, perceptions of shared experience elicit perspective taking on behalf of the protégé. Hence, the shared experience variable was not manipulated and was held constant in the subsequent study. Although initial evidence was obtained in study 1, Study 2 was officially conducted to test for evidence of the self-efficacy contagion phenomenon. Additionally, this study investigated whether the protégé's perspective taking tendency strengthened the contagion of self-efficacy from the mentor to the protégé.

Method: Study 2

Participants and Procedure

Participants in this study were recruited from the general population using Mturk. The sample size of this study was estimated to be 200. The power analysis was carried out using the model statistics from a previous study (Gerace et al., 2015). The f^2 (0.312) was calculated using the formula $R^2/1 - R^2$. Although, this appears to be a large effect, the independent variable and the mediator used in the previous study differs slightly from the variables used in the current study. Hence, a conservative effect size of 0.1 was chosen and a corresponding sample size was calculated.

Although 236 individuals started the survey, 32 cases were deleted. Precisely, 31 participants responded to less than 1% of the survey and one participant did not provide his/her consent to proceed with the study. Therefore, the final analyses were carried out on 204 participants. The sample was predominantly male, 55.4% (113); one participant did not provide any information regarding their gender. The ethnic composition of the sample is as follows: 70.1% (143) Caucasian, 10.8% (22) African American, 6.9%(14) Hispanic, 8.3%(17) Asian, 2%(4) American Indian/Alaskan native, 1.5%(3) Other. One participant did not disclose any information related to their ethnicity. Participant ages ranged from 19 to 65 years ($M = 32.58$).

This study adopted an experimental design in which participants were administered vignettes that were pretested. Participants were randomly assigned to one of the two

conditions. Similar to the previous study, participants were provided with a recruitment statement that elaborated on the study and their rights as research participants.

Participants in both conditions first read an introductory description of a hypothetical challenge they were personally required to overcome in the near future. After they read the description of the challenge, a vignette that is specific to the condition to which they were assigned to was then presented to them. Participants in the condition “Express high efficacy beliefs” read about a mentor expressing confidence in being able to tackle the hypothetical challenge, whereas participants in the condition “Express low efficacy beliefs” read a vignette about a mentor lacking confidence in being able to tackle the hypothetical challenge. The shared experience variable was held constant such that all participants read about a mentor sharing an anecdote that he/she had encountered a similar challenge in the past (See Appendix A). Subsequently, participants were then requested to respond to measures of perspective taking, self-efficacy, and interpersonal closeness.

Measures

Perspective Taking

The same measure used in Study 1 was administered in this study.

Self-Efficacy

Participants’ efficacious beliefs about being able to tackle the challenge presented to them was measured using seven items ($\alpha = 0.81$; e.g., “I am confident about my ability to resolve the challenge presented to me”). Response options ranged from *1 = strongly disagree*

to 5 = *strongly agree*. These items were adapted from the scale developed by Spreitzer (1995).

Results: Study 2

Please refer to Table 5 for correlations, means and standard deviations of the study variables. To test for the contagion and moderation hypotheses a series of multiple linear regressions were conducted (see Table 6). In this analysis, mentor self-efficacy was dummy coded such that individuals who were randomly assigned to the high efficacy condition was assigned a value of 1 and those assigned to the low efficacy condition was assigned a value of 0. Mentor self-efficacy served as the IV and was entered in step 1. Perspective taking served as the moderator and was entered in step 2 and finally the interaction between the two was entered in step 2.

Table 5

Means, Standard Deviations, and Correlations of Study 2 Variables

| | Means | S.D | 1 | 2 | 3 |
|--------------------------|-------|------|--------|-------|---|
| 1. Perspective Taking | 3.97 | 0.61 | 0.75 | | |
| 2. Protégé self-efficacy | 3.55 | 0.59 | 0.42** | 0.70 | |
| 3. Mentor Self-efficacy | - | - | 0.17* | 0.18* | - |

Note. **p <.001 *p<.05. Reliability coefficients are provided on the diagonal. *N* ranges from 203-204. Variables that do not have means, S.D and reliability coefficients are dichotomous.

Table 6

Moderated Multiple Regression Analysis Predicting Protégé Self-Efficacy in Study 2.

| Predictors | Model 1 | | | Model 2 | | | Model 3 | | |
|---|---------|------|---------|---------|------|---------|---------|------|---------|
| | b | S.E | β | b | S.E | β | b | S.E | β |
| Mentor self- efficacy | 0.21 | 0.08 | 0.17** | 0.12 | 0.07 | 0.11* | 0.13 | 0.08 | 0.07* |
| Perspective Taking | | | | 0.39 | 0.06 | 0.41*** | 0.23 | 0.07 | 0.05** |
| Mentor self- efficacy X Perspective taking | | | | | | | 0.29 | 0.12 | 0.22** |
| R^2 | 0.032 | | | 0.195 | | | 0.216 | | |
| F | 6.69* | | | 24.22** | | | 5.18** | | |

Note. *** $p < .001$ ** $p < .01$ * $p < .05$ using one-tailed significance tests for directional hypotheses. For mentor self-efficacy, low efficacy was coded as 0 and high efficacy was coded as 1. $N = 202$.

Hypothesis 2 was supported, such that mentor self-efficacy was positively associated with protégé self-efficacy, $b = 0.21$, $t(201) = 2.58$, $p = 0.005$. This model explained 3.2 % of the variance in the dependent variable- protégé self-efficacy, $F(1, 201) = 6.69$, $p = 0.005$. The main effect of perspective taking was also significant. Participants who were more likely to take the perspective of the mentor reported higher levels of self-efficacy, $b = 0.39$, $t(200) = 6.35$, $p < .001$. This model explained 19.5 % of the variance in the protégé self-efficacy variable, $F(2, 200) = 40.44$, $p < .001$.

Finally, Hypothesis 3 was supported such that individuals who were more likely to take the perspective of their mentor experienced a stronger transfer of efficacy between their mentor and themselves than individuals who were less likely to adopt the perspective of their mentor, $b = 0.29$, $t(199) = 2.29$, $p = .02$. This model explained 21.6% of variance in the protégé self-efficacy variable, $F(3, 199) = 5.25$, $p = 0.01$. Simple slopes analysis revealed that individuals who engaged in high levels of perspective taking experienced strengthened efficacy transfer from the mentor described in the scenario, $b = 0.30$, $t(199) = 2.81$, $p = .002$. Contrarily, protégés who engaged in lower levels of perspective taking did not experience any transfer of efficacy beliefs between the mentor and themselves, $b = -0.05$, $t(199) = -.4238$, $p = .67$ (see Figure 3).

Discussion: Study 2

Research related to crossover/transfer of self-efficacy is confined to behavioral modeling within school settings (Schunk, 1989). This study's results (along with study 1's results) address this gap and add to the literature on crossover of positive states within the

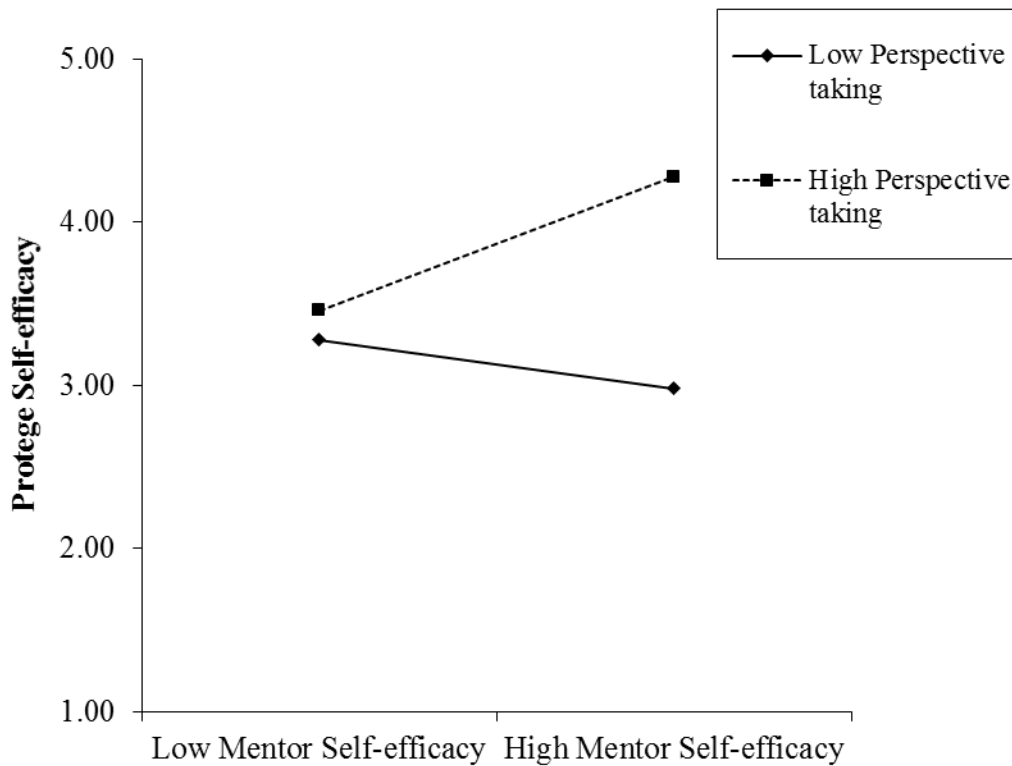


Figure 3. Moderating effect of perspective taking on the transfer of self-efficacy from mentors to protégés.

workplace. The results provide evidence for the positive transfer of self-efficacy between mentors and their respective protégés.

The findings of this study revealed that protégés are likely to report efficacy beliefs that are consistent with the efficacy beliefs expressed by their mentors. Participants in this study, when exposed to a mentor that expressed uncertainty in his/her ability to tackle an interpersonal issue, were more likely to report lower levels of efficacious beliefs with regard to tackling a similar issue than their counterparts who were exposed to a mentor who expressed certainty around such abilities.

Additionally, participants who were able to easily adopt their hypothetical mentor's perspective were more likely to experience this positive crossover of efficacy beliefs. This finding is consistent with the extensive research conducted by Bakker and colleagues (Bakker, 2005; Bakker & Demerouti, 2009; Bakker, Shimazu, Demerouti, Shimada, & Kawakami, 2011) on work engagement contagion. Husbands who were able to engage in perspective taking were more likely to report that they caught feelings of engagement from their partners. Similarly, protégés who were able to readily adopt their mentor's perspective were able to internalize their mentor's efficacy beliefs and in turn express efficacy beliefs that matched their mentors' beliefs. Although past research has demonstrated that having a mentor is associated with protégés reporting efficacious beliefs in various domains such as conducting research (Love et al., 2007) and teaching (Clifford, 1999), a mechanism that accounts for this positive finding is less evident. This study adds to the literature by providing evidence for the plausibility that perspective taking could be the mechanism.

People tend to pursue activities or challenges that they feel efficacious enough to perform or successfully maneuver (Pajares, 1996). Protégés could develop efficacious beliefs for activities they thought were previously challenging if they are able to adopt the perspective of a mentor who is efficacious in the challenging domain. Hence, assigning efficacious mentors whose perspectives can be adopted may be one way to introduce challenging projects to protégés and train them to succeed in such opportunities.

Although the two experimental studies provided evidence that supported the theoretical model, it is imperative to investigate whether these effects will be evident in actual mentoring relationships. Consequently, a third study (a field study) was designed and

conducted to test the model in its entirety. This study used actual protégés enrolled in an e-mentoring program and provided another instance to replicate the results of the previous studies and extend the results beyond contexts that involve interpersonal conflicts.

Method: Study 3

Participants and Procedure

Participants were recruited from an e-mentoring program that was organized by the management department. The e-mentoring program was an effort made by the business school at a mid-western university to augment their students' classroom learning along with their professional development. This program was incorporated into an upper level management course. Students who were part of the upper level management course were carefully matched with members of the business school alumni community. Two professors who served as program coordinators for the mentoring initiative carried out the matching process. The students who served as protégés and the alumni who served as mentors each completed presurveys in which they indicated career interests, demographics, etc. Both program coordinators reviewed this information separately and then made personal notes about potential mentor-protégé dyads. Then they met and extensively went through the process of reviewing their individual notes and proposed/finalized matches based on three criteria namely career/industry interests, hobbies/personal interests, and demographic similarity. These criteria are weighted in order of their listing. This mentoring initiative was aimed at enabling current students to develop a professional network with the help and guidance of their alumni mentors.

The sample of this study was contingent on the number of students who enrolled for the upper level management course. Although participation in the e-mentoring program was a course requirement, participation in this study was completely voluntary. Participants were provided with a recruitment statement explaining the ostensible aim of the study. They were told that the research project was aimed at understanding how mentoring programs within academic settings tend to enhance protégés' well-being. They were also provided with an informed consent statement that further explained their rights as a research participant.

As per enrollment rates, I expected to recruit about 120-150 participants across the Fall and Spring semesters of the 2016-2017 academic year. The final sample across both semesters was comprised of 148 undergraduate students. The sample was predominantly male, 57% (85); one participant did not provide any information regarding their gender. The sample was 64.1% (95) Caucasian, 12.1% (18) African American, 16.2% (24) Hispanic, 4.7% (7) Asian, and 2% (3) of the sample identified their ethnicity as "Other". One participant did not provide any information regarding their ethnicity. Participant ages ranged from 19 to 41 years ($M = 22.5$ years).

The study adopted a longitudinal survey design. Data was collected over two academic semesters (Fall 2016 and Spring 2017). In each semester, a separate set of students were surveyed twice. Students who were enrolled in the course during the Fall semester completed the survey for the first time during mid-October and then completed the survey for the second time during mid-November. Similarly, students who were enrolled in the course during the Spring semester completed the survey for the first time towards the end of February and completed the survey for the second time during mid-April. The first wave of data collection

in each semester was timed in such a way that protégés were contacted a few weeks after the e-mentoring program had commenced in each semester. It was assumed that in the first few weeks, protégés would initiate a few e-meetings with their mentor, and would be able to form impressions about their respective mentors. This in turn would make them better equipped to respond to the measures in the survey. The second wave of data collection was scheduled for a couple of weeks before the finals week in each semester. As students would be busy with coursework submissions during the final few weeks, the program coordinator and I thought it was prudent to survey them before they were too preoccupied. Both the surveys included the same battery of measures that are elaborated in the subsequent section.

Measures

Self-Efficacy

Both participants' (protégés') efficacy beliefs and their perceptions of their mentor's efficacy beliefs were measured using a scale developed and validated by Chen, Gully, and Eden (2001). This scale is comprised of eight items ($\alpha = 0.85$; e.g., "I will be able to achieve most of the goals that I have set for myself").

Perspective Taking

The extent to which protégés were able to adopt their mentor's perspective was measured with the same perspective taking measure that was used in Study 1 and 2.

Perceived Similarity

The extent to which the protégé thinks that he/she has shared experiences with his/her mentor was measured using a four-item scale ($\alpha = 0.85$; e.g., “My mentor and I have a lot of common experiences to draw on”) used in Finkelstein, Allen, Ritchie, Lynch and Montei (2012).

Results: Study 3

Justification for a Cross-Lagged Panel Analysis

As the data were collected in two waves, a cross-lagged panel analysis was carried out to establish the causal direction between mentor self-efficacy at time 1 and protégé self-efficacy at time 2. A cross-lagged analysis helps to rule out alternative explanations of causality such as spuriousness. In other words, a cross-lagged panel analysis helps to establish that the relationship between X and Y is not accounted by a third variable (Z) (Kenny, 1975). In instances in which the independent variable can be manipulated and participants can be randomly assigned to experimental or control condition, any change in Y that cannot be explained by chance is attributed to X. This method is usually used to analyze data obtained from quasi-experimental studies or other instances in which random assignment is not possible. As random assignment is not possible in this study, a cross-lagged analysis was carried out to understand if X precedes Y or vice versa or if the relationship between the two is bidirectional. It must be noted that cross-lagged analysis does not provide evidence for

causality like true experiments do; however, it does provide sufficient evidence to establish temporal precedence (Golin, Sweeny, & Shaeffer, 1981).

In order to carry out a cross-lagged panel analysis at least two constructs need to be measured say X (in this case is mentor self-efficacy) and Y (in this case is protégé self-efficacy) and two time points – T1 and T2. The two variables measured at the two time points generate four variables namely X_1 , X_2 , Y_1 , and Y_2 . These variables produce six correlations: two autocorrelations ($r_{x_1x_2}$, $r_{y_1y_2}$), two synchronous correlations ($r_{x_1y_1}$, $r_{x_2y_2}$), and two cross-lagged correlations ($r_{x_1y_2}$, $r_{x_2y_1}$). In a cross-lagged panel one tests for spuriousness by examining the cross lagged differential (i.e., $r_{x_1y_2} - r_{x_2y_1}$); if the differential is positive one could conclude that the causal predominance is due to X causing Y and if the differential is negative one could conclude that the causal predominance is due to Y causing X (Tyagi & Singh, 2014).

Testing for Directionality and Spuriousness

I used Mplus to construct the path models. The model statistics are as follows $\chi^2(5) = 83.67$, $p < .001$. This cross-lagged path analysis helped me determine the direction of the contagion process. One could argue that individuals with high baseline self-efficacy beliefs are more likely to report higher levels of efficacy beliefs at a later point in time when compared to those who initially reported low levels of baseline efficacy-beliefs. In other words, reports of high protégé self-efficacy at Time 2 could be attributed to high protégé efficacy beliefs at Time 1 and not mentor self-efficacy at Time 1. However, the cross-lagged panel analysis revealed that the effect of mentor self-efficacy at Time 1 on protégé self-

efficacy at Time 2 was significant, $\beta = 0.21$, $p = 0.01$ (see Figure 4) despite controlling for protégés' baseline efficacy beliefs.

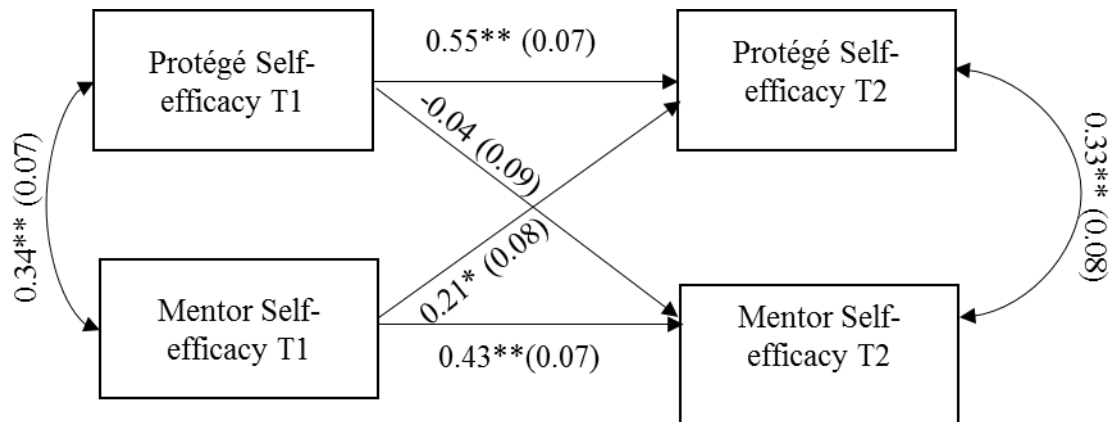


Figure 4. Relationships between mentor self-efficacy and protégé self-efficacy at both Time 1 and Time2.

Note: ** $p < .001$ * $p < .05$. The numbers outside the parentheses represent the beta coefficients and the numbers within the parentheses represent the standard error.

Contrarily, the effect of protégé self-efficacy at Time 1 on mentor self-efficacy at Time 2 was not significant, $\beta = -0.04$, $p = 0.63$. These results provide evidence for the postulation that a mentor's self-efficacy tends to positively influence a protégé's self-efficacy beliefs. Additionally, the results provide little evidence to support the opposing trend (i.e., protégé's self-efficacy positively affects mentor self-efficacy). According to Kenny as cited in Tyagi and Singh (2014) if the difference between cross-lagged correlation ($r_{mseT1pseT2} - r_{mseT2pseT1}$ ¹) is positive then one can infer that X caused Y. The following analysis indicates that the relationship between mentor self-efficacy and protégé self-efficacy is unidirectional;

¹ mse = Mentor self-efficacy and pse = Protégé self-efficacy

precisely the former appears to affect the latter and not the contrary ($r_{\text{mseT1pseT2}} (= 0.34) - r_{\text{mseT2pseT1}} (= 0.09) = 0.25$). Also, these results reveal that the null hypothesis ($r_{x_1y_2} = r_{x_2y_1}$) that tests for spuriousness is rejected because the cross-lagged correlations are not equal. Hence, the results suggest that the relationship between mentor self-efficacy at Time 1 and protégé self-efficacy at Time 2 is not likely to be caused by third variables.

Kenny (1975) argues that cross-lagged analysis results are only interpretable when the assumptions of stability, synchronicity, and stationarity are met. Autocorrelations are indices of stability and synchronous correlations are indices of stationarity. The autocorrelation coefficients of both mentor self-efficacy and protégé self-efficacy were significantly different from zero. The effect of protégé self-efficacy at Time 1 on protégé self-efficacy at Time 2 was significant, $\beta = 0.55, p < 0.001$. Similarly, the effect of mentor self-efficacy at Time 1 on mentor self-efficacy at Time 2 was significant, $\beta = 0.43, p < .001$. As these autoregressive coefficients are significantly different from zero one can infer that the assumption of stability has been met. This suggest that these constructs appear to be stable across the two different time points during which they were measured.

The assumption of synchronicity refers to the extent to which constructs X and Y were measured at the same. This assumption was met in this study as both mentor self-efficacy and protégé self-efficacy were measured in the same survey and there was no substantial time lag between the measurements of these constructs during either wave of data collection. In order to establish stationarity, one needs to demonstrate that the causal relationship between X and Y remains constant across both the times they are measured. This assumption was also met in the study as the synchronous regressive coefficients show very little change across the two

waves of data collection. The relationship between mentor self-efficacy and protégé self-efficacy at Time 1, $\beta = 0.34, p < 0.001$ is not drastically different from the relationship between the two variables at Time 2, $\beta = 0.33, p < 0.001$. The assumption helps us to be confident in the fact that the relationship between the two constructs of interest did not change with time.

Testing the Theoretical Model

Please refer to Table 7 for the means, standard deviations and correlations between all the variables in Study 3. A series of linear regressions were carried out to test all the three hypotheses proposed earlier (See Table 8). Hypothesis 1 was supported. The variable perceived similarity variable is a proxy for shared experience in this study. As the correlation between the perceived similarity variable at Time 1 and Time 2 was high ($r = 0.66$), a new variable was computed which was the mean of the perceived similarity variables at both time points. Precisely, protégés who were more likely to perceive similarity between themselves and their mentor in terms of experiences and point of views were more likely to endorse their mentor's perspective, $b = 0.48, t(117) = 6.01, p < .001$. This model explained 23.6% of variance in the dependent variable- perspective taking, $F(1, 117) = 36.19, p < 0.001$.

To test for the contagion process, protégé self-efficacy at Time 2 was initially regressed on mentor self-efficacy at Time 1 (the decision to choose which of these variables would be the IV and DV were informed by the cross-lagged panel analysis mentioned above). Protégé's perspective taking at Time 2 (instead of perspective taking at Time 1) served as the moderator of the contagion process. This decision was made because, at Time 2 these

Table 7

Means, Standard Deviations, and Correlations of Study 3 Variables

| | Means | S.D | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|-------------------------------|-------|------|--------|--------|--------|--------|--------|--------|--------|------|
| 1. Perceived Similarity (T1) | 3.85 | 0.65 | 0.76 | | | | | | | |
| 2. Perspective Taking (T1) | 3.98 | 0.53 | 0.35** | 0.69 | | | | | | |
| 3. Mentor Self-efficacy (T1) | 4.32 | 0.46 | 0.31** | 0.38** | 0.89 | | | | | |
| 4. Protégé Self-efficacy (T1) | 4.27 | 0.49 | 0.38** | 0.31** | 0.33** | 0.90 | | | | |
| 5. Perceived Similarity (T2) | 3.98 | 0.84 | 0.66** | 0.26** | 0.31** | 0.23** | 0.90 | | | |
| 6. Perspective Taking (T2) | 4.17 | 0.69 | 0.30** | 0.43** | 0.30** | 0.18 | 0.56** | 0.89 | | |
| 7. Mentor Self-efficacy (T2) | 4.37 | 0.67 | 0.24** | 0.31** | 0.41** | 0.09 | 0.42** | 0.52** | 0.95 | |
| 8. Protégé Self-efficacy (T2) | 4.36 | 0.45 | 0.28** | 0.34** | 0.42** | 0.63** | 0.24** | 0.43** | 0.38** | 0.90 |

Note. **p < .001. Reliability coefficients are provided on the diagonal. N ranges from 119-127. T1= Time 1 and T2 = Time 2.

Table 8

Moderated Multiple Regression Analysis Predicting Protégé Self-Efficacy in Study 3

| Predictors | Model 1 | | | Model 2 | | | Model 3 | | | Model 4 | | |
|---|----------|------|---------|----------|------|---------|---------|------|---------|---------|------|---------|
| | b | S.E | β | b | S.E | β | b | S.E | β | b | S.E | β |
| Mentor self-efficacy(T1) | 0.42 | 0.09 | 0.42*** | 0.32 | 0.09 | 0.32** | 0.32** | 0.09 | 0.33 | 0.35 | 0.09 | 0.36*** |
| Perspective Taking (T2) | | | | 0.21 | 0.06 | 0.33*** | 0.22** | 0.06 | 0.34 | 0.22 | 0.06 | 0.35*** |
| Shared experience | | | | | | | -0.01 | 0.06 | -0.02 | 0.02 | 0.07 | 0.04 |
| Mentor self-efficacy X Perspective taking | | | | | | | | | | -0.28 | 0.16 | -0.17* |
| Perspective taking X Shared experience | | | | | | | | | | 0.17 | 0.07 | 0.24** |
| R^2 | 0.181 | | | 0.282 | | | 0.33 | | | 0.33 | | |
| F | 21.25*** | | | 18.65*** | | | 11.43** | | | 11.43** | | |

Note. *** $p < .001$ ** $p < .01$ * $p < .05$ using one-tailed significance tests for directional hypotheses. $N = 97$. T1= Time 1 and T2 = Time 2.

protégés would have been in a better position to analyze whether they had similar experiences as their mentor and as result adopt their perspective later during the mentoring process. Finally, the interaction between similarity and perspective taking was also entered in this regression model to make sure that the interaction between perceived similarity and perspective taking did not explain any variance in protégé self-efficacy, as the majority of variance in protégé self-efficacy ought to be explained by the interaction between mentor self-efficacy and perspective taking. In other words, the effect of perceived similarity on the contagion process is mediated by perspective taking, hence more variance in the contagion process ought to be explained by perspective taking than perceived similarity. In order to review the b values and the beta weights of all the predictors discussed above please refer to Table 7. All continuous variables were mean-centered when they were included to create an interaction term.

Hypothesis 2 was supported. Specifically, protégés' perceptions of their mentor's efficacy beliefs were positively associated with their own efficacy beliefs, $b = 0.42$, $t(96) = 4.61$, $p < .001$. This model explained 18.1% of variance in the dependent variable- protégé self-efficacy at time 2, $F(1, 96) = 21.25$, $p < 0.001$. The main effect of perspective taking on protégé self-efficacy was also significant, $b = 0.21$, $t(95) = 3.65$, $p < .001$. However, Hypothesis 3 was not supported. Perspective taking did moderate the contagion process but the interaction was in the opposite direction of what was proposed (See Figure 5). Instead of strengthening the transfer of efficacy between mentors and protégés, perspective taking attenuated the process, $b = -0.28$, $t(93) = -1.74$, $p = 0.04$. This model explained 33 % variance in protégé self-efficacy, $F(4, 93) = 11.43$, $p = 0.42$. Simple slopes analysis revealed that

protégés who engaged in low levels of perspective taking experienced a stronger positive transfer of efficacious beliefs between their mentors and themselves, $b = 0.54$, $t(93) = 3.31$, $p = .001$. Surprisingly and counterintuitively, protégés who engaged in high levels of perspective taking did not experience this transfer of efficacy beliefs, $b = 0.14$, $t(93) = 1.09$, $p = .27$. Furthermore the interaction between perceived similarity and perspective taking was significant, $b = 0.17$, $t(93) = 1.74$, $p = 0.01$. According to this statistical model, perspective taking does not completely mediate the effect of perceived similarity on the contagion process.

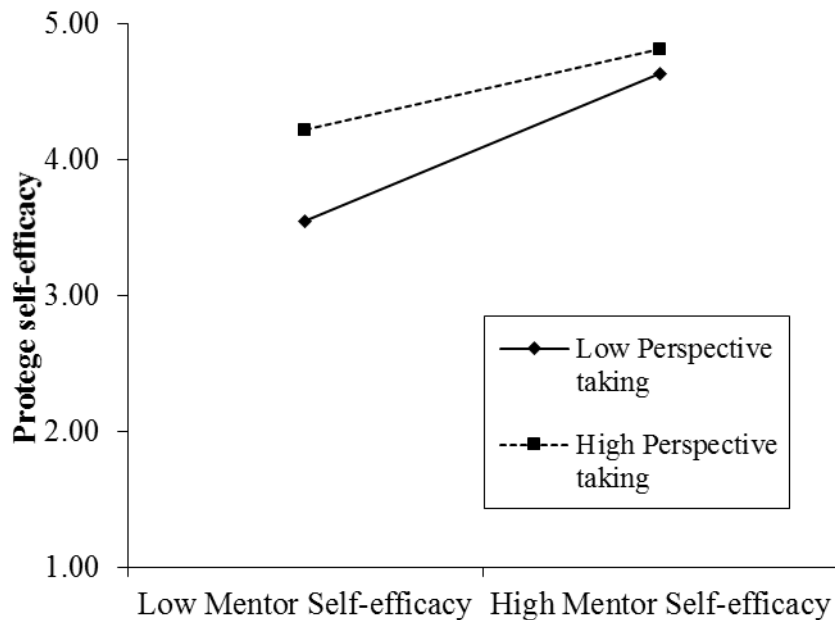


Figure 5. Moderating effect of perspective taking on the transfer of self-efficacy from mentors to protégés (This interaction was not significant).

Discussion: Study 3

Drawing from past research that investigates the role of perceived similarity in perspective taking, Humberd and Rouse (2016) theorized that in mentoring relationships, when protégés acknowledge that they have shared aspects with their mentor they are more likely to experience a sense of overlap between their own self and their mentor's self. Past research (Galinsky et al., 2005) asserts that this sense of overlap is indeed a consequence of perspective taking. Study 3's findings are consistent with past research and study 1's findings. Protégés who perceived similarity with their e-mentors were more likely to adopt their mentor's viewpoint. In other words, if we wish for protégés to adopt their mentors' perspectives or their mentors' ways of looking at things within formal mentoring programs, it is ideal to match protégés with mentors who share common ground with them.

Another key aim of this dissertation was to examine whether efficacy beliefs transferred between mentors and protégés within mentoring relationships. As discussed earlier, past research has shown that positive states of well-being do crossover between individuals who work in close proximity with each other (Bakker, 2005). Additionally, past research that has examined the transfer of self-efficacy is limited to behavioral modeling (Schunk, 1989). As this study adopted a longitudinal design, one is able to at least infer temporal precedence. This study's results suggest that mentor self-efficacy at the start or during initial stages of a mentoring relationship positively transfers to protégés. Protégés reported efficacy beliefs that were consistent with their mentors' efficacy beliefs. This positive transfer of efficacy was evident despite controlling for initial protégé self-efficacy

beliefs, which suggests that mentor self-efficacy does play role in shaping protégé self-efficacy even when protégés enter mentoring relationships with efficacious beliefs.

Past research suggests that when individuals adopt the perspective of a similar other they are more likely to self-stereotype and incorporate characteristics, beliefs, and behaviors of the similar other into one's own self-description. For instance, a previous study showed that students who aspired to go to law schools performed significantly better on analytical questions when they adopted the perspective of a political science professor (Galinsky et al., 2005) than their counterparts who were in a control condition. However, study 3's findings are not consistent with past research; the results indicate that among protégés who engaged in high levels of perspective taking the positive transfer of efficacy beliefs from their mentor was minimal. Contrarily, among protégés who engaged in low levels of perspective taking or were less likely to adopt the perspective of their mentor the positive transfer of efficacy beliefs was profound. These findings are also inconsistent with study 1 and study 2's findings.

The simple slopes analysis does reveal that protégés who engage in high levels of perspective taking are likely to report efficacy beliefs that are consistent with their mentors' efficacy beliefs however this effect is not significant. Intriguingly, protégés who barely engaged in perspective taking also appear to report efficacy beliefs that are consistent with their mentor's efficacy beliefs. A plausible reason for these results that are counterintuitive to theory and past findings is that protégés could have experienced a crossover of self-efficacy either through persuasion or stretch opportunities they received through the mentors in the e-mentoring program. The source through which protégés could have experienced self-efficacy crossover was not controlled for in the field study unlike in the experimental studies. Perhaps

in instances where self-efficacy transfer occurs through other sources, perspective taking may not be a strong moderator of the contagion process. Future research that controls for the sources of self-efficacy transfer is required to examine whether perspective taking will moderate the crossover process within real mentoring relationships. Furthermore, in the first two studies the shared aspects between the mentor and the participants were streamlined (i.e., shared experience was manipulated such that both participants and the hypothetical mentor had encountered passive aggressive interpersonal issues with colleagues at work) in comparison to the field study. The streamlining of the shared aspect may have easily lent itself to perspective taking among participants in the experimental studies. On the other hand, protégés in the e-mentoring program had to make a global evaluation about the similarity between themselves and their mentor which may not have easily facilitated perspective taking among them. Additionally, the mentor was also portrayed as being efficacious/not efficacious in a specific domain. Contrarily, participants in the field study were asked to evaluate the extent to which they shared similarities with their mentor and were also required to provide their evaluations of their mentors' general efficacy beliefs. In the field study, the mentors' actual self-efficacy beliefs are not known as I was unable to survey the mentors for logistical reasons. Study 3's results suggest that perhaps, when it comes to generalized efficacy beliefs one does not necessarily need to engage in high levels of perspective taking to experience the positive transfer of efficacy beliefs. The fact that specific and generalized efficacy beliefs are being measured in different studies is a clear limitation of this dissertation that needs to be addressed by future research.

CHAPTER 4

DISCUSSION

Mentoring programs enjoy an integral place in academic, corporate, and not-for-profit organizations (Bryant, 2015). Organizations invest time and effort in developing formal mentoring programs. Mentoring initiatives are thought to lead to myriad positive individual and organizational outcomes. For instance, individuals who have formal/informal mentors tend to be more likely to express higher levels of efficacious beliefs. Efficacious employees are also likely to adapt better to organizational changes, generate better ideas, and are less likely to leave their organization (Powers et al., 1995; Saks, 1995; Payne and Huffman, 2005).

This dissertation's main objective was to examine how being involved in a mentoring relationship boosts protégé self-efficacy. Protégé self-efficacy is a key outcome of interest from both an individual and organizational perspective. Self-efficacy is a motivational construct that drives the extent to which individuals are willing to attempt challenging tasks and persist in their efforts even when faced with impediments. Organizations would benefit (in terms of productivity) from having employees that are willing to commit to challenging tasks, formulate stretch goals, and most importantly commit to these goals and fulfil them. Allen et al. (2004) in their meta-analysis, call for more research that adopts experimental designs to investigate the underlying mechanisms that accounts for this self-efficacy boost in protégés who are in mentoring relationships. This dissertation was an attempt to address this gap in the literature. These researchers also note that there is a need to refine mentoring

theory. Drawing from Bandura's (1977) social cognitive theory, mentors are able to promote protégés' self-efficacy beliefs either through vicarious experiences (i.e., sharing their own experiences) or persuasion (i.e., providing them with constant encouragement) or by providing them with opportunities to achieve/experience mastery in certain domains.

Although, past work (Chopin et al., 2012; Hayes, 1998) on mentoring and self-efficacy notes that individuals who have mentors report higher domain specific efficacy beliefs compared to those who do not have mentors, there is limited research that focuses on how mentors go about increasing their protégés' efficacy beliefs.

Among the various avenues through which mentors promote self-efficacy, this dissertation focused on how a mentor's vicarious experience augments protégé self-efficacy. The dissertation further postulated that when mentors share experiences and when protégés perceive these experiences to be similar to their own experiences they are likely to adopt the perspective of their mentor. This perspective taking on behalf of the protégé in turn was expected to strengthen the transfer of self-efficacy beliefs from the mentors to the protégés.

In their conceptual model, Humberd and Rouse (2016) propose that when protégés recognize that certain aspects of their lives or their experiences are similar to their mentors' life aspects/experiences they are likely to experience an overlap between the self and the other. These scholars note that acknowledging their mentors as future selves enables protégés to adopt their mentor's vantage point, beliefs and values. All the three studies included in this dissertation provide evidence for this postulation. Precisely, in the experimental studies and the field study protégés who had shared experiences with the mentor or who perceived similarity between themselves and their mentors were more likely to adopt their mentors'

perspective (vantage point). Although some research (Gerace et al., 2015) has examined the influence of similar past experiences on ease of perspective taking, this association has not been empirically investigated within a mentoring context. In general, individuals are likely to benefit from adopting the perspective of experts; similarly, protégés are likely to benefit from adopting the perspective of experienced mentors. According to the current findings, the likelihood of perspective taking is increased when they are paired with mentors who are able to share experiences that are commensurate with protégés' current challenges/experiences. Hence, all the three studies add to the mentoring literature by providing insight into how perspective taking can be enhanced within a mentoring relationship and thereby improve the quality of the relationship.

This dissertation drew from the findings of the crossover literature that documented the positive transfer of states of well-being such as work engagement (Bakker & Demerouti, 2009) and flow (Bakker, 2005) to propose that a positive transfer of self-efficacy could occur between mentors and protégés within a mentoring dyad. Self-efficacy could be construed as a positive state of mind as it refers to one's sense of confidence in one's capabilities. Literature pertaining to self-efficacy contagion is limited to behavior modeling to overcome phobias and peer modeling in elementary schools (Bandura, 1986; Schunk, 1987). The current studies provide empirical evidence for the postulation that self-efficacy like other positive states of well-being can transfer between members within a mentoring dyad. In the experimental studies, participants who were assigned an efficacious mentor were more likely to express efficacious beliefs about tackling the impending interpersonal issue as opposed to their counterparts who were assigned to a mentor who expressed uncertainty in his/her beliefs to

tackle the interpersonal conundrum. In the field study, although mentor's self-efficacy was not manipulated, participants reported efficacy beliefs that were consistent with their perceptions of their mentor's efficacy beliefs. In other words, if protégés thought their mentor was generally efficacious, they also reported that they felt efficacious, contrarily if they thought that their mentor was not efficacious, their own efficacy beliefs also suffered. This was true even when protégés entered the mentoring relationship with high baseline efficacy beliefs.

In addition to proposing that self-efficacy can transfer from the mentor to the protégé, this dissertation proposed that the extent to which a protégé was able to take his/her mentor's perspective would strengthen this contagion process. Past work on perspective taking and creation of social bonds suggest that when individuals make an effort to take the perspective of another person, they experience an overlap between the mental representations of the other and the self. Consequently, individuals tend to include more of the other in the self (Galinsky et al., 2005). Self-stereotyping literature notes that when individuals are able to take the perspective of other group members they are likely to use characteristics that are quintessential of the group in describing themselves. Furthermore, perspective takers are also thought to mimic behaviors of others in the group (Pickett et al., 2002). Research also shows that perspective takers are also able to assimilate traits/characteristics of outgroup members into their self-description (Galinsky et al., 2005). Additionally, other research shows that individuals in intimate relationships tend to incorporate their partners' traits in self-description (Tiedens & Jimeenez, 2003). These postulations are also echoed in Humberd and Rouse's theory where they emphasize that as a consequence of experiencing the self-other overlap,

protégés are likely to change aspects of their own self and incorporate aspects of their mentor to be more consistent with their idealized mentor.

The two experimental studies provide empirical evidence for these postulations. Participants who engaged in high levels of perspective taking indeed experienced a positive transfer of self-efficacy between their mentors and themselves. The results of these studies suggest that as result of perspective taking protégés were able to imbibe their mentor's efficacy beliefs and express efficacy beliefs of their own that were consistent with their mentors' beliefs. However, the field study failed to provide consistent evidence. The field study, in contrast, found that individuals who engaged in low levels of perspective taking were more likely to experience a stronger self-efficacy contagion than those who engaged in high levels of perspective taking.

At first glance, this finding from the field study is counterintuitive and inconsistent with all the theorization. Irrespective of the level of perspective taking, protégés reported efficacy beliefs that were consistent with their perceptions of the mentors' efficacy beliefs. As discussed in the Study 3 discussion, in the field study generalized self-efficacy was measured as opposed to specific self-efficacy. The former refers to a general sense of competence with regard to how well one can perform across various domain or a variety of jobs, whereas specific self-efficacy refers to one's sense of confidence/belief that one can perform successfully in a specific situation (Bandura, 1997). Bearing these definitions in mind, it is possible that one needs to engage in high levels of perspective taking to imbibe a mentor's efficacious beliefs in a specific situation. In other words, the protégé has to put him/herself in the shoes of the mentor and analyze how he/she handled a specific situation, and pay close

attention to what the mentors' thoughts may have been in that particular circumstance.

Alternatively, with regard to experiencing a transfer of mentor's generalized self-efficacy beliefs, a protégé is able to inculcate these beliefs without deeply analyzing how a mentor is likely to go about every specific situation. These cognitions are probably occurring at a global level. As different manifestations of self-efficacy were measured by the experimental studies and the field study, future research is warranted to investigate whether the positive transfer of specific self-efficacy will be moderated by perspective taking in real life mentoring relationships. Another plausible reason for the puzzling finding is that e-mentoring programs are limiting in some ways (e.g., fewer instances to communicate or interact). Fewer interactions also presents fewer instances for the protégé to gauge similarity between themselves and their mentor, which in turn impedes the process of adopting the mentor's perspective.

Limitations and Future Research

This dissertation like all other research is not without limitations. The intention of carrying out a field study was to examine whether the results found using experimental studies would hold in real life mentoring relationships. However, the manipulation/operationalization of the various constructs were not carried out consistently across the experimental and field studies. For instance, in the field study participants were asked to provide the extent to which they thought they were similar to their mentors instead of specifically asking them about their shared experience with regard to a specific issue. Similarly, I was not able to obtain mentors' ratings on their self-efficacy beliefs; instead I

asked protégés to indicate the extent to which they thought their mentors were efficacious in general. As I was unable to obtain self-report ratings from mentors about their efficacy beliefs one could argue that actual crossover hasn't occurred. Past crossover studies have used multisource data (e.g., both spouses),; instead, I relied on protégés' perceptions of their mentors' efficacy. As such, crossover witnessed in this study could be best construed as meta-crossover. Thus, future research is required to conduct field studies that use dyadic data.

Moreover, recall that in the experiments, I presented participants with a specific conundrum, and then they were exposed to a mentor who either expressed high/low efficacy with regard to tackling that specific conundrum, and was either able/unable to share a personal anecdote that was similar to the conundrum the participant was facing. Alternatively, the field study operationalized most of the constructs at a global level whereas the experimental studies operationalized these constructs at a specific level. Particularly with regard to self-efficacy, researchers (Bandura, 1997; Luszczynska, Gutiérrez-Dona, & Schwarzer, 2005) opine that in majority of instances self-efficacy should be conceptualized in a situation-specific manner. All the inconsistencies discussed here make it slightly difficult to see the field study as a replication and extension of experimental studies.

Regarding the experimental studies I conducted, I simulated a mentoring scenario using hypothetical vignettes. This mentoring scenario does not encompass all the potential situations that can occur within a mentoring relationship. The vignettes in the current experimental studies are brief and provided participants with a very specific context. Future research could vary the nature of context; current research depicts a conflict, however, protégés could also approach mentors with stretch goals and express low efficacy beliefs

which could be altered after being exposed to a mentor's vicarious experiences related to the challenge/stretch goal. Therefore, varying the context from that of a conflict to a personal development context and examining if the findings still hold is another avenue through which current findings can be extended.

The experimental studies in this dissertation provide evidence for the transfer of efficacious beliefs about handling interpersonal issues. Future research is warranted to examine whether mentors can elicit efficacy beliefs in other domains such as leadership. Perhaps in the future, experimental studies could also improve the realism of the vignettes used in them. One could borrow from the job analysis literature where subject matter experts (SMEs) are requested to rate the importance and frequency of tasks that are thought to be typical of a job. Applying this within a mentoring context, protégés/mentors (SMEs) in real mentoring relationships within workplaces could be surveyed and requested to rate how frequently protégés tend to approach their mentors with certain conundrums/predicaments. Researchers could provide them with a varied list of conundrums/predicaments. Scenarios that are rated as the most frequent could then be incorporated into vignettes and systematically manipulated.

Although the field study recruited 148 students, this study like other longitudinal studies had to combat issues of attrition. Only 117 participants provided data during both phases of data collection, hence the study is underpowered. Also, the current study's findings need to be applied cautiously due to range restriction on self-efficacy scores. Most protégés reported that they were highly efficacious and that their mentors were highly efficacious. Therefore, the study's sample appears to be not representative of protégés that are not

efficacious. The study results show that there is a positive transfer of self-efficacy between mentors and protégés, however, to apply this finding to a sample of protégés with low efficacy beliefs one should consider replicating the study with a more representative sample.

Future mentoring field studies may benefit from examining the relationships investigated in this dissertation within a quasi-experimental setting in which participants with and without mentors are compared to see if having a mentor enhances efficacy beliefs among protégés. In a realistic mentoring relationship, protégés are likely to approach mentors with specific career related or personal goals/challenges. Hence, operationalizing constructs accordingly could result in findings that are different from what was witnessed in the current field study. Future field research would benefit from fine tuning perceived similarity, perhaps by asking protégés whether their mentors are able to share vicarious experiences that are relevant to their career goals or challenges they are currently facing. Similarly examining the extent to which their mentors are efficacious in domains in which these career/personal goals are nested may also help researchers tap into the mentor's efficacy beliefs in those domains. Collecting dyadic data (i.e., collecting data from both mentors and protégés) are crucial as they tend to provide a comprehensive and realistic picture of mentoring relationships that are often interactional and interpersonal in nature. In a field study where only measurement of constructs is feasible, and collection of dyadic data is difficult, participants can be asked to recall a challenge they are currently facing and in turn be requested to rate their mentors' efficacy in dealing with that challenge.

Finally, there has been a shift in mentoring research from focusing on the role of surface-level similarities to deep-level similarities in determining mentoring outcomes such as

satisfaction with one's mentoring relationship. This shift in research focus was a consequence of finding mixed evidence regarding the benefits of assigning protégés to demographically homogenous mentoring dyads (Allen et al., 2005; Blake-Beard et al., 2011). However, deep-level similarities are predominantly conceptualized as similarity in attitudes, work-styles, and personality traits. The current research provides preliminary evidence for shared experiences to be a potential deep-level similarity on which mentors and protégés could be matched. This research provides evidence for how shared experiences between the members of the mentoring dyad can elicit perspective taking on behalf of the protégé which in turn facilitates the transfer of other states of well-being. Future research is warranted to determine if other forms of shared experiences not tested in this research could also facilitate perspective taking, identification with the mentor and other positive outcomes.

Moreover, future research with the help of qualitative interviews may also be able to identify whether what constitutes "shared experience" varies by factors such as occupation or membership in a social category (e.g., gender). Such research could inform both protégés and mentors; precisely mentors could be more attuned to the kind of challenges that their protégés are likely to face hence, be more willing to share vicarious experiences that are related to such challenges. Similarly, such research could validate protégés experiences and clarify self-doubt by making them aware that others have had similar challenges and have succeeded. Research could also examine whether the relevance of shared experiences in relation to fulfilling the goal at hand has an impact on processes such as perspective taking or identification with the mentor. For instance, finding it hard to balance graduate student life and personal life as a

shared experience would have more of an impact on perspective taking than the shared experience of being new graduate students.

Practical Implications

Self-efficacy is a psychological construct that has implications for work performance and work motivation within organizational settings (Stajkovic & Luthans, 1998). Research also shows that employee self-efficacy is better than employee job satisfaction in predicting job performance (Judge, Thoresen, Bono, & Patton, 2001). Efficacious employees are also likely to generate new ideas, adapt to new organizational changes, are more likely to acquire new skills (Gist, 1989; Mitchell et al., 1994; Saks, 1995). Therefore, it would be in the organization's interest to invest in efforts that enhances employee self-efficacy.

Mentoring (formal/informal) programs are an avenue through which employee self-efficacy can be augmented. The results of all three studies presented in this dissertation suggest that assigning efficacious mentors to protégés can be very beneficial in boosting protégé self-efficacy. An ongoing dilemma that hounds the development of a mentoring program is the matching dilemma. The results of the current research suggest that providing protégés with efficacious mentors is not sufficient; the transfer of self-efficacy is more likely to occur when the mentors are able to share some vicarious experiences with their protégés that are relevant to challenges/impediments they are currently tackling. When protégés can perceive that their mentors have overcome similar challenges they are able to adopt their mentor's viewpoint it enables them to alter their initial low efficacy beliefs. These findings are important because often protégés are matched with experts in the field, however protégés

are likely to benefit from this expertise when they can relate to their mentors based on similar experiences and are able to take the perspective of their mentor.

As self-efficacy is a motivational construct, it is plausible for mentors to instill efficacious beliefs in their protégés to undertake challenging/stretch opportunities, which may have seemed unfathomable before due to initial low efficacy beliefs. This is likely to benefit organizations in the long run because employees who push themselves beyond their comfort zones are also likely to be creative in how they approach work and are likely to propose other avenues through which organizations can develop.

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APPENDIX A

VIGNETTES TO BE USED IN STUDIES 1 AND 2

Description of the Challenge

Instructions: below is a description of a challenge. Imagine this is a challenge that you are going to face in the next 30 minutes.

You do not get along with one of your colleagues at work, and you are paired with this colleague to work on a project. Each of you is given specific parts of the project to work on and this division of responsibilities is made explicitly known to both of you. You are required to work with each other to make progress on the project as a whole. However, your colleague emails your supervisor, **includes you in the email, and refers to you in third person** when asking the supervisor for information on parts of the project that you could help with. Your supervisor then approaches you requesting information on behalf of your colleague. You are annoyed with this indirect route of communication and pondering about how you can resolve this issue. Following is the email your colleague sent your supervisor:

“Hello Chris,

I have been working on the new marketing campaign brochure. I need the financial growth figures for Derbyshire County to complete the campaign brochure. Do you think <your name> can help with this?”

Instructions: You have a mentor within your organization, and you raise your concerns about this situation with your colleague described above to your mentor. Following is what your mentor has to say in response to the concern you raised.

Vignette 1- Expressing high efficacy beliefs and similar challenge²

*"Addressing people in awkward situations like this can be hard. **But I can** recall having trouble tackling interpersonal issues at work. **I can** recall having a similar experience in the past- **I did have** a colleague who avoided coming to me for information that fell within my wheelhouse. My boss approached me and asked me if I could provide this colleague with the information they wanted.*

*I understand it is a tricky situation. **However, I'm able to be assertive and do** find it easy to ask my colleagues to approach me directly, rather than taking this matter to the boss. It can be awkward at times, but **I'm comfortable** talking about interpersonal issues concerning work. **I'm comfortable** approaching the involved parties when this sort of situation arises. In a case like this **I'm confident** about approaching my coworker and having an honest conversation about my concerns."*

Vignette 2- Expressing low efficacy beliefs and absence of similar challenge.

² Text that is underlined represents the similarity variable. Text that is italicized represents the efficacy variable. The bolded text within each vignette refers to text that is changed in a systematic manner to indicate presence/absence of similarity and high/low self-efficacy

"Addressing people in awkward situations like this can be hard. But I can't recall having trouble tackling interpersonal issues at work. I can't recall having a similar experience in the past- I can't remember having a colleague who avoided coming to me for information that fell within my wheelhouse. I can't think of an instance in which my boss approached me and asked me if I could provide someone else with the information they wanted.

I understand it is a tricky situation. *However, I'm not comfortable with direct confrontations and do not find it easy to ask my colleagues to approach me directly, rather than taking this matter to the boss. It can be awkward at times, and I'm not comfortable talking about interpersonal issues concerning work. I'm not comfortable approaching the involved parties when this sort of situation arises. In a case like this I'm not confident about approaching my coworker and having an honest conversation about my concerns.*"

Vignette 3- Expressing low efficacy beliefs and similar challenge

"Addressing people in awkward situations like this can be hard. But I can recall having trouble tackling interpersonal issues at work. I can recall having a similar experience in the past- I did have a colleague who avoided coming to me for information that fell within my wheelhouse. My boss approached me and asked me if I could provide this colleague with the information they wanted.

I understand it is a tricky situation. *However, I'm not comfortable with direct confrontations and do not find it easy to ask my colleagues to approach me directly, rather than taking this matter to the boss. It can be awkward at times, and I'm not comfortable talking about interpersonal issues concerning work. I'm not comfortable approaching the involved parties when this sort of situation arises. In a case like this I'm not confident about approaching my coworker and having an honest conversation about my concerns.*"

Vignette 4- Expressing high efficacy beliefs and absence of similar challenge

"Addressing people in awkward situations like this can be hard. But I can't recall having trouble tackling interpersonal issues at work. I can't recall having a similar experience in the past- I can't remember having a colleague who avoided coming to me for information that fell within my wheelhouse. I can't think of an instance in which my boss approached me and asked me if I could provide someone else with the information they wanted.

I understand it is a tricky situation. *However, I'm able to be assertive and do find it easy to ask my colleagues to approach me directly, rather than taking this matter to the boss. It can be awkward at times, but I'm comfortable talking about interpersonal issues concerning work. I'm comfortable approaching the involved parties when this sort of situation arises. In a case like this I'm confident about approaching my coworker and having an honest conversation about my concerns.*"

APPENDIX B
QUESTIONS FOR PRETEST

Questions for pretesting the vignettes

Response scale 1 (Strongly disagree) to 5 (Strongly agree)

1. In this vignette, the description of the mentor's past challenge is similar to the description of the challenge the participant is required to tackle.
2. In this vignette, the mentor is unable to share a similar experience with their protégé.
3. In this vignette, the mentor expresses themselves as confident in resolving the challenge.
4. In this vignette, the mentor does not express themselves as confident in resolving the challenge.
5. In this vignette, the mentor persuades the protégé to resolve the challenge.
6. This vignette was easy to follow and understand.
7. The mentor described in this vignette came across as genuine.
8. The mentor described in this vignette came across as someone who did not care about their protégé.

APPENDIX C

SELF-EFFICACY MEASURE

Self-efficacy

Response scale 1 (strongly disagree) to 5 (strongly agree)

1. I am confident about my ability to resolve the challenge presented to me.
2. I am self-assured about my capabilities to perform the actions necessary to resolve the challenge presented to me.
3. I have mastered the skills necessary for resolving this challenge.
4. I believe I am quite assertive
5. I believe I am quite persuasive when communicating with my co-worker
6. When facing too many difficulties in my relation with co-workers, I tend to give up.
7. I feel I can defend my views and opinions before my co-worker

General self-efficacy measure (administered in Study 3)

Response scale 1 (strongly disagree) to 5 (strongly agree)

1. I will be able to achieve most of the goals that I have set for myself.
2. When facing difficult tasks, I am certain that I will accomplish them.
3. In general, I think that I can obtain outcomes that are important to me.
4. I believe I can succeed at most any endeavor to which I set my mind.
5. I will be able to successfully overcome many challenges.
6. I am confident that I can perform effectively on many different tasks.
7. Compared to other people, I can do most tasks very well.
8. Even when things are tough, I can perform quite well.

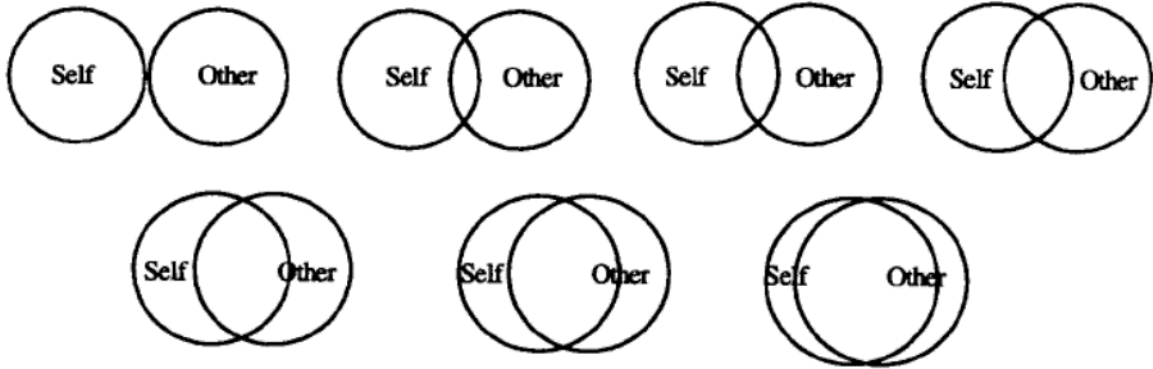
APPENDIX D

INCLUSION OF OTHER IN SELF SCALE (IOS)

IOS Scale

Please choose a picture below that best describes your relationship with the mentor portrayed in the scenario.

Please circle the picture below which best describes your relationship



APPENDIX E

PERCEIVED SIMILARITY MEASURE

Perceived similarity (administered in Study 1)

Response scale 1 (Strongly disagree) to 5 (Strongly agree)

1. The challenge experienced by the mentor is similar to the scenario I am required to tackle.
2. The difficulty of the challenge faced by the mentor and the challenge I am expected to resolve is similar.
3. The challenges are similar enough that the strategies the mentor used to resolve his/her challenge can be applied to the challenge I am expected to resolve.

Perceived general similarity (administered in Study 3)

Response Scale 1 (Strongly Disagree) to 5 (Strongly Agree); Midpoint = Neither Disagree nor Agree

1. My mentor and I had a lot of common experiences to draw on.
2. My mentor and I saw things in much the same way.
3. My mentor and I were alike in a number of areas.
4. My mentor had past experience with things that I'm dealing with now.

APPENDIX F

PERSPECTIVE TAKING MEASURE

Perspective taking (Adapted from Grant & Berry, 2011)

Response scale 1 (Does not describe me at all) to 5 (Describes very well)

1. In my mentoring relationship, I would frequently try to take the perspective of my mentor
2. In my mentoring relationship, often I would imagine how my mentor was feeling
3. In my mentoring relationship, I would make an effort to see the world through my mentor's eyes
4. In my mentoring relationship, I would regularly seek to understand my mentor's view point

APPENDIX G
DEMOGRAPHIC VARIABLES

Demographic variables

1. What is your age? _____
2. What is your gender? _____
3. Please choose the option from the following that best applies to you:
 - a. Caucasian/White
 - b. African American
 - c. Hispanic
 - d. Asian
 - e. American Indian or Alaskan Native
 - f. Other
4. What is your job title? (please type N/A if unemployed) _____
5. Please choose from the options that best applies to you:
 - a. Full time
 - b. Part-time
 - c. Student
 - d. Unemployed