Leader Development Outcomes of Relational Mentoring for Mentors

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ABSTRACT

Leader Development Outcomes of Relational Mentoring for Mentors

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Mentoring is widely recognized as a beneficial tool to develop new employees or students (i.e., protégés). Though mentors can also benefit from mentoring relationships, this aspect has been largely neglected in the empirical literature. One of the objectives of this dissertation, therefore, was to investigate mentoring outcomes for mentors. In this dissertation, I focused on leader and leadership development as mentor outcomes. The leadership literature has focused mainly on leadership development through formal training programs, rather than through challenging assignments and daily life experiences such as mentoring others. To fill the research gaps, I proposed and investigated leader development outcomes of relational mentoring for mentors. In particular, I hypothesized improvements in mentor- and leader-related identity, self-efficacy, and motivation, as the mentor outcomes.

Secondly, in this dissertation, I distinguish between traditional and relational mentoring. Mentoring scholars have studied almost exclusively average-quality, exchange-based mentoring relationships (i.e., traditional mentoring) and have overlooked a full continuum of mentoring quality that includes high-quality relationships (i.e., relational mentoring) as well. Therefore, mentoring research needs to incorporate relational mentoring into its exploration.

To test the hypotheses, I conducted three separate studies. First, I conducted two studies with the following objectives: (1) to develop a short-form scale to measure relational mentoring,

by reducing the items of the Relational Mentoring Index (RMI; Ragins, 2011) and (2) to examine the validity and reliability of the short-form scale. The results from Study 1 and Study 2 supported the validity and reliability of the short-from scale.

Second, to examine the leader development outcomes for mentors, I implemented a mentoring program and recruited its mentors as the participants of the study. I collected the data at four points in time. The results of Study 3 confirmed that mentors who participated in a formal mentoring program gained many mentor and leader development outcomes. Moreover, the provision of traditional and relational mentoring were related to increases in the development outcomes when treated as separate independent variables. However, when entered in the analyses together, the provision of relational mentoring did not explain more variance in the outcomes over and above traditional mentoring.

This dissertation contributes to the literature by developing a short-form scale to advance research on relational mentoring, putting the emphasis on mentors (rather than protégés), investigating mentoring beyond the average-quality relationships, and connecting the mentoring and leadership development literatures through investigating leader development outcomes for mentors.

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CHAPTER ONE: INTRODUCTION

Individuals who are new to an environment often need advice, help, or guidance from those who are established and experienced in that environment. Mentoring is a relationship that occurs between a senior or experienced individual (i.e., mentor) and a less experienced or recently employed one (i.e., protégé), mainly to help a protégé in a transition stage. In a formal mentoring relationship, an organization matches a mentor with a protégé. In an informal mentoring relationship, however, the relationship is initiated by either a mentor or a protégé, rather than by a third party. Mentoring relationships occur in various contexts such as between "mature" individuals and youth (i.e., youth mentoring; e.g., Hall, 2003), experienced and less experienced employees (i.e., workplace mentoring; e.g., Ragins, Cotton, & Miller, 2000; Robinson & Reio, 2012), and senior and junior students (i.e., academic mentoring; e.g., Campbell & Campbell, 1997). Mentoring relationships enhance individuals' career development and personal growth (Kram, 1985). In particular, mentoring has many benefits for protégés, which are known as mentoring functions.

Within the last three decades, many researchers have investigated mentoring functions. Kram (1985) is among the first scholars who proposed the initial mentoring functions of career and psychosocial support. *Career support* consists of providing job coaching, giving challenging assignments, enhancing career advancement, fostering positive exposure, and protecting a protégé. *Psychosocial support* includes being a role-model, providing friendship, confirming a protégé's behavior, and comforting a protégé to share his or her fears and anxieties. According to Ragins (2011), although higher levels of career and psychosocial functions characterize greater levels of relationship quality, high-quality mentoring relationships might provide more than these

two functions. Accordingly, she proposes *relational mentoring* as a mentoring construct, which represents high-quality mentoring relationships.

Ragins (2011) suggests that mentoring relationship quality is best represented by a continuum that consists of dysfunctional (low-quality), traditional[1] (average-quality or exchange-based; career and psychosocial support), and relational[2] (high-quality) mentoring. Relational mentoring goes beyond traditional one-sided (mentor-to-protégé) mentoring functions and takes into account the mutual growth and development, inspiration, shared influence, and trust (Ragins, 2011; Ragins & Verbos, 2007).

Although numerous researchers have investigated the antecedents and consequences of mentoring relationship functions and quality, the mentoring literature has focused exclusively on traditional mentoring functions. Many authors have called for research on a broader range of mentoring relationship quality that contains relational mentoring as well (Chandler, Kram, & Yip, 2011; Eby, 2011; Ragins, 2011).

Another gap in the mentoring literature is a lack of attention to mentors. Although previous mentoring research has focused almost exclusively on protégés, mentors also contribute to, and benefit from, mentoring relationships. For instance, the act of providing mentoring is associated with mentors' subjective and objective career success (Bozionelos, 2004). As research has overlooked mentors, many scholars have called for more research on mentoring with an emphasis on mentors themselves (Eby, 2011; Hu, Wang, Wang, Chen, & Jiang, 2016; Janssen, van Vuuren, & de Jong, 2014). Furthermore, while traditional mentoring functions offer one-sided (mentor-to-protégé) benefits, relational mentoring is a two-way relationship where both

[1] Throughout this dissertation, I will use *traditional* mentoring and *exchange-based* mentoring interchangeably. They both contain the two traditional mentoring functions: *career* and *psychosocial* support.
[2] I will use *relational* mentoring and *high-quality* mentoring interchangeably.

mentors and protégé could benefit from the relationship (Ragins, 2011). Therefore, with the introduction of relational mentoring, paying more attention to mentors becomes essential. To respond to the calls for research and to fill the gaps in the literature, this dissertation focuses on mentor characteristics that contribute to high-quality mentoring relationships and on mentoring outcomes for mentors.

The main objective of the current dissertation is to examine some of the relational mentoring outcomes for mentors. One of the potential and highly overlooked mentoring outcomes for mentors is leader and leadership development. Leadership is defined as "the process of influencing others to understand and agree about what needs to be done and how to do it, and the process of facilitating individual and collective efforts to accomplish shared objectives" (Yukl, 2012). According to Day (2000), organizational practices such as mentoring help individuals improve many of the skills that are associated with leadership competencies (e.g., interpersonal skills and problem solving; also see Mumford, Campion, & Morgeson, 2007). In particular, mentoring is one of the many organizational practices that could help individuals to understand themselves, their competencies, and their identities (i.e., *leader* development) and to understand how to relate to, and coordinate with, others, establish commitments, and extend social networks through self-understanding (i.e., leadership development; Day, 2000). Day proposes that organizations should nurture leaders not only through formal training, but also by providing them with opportunities to mentor and coach others as well as action learning. Although he invited future research to investigate the impact of such practices as mentoring on developing leaders, very few studies have followed suit.

To fill the research gaps, I investigated whether mentoring others indeed contributes to developing mentors' leader identity, leader self-efficacy, and motivation to lead. Moreover, Day

(2000) suggests that mentor development and leader development have considerable overlap and that research and practice should pay attention to this. Hence, I propose mentor identity, mentor self-efficacy, and motivation to mentor (i.e., mentor development variables) as the second group of mentoring outcomes for mentors. Overall, to address the relational mentoring research gaps, I also propose that the extent to which a mentor provides relational mentoring is associated with his or her mentor/leader development. Moreover, I argue that relational mentoring will explain more variance in mentor/leader development outcomes, compared to psychosocial and career supports.

This dissertation comprises three studies that contribute to the literature in several ways. First, they investigate the construct of relational mentoring further and evaluate the validity and reliability of its measure as well as some of its consequences. Many authors have suggested that the mentoring literature has widely overlooked high-quality mentoring relationships and has focused exclusively on traditional, average-quality, mentoring relationships (e.g., Chun, Sosik, & Yun, 2012; Ragins, 2011). The current dissertation expands into a wider range of mentoring relationship quality, thus responding to Chandler et al.'s (2011) call. Second, following the calls for research on mentoring outcomes for mentors (Haggard, Dougherty, Turban, & Wilbanks, 2011; Hu et al., 2016), this dissertation investigates mentoring outcomes for mentors and whether mentoring could contribute to developing them as leaders. In doing so, this dissertation also responds to a call by Day (2000) for research on the potential impact of mentoring on leader and leadership development. Finally, this study examines whether relational mentoring and traditional mentoring functions have different outcomes for mentors, and whether relational mentoring explains variance in mentor outcomes beyond traditional mentoring.

This dissertation is organized as follows. In Chapter 2, I discuss mentoring outcomes for mentors. In particular, I propose that mentoring has leader and leadership development outcomes (i.e., leadership- and mentoring-related identity, self-efficacy, and motivation) for mentors and that relational mentoring explains these outcomes above and beyond traditional mentoring. In doing so, I review the literature and outline the rationale for the proposed hypotheses. In Chapters 3 and 4, I describe two studies that were designed to shorten a long-form scale to measure relational mentoring and to test the validity and reliability of this short-form scale. This new scale is subsequently used in the third study of this dissertation (Study 3). In Chapter 5, I outline Study 3, which was designed to test the hypotheses proposed in Chapter 2. In this study, I implemented a mentoring *program* and solicited its mentors to participate in the mentoring *study* voluntarily. In Chapter 5, I also outline the longitudinal data-collection process (at four points in time) as well as the results from the statistical analyses. Finally, in Chapter 6, I discuss the contributions and practical implications of the current research.

CHAPTER TWO: LITERATURE REVIEW AND HYPOTHESES

Mentoring

Kram (1985) defines mentoring as a developmental relationship that occurs between a more experienced individual (i.e., mentor) and a less experienced individual (i.e., protégé). Although the concept of mentoring dates back to Homer's Odyssey, management scholars started paying particular attention to it after Levinson et al. (1978) presented their seminal research. In their study, 40 men shared their views on their developmental transitions and experience. For those participants, the role of relationships, specifically with mentors, was significant. In fact, Levinson and colleagues posit that the role of mentors may be as important as the role of parents in one's lifespan.

Mentoring has many attributes (Eby, Rhodes, & Allen, 2007). First, this relationship is unique, and no two mentoring relationships are the same. While some of the relationships are long-lasting and deep, some are superficial, short, or even dysfunctional. Second, mentoring is a learning process that involves knowledge sharing. Third, mentoring has many functions that vary depending on the relationship. Some of the relationships focus on psychological or emotional aspects, and some of them tend to focus on career-related aspects of development. Fourth, although the goal is to develop protégés, mentors can also benefit from mentoring, meaning that the relationship could be reciprocal. Fifth, mentoring is dynamic and the relationship, as well as its outcomes, change over time. Sixth, mentoring relationships can be categorized as either formal or informal. Seventh, mentoring also takes place in various contexts. The latter two characteristics are discussed below, in turn.

Formal vs. informal mentoring. Mentoring could occur informally when either a mentor or a protégé initiates a mentoring relationship. In such relationships, known as *informal*

mentoring, either a mentor seeks to provide assistance or a protégé looks for help. In other words, informal mentoring relationships emerge naturally and spontaneously with no third party facilitating them. Sometimes, a third person or an organization systematically pairs mentors and protégés to assist protégés' development and transition. Such relationships are referred to as *formal mentoring* and are part of official mentoring programs. The formality of mentoring can be described along two dimensions (Eby et al., 2007): (1) relationship initiation (the extent to which a third person is involved in matching mentor and protégé and facilitating the relationship between them), and (2) relationship structure (the extent to which the program is based on guidelines, goals, timelines, and regulations). Research has shown that informal mentoring has stronger effects on some outcomes than does formal mentoring (Underhill, 2006).

Mentoring context. Mentoring occurs in various contexts. *Youth mentoring* is known as a relationship between supportive adults and youth (Jekielek, Moore, Hair, & Scarupa, 2002). In *academic mentoring*, a senior student or a faculty member provides guidance and support to a junior student (Jacobi, 1991). Such relationships are an essential component of professional development, especially for graduate students (Clark, Harden, & Johnson, 2000). *Workplace mentoring* occurs between a more experienced employee and a less experienced one to develop the protégé, both personally and professionally (Kram, 1985).

Mentoring Functions

Traditional functions. Mentoring is associated with many benefits for protégés. Mentors provide various types of assistance to protégés, known as *mentoring functions* or *mentoring support*. Kram (1983, 1985) and Noe (1988) categorize mentoring benefits or functions into career and psychosocial support. *Career support* mainly improves protégés' career advancement and includes sponsorship (nominating a protégé for promotions), exposure and visibility

(providing a protégé with opportunities to demonstrate one's talents and competence), coaching (outlining strategies to accomplish work objectives), protection (preventing a protégé from getting involved in controversial situations and from adverse forces), and giving challenging assignments.

Psychosocial support helps protégés feel competent, confident, and effective (Kram, 1983) and includes role-modeling (encouraging a protégé to engage in new experiments and try new behaviors), acceptance and confirmation (providing performance feedback to the protégé), counseling (discussing protégés' personal fears and concerns), and friendship (exchanging thoughts about work and nonwork experiences informally). Although role-modeling was originally proposed as a psychosocial function of mentoring, subsequent research suggested role-modeling as a third and separate dimension of mentoring support (e.g., Castro & Scandura, 2004; Hu, 2008). Notably, mentoring functions have similar relationships with protégé outcomes in general. However, protégé satisfaction with mentor is more strongly associated with psychosocial support, and protégé objective career success (e.g., promotion) is more strongly related to career support (Allen, Eby, Poteet, Lentz, & Lima, 2004).

Relational mentoring. The traditional mentoring functions represent average-quality mentoring relationships, which are mainly one-sided (mentor-to-protégé) and exchange-based. According to Ragins (2011), traditional mentoring fails to capture the two ends of the mentoring quality continuum (i.e., dysfunctional and high-quality relationships). This limited range may restrict our understanding of low- and high-quality mentoring relationships. Relational mentoring (or high-quality mentoring) represents a mentoring relationship that goes beyond the traditional exchanges and contains an interdependent developmental relationship based on mutual learning, development, and trust (Ragins, 2005, 2011). Relational mentoring encompasses personal

learning and growth (exchanging knowledge mutually and developing self-awareness), inspiration (inspiring to see different alternatives and motivating to follow new directions), confirmation of selves (developing a portrait of who one wants to be and who one is at one's best, and informing one about one's authentic self, including one's "worst" and "best" characteristics and attributes), reliance on communal norms (feeling responsible for the partner's well-being and needs without expecting repayment), shared influence and mutual respect (being influenced by and valuing each other's experiences, insights, and talents), and relational trust and commitment (expecting positive intentions from, and having affective bonds to, each other; Ragins, 2011).

Relational mentoring can be distinguished from traditional mentoring in many ways (Ragins, 2005; Ragins & Verbos, 2007). First, relational mentoring is more than a one-sided mentor-to-protégé relationship. Rather, it represents a relationship in which there is mutual growth as well as mutual trust. In relational mentoring, mentors are not the sole source of power and influence. Instead, both mentors and protégés contribute to each other's growth and learning. In other words, in relational mentoring, not only protégés but also mentors learn and grow. In addition, in relational mentoring, mentors and protégés share their concerns with each other. However, in traditional mentoring, only protégés are known to share their confidents with their mentors (psychosocial support). Second, relational mentoring questions the instrumental view of traditional mentoring. An instrumental approach perceives mentoring as a social exchange relationship, where each side expects to receive something in return of investing time and effort. For instance, a mentor provides career and/or psychosocial support and, in return, might expect to receive respect, loyalty, or recognition from the protégé. Third, the concept of relational mentoring is based on positive organizational psychology (POS) and is expected to extend the

range of mentoring outcomes. Relational mentoring represents a wider range of relationship quality and, hence, is likely to capture mentoring outcomes that are associated with high-quality relationships (e.g., developing mentor and protégé professional identity; Ragins, 2011). These differences require future research to investigate both traditional mentoring and relational mentoring functions together and to distinguish between their antecedents and consequences.

It is noteworthy that scholars have investigated mentoring outcomes with two major approaches. In the first approach, the researchers investigate the outcomes of participating vs. not participating in mentoring. In this approach, the authors compare the outcomes of individuals who participated in mentoring (i.e., experimental group) and the outcomes of those who did not participate in mentoring (i.e., control group). In the second approach, which is more prevalent, the researchers investigate the relationship between the level of mentoring provided by mentors or received by protégés and the level of outcomes for mentors or protégés. In other words, the second group associates the provision or receipt of mentoring (as a continuous variable) with the level of mentoring outcomes. In the rest of this dissertation, I refer to the findings of both approaches as mentoring outcomes unless otherwise stated. If specified, I refer to the first approach as investigating the *participation* in mentoring and to the second approach as investigating the *provision* or *receipt* of mentoring. I will now turn to the outcomes of relational mentoring and develop the rationale for the associated hypotheses.

Mentoring and Mentor Leader/Leadership Development

Although the majority of the mentoring literature has focused exclusively on mentoring outcomes for protégés (Eby, 2011), some have also documented outcomes for mentors. These outcomes include, for example, satisfaction from helping others, respect and recognition from others (Kram, 1985), job satisfaction, organizational commitment (Ghosh & Reio, 2013),

affective well-being (Chun et al., 2012), and perceptions of career success (Allen, Lentz, & Day, 2006). Mentor growth and development of leadership skills and competencies are also potential mentoring outcomes. Below, I argue why and how mentoring could develop leadership in mentors.

Although a few scholars have studied the role of mentoring in mentors' leadership development (e.g., Chun et al., 2012; Wanberg, Kammeyer-Mueller, & Marchese, 2006), this area is vastly understudied and needs further investigation. In their general discussion, for instance, Wanberg et al. (2006) provided some quotes from their mentor participants on how mentoring others helped them improve their skills such as problem-solving and communication. Although the authors do not discuss leadership development as an outcome of mentoring explicitly and directly, the mentioned skills are part of many leadership competency models (e.g., Mumford et al., 2007), which will be discussed shortly. In another study, Chun et al. (2012) proposed and examined the development in transformational leadership style as one of the outcomes for mentors. In their study, they employed the participants of a mentoring program, which was designed to prepare participants for leadership roles. According to the findings, the amount of mentoring mentors provide is associated with their improvement in transformational leadership. These studies have promising results that encourage future research to investigate further the connection between mentoring and leadership.

Leadership scholars debate on whether developing leaders takes place in classroom or in day-to-day interactions among leaders, followers, and the environment. According to Day (2000, p. 583), "leadership has been traditionally conceptualized as an individual-level skill." Along the same lines, the vast majority of leadership research (such as the very prevalent field of transformational leadership) in the last two decades has conceptualized leadership as a set of

behaviors that leaders can learn and followers can observe and evaluate. This perspective promotes the idea that leadership development occurs in formal classroom settings or specific training programs. However, leadership is a complex interaction between the leader, the followers, and the context (e.g., Fiedler, 1996).

Many scholars posit that individuals can improve their leadership skills and competencies throughout their life span (e.g., Day, 2000; Mumford, Marks, Connelly, Zaccaro, & Reiter-Palmon, 2000). Individuals learn how to lead through day-to-day interactions with others at work. This learning occurs over a long time and spans from improving simple skills to understanding more complex attributes (Mumford et al., 2000). Given that developing leadership skills is not easy and takes time, it is unrealistic to expect individuals to develop their leadership skills only in seminars, workshops, or courses (Day, Fleenor, Atwater, Sturm, & McKee, 2014). Moreover, with a closer look at the definition of leadership, one would agree that leadership development does not take place only in formal trainings. Based on Yukl's (2012) definition and leadership competency models, leadership contains numerous skills and components such as influencing others and interpersonal skills, assessing needs and shortcomings, goal setting, and planning. Practicing and developing many of these skills do not require individuals to attend formal training and can happen in day-to-day interactions. Thus, research needs to investigate day-to-day learning practices and organizational processes (e.g., mentoring and coaching) through which individuals improve their self-awareness and learn how to lead (Day et al., 2014). Although mentoring is often considered in reviews of leadership development techniques (e.g., Day et al., 2014; Day, 2000), it is usually from the perspective of protégés—that is, it is proposed that receiving mentoring could lead to developing leaders or leadership skills (e.g., Lester, Hannah, Harms, Vogelgesang, & Avolio, 2011; Solansky, 2010).

According to Day (2000), practices such as mentoring could contribute to leader and leadership development in mentors through action learning and self-reflection. Leader development includes developing individuals' intrapersonal competence in understanding oneself, engaging in positive behaviors, and developing one's identity. Leadership development refers to improvements in interpersonal competence in understanding other people and communicating, collaborating, and cooperating with them. Day et al. (2009) argue that such leader and leadership competencies develop when individuals, through organizational interactions, learn about what information is needed for success (declarative knowledge) and how processes lead to success (procedural knowledge).

The impact of mentoring on mentors' leadership development and acquisition of developmental and procedural knowledge can be discussed through leadership competency models. Many scholars have conceptualized and categorized required leadership skills (e.g., Connelly et al., 2000; Hooijberg, Hunt, & Dodge, 1997; Kanungo & Misra, 1992). Mumford et al.'s (2007) model of leadership competencies is one of the most comprehensive and relatively recent conceptualizations. According to this model, leadership skills can be captured by four broad categories of skills: (1) cognitive skills (gathering, processing, and distributing information), (2) interpersonal skills (interacting with and influencing others), (3) business skills (managing operational, personnel, and financial resources), and (4) strategic skills (visioning, planning, and identifying causes and consequences). These four categories contain several sub-categories or specific leadership skills. Mentoring provides mentors with an opportunity to acquire and to practice many of these leadership skills and, consequently, could influence their development. For instance, a mentor exercises understanding emotional reactions, interacting interpersonally, orienting one's protégé, planning, and problem-solving, which are some of the

interpersonal and strategic leadership skills. Thus, it is likely that mentoring others would develop mentors' leadership skills or, at least, provide a mentor with an opportunity to evaluate his or her leadership skills and effectiveness (or lack thereof).

Despite Day's arguments on developing leaders in organizational contexts, few studies have examined whether mentoring others could contribute to leader and leadership development. In their study, Chun et al. (2012) confirmed that the provision of mentoring increases transformational leadership skills in mentors. Their study integrates the literatures on mentoring and leadership development. However, there are still gaps in the literature that need to be addressed. First, Chun et al.'s study conceptualizes transformational leadership improvement as a leadership development outcome. Transformational leadership is a set of behaviors that can be learned in formal settings and through training programs (e.g., Barling, Weber, & Kelloway, 1996; Dvir, Eden, Avolio, & Shamir, 2002). Although Chun et al.'s study makes important contributions, research should also consider those aspects of leader and leadership development that are more difficult, if not impossible, to practice or learn in classroom settings (e.g., motivation to lead). Second, there could be some other leader and leadership development competencies underlying transformational leadership skills, such as self-awareness and self-regulation, which need to be addressed. For instance, many mentors do not hold leadership positions but might end up leading others. It might be early to expect these mentors to develop transformational leadership skills through mentoring. However, it is still likely that, through mentoring others, they start integrating leadership into their self-identity, gain confidence in their ability to lead, or develop motivation to lead.

Based on the previous argument, as the sample of this dissertation consists of Ph.D. students, who might be novice in leading others, I propose leader identity, leader self-efficacy,

and motivation to lead as leader and leadership development outcomes. Hence, I first discuss development in identity, self-efficacy, and motivation as mentoring outcomes for mentors. Then, I will argue that the amount of traditional mentoring provided is associated with those development outcomes. Finally, I will argue that relational mentoring is also associated with mentor development outcomes and explains these outcomes above and beyond traditional mentoring.

Mentoring and Leader Identity, Leader Self-Efficacy, and Motivation to Lead

"Identities are the traits and characteristics, social relations, roles, and social group memberships that define who one is" (Oyserman, Elmore, & Smith, 2012). As a sub-component of identity, leader identity refers to how an individual thinks of oneself as a leader (Day & Harrison, 2007). Leader self-efficacy refers to an individual's confidence in his or her ability to perform as a leader and to carry out the behaviors related to leadership (Paglis, 2010). Lastly, motivation to lead can be defined as an individual's desire to accept leadership roles and responsibilities, and to intensely and persistently put effort into leading (Chan & Drasgow, 2001). In this dissertation, I chose these three constructs as mentor's leadership development outcomes because these three variables are foundational to leadership development (Chan & Drasgow, 2001; Day & Sin, 2011; Ng, Ang, & Chan, 2008).

Mentoring provides mentors with an opportunity to practice and to improve their leadership skills and, eventually, to improve their leader identity, leader self-efficacy, and motivation to lead. In general, experience is a critical component of growth and development. Lessons learned from experience are among the most powerful forces for individual development (McCall, Lombardo, & Morrison, 1988). When mentoring protégés, mentors experience leadership and its components because mentoring and leading others require many similar skills,

such as feedback-giving, evaluating, listening, supervising, decision-making, and problem solving (see Mumford et al., 2007; Standing, 1999). Hence, mentors find themselves as leaders and discover their ability to lead when they are expected to perform leadership tasks such as solving problems, coordinating, communicating, and coaching. Below, I describe in more details why mentoring may help mentors to develop their leader identity, leader self-efficacy, and motivation to lead.

I expect mentors' leader identity to change after their participation in mentoring and based on their provision of mentoring. In their *leader identity-development spiral*, Day and colleagues (2009; 2011) suggest that experience plays a key role in increasing (or decreasing) individuals' leader identity. According to this model, being involved in a positive (or negative) leadership experience increases (or decreases) an individual's leader identity. Mentoring others, for instance, enables mentors to experience some of the leadership competencies and allows them to compare themselves with (1) generic views of well-known and "good" leaders (i.e., self-to-prototype comparison) and (2) particular individuals with whom they work or interact such as one's immediate supervisor (i.e., self-to-exemplar comparison; Guillén, Mayo, & Korotov, 2015). For instance, in a recent longitudinal study, Miscenko and colleagues (2017) have found that changes in individuals' self-perceptions of leadership skills influence changes in those individuals' leader identity. In other words, when individuals perceive gaining (or losing) leadership skills, their leader identity increases (or decreases).

Mentoring others develop mentors' leader self-efficacy and motivation to lead as well. On the one hand, developing individual capabilities enhances an individual's leader self-efficacy and motivation to engage in leadership and, thus, leads to developing distal outcomes such as individual leadership effectiveness (Day & Dragoni, 2015). On the other hand, experiencing

leadership, as a leader and leadership development method, as well as performing challenging assignments successfully, improve an individual's belief in his or her ability to lead (e.g., Quigley, 2013; Seibert, Sargent, Kraimer, & Kiazad, 2017) and motivation to lead and to develop leadership skills (e.g., Chan & Drasgow, 2001). Thus, as mentoring and leadership overlap, through experiencing some of the leadership tasks, receiving feedback, and reflecting on their experience, mentors are likely to develop leader self-efficacy and motivation to lead. Below, I elaborate on how mentoring contributes to development in leader self-efficacy and motivation to lead in mentors.

I expect mentors' leader self-efficacy to change after their participation in mentoring and based on their provision of mentoring. According to Social Cognitive Theory (SCT; Bandura, 1986, 1997), individuals learn and gain confidence through observation in social contexts. A pivotal concept in SCT is self-efficacy, which is an individual's belief in his or her capacity to perform a task in a particular context successfully. An individual's self-efficacy can be influenced by four sources: *mastery experiences* (positive and pleasant experiences that confirm one's capabilities in performing a task), *vicarious experiences* (observing others performing a task successfully), *social persuasion* (receiving positive, constructive, and self-assuring feedback from others), and *physiological and affective states* (strains and negative emotions undermine an individual's self-belief; Bandura, 1977, 1997). Below, I describe how mentoring others may improve mentors' leader self-efficacy through some of the four sources of self-efficacy.

Mentors can gain leader self-efficacy through three of the four sources of self-efficacy. First and foremost, mentors gain leader self-efficacy through experiencing leadership (mastery experiences). As mentioned earlier, leadership and mentoring require overlapping competencies such as planning, communicating, inspiring others, delegating, and setting directions. Performing

challenging tasks that include such leadership activities increase individuals' leader self-efficacy (e.g., Seibert et al., 2017). Thus, if they develop positive relationships with their protégés, mentors are likely to evaluate their leadership competencies and gain leader self-efficacy through experiencing these leadership activities. Second, mentors might receive positive and constructive feedback from their protégés (social persuasion). In other words, mentoring could turn into a social exchange relationship where the protégé "pays back" his or her mentor through providing feedback, which enhances mentor performance (Ramaswami & Dreher, 2008). Therefore, the feedback received and ensuing reflection could turn mentoring into a self-directed discovering and learning process. Finally, as a rewarding experience, mentoring others could improve mentors' psychosocial and emotional states. Positive mentoring relationships give mentors a sense of satisfaction and worthiness (e.g., Kram, 1985) and improve their job attitude (e.g., Eby, Durley, Evans, & Ragins, 2006). Such improvements in mentors' lives are likely to enhance their evaluations of their own leadership capabilities and leader self-efficacy. Thus, all in all, mentoring others could improve mentors' leader self-efficacy.

I expect mentors' motivation to lead to change after their participation in mentoring and based on their provision of mentoring. Self-determination theory (SDT) can explain why a mentor would gain motivation to lead after he or she has a positive mentoring experience. Before outlining the impact of mentoring on mentor motivation to lead, I describe SDT briefly. According to SDT (Deci & Ryan, 1985), individuals have various levels of motives to engage in a task or role. The SDT motivation continuum extends from amotivation and controlled motivation to autonomous motivation. In particular, this continuum consists of six types of motivation in individuals: amotivation (lack of motivation), external regulation (presence of contingent rewards or punishment), introjected regulation (self-control on performance),

identified regulation (importance of goals and regulations), integrated regulation (coherence between goals, values, and regulations), and intrinsic motivation (joy and fun in performing the task). According to SDT, individuals who lack motivation, or whose motivation is closer to the external regulation end of the continuum, perform a task because they are under pressure or they have to engage (i.e., controlled motivation). In contrast, individuals whose motivation is closer to integrated regulation and intrinsic motivation perform a task because they find it interesting and joyful, or because performing that task is aligned with their values (i.e., autonomous motivation). Accordingly, scholars consider external regulation and introjected regulation as controlled motivation, and identified regulation, integrated regulation, and intrinsic motivation as autonomous motivation (Gagné et al., 2015).

Mentors may gain motivation to lead through mentoring, given that mentoring satisfies their three SDT needs. Based on SDT, individuals have three basic needs and the extent to which these three needs are satisfied through performing a task determines whether the individual will have autonomous motivation, rather than controlled motivation, to perform that task (Gagné & Deci, 2005). These three basic needs are need for autonomy (need to have autonomy to perform a task), competence (need to feel competent to perform a task), and relatedness (need to feel connected to others). A positive leadership experience in the context of a mentoring relationship could satisfy all these needs in mentors to some extent. In performing leadership activities such as planning and problem solving, mentors evaluate their leadership competencies and either realize that they are competent in those activities or receive feedback on how to be more competent. Also, in mentoring relationships, mentors have relatively high autonomy on deciding in which leadership activities they might engage. Finally, in performing leadership activities, mentors are connected with their protégés and such connection make a leadership experience

more inspiring for mentors. Therefore, mentoring can satisfy all three needs in mentors and improve mentors' motivation to lead.

> ***Hypothesis* 1.** Compared to those who do not mentor, individuals who participate in a mentoring program as mentors will experience greater positive change in their (a) leader identity, (b) leader self-efficacy, and (c) motivation to lead.

Mentoring and Mentor Identity, Mentor Self-Efficacy, and Motivation to Mentor

In the previous section, I argued that mentoring contributes to mentor leadership development. However, before being a practice for developing leaders, mentoring is a means for developing mentors. In other words, through mentoring others, mentors could improve their mentoring skills and learn how to mentor through experience. In fact, Day (2000) suggests that the areas of mentor development and leader development overlap and that future research should take into account this overlap. In other words, mentor development and leader development could be discussed and studied together for a more comprehensive view integrating both areas. Therefore, I argue that mentoring others improves mentor identity, mentor self-efficacy, and autonomous motivation to mentor.

Ragins (2009) proposes that those who experience being a mentor acquire a self-image of themselves as mentors (mentor identity), develop expectations from their future mentoring opportunities, and gain motivation to mentor others. She also encourages future research to test these propositions. Also, based on social-cognitive theory (Bandura, 1986), experience is a key process through which an individual gains confidence in his or her ability to perform a task (i.e., self-efficacy). Some scholars have proposed that individuals who experience being in a mentoring relationship, whether as a mentor or as a protégé, are more likely to become a mentor, compared to those who have not experienced mentoring (Allen, Poteet, Russell, & Dobbins,

1997; Ragins & Cotton, 1993). Therefore, a positive mentoring experience is likely to increase mentor identity, mentor self-efficacy, and motivation to mentor.

SDT also can explain why a mentor would gain autonomous motivation to mentor after he or she has a positive mentoring experience. Mentors may gain autonomous motivation throughout mentoring, given that mentoring satisfies their three SDT needs (i.e., need for competence, autonomy, and relatedness). A positive mentoring experience could satisfy all these needs in mentors to some extent. First, whether a mentor is assigned to a protégé through a formal mentoring program or chosen by a protégé through informal means, the mentor is likely to feel that he or she has some competencies that qualified him or her to be in this position. Furthermore, throughout mentoring, the mentor receives positive or constructive feedback on his or her mentoring competencies. In return, his or her need for competence is satisfied as such feedback either confirms that he or she is capable of mentoring others or he or she knows how to improve to become a more competent mentors. Second, even in formal mentoring programs with established processes, a mentor has some autonomy (and also some responsibility) to decide on the type of support to provide to the protégé. In particular, while some mentors are more likely to provide mainly career support, some others might be more willing and comfortable to provide psychosocial support. Moreover, mentors have autonomy on the extent to which they provide mentoring support. Oftentimes, mentors could either proactively provide their protégés with various types of support or limit their support to the minimum levels and engage only if and when their support might be needed. Finally, the mentor is connected to many individuals including his or her protégé, other mentors, and program administrators or supervisors (in formal mentoring). Therefore, mentoring can satisfy all three needs in mentors and improve mentors' autonomous motivation to mentor.

***Hypothesis* 2.** Compared to those who do not mentor, individuals who participate in a mentoring program as mentors will experience greater positive change in their (a) mentor identity, (b) mentor self-efficacy, and (c) autonomous motivation to mentor.

To investigate mentoring outcomes, mentoring research associates the provision of mentoring functions with development in outcomes for mentors and protégés. In particular, in a common approach, mentoring scholars relate the amount of mentoring functions a mentor provides (i.e., the provision of mentoring) or a protégé receives (i.e., the receipt of mentoring) with his or her development of mentoring outcomes (e.g., Chun et al., 2012; Eby et al., 2013; Lapointe & Vandenberghe, 2017). Using this approach, scholars conceptualize and operationalize mentoring as a construct that ranges on a continuum from low to high provision of mentoring functions, rather than a construct that is either present or absent. Therefore, the trajectories of development in individuals are different not only between individuals who participate vs. who do not participate in mentoring programs, but also among the participants in mentoring programs with various levels of mentoring functions and quality.

Following upon my previous argument, the more a mentor provides traditional mentoring functions (i.e., career support, psychosocial support, and role modeling) to his or her mentee, the more he or she should gain leader identity, leader self-efficacy, and motivation to lead as well as mentor identity, mentor self-efficacy, and motivation to mentor. The level of mentoring provision indicates the extent to which mentors provide supporting behaviors such as career counseling, coaching, and encouragement (Eby et al., 2013). While high levels of mentoring provision characterize intense mentoring experiences with many learning opportunities for mentors, low levels of mentoring provision represent mentoring experiences with few learning opportunities for mentors. Therefore, the more mentors provide mentoring functions, the more

they experience leadership situations and practice their leadership skills and, consequently, the more they should develop leader and mentor development outcomes. Furthermore, the amount of mentoring functions a mentor provides is associated with the frequency of interaction between the mentor and his or her protégé (e.g., Huang, Weng, & Chen, 2016). Thus, the more a mentor provides mentoring functions and support, the more he or she is likely to interact with his or her protégé and to experience mentoring.

> ***Hypothesis* 3.** For the mentors of a mentoring program, the provision of traditional mentoring will be positively associated with growth in (a) leader identity, (b) leader self-efficacy, (c) motivation to lead, (d) mentor identity, (e) mentor self-efficacy, and (f) autonomous motivation to mentor for mentors.

Relational Mentoring and Leader/Mentor Development

So far, I have argued that mentoring can be a means of leader and mentor development. In order to examine the impact of mentoring on leadership development, previous research has exclusively associated the amount of traditional functions that mentoring provides with mentor leadership development (e.g., Chun et al., 2012). However, in this dissertation, I aim to focus on both traditional mentoring and relational mentoring and their outcomes for mentors. Ragins (2011) suggests that relational mentoring contains many high-quality functions such as commitment and trust and, thus, it may explain more variance in mentoring outcomes, compared to the traditional exchange-based functions.

For several reasons, relational mentoring could explain more variance in mentoring outcomes for mentors, compared to career and psychosocial functions. According to DeRue and Ashford (2010), leader (mentor) identity takes shape at multiple levels. At the basic level (i.e., individual internalization), the individual incorporates a leader (mentor) identity because of a

role (e.g., mentor) that is given to him or her. At a more advanced level (i.e., relational recognition), not only does the leader (mentor) recognizes himself or herself as a leader (mentor), but the follower (protégé) also accepts and confirms these roles in their relationship. In other words, with relational recognition, leader (mentor) identity is expected to be stronger as both the leader (mentor) and the follower (protégé) take and accept one's and the other's role. As relational mentoring is characterized by self-affirmation, a protégé in a high-quality relationship is more likely to recognize and confirm the mentor's role as a mentor and a leader (someone who influences the protégé, recognizes his or her weaknesses, and helps him or her in goal-setting and planning to achieve the objectives). In particular, in relational mentoring, both sides affirm each other's ideal self or the self each wishes, dreams, and aspires to be (Ragins, 2011). Therefore, compared to exchange-based mentoring, in relational mentoring, the protégé is more likely to affirm a mentor's pursuit of one's ideal self. This affirmation leads to higher levels of leader and mentor identity.

Second, according to Day and Sin (2011), when an individual experiences leadership in a positive way (e.g., the follower is committed to a proposal or suggestion), he or she is more likely to develop leader identity, to gain leader self-efficacy, and to be motivated to seek further leadership development opportunities. In other words, positive experience is critical in developing identity, self-efficacy, and motivation. The same argument can be applied to mentor identity, mentor self-efficacy, and motivation to mentor. While traditional mentoring functions contain such dimensions as counseling and coaching, they do not necessarily nourish the relational mentoring dimensions such as trust, commitment, mutual growth, and inspiration, which can be seen in positive and extraordinary mentoring relationships (i.e., relational

mentoring). Therefore, a high-quality mentoring relationship may contribute to leader and mentor development, above and beyond a traditional exchange-based mentoring relationship.

Finally, mentors in relational mentoring relationships are more likely to gain insights into, and receive feedback on, their strengths and weaknesses, compared to those in exchange-based relationships (Ragins, 2011). In relational mentoring, the protégé is committed to the relationship and assumes this responsibility to help his or her mentor learn about oneself and one's strengths and weaknesses. Therefore, the mentor is likely to receive genuine feedback on his or her leadership and mentoring style and skills from his or her protégé. Moreover, as relational mentoring is also characterized by mutual trust, influence, and respect, mentors are likely to accept and welcome this feedback as constructive and valuable. Whether positive or negative, this constructive feedback from the protégé is likely to encourage the mentor to develop himself or herself and to improve mentor and leader identity, self-efficacy, and motivation.

> ***Hypothesis* 4.** For the mentors of a mentoring program, the provision of relational mentoring will be positively associated with growth in (a) leader identity, (b) leader self-efficacy, (c) motivation to lead, (d) mentor identity, (e) mentor self-efficacy, and (f) autonomous motivation to mentor for mentors.
>
> ***Hypothesis* 5.** For the mentors of a mentoring program, the provision of traditional mentoring and of relational mentoring will each explain unique variance in growth in (a) leader identity, (b) leader self-efficacy, (c) motivation to lead, (d) mentor identity, (e) mentor self-efficacy, and (f) autonomous motivation to mentor.

Table 1 summarizes the hypotheses.

Table 1. Summary of hypotheses

#	Hypothesis statement
H1	Compared to those who do not mentor, individuals who participate in a mentoring program as mentors will experience greater positive change in their (a) leader identity, (b) leader self-efficacy, and (c) motivation to lead.
H2	Compared to those who do not mentor, individuals who participate in a mentoring program as mentors will experience greater positive change in their (a) mentor identity, (b) mentor self-efficacy, and (c) autonomous motivation to mentor.
H3	For the mentors of a mentoring program, the provision of traditional mentoring will be positively associated with growth in (a) leader identity, (b) leader self-efficacy, (c) motivation to lead, (d) mentor identity, (e) mentor self-efficacy, and (f) autonomous motivation to mentor for mentors.
H4	For the mentors of a mentoring program, the provision of relational mentoring will be positively associated with growth in (a) leader identity, (b) leader self-efficacy, (c) motivation to lead, (d) mentor identity, (e) mentor self-efficacy, and (f) autonomous motivation to mentor for mentors.
H5	For the mentors of a mentoring program, the provision of traditional mentoring and of relational mentoring will each explain unique variance in growth in (a) leader identity, (b) leader self-efficacy, (c) motivation to lead, (d) mentor identity, (e) mentor self-efficacy, and (f) autonomous motivation to mentor.

CHAPTER THREE: STUDY 1

Study 1: Introduction

Before investigating the proposed relational mentoring outcomes for mentors in the field, it was essential to test whether the instrument to measure relational mentoring was valid and reliable. Mentoring researchers have developed and tested a few instruments to conceptualize the provision/receipt of mentoring and the quality of mentoring relationship. For instance, to measure career support, psychosocial support, and role-modeling (i.e., the three traditional functions of mentoring), Scandura and Ragins (1993) developed a scale, which has been widely tested and used since its initial development. However, to measure relational mentoring (i.e., the quality of the mentoring relationship), the only available instrument is the Relational Mentoring Index (RMI), a long-form scale that has been developed recently by Ragins (2011). This scale has not been tested as extensively as other mentoring measures. Moreover, compared to the rest of the variables in my dissertation, this scale has a very large number of items that can likely be reduced, thus limiting participant fatigue and potentially increasing response rate. Therefore, in Study 1, I intended to examine the validity and reliability of the relational mentoring scale and to develop a short version of this scale prior to using it in the main study of this dissertation.

The purpose of Study 1 was, therefore, to construct a short-form relational mentoring scale (Relational Mentoring Index – Short Form; RMI-SF), and to investigate whether this measure is valid and reliable. As adding or removing items could severely influence the validity of scales (Bono & McNamara, 2011), I followed Smith and colleagues' advice in constructing short-form scales (2000). Then, I investigated the validity and reliability of the short-form scale. In particular, to test the validity of the short-form scale, I examined whether RMI-SF captures a

construct that is correlated with, but different from, other mentoring constructs and mentoring quality correlates, namely, traditional mentoring (e.g., Ragins, 2011) and frequency of contact between mentor and protégé (e.g., Eby et al., 2013).

Study 1: Methods

Participants

Prior to data collection, I obtained the ethics approval from the Concordia University's Human Research Ethics Committee (Certification Number: 30006559; Appendix A). The data were collected from two separate samples using Qualtrics panel data services. The participants in these two samples were individuals who had experienced mentoring as mentors and protégés, respectively, within the last two years. In particular, two surveys were designed for these participants: a survey for mentors and a survey for protégés. Then, the Qualtrics project manager recruited participants (1) who resided in Canada or the United States, (2) who had experienced mentoring for at least three months within the last two years, and (3) who were above 18 years old. Originally, Sample 1 consisted of 270 mentors and Sample 2 included 250 protégés. After screening the data, Samples 1 and 2 included 259 (129 men and 130 women) and 238 (109 men and 129 women) participants, respectively. Participants in both samples resided in the United States. The average age of the participants was 33.3 (SD = 9.6) years in Sample 1 and 32.4 (SD = 9.4) in Sample 2. The participants were compensated for the time they spent according to the Qualtrics compensation rules and regulations. Notably, the participants in Sample 1 and Sample 2 were separate and were not matched mentors and protégé.

Data Screening

Data screening followed previous research recommendations (e.g., DeSimone, Harms, & DeSimone, 2015; Meade & Craig, 2012) to identify careless responses. In particular, I employed

several techniques during survey design, data collection, and data analysis to screen data and ensure their high quality.

In survey design, I used two techniques to identify low attention respondents. First, I used self-report indices of data quality. In particular, at the end of the survey and using three items, I asked the respondents to rate the level of their attention and assured them that their response would not influence their compensation. A sample item was "In your honest opinion, should we use your data in our analyses for this study?". This technique enabled me to identify participants who self-reported their lack of attention. Participants who suggested not using their responses were removed from the sample. Second, using five items throughout each survey, I instructed the participants to choose a specific response. A sample item was "Please select the answer choice 'Somewhat agree' for this line." This technique enabled me to identify participants who did not follow the instructions. Notably, in data collection, Qualtrics coding system removed the participants with one or more mistakes from the final sample of participants.

I used response time to identify low attention respondents. As previous research suggests, low attention respondents might spend a very small amount of time on surveys. Therefore, in this study, low response time participants were identified and removed in two steps. First, in a soft launch (data collection from only 50 participants), the average time spent on the survey was calculated. Then, after opening the survey to all respondents, the Qualtrics project manager removed the respondents who used less than one third of the average time spent, as calculated in the soft launch.

Finally, in data analysis, I used two techniques to identify low attention respondents: psychometric and semantic antonyms (i.e., choosing extremely inconsistent responses across dissimilar items) and longstring (i.e., responding the same way or in a same pattern to all items).

For instance, if a respondent, on many occasions, chose an extreme answer choice (e.g., extremely agree) to items with exactly opposite meanings, that respondent was identified as low attention. Using the combination of these techniques, I ensured that the final samples contained individuals whose responses passed many quality tests.

Measures

Traditional mentoring. To measure traditional mentoring, I employed the Mentoring Functions Questionnaire (MFQ-9; Castro & Scandura, 2004) which is a short-form 9-item scale based on a 15-item scale developed by Scandura and Ragins (1993). This short-form scale has three items for each mentoring function. Three sample items are "My mentor helps me coordinate professional goals" for career support, "I share personal problems with my mentor" for psychosocial support, and "I try to model my behavior after my mentor" for role-modeling. Each item has a seven-point response scale (from 1 = Strongly disagree to 7 = Strongly agree). Notably, the items of all scales are presented in Appendix B.

Several studies have tested the validity and reliability of this measure. For instance, in a study conducted in two separate US and Taiwanese samples (Hu, Pellegrini, & Scandura, 2011), the Cronbach's alphas for each subscale and the overall scale ranged from .81 to .91. Although this scale measures three theoretical dimensions of mentoring, according to previous research that used a global approach to mentoring (e.g., Eby, Butts, Hoffman, & Sauer, 2015; Hu et al., 2016; Hu, Wang, Yang, & Wu, 2014; Lapointe & Vandenberghe, 2017), the scale can be used to create one single score. In particular, as the mentoring functions are highly correlated (Eby et al., 2015), the scale items are known to capture one construct, which is referred to as the provision/receipt of mentoring or traditional mentoring. In this study, the Cronbach's Alpha for this scale was .87 in both samples.

Relational mentoring. To measure the presence of high-quality mentoring, I employed the Relational Mentoring Index (RMI), developed by Ragins (2011). This scale has 23 items, at least three items for each of the six relational mentoring theoretical dimensions, namely, personal learning and growth, inspiration, self-affirmation, reliance on communal norms, shared influence and respect, and trust and commitment. A few sample items are "Our relationship is founded on mutual trust and commitment" for trust and commitment, and "In our relationship, we help each other without expecting repayment" for reliance on communal norms. Using a seven-point Likert scale, the participants rated the extent to which they agree with each statement (from 1=strongly disagree to 7=strongly agree). The Cronbach's Alpha for this scale was .97 in both samples.

Frequency of contact. To measure the frequency of contact between mentor and protégé, I used a 4-item scale developed by McAllister (1995). On a scale from 1 (only once or twice within the last 6 months) to 7 (many times a day), the participants indicated the frequency of their interaction with their mentors/protégés. One of the items, for instance, was "How frequently did you initiate interaction with your mentor (or mentee)?". The Cronbach's Alpha for this scale was .89 in both samples.

Protégé negative mentoring experience (dysfunctional mentoring). To measure protégé negative experience in mentoring, I used a short-form scale based on a 42-item scale developed by Eby and colleagues (2004). The original scale is comprised of five dimensions that belong to a single construct. These five dimensions are: Mismatch within the dyad, distancing behavior, manipulative behavior, lack of mentor expertise, and general dysfunctionality. In this study, I used a 12-item scale, with three items from the following dimensions to create a general negative experience scale: Distancing behavior, manipulative behavior, lack of mentor expertise, and general dysfunctionality. Notably, one of the dimensions (mismatch with the dyad) was

excluded due to its low factor loadings in the original study. To evaluate negative mentoring experience, the participants rated the extent to which they agree with each statement on a scale from 1 (Strongly disagree) to 7 (Strongly agree). Two sample items are "My mentor is more concerned about his/her own career than helping me develop in mine" for distancing behavior and "My mentor has intentionally hindered my professional development." for manipulative behavior. The Cronbach's Alpha for this shortened scale was .93.

Study 1: Results

Item Reduction

I followed previous research (e.g., Liden et al., 2015) to construct a short-form scale for relational mentoring and started with investigating the factor structure of the long-form scale. In particular, the first step to develop a short-form relational mentoring scale was to identify the factor structure of the original scale through running Exploratory Factor Analysis (EFA) on the data from both samples. This practice enabled me to observe the item loadings. Table 2 demonstrates the item loadings when EFA was conducted on the data from Sample 1, Sample 2, and the combined samples. As demonstrated in Table 2, in all EFAs, the items loaded on one factor. Moreover, the results from principal component analyses across the datasets (i.e., Sample 1, Sample 2, and combined) confirm that relational mentoring is comprised of one component with an eigenvalue of 1 or above, which explains almost 66% of the total variance.

The second step was to choose the items with the highest loadings to construct a short-form scale. As shown, relational mentoring captures a single construct. Therefore, I chose an item from each theoretical dimension. In order to do so, I chose the item with the highest loading in each dimension, based on the EFA results. The items with the highest loadings in each dimension are shown in bold in Table 2. As shown, the items with the highest loadings are

almost the same across the three factor analyses. If the items with the highest loadings were not the same in one dimension, as the item loadings are very close in both samples, I chose the item with the highest loading when the two samples were combined.

Table 2. Exploratory factor analysis results of the long-form scale

#	Item	Sample 1	Sample 2	Combined
		Factor 1	Factor 1	Factor 1
01.	My mentee (mentor) is helping me learn and grow as a person.	.802	.792	.795
02.	My mentee (mentor) helps me learn about my personal strengths and weaknesses.	.787	.812	.796
03.	My mentee (mentor) helps me learn more about myself.	.777	.785	.780
04.	This mentoring relationship helps both my mentee (mentor) and I to learn about our personal strengths and weaknesses.	**.869**	**.848**	**.853**
05.	My mentee (mentor) has been a source of inspiration for me.	.812	**.847**	.827
06.	My mentee (mentor) gives me a fresh perspective to think "outside the box."	.778	.756	.765
07.	I am often inspired by my mentee (mentor).	**.848**	.837	**.842**
08.	My mentee (mentor) is helping me become the person I aspire to be.	.787	**.866**	.824
09.	My mentee (mentor) sees me not only for who I am, but also for who I aspire to be.	.815	.845	.828
10.	My mentee (mentor) always sees the best in me.	.774	.810	.788
11.	My mentee (mentor) seems to bring out the best in me.	.812	.839	.824
12.	My mentee (mentor) accepts me for who I am.	**.842**	.834	**.837**
13.	I can be myself with my mentee (mentor).	.764	.682	.722
14.	In our relationship, we help each other without expecting repayment.	**.840**	**.797**	**.812**
15.	We never keep score of who gives and who gets...	.738	.712	.719
16.	We give to each other without expecting repayment.	.803	.751	.771
17.	My mentee (mentor) and I respect each other.	.806	.865	.833
18.	My mentee (mentor) and I value what each person has to say.	.849	.843	.845
19.	There is mutual respect and influence in our relationship.	**.865**	**.896**	**.880**
20.	Our relationship is founded on mutual trust and commitment.	.832	.806	.818
21.	My mentee (mentor) and I trust each other.	**.849**	**.861**	**.855**
22.	My mentee (mentor) and I are committed to the relationship.	.734	.768	.750
23.	Trust and commitment are central to our relationship.	**.824**	**.884**	**.855**
	Eigenvalues	15.08	15.42	15.11
	% of variance explained	65.58	67.05	65.70
	Overall alpha coefficient	.97	.97	.97

After choosing the items with the highest loadings, the exploratory factor analyses were repeated to observe the loading patterns in the short-form scale. Table 3 shows the item loadings. As demonstrated, in all EFAs, the items loaded on a single factor, with loadings from .74 to .84. In other words, as suggested by Ragins (2011), the items loaded on a single factor that reflects the overall mentoring relationship quality.

Moreover, the alpha coefficients of the short-form scale were well above the threshold of .70 (α in sample 1 = .93; α in sample 2 = .94; α in combined samples = .93), showing that the short-form scale has high inter-item agreement. As the short-form scale has fewer items compared to the long-form scale, alpha coefficients of the short-form scale in both samples are slightly below those of the long-form scale. However, the coefficients are still far above the acceptance level of .7, meaning that the short-form scale still has high inter-item agreement.

Table 3. Exploratory factor analysis results of the short-form scale

#	Item	Sample 1	Sample 2	Combined
		Factor 1	Factor 1	Factor 1
01.	This mentoring relationship helps both my mentee (mentor) and I to learn about personal strengths and weaknesses.	.88	.87	.87
02.	I am often inspired by my mentee (mentor).	.86	.87	.86
03.	My mentee (mentor) is helping me become the person I aspire to be.	.81	.89	.85
04.	In our relationship, we help each other without expecting repayment.	.85	.83	.84
05.	There is mutual respect and influence in our relationship.	.89	.90	.90
06.	Trust and commitment are central to our relationship.	.86	.90	.88
	Eigenvalues	4.43	4.63	4.49
	% of variance explained	73.81	77.20	74.85
	Overall alpha coefficient	**.93**	**.94**	**.93**

Construct Validity

To test the scale's validity, following previous research in developing short-form scales (e.g., Credé, Harms, Niehorster, & Gaye-Valentine, 2012; Liden et al., 2015), I took the

subsequent steps. First, I examined whether the scores from the short-form scale of relational mentoring are correlated (1) highly with those from the long-form scale and (2) with mentoring functions and correlates. Second, I investigated whether the relational mentoring short-form scale captures a construct that is distinct from similar constructs in mentoring, namely, traditional mentoring and frequency of contact between mentor and protégé.

Convergent validity. First, I investigated whether the relational mentoring short-form scale has meaningful relationships with some of the well-known mentoring correlates and outcomes. Although the scale's criterion validity with a focus on mentoring outcomes will be examined further in Study 2, in Study 1, I investigated the relationship between relational mentoring and its correlates, namely, traditional mentoring, frequency of contact between mentor and protégé, and protégé negative mentoring experience (dysfunctional mentoring). Therefore, it is expected that (1) relational mentoring long- and short-form scales will be highly and positively correlated, (2) relational mentoring short form scale will be highly and positively correlated with each of the relational mentoring dimensions, (3) relational mentoring short-form scale will be positively correlated with traditional mentoring, (4) relational mentoring short-form scale will be correlated with frequency of contact, and (5) relational mentoring short-form scale will be correlated negatively with protégé negative mentoring experiences (dysfunctional mentoring).

To examine the proposed relationships, I ran Pearson's zero-order correlations among the variables in both samples. Table 4 includes the means, standard deviations, and correlations between the variables, for mentor and protégé surveys. It is noteworthy that the numbers above the table diagonal represent the mentor survey (Sample 1) and those below the diagonal the protégé survey (Sample 2) correlations.

As shown in Table 4, the scores from the long- and short-form scales of relational mentoring were highly correlated with each other in both Sample 1 ($r = .96$, $p < .01$) and Sample 2 ($r = .95$, $p < .01$). This provides evidence that the long- and short-form scales produce scores that are extremely close. Furthermore, the relational mentoring short-form scores are correlated significantly with mentoring correlates in both samples. In Sample 1, relational mentoring was positively associated with traditional mentoring ($r = .73$, $p < .01$) and frequency of contact ($r = .29$, $p < .01$). In Sample 2, relational mentoring was positively correlated with traditional mentoring ($r = .83$, $p < .01$) and frequency of contact ($r = .23$, $p < .01$), and negatively with dysfunctional mentoring ($r = -.52$, $p < .01$).

Table 4. Means, standard deviations, and correlations between variables

Variables	Sample 1 Mean (SD)	Sample 2 Mean (SD)	1	2	3	4
1. Relational mentoring (23 items)	6.15 (.71)	6.18 (.65)		.96**	.77**	.31**
2. Relational mentoring (6 items)	6.18 (.74)	6.18 (.73)	.95**		.73**	.29**
3. Traditional mentoring	5.93 (.76)	6.01 (.73)	.84**	.83**		.31**
4. Frequency of contact	5.32 (1.20)	5.10 (1.22)	.20**	.23**	.21**	
5. Dysfunctional mentoring		1.89 (1.04)	-.54**	-.52**	-.43**	-.14*

Note: The numbers above and below the diagonal represent the correlations in Sample 1 and Sample 2, respectively.
N=259 in Sample 1 and N=238 in Sample 2; *$p < 0.05$; **$p < 0.01$

In addition, to examine whether the relational mentoring short form scale is highly correlated with each of the relational mentoring dimensions, I ran Pearson's correlations between the relational mentoring short form scale and relational mentoring dimensions. Table 5 includes the means, standard deviations, and correlations between the variables, for mentor and protégé surveys. Notably, the numbers above and below the table diagonal represent the mentor survey (Sample 1) and protégé survey (Sample 2) correlations, respectively. As demonstrated, relational

mentoring short form is correlated highly and positively with all the dimensions of the long form scale in both samples, with correlation coefficients ranging from .84 to .93.

Table 5. Means, standard deviations, and correlations between relational mentoring dimensions and its short form scale

Variables	Sample 1 Mean (SD)	Sample 2 Mean (SD)	1	2	3	4	5	6	7
1. Personal learning and growth	6.01 (.95)	6.01 (1.00)		.86	.87	.71	.83	.83	.90
2. Inspiration	5.92 (1.02)	6.01 (1.04)	.85		.85	.73	.84	.81	.91
3. Self-affirmation	5.97 (.95)	6.02 (.95)	.86	.82		.77	.90	.87	.93
4. Reliance on communal norms	6.21 (.95)	6.04 (1.13)	.79	.74	.80		.78	.77	.84
5. Shared influence and respect	6.22 (.93)	6.20 (1.00)	.84	.80	83	.86		.85	.92
6. Trust and commitment	6.11 (.95)	6.07 (1.00)	.81	.80	.85	.83	.85		.88
7. Relational mentoring (6 items)	6.09 (.91)	6.05 (1.00)	.90	.88	.91	.88	.92	.90	

Note 1. The numbers above and below the diagonal represent the correlations in Sample 1 and Sample 2, respectively.
Note 2. All correlations are significant at $p < .01$.
N=259 in Sample 1 and N=238 in Sample 2

Discriminant validity. The second step in validity testing of the relational mentoring short-form scale was to demonstrate that its items captured a construct that was distinct from the indicators of other constructs and of meaningful correlates. To test the short-form scale's discriminant validity, I employed EFA and entered the indicators of relational mentoring as well as those of similar or close constructs to observe whether the indicators of each construct would fall below their designated factor.

At this step, I ran EFA with items from relational mentoring (short-form), traditional mentoring, and frequency of contact scales. The results from both samples were largely consistent. Therefore, to simplify the results and to increase statistical power, I report the EFA results based on the analyses which rely on the combined samples. As shown in Table 6, the items fell below three distinct factors. Moreover, the results of principal component analysis

confirmed that these items were comprised of three components with eigenvalues above 1, which explained 63% of variance in total.

Table 6. Standardized factor loadings for RMI-SF items and relational mentoring correlates' items

	Factors		
Item	1	2	3
RM 1. This mentoring relationship helps both my mentee (mentor) and I to learn about personal strengths and weaknesses.	**.857**	.011	.054
RM 2. I am often inspired by my mentee (mentor).	**.834**	.059	-.023
RM 3. My mentee (mentor) is helping me become the person I aspire to be.	**.827**	.032	-.024
RM 4. In our relationship, we help each other without expecting repayment.	**.855**	-.043	.012
RM 5. There is mutual respect and influence in our relationship.	**.933**	-.068	-.012
RM 6. Trust and commitment are central to our relationship.	**.880**	.000	.002
TM 1. I take (or took) a personal interest in my mentee's career.	.138	**.597**	-.014
TM 2. I help (or helped) my mentee coordinate professional goals.	-.064	**.725**	-.039
TM 3. I devote (or devoted) special time and consideration to my mentee's career.	.040	**.677**	.046
TM 4. My mentee shares (or shared) his/her problems with me.	-.171	**.748**	-.008
TM 5. My mentee exchanges (or exchanged) confidences with me.	-.023	**.748**	.013
TM 6. My mentee sometimes goes (or went) to lunch or coffee break with me.	-.015	**.672**	.059
TM 7. My mentee admires (or admired) my ability to inspire others.	.026	**.677**	.006
TM 8. My mentee admires (or admired) my knowledge in my field.	.041	**.704**	.031
TM 9. My mentee respects (or respected) my ability to teach others.	.144	**.650**	-.082
FC 1. How frequently did you initiate interaction with your mentee?	-.009	-.063	**.954**
FC 2. How frequently did your mentee initiate interaction with you?	.006	-.014	**.928**
FC 3. How frequently did you interact with your mentee (e.g., through email, phone calls)?	.003	-.013	**.857**
FC 4. How frequently did you socialize with your mentee (e.g., meeting, coffee breaks)?	.008	.123	**.746**
Eigenvalues	6.90	2.99	2.12
% of variance explained	36.33	15.71	11.17

RM = Relational mentoring; TM = Traditional mentoring; FC = Frequency of contact

In the next step, using Confirmatory Factor Analysis (CFA), I forced the items of various scales to load on different factor combinations. Accordingly, I compared various models to examine whether the hypothesized model – with items of each variable falling below their

expected and distinct variable – had higher fit indices, compared to the alternative models. Using the combined data from both samples, I ran CFA to compare the following models: (1) relational mentoring (6-item scale), traditional mentoring, and frequency of contact belonging to one factor (One-factor model), (2) relational mentoring (6-item scale) and traditional mentoring belonging to one factor and frequency of contact belonging to another factor (Two-factor model), and (3) relational mentoring, traditional mentoring, and frequency of contact belonging to three separate factors (Three-factor model). Eventually, I compared the models to find the one with the highest fit indices.

As shown in Table 7, the three-factor baseline model – with relational mentoring, traditional mentoring, and frequency of contact as three distinct factors – fitted the data well ($\chi 2$ = 406.3, df = 147, CFI = .95, NFI = .93, RMSEA = .06, SRMR = .05). Comparing the three-factor model with alternative models also exhibited that the baseline model had better fit indices than the two-factor ($\Delta\chi 2$ (df) = 892.54 (3), $p < .001$) and one-factor model ($\Delta\chi 2$ (df) = 2289.33 (5), $p < .001$) (Bentler & Bonett, 1980). The three-factor model, therefore, represented the most appropriate factor structure for these items.

Table 7. Confirmatory factor analysis results

Proposed and alternative factor structures	$\chi 2$	df	CFI	NFI	RMSEA	SRMR
Three-factor model	406.3	147	.95	.93	.06	.05
Two-factor model	1298.84	150	.79	.77	.12	.12
One-factor model	2695.63	152	.54	.53	.18	.17

N = 497; CFI = Comparative Fit Index; NFI = Normed Fit Index; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardized Root Mean Square Residual

Study 1: Discussion

The purpose of the present study was to construct a short-form scale to measure relational mentoring, based on the Relational Mentoring Index (RMI), a long-form scale developed by

Ragins (2011). The results of Study 1 showed that the original RMI measures a single construct and meets the validity and reliability requirements. Therefore, in the next step, I constructed the short-form scale and examined its validity and reliability using the data from two samples.

I followed many steps to develop RMI-SF and to test its validity and reliability. First, based on an exploratory factor analysis, I chose the item with the highest loading from each theoretical dimension and developed a short-form scale, containing six items. As the patterns of loadings were very much similar across the two samples, it was not challenging to decide which item to choose in the short-form scale. Second, a Cronbach's alpha comparison between the short and long-form scales showed that removing so many items did not damage the long-form scale's reliability, as its reliability index remained similar (or comparable). Third, I investigated the relationship between relational mentoring and its correlates, traditional mentoring and frequency of contact between mentor and protégé. The results provided support that the correlation patterns between relational mentoring and its correlates remained almost the same when using either short- or long-form scales of relational mentoring. Finally, factor analysis results provided support that the RMI-SF and its correlates (i.e., traditional mentoring and frequency of contact) capture three distinct constructs.

The present study makes a number of contributions to the mentoring literature. First, this study provided support for the statement that relational mentoring contains a single construct. Despite having items from various theoretical dimensions, relational mentoring was shown to capture one construct that can be referred to as the quality of mentoring relationship. This finding paves the way for future research to investigate the construct of relational mentoring further with a clearer understanding of how its dimensions combine to form the construct. Second, in the present study, a short-form scale was developed to measure relational mentoring. This short-form

scale will enable future research to operationalize and examine relational mentoring and its nomological network widely.

The current study also has limitations. In this study, I used data from one source. Therefore, the correlations among variables may be inflated. There are many reasons, however, that alleviate this concern. First, I followed previous research recommendations (e.g., Podsakoff, MacKenzie, & Podsakoff, 2012) and employed techniques to prevent common source bias. In particular, I separated the items belonging to different variables on various pages of the survey (proximal separation). This proximal separation prevents participants from having constant access to their previous responses and helps them to answer the items independent of the previous items. In addition, I measured, and controlled for, participant social desirability. Second, if the correlations are inflated, this inflation should influence all correlations equally and in a similar pattern. That is, relational mentoring short- and long-form scales' correlations with other variables are inflated equally. Therefore, as long as the results show that the RMI and the RMI-SF produce similar results and correlations, this data collection meets the requirements of this study. Finally, the reliability and validity tests provided satisfactory results, despite the possibility of having inflated correlations. Therefore, the RMI-SF is highly likely to be valid and reliable when data are collected at multiple times and from multiple sources.

Another limitation of the present study was lack of attention to the broader nomological network of relational mentoring. Due to survey length limitation, I could not include any mentoring outcome variables to test relational mentoring's nomological network. Therefore, to test its nomological network and to replicate some of the findings from Study 1, I conducted a second study, which will be explained in the next chapter.

CHAPTER FOUR: STUDY 2

Study 2: Introduction

In Study 1, I developed a short-form scale to measure relational mentoring, based on the long-form scale developed by Ragins (Relational Mentoring Index; Ragins, 2011). The reliability and validity tests performed on the short-form scale provided satisfactory results. However, it is still essential to investigate whether the short-form of the Relational Mentoring Index (RMI-SF) has significant relationships with mentoring outcomes that are widely investigated in the mentoring literature. In other words, it is critical to ensure that the RMI-SF has meaningful relationships with variables that have significant relationships with other mentoring constructs (e.g., traditional mentoring and frequency of contact).

The purpose of Study 2 was to examine the criterion-related validity of RMI-SF and to replicate the results of Study 1. To investigate the criterion-related validity of the indicators of this focal construct, I followed previous research (Mackenzie, Podsakoff, & Podsakoff, 2011) and attempted to (1) identify the nature of the relationship between the focal construct and other related constructs based on previous research, and (2) examine whether the indicators of the focal construct demonstrate relationships with other constructs in the expected manner. Therefore, in Study 2, I investigated: (1) whether the RMI-SF is related to its correlates (i.e., traditional mentoring and frequency of contact) in the same manner that it was in Study 1, and (2) whether the RMI-SF indicators would predict some of the mentoring outcomes that have been studied widely by previous research.

As described above, to investigate the criterion-related validity of RMI-SF, I needed to identify some of the variables that have been recognized as mentoring outcomes. Based on

previous research, mentoring has several outcomes for mentors and protégés. According to several meta-analyses, for instance, mentoring has career and psychosocial outcomes for mentors and protégés (e.g., Allen et al., 2004; Eby, Allen, Evans, Ng, & DuBois, 2008; Ghosh, 2014). Based on the results of these meta analyses, I chose some of the mentoring outcomes that demonstrate the highest correlations, among other outcomes, with the amount of mentoring received by protégés or provided by mentors. In particular, in the present study, I chose career satisfaction (subjective career success) and work-life balance as the mentor outcomes and career satisfaction (subjective career success), career commitment, career motivation, and satisfaction with mentor as the protégé outcomes. Below, I argue the impact of mentoring on these outcomes and develop the hypotheses for Study 2.

Literature Review and Hypotheses

Mentoring and Protégé Outcomes

The mentoring literature has explored numerous mentoring outcomes for protégés. In a comprehensive meta-analysis, Eby and colleagues (2013) classify mentoring outcomes for protégés in four categories: attitudinal, career-related, behavioral, and health-related outcomes. The results of this study show that many outcome variables have highly significant relationships with protégé perception of mentoring support received. In the present study, I chose four protégé outcome variables – namely, career satisfaction, career commitment, career motivation, and satisfaction with mentoring – as they show significantly high correlations with mentoring across various contexts (e.g., academic and workplace mentoring). Below, I provide a brief rationale for the impact of mentoring on each outcome variable.

Satisfaction with mentoring. Protégés who receive more mentoring functions are likely to report higher contextual satisfaction (i.e., positive and favorable evaluation of a particular

context or situation; Eby et al., 2013), such as satisfaction with mentoring. Satisfaction with mentoring is the extent to which protégés evaluate their mentoring relationship (Ragins et al., 2000) and is an indicator of mentoring success and effectiveness (Xu & Payne, 2014). In evaluating their satisfaction with mentoring, protégés compare their mentoring relationship to their needs and expectations (Ragins & Cotton, 1999). Therefore, the extent to which a protégé receives various types of mentoring support (e.g., counseling, acceptance, friendship, coaching, and protection) determines whether the mentoring relationship has met the protégé's expectations prior to starting the program.

Career satisfaction, commitment, and motivation. Receiving mentoring is associated with many career-related outcomes for protégés (Eby et al., 2013), such as career satisfaction (e.g., Turban & Dougherty, 1994), career commitment (e.g., Colarelli & Bishop, 1990), and career motivation (e.g., Eby et al., 2013). In particular, mentors provide protégés with many career-related resources and opportunities. For instance, mentors help protégés familiarize with the organization as well as its members and, thus, increase the protégés' chances of receiving opportunities and recognition. Moreover, protégés gain credibility from being associated with powerful mentors. This credibility and exposure provide protégés with promotion and salary increase opportunities in the long-term (Eby et al., 2013). Moreover, mentors, as role models and coaches, increase protégés' career self-efficacy and sense of competence (e.g., Renn, Steinbauer, Taylor, & Detwiler, 2014). Their boosted self-efficacy and feeling of competence provide protégés with more hope and drive to follow, and commit to, their career paths.

I expect receipt of relational mentoring to explain variance in protégé outcomes, above and beyond receipt of traditional mentoring. Relational mentoring is characterized by mutual growth and influence. This means that, in high-quality mentoring relationships, not only do

protégés perceive that they are growing, but they also influence their mentors to help them grow. Due to this mutual growth and influence, boost in protégés' sense of competence is even more meaningful and significant in relational mentoring, compared to traditional mentoring. Furthermore, relational mentoring is characterized by mutual inspiration. Although traditional mentoring captures role-modeling (the protégé admires the mentor), it does not recognize mutual inspiration between mentor and protégé as well as the synergistic process of mutual inspiration (Ragins, 2011). This mutual inspiration in relational mentoring contributes to protégés' extraordinary motivational state and energizes them to not only admire their mentor, but also take actions toward achieving their goals (Ragins, 2011).

***Hypothesis* 6.** Relational mentoring is positively associated with protégé (a) satisfaction with mentoring, (b) career satisfaction, (c) career commitment, and (d) career motivation.

***Hypothesis* 7.** Relational mentoring explains variance in protégé (a) satisfaction with mentoring, (b) career satisfaction, (c) career commitment, and (d) career motivation, above and beyond traditional mentoring.

Mentoring and Mentor Outcomes

Although mentoring scholars have focused extensively on mentoring benefits for protégés (Ghosh & Reio, 2013), mentoring has benefits for mentors as well. In a meta-analysis, for example, Ghosh and Reio (2013) investigate the impact of mentoring on various career outcomes for mentors. In particular, career outcomes such as career success and organizational commitment have significant relationships with provision of mentoring. Also, affective well-being has been discussed as another outcome for mentors (Chun et al., 2012). Based on previous research, I propose career satisfaction and work-life balance as two benefits of relational mentoring for mentors.

Career satisfaction. Research has paid relatively widespread attention to career success, as one of the mentoring outcomes for mentors. Provision of mentoring functions is associated with objective career success (e.g., compensation and promotion) and subjective career success (e.g., career satisfaction; Allen, Lentz, et al., 2006; Bozionelos, Bozionelos, Kostopoulos, & Polychroniou, 2011). Mentors may gain objective and subjective career success for various reasons. For instance, mentoring provides mentors with assistance and help from their protégés as well as positive reputation within their community and organization, which may enhance mentors' career advancement and promotion (i.e., objective career success). Moreover, through helping and mentoring other organizational and community members, mentors tend to gain personal satisfaction, pride, and a feeling of accomplishment, which are likely to improve mentors' career satisfaction (Bozionelos et al., 2011; Ragins & Scandura, 1999).

Work-life balance. Although the impact of mentoring on mentor perception of work-life balance has not been studied empirically, I decided to include work-life balance as a mentoring outcome for a specific reason. As Ragins (2011) suggests, the introduction of relational mentoring to the mentoring literature may extend the range of outcome variables to many of the positive organizational psychology variables, which go beyond traditional career success criteria (e.g., compensation) and include individuals' growth and development as well as well-being. She proposed, specifically, that high-quality relationships might either help individuals balance their work and life or improve their perception of work-life balance. Therefore, in the following paragraph, I argue briefly how work-life balance could be a mentoring outcome for mentors.

Mentoring can enhance mentors' perception of work-life balance through improving mentors' affective well-being. Job-related affective well-being is defined as individuals' emotional reactions towards their job (Van Katwyk, Fox, Spector, & Kelloway, 2000). High

levels of job-related affective well-being is associated with more positive emotions and less negative emotions towards one's job (Warr, 1990). Scholars have shown that mentoring improves mentors' affective well-being, arguing that mentoring provides mentors with an opportunity to satisfy their need to help others and to feel more worthy and, consequently, to be happier and less depressed (Chun et al., 2012). This enhanced job-related well-being may spill over to family satisfaction (e.g., Ilies, Wilson, & Wagner, 2009; Shockley & Singla, 2011), meaning that individuals who are happier and feel more worthy in their jobs are happier in their lives as well. This boosted happiness in mentors' family and work lives provides them with this feeling that they handle both aspects of their lives positively. This is aligned with previous research which suggests that many of the work-life balance practices do not necessarily only decrease levels of work-life conflicts for employees, but improve work-life balance through various mechanisms such as providing employees with enhanced social exchange processes (Beauregard & Henry, 2009).

***Hypothesis* 8.** Relational mentoring is positively associated with mentor (a) career satisfaction and (b) work-life balance.

***Hypothesis* 9.** Relational mentoring explains variance in mentor (a) career satisfaction and (b) work-life balance, above and beyond traditional mentoring.

Study 2: Methods

Data Screening

I used the same data screening procedure that I used in Study 1 to prepare the data.

Participants

Prior to data collection, I obtained the ethics approval from Concordia University's Human Research Ethics Committee (Certification Number: 30006559; Appendix A). The data were collected from two separate samples using Qualtrics panel data services. The participants of these two samples were individuals who had experienced mentoring as mentors and protégés, respectively, within the last two years. In particular, two surveys were designed for these participants: a survey for mentors and a survey for protégés. Then, the Qualtrics project manager recruited participants (1) who resided in Canada or the United States, (2) who had experienced mentoring for at least three months within the last two years, and (3) who were above 18 years old. Originally, the two samples consisted of 300 mentors (Sample 1) and 314 protégés (Sample 2). However, after screening the data, the number of participants decreased to 287 mentors (75 men and 212 women) and 305 protégés (69 men and 236 women). Participants in both samples resided in the United States. The average age of the participants was 38.8 (SD = 13.5) years in Sample 1 and 35.8 (SD = 11.7) in Sample 2. The participants were compensated for the time they spent according to the Qualtrics compensation rules and regulations. Notably, the participants in Sample 1 and Sample 2 were separate and were not matched mentors and protégé.

Measures

Mentoring and its correlates. As the scales used to capture mentoring and its correlates are the same scales that were used in Study 1, I do not describe these scales in details and, instead, outline them briefly. To measure relational mentoring, I employed the RMI-SF

developed in Study 1. This short-form scale has six items, one for each of the relational mentoring dimensions. The Cronbach's alpha for this scale was .87 in Sample 1 and .90 in Sample 2. To measure traditional mentoring, I used the same scale that was used in Study 1 (MFQ-9; Castro & Scandura, 2004). The Cronbach's alpha for this scale was .87 in Sample 1 and .89 in Sample 2. To measure the frequency of contact between mentor and protégé, I used the same 4-item scale that was used in Study 1. The Cronbach's alpha for this scale was .89 in Sample 1 and .91 in Sample 2. To measure protégé perception of negative mentoring experience, I used three items of the scale used in Study 1. A sample item is "My mentor intentionally hindered my professional development." The Cronbach's alpha for this scale was .91.

Mentoring outcomes. Unless stated otherwise, the participants responded to the items of mentoring outcome measures on a Likert scale. On a scale from 1 (Strongly disagree) to 7 (Strongly agree), the participants indicated the extent to which they agreed with each statement. Notably, the items of all scales are presented in Appendix B.

Career commitment. To measure career commitment, I used the Carson and Bedeian's (1994) career commitment scale. The original scale contains 12 items. However, as the items form a global construct of career commitment (Kim, Kang, Lee, & McLean, 2016), I included only six items with the highest loadings to create a short form scale. One of the items, for example, was "my career field has a great deal of personal meaning to me." Notably, the wording of this scale was changed slightly to avoid confusion. For instance, the sample item provided above originally was "my line of work/career field has a great deal of personal meaning to me." However, "line of work" was removed from this item, and from other items with similar wording, to avoid confusion and to shorten items. The Cronbach's alpha for this scale was .84.

Career satisfaction. To measure career satisfaction, I used a 5-item scale developed by Greenhaus et al. (1990). A sample item for this scale is: "I am satisfied with the progress I have made toward meeting my overall career goals." The Cronbach's alpha for this scale was .92 in Sample 1 and .93 in Sample 2.

Work-life balance. To measure Work-Life Balance, I used a 3-item scale by Haar (Haar, 2013). A sample item was "I manage to balance the demands of my work and personal/family life well." Although this scale has been developed recently, studies in multiple samples have provided support for its reliability and validity (e.g., Haar, Russo, Suñe, & Ollier-Malaterre, 2014). The Cronbach's alpha for this scale was .82 in the present study.

Satisfaction with mentor. To measure satisfaction with mentor, I used a 4-item scale developed by Ragins and colleagues (2000). A sample item was "My mentor is someone I was satisfied with." The Cronbach's alpha for this scale was .84.

Career motivation. To measure autonomous career motivation, I used a 6-item scale developed by Gagné and colleagues (2015). Based on self-determination theory (SDT; Deci & Ryan, 1985), the original multidimensional 19-item scale contains many items for six types of motivation – namely amotivation, external regulation, introjected regulation, identified regulation, integrated regulation, and intrinsic motivation. As autonomous motivation is my variable of interest in the present study, I followed Gagné and colleagues' (2015) recommendations and used only six items belonging to the autonomous motivation dimensions (i.e., intrinsic motivation and identified regulation). On a scale from 1 (not at all) to 7 (completely), participants rated the extent to which each statement described why they put effort into their current career. As the original scale was developed to measure work motivation, I changed the wording slightly to measure career motivation, as suggested by the authors (Gagné

et al., 2015). Two of the sample items are "Because putting efforts in my career field has personal significance to me" for identified regulation and "Because my career field is interesting" for intrinsic motivation. The Cronbach's alpha for this scale was .90.

Control variables. As I collected data from one source at one point in time, I controlled for participant social desirability, as suggested by previous research (e.g., Chun et al., 2012; Podsakoff et al., 2012). To measure this construct, I employed a 10-item scale developed by Vésteinsdóttir and colleagues (2017). One sample item is "I have never intensely disliked anyone." The respondents rated the extent to which they agree with each statement on a scale from 1 (Strongly disagree) to 7 (Strongly agree). The alpha coefficient for this scale is .74.

To eliminate the impact of confounds, I controlled for many other variables including mentor gender, protégé gender, mentor age, protégé age, participant education level, and mentoring relationship (in)formality. Mentor and protégé gender were controlled as gender could determine mentor and protégé satisfaction in a relationship as well as the receipt and provision of mentoring (e.g., Ortiz-Walters, Eddleston, & Simione, 2010; Ragins & Cotton, 1993). Mentor and protégé age also were controlled as participant age could determine the receipt and provision of mentoring (e.g., Finkelstein, Allen, & Rhoton, 2003). Participant education level was controlled as previous research has shown that education level is a determinant of career-related variables such as career commitment (e.g., Colarelli & Bishop, 1990). Finally, mentoring relationship (in)formality was controlled as research has shown that informal mentoring is slightly more beneficial than formal mentoring (Eby et al., 2013).

Study 2: Results

Tables 8, 9, 10, and 11 report means, standard deviations, and correlations between the variables involved in data collections in Sample 1 and Sample 2, respectively.

Table 8. Means and standard deviations of the variables in Study 2, Sample 1 (mentors)

Variable	M	SD
1. Mentor gender	.74	.44
2. Protégé gender	.58	.55
3. Mentor age	38.78	13.50
4. Protégé age	26.52	13.40
5. Mentor level of education	4.66	2.13
6. Mentoring (in)formality	2.25	.89
7. Mentor social desirability	4.38	1.44
8. Traditional mentoring	5.80	.81
9. Relational mentoring	6.03	.82
10. Mentor career satisfaction	5.39	1.21
11. Mentor work-life balance	5.20	1.17

Note: $N = 287$; Gender coding, 1 = Female and 0 = Male

Table 9. Correlations between the variables involved in Study 2, Sample 1 (mentors)

Variable	1	2	3	4	5	6	7	8	9	10
1. Mentor gender										
2. Protégé gender	.43**									
3. Mentor age	.09	.07								
4. Protégé age	.13*	-.12*	.26**							
5. Mentor level of education	.05	-.10	.12*	.11						
6. Mentoring (in)formality	.04	.07	.08	.10	-.03					
7. Mentor social desirability	-.05	-.02	.20**	-.01	-.08	.01				
8. Traditional mentoring	.01	.04	-.06	-.06	-.08	-.01	.15*			
9. Relational mentoring	-.01	.01	.03	-.03	-.09	.03	.19**	.70**		
10. Mentor career satisfaction	.02	.02	-.02	.05	.04	-.08	.24**	.36**	.35**	
11. Mentor work-life balance	.06	.05	.02	.06	-.07	.05	.16**	.33**	.35**	.61**

Note: $N = 287$; Gender coding, 1 = Female and 0 = Male
*$p < 0.05$; **$p < 0.01$

Table 10. Means and standard deviations of the variables in Study 2, Sample 2 (protégés)

Variable	M	SD
1. Mentor gender	.60	.49
2. Protégé gender	.76	.47
3. Mentor age	44.24	14.10
4. Protégé age	35.76	11.68
5. Protégé level of education	4.34	2.15
6. Mentoring (in)formality	2.32	.93
7. Protégé social desirability	4.36	1.32
8. Traditional mentoring	5.87	.91
8. Relational mentoring	5.98	.93
9. Protégé career satisfaction	5.53	1.22
10. Protégé career commitment	5.31	1.27
11. Protégé career motivation	5.43	1.45
12. Satisfaction with mentor	6.10	1.05

Note: $N = 305$; Gender coding, 1 = Female and 0 = Male; *$p < 0.05$; **$p < 0.01$

Table 11. Correlations between the variables in Study 2, Sample 2 (protégés)

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Mentor gender												
2. Protégé gender	.42**											
3. Mentor age	.00	-.05										
4. Protégé age	.00	.00	.36**									
5. Protégé level of education	-.02	-.04	-.01	.00								
6. Mentoring (in)formality	.04	.10	.13*	.03	-.01							
7. Protégé social desirability	-.01	-.10	-.02	.19**	.07	-.06						
8. Traditional mentoring	-.01	-.03	.08	-.07	-.01	.09	.04					
9. Relational mentoring	.05	-.15*	.15**	.05	.02	.10	.17**	.64**				
10. Protégé career satisfaction	-.04	-.17**	.01	.05	.03	-.04	.30**	.40**	.47**			
11. Protégé career commitment	.00	-.10	.05	-.03	.11	-.02	.21**	.39**	.44**	.49**		
12. Protégé career motivation	.02	-.03	.12*	.01	.08	.03	.26**	.41**	.51**	.61**	.63**	
13. Satisfaction with mentor	-.01	-.17**	.09	.08	.02	.09	.24**	.51**	.72**	.39**	.40**	.39**

Note: $N = 305$; Gender coding, 1 = Female and 0 = Male
*$p < 0.05$; **$p < 0.01$

Construct Validity

Discriminant validity. In this step, I used Confirmatory Factor Analysis (CFA) and forced the items of various scales to load on different factor combinations. Accordingly, I compared various models to examine whether the hypothesized model – with items of each variable falling below their expected and distinct construct – had higher fit indices, compared to the alternative models.

Using the Sample 1 data, I ran CFA to compare the following models: (1) relational mentoring (6-item scale), traditional mentoring, mentor career satisfaction, and mentor work-life balance belonging to one factor (One-factor model), (2) relational mentoring (6-item scale) and traditional mentoring belonging to one factor, and mentor career satisfaction and work-life balance belonging to another factor (Two-factor model), and (3) relational mentoring (6-item scale), traditional mentoring, mentor career satisfaction, and mentor work-life balance belonging to four separate factors (Four-factor model). Eventually, I compared the models to find the one with the highest fit indices.

Table 12. Confirmatory factor analysis results for Study 2, Sample 1

Proposed and alternative factor structures	$\chi 2$	df	CFI	NFI	RMSEA	SRMR
Four-factor model	734.56	297	.91	.85	.07	.06
Two-factor model	1093.46	312	.83	.78	.09	.07
One-factor model	2066.76	318	.62	.58	.14	.12

N = 287; CFI = Comparative Fit Index; NFI = Normed Fit Index; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardized Root Mean Square Residual

As shown in Table 12, the four-factor baseline model – with relational mentoring, traditional mentoring, mentor career satisfaction, and mentor work-life balance as four distinct factors – fitted the data acceptably ($\chi 2 = 734.56$, df = 297, CFI = .91, NFI = .85, RMSEA = .07, SRMR = .06). Comparing the four-factor model with alternative models also exhibited that the

baseline model had better fit indices than the two-factor ($\Delta\chi2$ (df) = 358.90 (15), $p < .001$) and one-factor model ($\Delta\chi2$ (df) = 1332.20 (21), $p < .001$) (Bentler & Bonett, 1980). The four-factor model, therefore, represented the most appropriate factor structure for these items.

Using the Sample 2 data, I ran CFA to compare the following models: (1) relational mentoring (6-item scale), traditional mentoring, protégé career satisfaction, protégé career commitment, protégé career motivation, and protégé satisfaction with mentoring belonging to one factor (One-factor model), (2) relational mentoring (6-item scale) and traditional mentoring belonging to one factor, and protégé career satisfaction, career commitment, career motivation, and satisfaction with mentoring belonging to another factor (Two-factor model), and (3) relational mentoring (6-item scale), traditional mentoring, protégé career satisfaction, protégé career commitment, protégé career motivation, and protégé satisfaction with mentoring belonging to six separate factors (Six-factor model). Again, I compared the models to find the one with the highest fit indices.

Table 13. Confirmatory factor analysis results for Study 2, Sample 2

Proposed and alternative factor structures	$\chi2$	df	CFI	NFI	RMSEA	SRMR
Six-factor model	1289.23	656	.91	.83	.06	.05
Two-factor model	3461.65	690	.67	.62	.12	.11
One-factor model	4282.48	696	.57	.53	.13	.11

N = 305; CFI = Comparative Fit Index; NFI = Normed Fit Index; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardized Root Mean Square Residual

As shown in Table 13, the six-factor baseline model – traditional mentoring, protégé career satisfaction, protégé career commitment, protégé career motivation, and protégé satisfaction with mentoring as six distinct factors – fitted the data acceptably ($\chi2 = 1289.23$, df = 656, CFI = .91, NFI = .83, RMSEA = .06, SRMR = .05). Comparing the six-factor model with alternative models also exhibited that the baseline model had better fit indices than the two-factor

($\Delta\chi2$ (df) = 2172.42 (34), $p < .001$) and one-factor models ($\Delta\chi2$ (df) = 2993.25 (40), $p < .001$) (Bentler & Bonett, 1980). The six-factor model, therefore, represented the most appropriate factor structure of the items.

Criterion-related and incremental validity. I ran a series of tests to investigate the relationships between relational mentoring and other mentoring constructs as well as expected mentoring outcomes. In the first stage, I repeated some of the tests that were conducted in Study 1, using samples in Study 2 and using the RMI-SF. In particular, I examined the correlations between relational mentoring and the following mentoring constructs: mentor and protégé perception of traditional mentoring, mentor and protégé ratings of interaction frequency, and protégé perception of negative mentoring experience (dysfunctional mentoring). Based on previous research, I expected relational mentoring to be correlated significantly and positively with all of the variables, except with dysfunctional mentoring, which was expected to be correlated negatively. Notably, these correlations have been investigated in Study 1. However, examining these relationships in Study 2, using the relational mentoring short-form scale, would confirm the validity of this scale further.

Table 14 presents the means, standard deviations, and correlations between relational mentoring and its correlates, from Sample 1 and Sample 2 data. Relational mentoring scores using the short-form scale were correlated significantly with the proposed variables in the expected direction. In particular, in Sample 1, mentor perception of relational mentoring was positively correlated with traditional mentoring ($r = .69$, $p < .01$) and frequency of contact ($r = .26$, $p < .01$). In Sample 2, protégé perception of relational mentoring was associated with traditional mentoring ($r = .64$, $p < .01$) and frequency of contact ($r = .20$, $p < .01$) positively, and was correlated with protégé perception of dysfunctional mentoring ($r = -.50$, $p < .01$) negatively.

These correlations and their patterns are highly aligned with the results of Study 1. This supports the validity of the RMI-SF.

Table 14. Means, standard deviations, and correlations between variables

Variables	Sample 1 Mean (SD)	Sample 2 Mean (SD)	1	2	3
1. Relational mentoring (6 item)	6.03 (.82)	5.99 (.93)		.69**	.26**
2. Traditional mentoring	5.80 (.81)	5.87 (.91)	.64**		.27**
3. Frequency of contact	5.01 (1.31)	4.99 (1.33)	.20**	.20**	
4. Dysfunctional mentoring		1.79 (1.13)	-.50**	-.38**	-.04

Note: The numbers above and below the diagonal represent the correlations in Sample 1 and Sample 2, respectively.
N=287 in Sample 1 and N=305 in Sample 2; *$p < 0.05$; **$p < 0.01$

In the second stage, I conducted a series of hierarchical regression analyses. In these analyses, for each dependent variable, I entered the predictor variables into the regression model in a stepwise fashion. Specifically, in Step 1, the control variables were entered into the model. Then, in Step 2, traditional and relational mentoring were entered into the model, as two distinct predictors in Step 2. In other words, Step 2 has two different sets (i.e., columns) of coefficients for the variables. As shown in Table 15, while in the first column of Step 2 coefficients traditional mentoring is the predictor variable, in the second column relational mentoring is the predictor variable.

In the last stage (Step 3 of the regression analysis), I tested the incremental validity of the RMI-SF and determined whether it predicted variance in outcome variables above and beyond traditional mentoring and the control variables. In testing incremental validity, I entered traditional mentoring as the first predictor variable and, then, relational mentoring as the second predictor variable, to see if relational mentoring explained mentoring outcomes, above and beyond traditional mentoring.

Table 15 presents the results of regressing traditional mentoring and relational mentoring on mentor outcomes, namely, career satisfaction and work-life balance. As shown, after controlling for the impact of confounds and explaining 11% of the variance in the outcome variables, relational mentoring is positively related to mentor career satisfaction ($\beta = .33$, $p < .01$) and work-life balance ($\beta = .33$, $p < .01$). Moreover, after controlling for traditional mentoring, relational mentoring still predicts 2% more variance in mentor career satisfaction ($\beta = .19$, $p < .05$) and work-life balance ($\beta = .22$, $p < .01$).

Table 15. Multiple regression analysis for mentor outcomes

Outcome	Career Satisfaction				Work-Life Balance			
Variables	Step 1 β	Step 2 β	Step 2 β	Step 3 β	Step 1 β	Step 2 β	Step 2 β	Step 3 β
Step 1: controls								
Mentor gender	.01	.01	.01	.01	.05	.05	.05	.05
Protégé gender	.05	.05	.04	.05	.03	.03	.03	.03
Mentor age	-.11	-.11	-.08	-.09	-.03	-.03	-.03	-.02
Protégé age	.09	.10	.10	.10	.07	.08	.07	.08
Education level	.07	.09	08	.09	-.06	-.04	-.06	-.04
Relationship formality	-.08	-.09	-.08	-.09	.04	.03	.04	.03
Social desirability	.28**	.22**	.22**	.21**	.16**	.10	.11	.10
Step 2:								
Traditional mentoring			.33**	.20**			.32**	.17*
Relational mentoring		.33**				.33**		
Step 3:								
Relational mentoring				.19*				.22**
Model F	3.67**	7.95**	8.16**	8.05**	1.68	5.93**	5.47**	5.85**
R^2	.08	.19	.19	.21	.04	.15	.14	.16
ΔR^2		.11**	.11**	.02*		.11**	.10**	.02**

N = 287; Gender: 1 = female ,0 = male; *$p < 0.05$; **$p < 0.01$

Table 16 reports the results of the regression analysis regarding the impact of traditional mentoring and relational mentoring on protégé outcomes, namely, career satisfaction, career commitment, career motivation, and satisfaction with mentor. As shown, after controlling for the

impact of confound variables and explaining between 41 and 69 percent of the variance in the outcome variables, relational mentoring is correlated with protégé career satisfaction ($\beta = .44$, $p < .01$), career commitment ($\beta = .41$, $p < .01$), career motivation ($\beta = .48$, $p < .01$), and satisfaction with mentor ($\beta = .69$, $p < .01$). Moreover, after controlling for traditional mentoring, relational mentoring still predicted between 4 and 20 percent more variance in protégé career satisfaction ($\beta = .31$, $p < .01$), career commitment ($\beta = .27$, $p < .01$), career motivation ($\beta = .38$, $p < .01$), and satisfaction with mentor ($\beta = .62$, $p < .01$).

Interestingly, relational mentoring's power in predicting satisfaction with mentor was the highest, among all the dependent variables. This finding is not surprising, as relational mentoring (i.e., the quality of relationship) predicts satisfaction with mentor to a great extent, more than it does for the rest of the outcome variables (e.g., career satisfaction), which are predicted by numerous factors throughout an individual's life. However, this finding is interesting as it provides evidence that the short-form scale of relational mentoring predicts outcome variables as expected.

Table 16. Multiple regression analysis for protégé outcomes

Outcome	Career Satisfaction				Career Commitment				Career Motivation				Satisfaction with Mentor			
Variables	Step 1 β	Step 2 β	Step 2 β	Step 3 β	Step 1 β	Step 2 β	Step 2 β	Step 3 β	Step 1 β	Step 2 β	Step 2 β	Step 3 β	Step 1 β	Step 2 β	Step 2 β	Step 3 β
Step 1: controls																
Mentor gender	.02	-.03	.02	-.02	.04	-.01	.04	.01	.02	-.04	.02	-.02	.07	.04	.07	-.01
Protégé gender	-.14*	-.06	-.14*	-.08	-.08	.06	-.07	-.03	-.01	.08	.01	.07	-.18**	-.01	-.17**	-.07
Mentor age	.02	-.05	-.04	-.06	.10	.04	.05	.03	.17*	.10	.12*	.09	.07	-.03	.01	-.03
Protégé age	-.02	-.01	.04	.02	-.11	-.09	-.06	-.07	-.11	-.09	-.06	-.07	.01	.03	.07	.04
Education level	.04	.03	.04	.03	.12*	.11*	.12*	.11*	.10	.09	.10*	.09	.04	.02	.04	.02
Relationship formality	-.01	-.07	-.05	-.06	-.01	-.05	-.04	-.05	.03	-.02	-.01	-.03	.11	.03	.06	.03
Social desirability	.29**	.21**	.26**	.22**	.23**	.16**	.21**	.17**	.29**	.21**	.26**	.21**	.23**	.12**	.20**	.12**
Step 2:																
Traditional mentoring			.40**	.20**			.38**	.21**			.39**	.16*			.49**	.11*
Relational mentoring		.44**				.41**				.48**				.69**		
Step 3:																
Relational mentoring				.31**				.27**				.38**				.62**
Model F	5.18**	14.69**	12.82**	14.53**	3.59**	11.47**	10.32**	11.36**	4.88**	16.78**	12.40**	15.85**	4.85**	42.27**	18.99**	38.52**
R^2	.11	.29	.26	.31	.08	.24	.22	.26	.10	.31	.23	.31	.10	.53	.34	.54
ΔR^2		.18**	.15**	.05**		.16**	.14**	.04**		.21**	.13**	.08**		.43**	.24**	.20**

N = 305; Gender (1 = female ,0 = male)
*$p < 0.05$; **$p < 0.01$

Study 2: Discussion

The purpose of Study 2 was to examine further the validity and reliability of the Relational Mentoring Index Short-Form (RMI-SF). Therefore, in the present study, I investigated the pattern between relational mentoring and its correlates and examined its relationship with some of the mentoring outcomes.

The results from two separate samples of mentors and protégés showed that relational mentoring scores using the short-form scale were correlated significantly with most of the mentoring correlates. In particular, mentor and protégé perception of relational mentoring was correlated positively with mentor and protégé perception of traditional mentoring and evaluation of interaction frequency. Moreover, these correlations were consistent with those from Study 1, providing support that relational mentoring scale could generate consistent results across multiple studies and samples. In addition, protégé perception of relational mentoring was correlated negatively with protégé perception of negative mentoring relationship.

Furthermore, the results showed that relational mentoring has meaningful relationships with well-known mentoring outcomes. In particular, mentor perception of relational mentoring predicted mentor career satisfaction and work-life balance significantly. Furthermore, protégé perception of relational mentoring predicted protégé career satisfaction, career commitment, career motivation, and satisfaction with mentor significantly.

This study contributes to the mentoring literature. Its findings provide further support for the reliability and validity of a short-form scale to assess relational mentoring. As the original RMI includes 21 items, researchers face a great challenge in regards to keeping their surveys short while employing this scale. Therefore, they have to either risk low participation rate and participant fatigue due to the length of the survey, or limit the number of variables measured in

their survey. With only six items, the RMI-SF makes it much easier for researchers to keep relational mentoring in their research. Therefore, this scale development effort enables future research to investigate relational mentoring more widely. Despite this contribution, this study has limitations as well. The data were collected from one source, which makes them prone to common source bias. To alleviate this concern, I employed many methods – which have been discussed in the method section – to reduce the impact of such bias.

In sum, in Study 1 and Study 2, using two different samples, I constructed a short-form scale to measure relational mentoring. This short-form scale enabled me to conduct the third study of my dissertation, described in the next chapter.

CHAPTER FIVE: STUDY 3

Study 3: Introduction

The purpose of Study 3 was to test the hypotheses developed in Chapter 2. For the purpose of this study, I implemented a mentoring *program* and, using the mentors and protégés from this program as potential participants, I conducted a mentoring *study*, to test the hypotheses. The mentoring program targeted Ph.D. students for reasons outlined below. Then, the mentoring program is explained in more details before proceeding to the description of the methodology for the study itself.

Ph.D. Students as the Participants

Ph.D. students are ideal for this study for several reasons. First, the Ph.D. program is a transition stage in an individual's career where, although the individual is still a student, he or she is learning to become an independent researcher (e.g., faculty member, consultant, or researcher). Abbott-Anderson, Gilmore-Bykovskyi, and Lyles (2016) assert that Ph.D. students need to develop their leading and mentoring skills early in their career, as many independent researchers (e.g., new faculty members) are unprepared to mentor and lead others, yet it is an expectation placed upon them often as soon as they hit the job market. Second, although mentor and leader identity could change based on various positive and negative experiences over time, they are more likely to be influenced in early stages of one's career development (Day & Sin, 2011). Therefore, Ph.D. students, who are relatively young and in the early stages of their career, are more suitable for the purpose of this study, rather than those individuals who are more established. Finally, students typically encounter many challenges at the beginning of their doctoral studies. Such challenges increase their intention to quit and decrease their motivation

(Geraniou, 2010). At this stage, many of them need an external motivator who is familiar with these challenges. A thesis advisor could be an external motivator. However, depending on the program, Ph.D. students may or may not be associated with a thesis advisor at the beginning of their study. Also, Ph.D. students might prefer to show confidence and competence to their supervisor and, thus, avoid disclosing their fears and challenges to them. Moreover, the students who recognize their supervisor as an external motivator are less likely to become independent (Geraniou, 2010). Hence, there could be external motivators other than supervisors for new Ph.D. students. A senior Ph.D. student who has gone through early Ph.D. challenges can be an external motivator as a mentor. Considering the impact such mentors could have on protégés, mentors are likely to exert a critical influence on their protégés' lives and gain leadership- and mentoring-related identity, efficacy, and motivation.

Mentoring Program Design

I implemented an 8-month peer-mentoring program for Ph.D. students in a large Canadian university. This formal program involved pairing mentors and protégés, briefing mentors and protégés, an orientation session, regular face-to-face and email communication, and an evaluation of the program. While participation was voluntarily, mentors and protégés were also encouraged by their department to volunteer in this program.

This program paired senior Ph.D. students (mentors) with first year Ph.D. students semi-systematically based on many criteria. In particular, I paired mentors and protégés mainly within their departments based on their areas of specialization and/or research. To the extent possible, I also took into account participants' preferences (e.g., protégé/mentor educational background, gender, age, first language, and status as international vs. local student) while matching them. This method is common in both research and practice. While matching based on expertise and

research area is common and critical (e.g., Renn et al., 2014), matching based on gender is less of a priority (e.g., Allen, Eby, & Lentz, 2006; Renn et al., 2014). Also, based on research (Carraher, Sullivan, & Crocitto, 2008), international students could be matched with either international or local students, and both methods have pros and cons. Overall, a program administrator can match mentors and protégés solely based on their expertise or career background to increase the program effectiveness. However, giving a voice to the participants in the matching process increases their satisfaction with the program and their perception about the quality of the program (Parise & Forret, 2008).

After the mentors and protégés were matched, they were offered preparation for this program, consisting of training for the mentors and briefing for the protégés. As training mentors increases their understanding of the program and the quality of the mentoring relationships (Allen, Eby, et al., 2006), mentors attended a 2-hour workshop on fundamentals of mentoring (see Appendix C). The workshop for mentors contained various topics such as the definition of mentoring, the difference between mentoring and other development tools (e.g., training and counseling), what to expect from protégés, and suggested activities to increase the interactions with protégés. Protégés were briefed through email. They received a pamphlet containing some information on mentoring, what to expect from a mentor, and what activities to do with mentors.

Throughout the program, mentors and protégés received emails suggesting some topics that they could discuss with each other and some activities that they could do or attend. Moreover, mentors and protégés were required to meet face-to-face at least once a month. In the fourth month, an event was organized so that mentors and protégés could have more opportunities to meet in person. Finally, the program wrapped up with an event, where mentors were recognized by some of the University administrators.

Study 3: Method

Research Design and Procedure

Prior to data collection, I obtained ethics approval from Concordia University's Human Research Ethics Committee (Certification Number: 30006559; Appendix A). Data for this study were collected through questionnaires at four points in time. In particular, I measured all of the outcome variables at four points in time to analyze the longitudinal impact of mentoring on mentor development outcomes. Also, following previous research (e.g., Chun et al., 2012; Wanberg et al., 2006), I measured mentoring functions and relational mentoring at Time 3, one period before the last data collection, to investigate the provision and quality of mentoring on development outcome trajectories.

The mentors of the experimental group answered many demographic questions (e.g., age and gender) at Time 1. They also completed the leader- and mentor-development questionnaires (i.e., leader identity, leader self-efficacy, motivation to lead, mentor identity, mentor self-efficacy, and motivation to mentor) at Times 1, 2, 3, and 4. At Time 3, the mentors rated the provision of traditional mentoring as well as relational mentoring. Finally, at Time 4, mentors responded to social desirability items.

The control group participants responded to demographic questions at Time 1 and leader- and mentor-development questionnaires at Times 1, 2, 3, and 4. They also completed the social desirability scale at Time 4. Table 17 provides a summary of the stages and the sources of data-collection. After collecting the data and as assured in the study conditions, all participants of the experimental and control groups who completed all four surveys received 50 Canadian dollars as compensation.

Table 17. Data collection stages

	Time 1 (October 2016)	Time 2 (December 2016)	Time 3 (February 2017)	Time 4 (April 2017)
Experimental group (mentors)	• Mentor identity • Mentor self-efficacy • Motivation to mentor • Leader identity • Leader self-efficacy • Motivation to lead	• Mentor identity • Mentor self-efficacy • Motivation to mentor • Leader identity • Leader self-efficacy • Motivation to lead	• Mentor identity • Mentor self-efficacy • Motivation to mentor • Leader identity • Leader self-efficacy • Motivation to lead • Traditional mentoring • Relational mentoring	• Mentor identity • Mentor self-efficacy • Motivation to mentor • Leader identity • Leader self-efficacy • Motivation to lead • Social desirability
Control group	• Mentor identity • Mentor self-efficacy • Motivation to mentor • Leader identity • Leader self-efficacy • Motivation to lead	• Mentor identity • Mentor self-efficacy • Motivation to mentor • Leader identity • Leader self-efficacy • Motivation to lead	• Mentor identity • Mentor self-efficacy • Motivation to mentor • Leader identity • Leader self-efficacy • Motivation to lead	• Mentor identity • Mentor self-efficacy • Motivation to mentor • Leader identity • Leader self-efficacy • Motivation to lead • Social desirability

To alleviate the concern of common source bias, I followed previous research recommendations (e.g., Chun et al., 2012; Podsakoff et al., 2012; Siemsen, Roth, & Oliveira, 2010) and three specific techniques. First, I gathered data at multiple times (temporal separation). This temporal separation prevents participants from referring to their previous responses to complete surveys and manipulate their responses. Second, I separated the items belonging to different variables in various pages of the survey (proximal separation). This proximal separation prevents participants from having constant access to their previous responses and helps them to answer the items independent of the previous items. Finally, I measured, and controlled for, participants' social desirability.

Participants

The participants in this study included two groups of individuals. The first group was the experimental group consisting of the mentors who enrolled in the peer-mentoring program described above and who agreed to participate in this research. Mentors were the Ph.D. students who had completed their comprehensive examination (Ph.D. candidates). Initially, more than

1500 Ph.D. students across the University were approached, mainly through email from various sources (e.g., the Graduate Student Association newsletters, the Graduate Program Directors, and word of mouth). In total, 108 Ph.D. candidates (post-comprehensive examinations) and 98 new Ph.D. students registered as potential mentors and protégés, respectively. After the registration deadline, 63 pairs of mentors and protégés were matched within their departments and/or areas of expertise. Of these, 46 mentors agreed to participate in the study.

The participants in the control group were Ph.D. candidates who did not participate in the mentoring program and did not provide mentoring throughout the study. They were Ph.D. candidates who volunteered to mentor first year Ph.D. students, yet could not be assigned protégés. Although these candidates could not participate in the mentoring program, they were invited to participate in a four-time data collection. In total, 25 of these candidates accepted to take part in the study and completed four surveys. Employing a control group enabled me to analyze whether any change in the experimental group was solely due to the intervention.

Measures

Traditional mentoring. To measure this construct, I used the short-form Mentoring Functions Questionnaire (MFQ; Castro & Scandura, 2004), which is based on Scandura and Ragins' (1993) longer-format scale. This scale contains nine items in total: three items for career support, three items for psychosocial support, and three items for role modeling. Sample items include: "My mentor takes a personal interest in my career" for career support, "I consider my mentor to be a friend" for psychosocial support, and "I try to model my behavior after my mentor" for role-modeling. Reliability and validity of this measure have been examined in many studies (e.g., Hu et al., 2011, 2016; Pellegrini & Scandura, 2005), with Cronbach's alpha coefficients ranging from 0.89 to 0.93. The results of Studies 1 and 2 in the current dissertation

as well as previous research with a global approach towards mentoring (e.g., Hu et al., 2016; Hu, Wang, et al., 2014; Lapointe & Vandenberghe, 2017) suggest that the items capture a single construct (i.e., mentoring support provided)[3]. The alpha coefficient of this scale was .90.

Relational mentoring. I used the Relational Mentoring Index – Short Form (RMI-SF), which was validated in Study 1 and Study 2 based on a long-form scale developed by Ragins (Relational Mentoring Index; 2011). The alpha coefficient of the scale was .90.

Leader identity. To measure leader identity, I used Hiller's (2005) scale, which contains four items, for example: "I prefer being seen by others as a leader." This scale has been used and tested in many studies (e.g., Day & Sin, 2011). On a seven-point scale, the participants rated the extent to which each item described their self-image (from 1 = not at all descriptive to 7 = extremely descriptive). The alpha coefficient of the scale was .85.

Leader self-efficacy. To measure leader self-efficacy, I used Quigley's (2013) leadership efficacy scale, which includes five items (e.g., "In a team work project, I have a high degree of confidence in my ability to get my team to develop viable strategies"). The participants rated each statement on a seven-point Likert scale, from 1 (strongly disagree) to 7 (strongly agree). The alpha coefficient of the scale was .93.

Motivation to lead. I used Chan and Drasgow's (2001) Motivation to Lead scale. The original scale contains three dimensions and nine items for each dimension. The dimensions are affective-identity motivation to lead (the individual likes to lead others), noncalculative motivation to lead (the individual takes into account the costs and benefits and might avoid leading others to avoid the associated costs and responsibilities), and social-normative

[3] Notably, I ran separate analyses, using an aggregated score for traditional mentoring and separate dimensions of traditional mentoring (i.e., career support, psychosocial support, and role-modeling). As the results were the same, I followed previous research and used traditional mentoring as a one-dimension construct.

motivation to lead (the individual leads others because it is his or her duty or responsibility to lead). Because the objective of this research is to investigate whether mentoring influences mentor willingness to lead, I used only the items belonging to the affective-identity motivation to lead subscale (e.g., "most of the time, I prefer being a leader rather than a follower when working in a group"). Responses are provided on a seven-point Likert scale ranging from 1 (not at all descriptive) to 7 (strongly descriptive). The alpha coefficient of the scale was .90.

Mentor identity. I used an adjusted version of Hiller's (2005) leader identity scale to measure mentor identity. To modify the leader identity scale, I replaced the word 'leader' with 'mentor.' In particular, on a seven-point Likert scale (from 1 = not at all descriptive to 7 = extremely descriptive), the participants rated the extent to which each of the following statements described their self-image: (a) I am a mentor, (b) I see myself as a mentor, (c) If I had to describe myself to others I would include the word "mentor," and (d) I prefer being seen by others as a mentor. The alpha coefficient of the scale was .85.

Mentor self-efficacy. I used a six-item scale drawn from Riggs' (2000) scale to measure mentor self-efficacy, modifying the wording to match the purpose and context of this research. Sample items include: "I can connect my mentee with ample career resources" and "I wonder if I have the necessary skills to be an effective mentor (reverse coded)." On a seven-point Likert scale, the participants rated the extent to which they agreed with each statement (from 1 = strongly disagree to 7 = strongly agree). The alpha coefficient of the scale was .69.

Autonomous motivation to mentor. To measure motivation to mentor, I used Gagné and colleagues' (2015) Work Motivation Scale. As this scale was originally designed to measure work motivation, I slightly re-worded the items to measure mentoring motivation. Based on self-determination theory, the original multidimensional 19-item scale contains many items for

various types of motivation, from amotivation and external regulation to identified regulation and intrinsic motivation. As my focus was on autonomous motivation, following previous research (e.g., Gagné et al., 2015; Vansteenkiste, Lens, De Witte, De Witte, & Deci, 2004), I included and combined only the six items developed for identified regulation and intrinsic motivation as the indicators of autonomous motivation. Mentors rated on a seven-point Likert scale (from 1 = not at all to 7 = completely) the extent to which each statement described the reasons behind their willingness to mentor new students in their Ph.D. program. Some of the items are "Because I personally consider it important to put efforts in mentoring" for identified regulation and "Because being a mentor is interesting" for intrinsic motivation. The alpha coefficient of the scale was .89.

Control variables. To control for alternative explanations, I included other variables (Carlson & Wu, 2011; Spector & Brannick, 2010). Following previous research (e.g., Mitchell, Eby, & Ragins, 2015; Wanberg et al., 2006; Wang, Hu, Hurst, & Yang, 2014), I controlled for mentor gender (0 = male and 1 = female), protégé gender, mentor age, and protégé age. Mentor and protégé gender were controlled as gender could determine mentor and protégé satisfaction in a relationship as well as the receipt and provision of mentoring (e.g., Ortiz-Walters et al., 2010; Ragins & Cotton, 1993). Mentor and protégé age were also controlled as participant age could determine the receipt and provision of mentoring (e.g., Finkelstein et al., 2003).

As previous mentoring experiences might influence individuals' behaviors and expectations in future mentoring relationships (Ragins & Verbos, 2007), I included mentors' previous mentoring experience as mentor or protégé as two control variables. To measure previous experience, mentors responded to the following questions on a scale from 1 to 5 (1 = Definitely not, 2 = Probably not, 3 = Might or might not, 4 = Probably yes, and 5 = Definitely

yes): “Other than the current program, have you ever been a mentor?” and “Have you ever been (formally or informally) mentored by someone?”

Another control variable was social desirability. As the data were gathered from a single source, to account for the impact of common source bias (Bernerth & Aguinis, 2016; Siemsen et al., 2010), I measured participants’ social desirability using a 10-item scale (Vésteinsdóttir et al., 2017). Accordingly, the participants answered items such as “No matter who I am talking to, I am always a good listener” on a seven-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). The alpha coefficient of the scale was .74.

Study 3: Results

Intercorrelations

Table 18 presents the means, standard deviations and inter-correlations between the variables. As shown, the four measurements of each development outcome are highly correlated, with correlation above .65. These high correlations could mean that leader development outcomes might be relatively stable over time. In addition, traditional mentoring has higher correlations with many of the leader development outcomes (e.g., leader identity and leader self-efficacy), compared to relational mentoring. Table 19 presents the means and standard deviations of outcome variables at Times 1, 2, 3, and 4.

Group Comparison Analysis

Before testing the hypotheses, using t-test analyses, I compared the experimental and control groups on demographic and outcome variables at Time 1, to examine if the two groups were similar at the onset. Table 20 shows the results of this analysis. According to the results, the two groups were not significantly different on any of the variables, except for the initial level of mentor identity, which is slightly higher in the experimental group.

Table 18. Means, standard deviations and correlations between the variables

	N	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1. LI T1	71	4.34	1.38																									
2. LI T2	71	4.33	1.35	.79**																								
3. LI T3	71	4.39	1.26	.85**	.79**																							
4. LI T4	71	4.39	1.33	.80**	.81**	.87**																						
5. LSE T1	71	5.77	.88	.64**	.44**	.59**	.44**																					
6. LSE T2	71	5.74	.97	.52**	.52**	.58**	.50**	.75**																				
7. LSE T3	71	5.74	.96	.52**	.45**	.57**	.51**	.77**	.83**																			
8. LSE T4	71	5.85	.80	.42**	.31*	.46**	.45**	.70**	.65**	.76**																		
9. ML T1	71	4.74	1.17	.66**	.55**	.61**	.62**	.57**	.59**	.56**	.56**																	
10. ML T2	71	4.68	1.20	.58**	.66**	.58**	.66**	.47**	.65**	.62**	.53**	.85**																
11. ML T3	71	4.74	1.20	.54**	.57**	.64**	.68**	.44**	.54**	.58**	.52**	.84**	.85**															
12. ML T4	71	4.79	1.20	.45**	.49**	.57**	.65**	.36**	.51**	.52**	.52**	.82**	.87**	.91**														
13. MI T1	71	4.04	1.33	.54**	.45**	.43**	.44**	.31**	.22	.30*	.30*	.12	.12	.14	.04													
14. MI T2	71	4.19	1.45	.47**	.56**	.46**	.44**	.43**	.45**	.42**	.36**	.21	.25*	.22	.11	.75**												
15. MI T3	71	4.11	1.33	.54**	.53**	.60**	.56**	.36**	.35**	.40**	.36**	.23	.23	.30*	.20	.71**	.75**											
16. MI T4	71	4.31	1.42	.51**	.47**	.50**	.59**	.34**	.37**	.43**	.43**	.20	.25*	.28*	.19	.78**	.69**	.81**										
17. MSE T1	71	5.26	.79	.40**	.36**	.40**	.35**	.55**	.58**	.61**	.42**	.42**	.45**	.41**	.34**	.40**	.52**	.38**	.35**									
18. MSE T2	71	5.26	.81	.34**	.47**	.42**	.36**	.49**	.70**	.61**	.42**	.44**	.51**	.47**	.42**	.31*	.50**	.46**	.36**	.70**								
19. MSE T3	71	5.26	.78	.25*	.27*	.29*	.27*	.39**	.51**	.55**	.36**	.25*	.28*	.31*	.23	.32**	.42**	.37**	.41**	.67**	.73**							
20. MSE T4	71	5.30	.73	.26*	.23	.35**	.36**	.33**	.51**	.50**	.43**	.28*	.39**	.37**	.31*	.37**	.38**	.44**	.50**	.65**	.68**	.73**						
21. MM T1	71	5.15	1.22	.13	.14	.05	.10	.09	.03	.09	.02	.01	.01	-.05	-.05	.47**	.35**	.31*	.41**	.34**	.18	.27*	.18					
22. MM T2	71	4.98	1.10	.16	.25*	.07	.10	.23	.22	.17	.06	-.02	.02	-.13	-.16	.39**	.48**	.30*	.31*	.32**	.33**	.29*	.14	.73**				
23. MM T3	71	5.04	1.12	.26*	.22	.22	.24*	.24*	.17	.25*	.13	.09	.10	.03	-.05	.45**	.47**	.53**	.53**	.37**	.25*	.24	.32**	.69**	.68**			
24. MM T4	71	5.22	1.21	.21	.11	.19	.17	.25*	.15	.23	.21	.08	.06	.01	.01	.46**	.36**	.46**	.52**	.36**	.27*	.34**	.31*	.80**	.71**	.80**		
25. MTM	46	4.91	.93	.37*	.48**	.41**	.47**	.34*	.43**	.41**	.56**	.38**	.47**	.37*	.41**	.39**	.37*	.48**	.54**	.22	.30*	.24	.46**	.19	.26	.45**	.40**	
26. MRM	46	5.07	1.10	.20	.26	.25	.25	.32*	.46**	.53**	.51**	.19	.28	.23	.20	.27	.24	.33*	.44**	.33*	.37*	.48**	.57**	.26	.32*	.43**	.47**	.72**

Note: TM = Traditional mentoring; RM = Relational mentoring; LI = Leader identity; LSE = Leader self-efficacy; ML = Motivation to Lead; MI = Mentor identity; MSE = Mentor self-efficacy; MM = Motivation to mentor; T1 = Time 1; T2 = Time 2; T3 = Time 3; T4 = Time 4; *$p < 0.05$; **$p < 0.01$

Table 19. Group means and standard deviations at Times 1, 2, 3, and 4

	Experimental Mean (SD)				Control Mean (SD)			
	T1	T2	T3	T4	T1	T2	T3	T4
Mentor identity	4.23 (1.16)	4.51 (1.41)	4.45 (1.30)	4.51 (1.42)	4.06 (1.11)	3.90 (1.13)	3.81 (1.28)	3.86 (1.21)
Mentor self-efficacy	5.36 (.77)	5.37 (.73)	5.39 (.70)	5.37 (.74)	5.14 (.71)	5.04 (.87)	4.99 (.86)	5.03 (.76)
Motivation to mentor	5.14 (1.16)	5.04 (1.13)	5.14 (1.06)	5.35 (1.10)	5.22 (1.15)	5.01 (1.11)	5.01 (1.15)	4.99 (1.33)
Leader identity	4.30 (1.35)	4.45 (1.45)	4.50 (1.29)	4.49 (1.35)	4.34 (1.06)	4.09 (1.08)	4.08 (1.05)	3.96 (1.21)
Leader self-efficacy	5.68 (.91)	5.85 (.93)	5.87 (.89)	5.81 (.91)	5.79 (.68)	5.60 (.71)	5.44 (.87)	5.49 (.93)
Motivation to lead	4.64 (1.16)	4.69 (1.22)	4.70 (1.21)	4.74 (1.19)	4.98 (1.15)	4.70 (1.16)	4.69 (1.15)	4.65 (1.17)

Table 20. Group characteristics at Time 1

	Total Mean (SD)	Experimental Mean (SD)	Control Mean (SD)	*t*-value (*df*)
Gender	.44 (.50)	.47 (.50)	.36 (.49)	-.88 (69)
Age	32.52 (5.63)	31.88 (4.62)	34.18 (7.54)	-1.35 (69)
Mentoring experience as mentor	3.72 (1.36)	3.84 (1.36)	3.45 (1.37)	1.09 (69)
Mentoring experience as protégé	3.79 (1.39)	3.92 (1.35)	3.50 (1.47)	1.73 (69)
Mentor identity	4.04 (1.33)	4.24 (1.23)	3.57 (1.45)	1.98 (69)
Mentor self-efficacy	5.26 (.79)	5.38 (.79)	4.97 (.74)	2.09* (69)
Motivation to mentor	5.15 (1.22)	5.16 (1.20)	5.11 (1.30)	.14 (69)
Leader identity	4.34 (1.38)	4.38 (1.47)	4.26 (1.17)	.33 (69)
Leader self-efficacy	5.74 (.90)	5.78 (.96)	5.66 (.78)	.52 (69)
Motivation to lead	4.74 (1.17)	4.64 (1.16)	4.96 (1.19)	-.1.06 (69)

* indicates that the difference between the experimental and control groups is statistically significant at the $p < .05$ level

Testing the Hypotheses

Several studies have investigated various types of development in individuals. Traditionally, scholars have often evaluated development through measuring the outcome variables twice, often pre- and post-intervention (e.g., Chun et al., 2012; Ladegard & Gjerde, 2014). However, many scholars believe that evaluating development requires a longitudinal approach and multiple measurement of outcome variables (e.g., Gentry & Martineau, 2010; Miscenko et al., 2017). A useful analytical method to evaluate development using multiple measurements of outcome variables is Hierarchical Linear Modeling (HLM; Gentry & Martineau, 2010; Singer & Willett, 2003). Gentry and Martineau (2010), in particular, propose using HLM to assess change over time in leadership development outcomes. Following their guidelines, I used HLM to analyze change over time in leader development outcomes and examine the predictors of growth and change over time. Notably, before conducting the analyses, I followed Singer and Willett's (2003) instructions to organize the data in a *person-period* format, in which each participant has multiple entries. In other words, measurements at multiple times (Level 1) are nested within individuals (Level 2).

It is noteworthy that, in the forthcoming analyses, I followed previous research recommendations regarding the use of control variables. As Bernerth and Aguinis (2016) suggest, control variables must be used based on a justified rationale and if they confound the proposed relationships. Therefore, following this suggestion as well as previous empirical research (e.g., Miscenko et al., 2017), in running HLM models, I included only those control variables that influenced the development outcome trajectories significantly to maximize statistical power. In particular, for each outcome variable, first, I entered the control variables to observe whether any of them was a significant predictor of the slopes. Then, in the next step, I

included only the control variables which were previously significant for each outcome variable. Finally, I excluded all control variables and ran all the analyses. As the results with and without the control variables were very similar, I report the coefficients of the analyses with no control variables.

Hypotheses 1 and 2 predicted that individuals who participated in a mentoring program as mentors would experience greater positive change in their leader and mentor development outcomes, compared to the participants in a control group, who did not experience mentoring. To test these hypotheses, I used HLM and investigated whether participation in mentoring explains the slope of change in development outcomes. As data were collected at four points in time, each participant had four lines of data entry.

For each of the six dependent variables, I entered the outcome as the dependent variable, Time as the Level 1 predictor variable, and participation in mentoring (1 = experimental group and 0 = control group) as the Level 2 predictor variable. Notably, Time, as the Level 1 predictor variable, had four values for each participant. In other words, each of the measurement points in time is treated as a data point at Level 1. Thus, Time has values ranging from 0 (the beginning of the mentoring program) to 8 (the end of the mentoring program, after eight months). To create a month-based value for Time, I created a day-based Time value from 0 (the first day of the mentoring program) to 240 (the last day of the mentoring program). Then, I divided this value by 30 to create a month-based value for Time. For instance, if a participant completed the four surveys on Days 10, 79, 152, and 231 of the mentoring program, Time had the following values for this participant: .333, 2.633, 5.066, and 7.7. This treatment of time variable follows guidelines by Singer and Willett (2003).

In the HLM analysis, I started with a null model, which included the intercept as the only predictor. Running the null models provides valuable information such as the variance explained at each level. This information helps researchers to decide whether there is enough variance at all levels and whether HLM is an appropriate statistical analysis to use. In Model 1, I introduced Time as the Level 1 predictor (often referred to as the unconditional growth model). Finally, in Model 2, I introduced Time as the Level 1 predictor as well as participation in mentoring (1 = experimental group and 0 = control group) as the Level 2 predictor variable (in contrast, this is referred to as a conditional growth model).

Tables 21 to 26 display the HLM results for Hypotheses 1 and 2. Null model results show that 30% of variance in leader identity, 23% of variance in leader self-efficacy, 11% of variance in motivation to lead, 23% of variance in mentor identity, 27% of variance in mentor self-efficacy, and 22% of variance in motivation to mentor reside at the within-individual level. As shown in previous research (e.g., Hedges & Hedberg, 2007; Mathieu, Aguinis, Culpepper, & Chen, 2012), the Level 1 variance is often between 10% and 30%. Thus, these variances are aligned with the findings in previous research. Moreover, these numbers suggest that HLM is a more appropriate statistical analysis to use, as opposed to less complex statistical analysis such as Ordinary Least Squares regression (Aguinis, Gottfredson, & Culpepper, 2013). As an illustration of Tables 21 to 26 results, Figure 1 shows change trajectory differences between the experimental and control groups for each outcome variable. Notably, significant Chi-square tests supported that the slopes of change were significantly different for various values of the Level 2 predictor variable (i.e., participation in mentoring).

Table 21. HLM analysis results for comparing leader identity development between the experimental vs. control group

	Leader identity								
	Null model			Model 1			Model 2		
	Estimate	*SE*	t	Estimate	*SE*	t	Estimate	*SE*	t
Random coefficients									
Mean initial status (β_{00})	4.33	.14	30.09**	4.38	.15	29.42**			
Mean growth rate (β_{10})				-.01	.02	-.66			
Model for intercept (π_{0i})									
Intercept (β_{00})							4.39	.20	21.44**
Participation in mentoring (β_{01})							-.02	.28	-.06
Model for slope (π_{1i})									
Intercept (β_{10})							-.06	.01	-3.89**
Participation in mentoring (β_{11})							.07	.03	2.76**
Level 2 (between-person) variance (r_0)			1.19**			1.30**			1.32**
Level 1 (within-person) variance (e)			.52			.23			.23
Slope (growth rate) variance (r_1)						.0058**			.0049*
Variance explained at Level 2			70%						
Variance explained at Level 1			30%						
Variance explained in slope by participation									15%

N = 71; Participation in mentoring (0 = Control group ,1 = Experimental group); *$p < 0.05$; **$p < 0.01$

Table 22. HLM analysis results for comparing leader self-efficacy development between the experimental vs. control group

	Leader self-efficacy								
	Null model			Model 1			Model 2		
	Estimate	*SE*	t	Estimate	*SE*	t	Estimate	*SE*	t
Random coefficients									
Mean initial status (β_{00})	5.74	.10	60.37**	5.76	.11	54.68**			
Mean growth rate (β_{10})				-.01	.01	-.41			
Model for intercept (π_{0i})									
Intercept (β_{00})							5.84	.13	44.53**
Participation in mentoring (β_{01})							-.10	.19	-.53
Model for slope (π_{1i})									
Intercept (β_{10})							-.05	.02	-3.13**
Participation in mentoring (β_{11})							.07	.02	2.82**
Level 2 (between-person) variance (r_0)			.60**			.65**			.66**
Level 1 (within-person) variance (e)			.18			.12			.12
Slope (growth rate) variance (r_1)						.0082**			.0071*
Variance explained at Level 2			77%						
Variance explained at Level 1			23%						
Variance explained in slope by participation									13%

N = 71; Participation in mentoring (0 = Control group ,1 = Experimental group); *$p < 0.05$; **$p < 0.01$

Table 23. HLM analysis results for comparing motivation to lead development between the experimental vs. control group

	Motivation to lead								
	Null model			Model 1			Model 2		
	Estimate	*SE*	t	Estimate	*SE*	t	Estimate	*SE*	t
Random coefficients									
Mean initial status (β_{00})	4.70	.13	35.17**	4.77	.14	33.82**			
Mean growth rate (β_{10})				-.01	.01	-1.07			
Model for intercept (π_{0i})									
Intercept (β_{00})							5.00	.24	20.88**
Participation in mentoring (β_{01})							-.34	.29	-1.16
Model for slope (π_{1i})									
Intercept (β_{10})							-.05	.02	-3.16**
Participation in mentoring (β_{11})							.05	.02	2.36*
Level 2 (between-person) variance (r_0)			1.25**			1.28**			1.28**
Level 1 (within-person) variance (e)			.16			.12			.12
Slope (growth rate) variance (r_1)						.0059**			.0054*
Variance explained at Level 2			89%						
Variance explained at Level 1			11%						
Variance explained in slope by participation									9%

N = 71; Participation in mentoring (0 = Control group ,1 = Experimental group); *$p < 0.05$; **$p < 0.01$

Table 24. HLM analysis results for comparing mentor identity development between the experimental vs. control group

	Mentor identity								
	Null model			Model 1			Model 2		
	Estimate	*SE*	t	Estimate	*SE*	t	Estimate	*SE*	t
Random coefficients									
Mean initial status (β_{00})	4.24	.14	30.47**	4.27	.14	30.32**			
Mean growth rate (β_{10})				-.01	.02	-.34			
Model for intercept (π_{0i})									
Intercept (β_{00})							4.17	.23	18.28**
Participation in mentoring (β_{01})							-.15	.29	.53
Model for slope (π_{1i})									
Intercept (β_{10})							-.06	.02	-2.92**
Participation in mentoring (β_{11})							.08	.03	2.53*
Level 2 (between-person) variance (r_0)			1.30**			1.03**			1.04**
Level 1 (within-person) variance (e)			.38			.32			.32
Slope (growth rate) variance (r_1)						.0093**			.0081*
Variance explained at Level 2			77%						
Variance explained at Level 1			23%						
Variance explained in slope by participation									13%

N = 71; Participation in mentoring (0 = Control group ,1 = Experimental group); *$p < 0.05$; **$p < 0.01$

Table 25. HLM analysis results for comparing mentor self-efficacy development between the experimental vs. control group

	Mentor self-efficacy								
	Null model			Model 1			Model 2		
	Estimate	*SE*	t	Estimate	*SE*	t	Estimate	*SE*	t
Random coefficients									
Mean initial status (β_{00})	5.25	.08	63.57**	5.32	.10	55.76**			
Mean growth rate (β_{10})				-.02	.01	-1.29			
Model for intercept (π_{0i})									
Intercept (β_{00})							5.23	.16	33.69**
Participation in mentoring (β_{01})							.14	.20	.71
Model for slope (π_{1i})									
Intercept (β_{10})							-.05	.02	-2.21*
Participation in mentoring (β_{11})							.05	.03	1.77†
Level 2 (between-person) variance (r_0)			.45**			.50**			.50**
Level 1 (within-person) variance (e)			.17			.13			.13
Slope (growth rate) variance (r_1)						.0059**			.0055*
Variance explained at Level 2			73%						
Variance explained at Level 1			27%						
Variance explained in slope by participation									7%

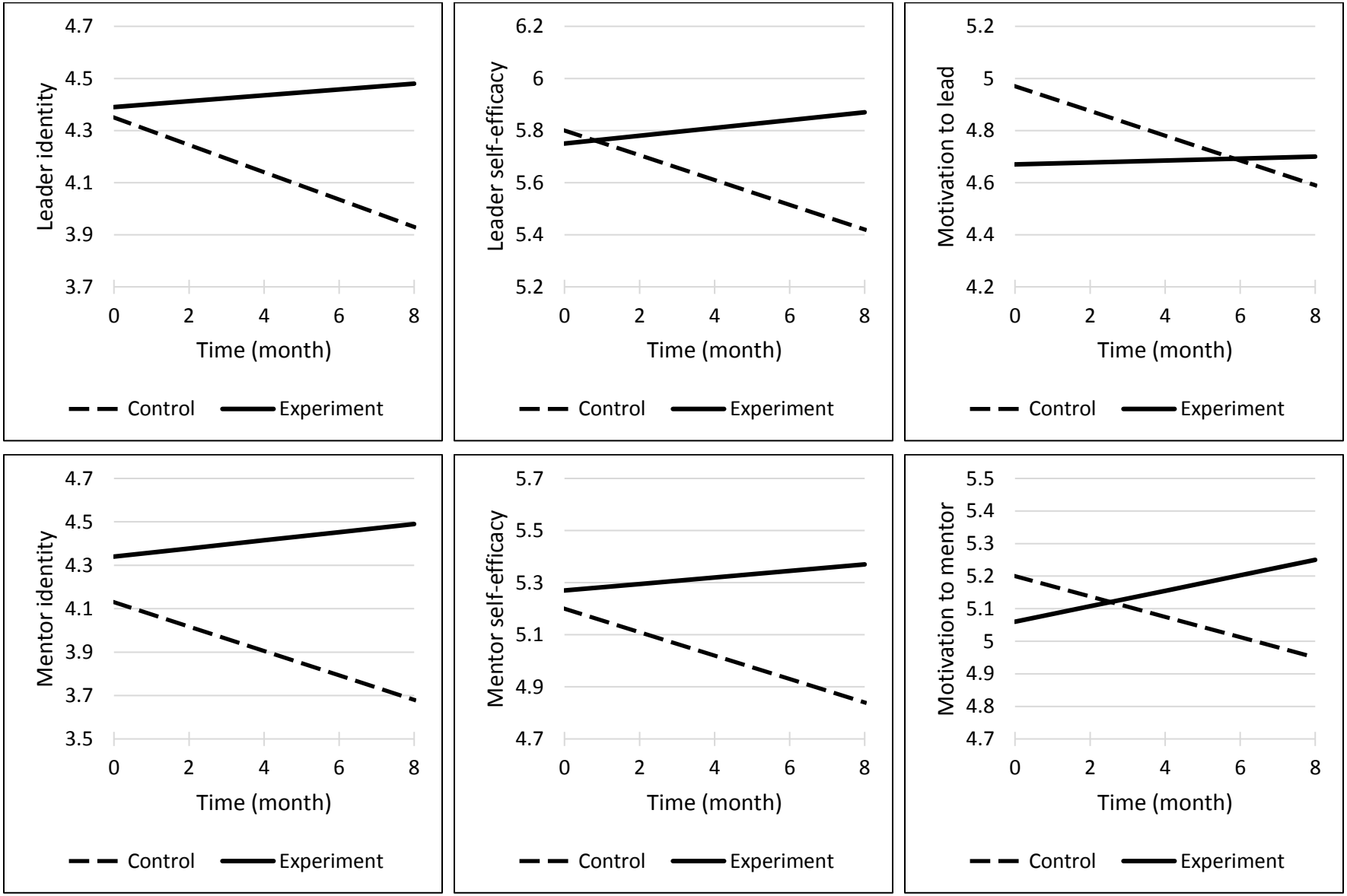
N = 71; Participation in mentoring (0 = Control group ,1 = Experimental group); $^{\dagger}p < 0.10$; $*p < 0.05$; $**p < 0.01$

Table 26. HLM analysis results for comparing motivation to mentor development between the experimental vs. control group

	Motivation to lead								
	Null model			Model 1			Model 2		
	Estimate	*SE*	t	Estimate	*SE*	t	Estimate	*SE*	t
Random coefficients									
Mean initial status (β_{00})	5.12	.12	41.93**	5.11	.14	37.01**			
Mean growth rate (β_{10})				.01	.02	.07			
Model for intercept (π_{0i})									
Intercept (β_{00})							5.28	.23	22.98**
Participation in mentoring (β_{01})							-.24	.29	-.84
Model for slope (π_{1i})									
Intercept (β_{10})							-.05	.02	-2.54*
Participation in mentoring (β_{11})							.08	.03	2.70**
Level 2 (between-person) variance (r_0)			1.00**			1.09**			1.09**
Level 1 (within-person) variance (e)			.28			.23			.23
Slope (growth rate) variance (r_1)						.0074**			.0061*
Variance explained at Level 2			78%						
Variance explained at Level 1			22%						
Variance explained in slope by participation									18%

N = 71; Participation in mentoring (0 = Control group ,1 = Experimental group); *$p < 0.05$; **$p < 0.01$

Figure 1. Change trajectory difference between the experimental and control groups



I predicted that change trajectories (i.e., within-individual slope) in leader identity (Hypothesis 1a), leader self-efficacy (Hypothesis 1b), and motivation to lead (Hypothesis 1c) would be significantly more positive for mentors (i.e., the experimental group) vs. Ph.D. candidates who did not participate in the mentoring program (i.e., the control group). As shown, participation in mentoring is related to growth rate in leader identity (Coefficient = .07, $t = 2.76$, $p < .01$). These results provide support for Hypothesis 1a. In addition, as presented, participation in mentoring is related to growth rate in leader self-efficacy (Coefficient = .07, $t = 2.82$, $p < .01$). Thus, Hypothesis 1b is also supported. Finally, participation in mentoring is related to growth rate in motivation to lead as well (Coefficient = .05, $t = 2.36$, $p < .05$). Therefore, Hypothesis 1c was supported.

I also predicted that change trajectories in mentor identity (Hypothesis 2a), mentor self-efficacy (Hypothesis 2b), and autonomous motivation to mentor (Hypothesis 2c) would be significantly more positive for mentors (i.e., the experimental group) vs. Ph.D. candidates who did not participate in the mentoring program (i.e., the control group). As shown, participation in mentoring is related to growth rate in mentor identity (Coefficient = .08, $t = 2.53$, $p < .05$). These results provide support for Hypothesis 2a. In addition, participation in mentoring is marginally related to growth rate in mentor self-efficacy (Coefficient = .05, $t = 1.77$, $p < .10$). Thus, Hypothesis 2b is also supported. However, participation in mentoring is not related to growth rate in motivation to mentor (Coefficient = .08, $t = 2.70$, $p = p < .01$). Therefore, Hypothesis 2c was not supported.

Table 27. HLM analysis results for change in leader identity in the experimental group

	Null model			Model 1			Model 2			Model 3			Model 4		
	Estimate	*SE*	t	Estimate	*SE*	t	Estimate	*SE*	t	Estimate	*SE*	t	Estimate	*SE*	t
Random coefficients															
Mean initial status (β_{00})	4.49	.18	25.46**	4.43	.19	23.57**									
Mean growth rate (β_{10})				.013	.02	.60									
Model for intercept (π_{0i})															
Intercept (β_{00})							4.43	.18	24.35**	4.43	.19	23.70**	4.43	.18	24.49**
Traditional mentoring (β_{01})							.34	.18	1.87				.47	.27	1.77
Relational mentoring										.13	.15	.85	-.16	.22	-.71
Model for slope (π_{1i})															
Intercept (β_{10})							.01	.02	.64	.01	.02	.61	.01	.02	.64
Traditional mentoring (β_{11})							.05	.02	3.13**				.05	.03	1.74*
Relational mentoring										.03	.01	2.19*	-.001	.03	-.01
Level 2 (between-person) variance (r_0)			1.37**			1.31**			1.24**			1.33**			1.26**
Level 1 (within-person) variance (e)			.35			.30			.30			.30			.30
Slope (growth rate) variance (r_1)						.00663*			.0047*			.0061*			.0051
Variance explained at Level 2			80%												
Variance explained at Level 1			20%												
Variance explained in slope by the model									29%			8%			23%

N = 46; *$p < 0.05$; **$p < 0.01$

Table 28. HLM analysis results for change in leader self-efficacy in the experimental group

	Null model			Model 1			Model 2			Model 3			Model 4		
	Estimate	*SE*	t	Estimate	*SE*	t	Estimate	*SE*	t	Estimate	*SE*	t	Estimate	*SE*	t
Random coefficients															
Mean initial status (β_{00})	5.81	.12	48.44**	5.72	.14	39.55**									
Mean growth rate (β_{10})				.02	.02	1.07									
Model for intercept (π_{0i})															
Intercept (β_{00})							5.72	.14	39.73**	5.72	.14	40.01**	5.72	.14	40.01**
Traditional mentoring (β_{01})							.10	.14	.75				-.02	.21	-.10
Relational mentoring										.14	.12	1.16	.15	.18	.83
Model for slope (π_{1i})															
Intercept (β_{10})							.02	.02	1.30	.02	.02	1.24	.02	.02	1.33
Traditional mentoring (β_{11})							.06	.01	4.38**				.05	.03	2.02*
Relational mentoring										.05	.02	2.87**	.02	.02	.88
Level 2 (between-person) variance (r_0)			.62**			.81**			.82**			.81**			.83**
Level 1 (within-person) variance (e)			.21			.15			.15			.15			.15
Slope (growth rate) variance (r_1)						.00863**			.00509**			.00594**			.00509**
Variance explained at Level 2			75%												
Variance explained at Level 1			25%												
Variance explained in slope by the model									41%			31%			41%

N = 46; *$p < 0.05$; **$p < 0.01$

Table 29. HLM analysis results for change in motivation to lead in the experimental group

	Null model			Model 1			Model 2			Model 3			Model 4		
	Estimate	*SE*	t	Estimate	*SE*	t	Estimate	*SE*	t	Estimate	*SE*	t	Estimate	*SE*	t
Random coefficients															
Mean initial status (β_{00})	4.72	.16	28.96**	4.70	.17	27.05**									
Mean growth rate (β_{10})				.01	.02	.37									
Model for intercept (π_{0i})															
Intercept (β_{00})							4.70	.16	29.03**	4.70	.17	27.71**	4.70	.16	29.11**
Traditional mentoring (β_{01})							.46	.17	2.73				.54	.25	2.17*
Relational mentoring										.23	.15	1.62	-.09	.20	-.48
Model for slope (π_{1i})															
Intercept (β_{10})							.01	.02	.37	.01	.02	.37	.01	.02	.37
Traditional mentoring (β_{11})							.01	.01	.66				.01	.02	.61
Relational mentoring										.01	.01	.15	-.01	.02	-.29
Level 2 (between-person) variance (r_0)			1.21**			1.26**			1.10**			1.22**			1.12**
Level 1 (within-person) variance (e)			.19			.14			.14			.14			.14
Slope (growth rate) variance (r_1)						.00654**			.00670**			.00680**			.00694**
Variance explained at Level 2			86%												
Variance explained at Level 1			14%												
Variance explained in slope by the model															

N = 46; *$p < 0.05$; **$p < 0.01$

Table 30. HLM analysis results for change in mentor identity in the experimental group

	Null model			Model 1			Model 2			Model 3			Model 4		
	Estimate	*SE*	t	Estimate	*SE*	t	Estimate	*SE*	t	Estimate	*SE*	t	Estimate	*SE*	t
Random coefficients															
Mean initial status (β_{00})	4.47	.17	26.43**	4.38	.18	24.62**									
Mean growth rate (β_{10})				.02	.02	.78									
Model for intercept (π_{0i})															
Intercept (β_{00})							4.38	.18	24.89**	4.38	.18	24.59**	4.38	.18	24.98**
Traditional mentoring (β_{01})							.20	.23	.86				.32	.31	1.02*
Relational mentoring										.05	.14	.36	-.14	.17	-.86
Model for slope (π_{1i})															
Intercept (β_{10})							.02	.02	.92	.02	.02	.87	.02	.02	.93
Traditional mentoring (β_{11})							.09	.03	2.99**				.07	.04	1.81†
Relational mentoring										.07	.02	2.95**	.03	.02	1.07
Level 2 (between-person) variance (r_0)			1.22**			.97**			.96**			1.01**			.99**
Level 1 (within-person) variance (e)			.50			.44			.44			.44			.44
Slope (growth rate) variance (r_1)						.00848**			.00216			.00438			.00248**
Variance explained at Level 2			71%												
Variance explained at Level 1			29%												
Variance explained in slope by the model									75%			48%			71%

N = 46; *$p < 0.05$; **$p < 0.01$; $^{\dagger}p < 0.10$

Table 31. HLM analysis results for change in mentor self-efficacy in the experimental group

	Null model			Model 1			Model 2			Model 3			Model 4		
	Estimate	*SE*	t	Estimate	*SE*	t	Estimate	*SE*	t	Estimate	*SE*	t	Estimate	*SE*	t
Random coefficients															
Mean initial status (β_{00})	5.38	.09	57.91**	5.38	.12	43.77**									
Mean growth rate (β_{10})				.01	.02	.02									
Model for intercept (π_{0i})															
Intercept (β_{00})							5.38	.12	43.78**	5.38	.12	44.46**	5.38	.12	44.65**
Traditional mentoring (β_{01})							.05	.15	.33				-.13	.18	-.72
Relational mentoring										.14	.11	1.29	.22	.12	1.78†
Model for slope (π_{1i})															
Intercept (β_{10})							.01	.01	.04	.01	.01	.05	.001	.01	.05
Traditional mentoring (β_{11})							.04	.02	2.27*				.03	.03	1.03
Relational mentoring										.03	.01	2.76**	.01	.02	.88
Level 2 (between-person) variance (r_0)			.36**			.53**			.54**			.52**			.53**
Level 1 (within-person) variance (e)			.18			.15			.15			.15			.15
Slope (growth rate) variance (r_1)						.00428**			.00304*			.00353*			.00336**
Variance explained at Level 2			67%												
Variance explained at Level 1			33%												
Variance explained in slope by the model									29%			18%			21%

N = 46; *$p < 0.05$; **$p < 0.01$; $^{\dagger}p < 0.10$

Table 32. HLM analysis results for change in autonomous motivation to mentor in the experimental group

	Null model			Model 1			Model 2			Model 3			Model 4		
	Estimate	*SE*	t	Estimate	*SE*	t	Estimate	*SE*	t	Estimate	*SE*	t	Estimate	*SE*	t
Random coefficients															
Mean initial status (β_{00})	5.19	.15	35.44**	5.07	.18	28.87**									
Mean growth rate (β_{10})				.03	.02	1.28									
Model for intercept (π_{0i})															
Intercept (β_{00})							5.07	.17	29.01**	5.07	.17	29.26**	5.07	.17	29.37**
Traditional mentoring (β_{01})							.11	.20	.55				-.10	.27	-.37
Relational mentoring										.19	.22	.86	.25	.31	.82
Model for slope (π_{1i})															
Intercept (β_{10})							.03	.02	1.46	.03	.02	1.37	.03	.02	1.45
Traditional mentoring (β_{11})							.06	.02	3.41**				.06	.03	1.84†
Relational mentoring										.04	.01	2.78**	.01	.03	.22
Level 2 (between-person) variance (r_0)			.92**			1.11**			1.13**			1.10**			1.12**
Level 1 (within-person) variance (e)			.34			.29			.29			.29			.29
Slope (growth rate) variance (r_1)						.00659*			.00328†			.00515*			.00372†
Variance explained at Level 2			73%												
Variance explained at Level 1			27%												
Variance explained in slope by the model									50%			22%			44%

N = 46; *$p < 0.05$; **$p < 0.01$; $^{\dagger}p < 0.10$

Hypothesis 3 predicted that, within the experimental group, the provision of traditional mentoring provided by mentors would be positively associated with within-person change in leader and mentor development outcomes for mentors. Hypothesis 4 predicted that, within the experimental group, the provision of relational mentoring provided by mentors would be associated with within-person change in leader and mentor development outcomes for mentors. Finally, Hypothesis 5 predicted that, within the experimental group, the provision of traditional mentoring and of relational mentoring by mentors would explain unique variance in leader and mentor development outcomes for mentors. To test these hypotheses, I used HLM and examined whether (1) traditional mentoring, (2) relational mentoring, and (3) both traditional and relational mentoring explain the slope of change in development outcomes.

In particular, I followed the procedure described below to test Hypotheses 3, 4, and 5 for each development variable. I entered each outcome as the dependent variable (in separate HLM analyses), Time as the Level 1 predictor variable, and the provision of traditional mentoring and/or relational mentoring as the Level 2 predictor variable. In the HLM analysis, I started with a null model, which included the intercept as the only predictor. Although the null models were included in testing Hypotheses 1 and 2, they must be included here as well, as the sample in testing Hypotheses 3, 4, and 5 includes only the experimental group participants, and not the control group participants. In Model 1, I entered Time as the Level 1 predictor variable. In Model 2, I introduced the control variables as well as the provision of traditional mentoring as the predictor variable to test Hypothesis 3. In Model 3, I introduced the control variables as well as mentor perception of relational mentoring as the predictor variable to test Hypothesis 4. Finally, in Model 4, I introduced the control variables, the provision of traditional mentoring, and mentor perception of relational mentoring to test Hypothesis 5. Tables 27, 28, 29, 30, 31, and 32

display the HLM results for the outcome variables – namely leader identity, leader self-efficacy, motivation to lead, mentor identity, mentor self-efficacy, and motivation to mentor. Notably, the null model results show that 20% of the variance in leader identity, 25% of the variance in leader self-efficacy, 14% of the variance in motivation to lead, 29% of the variance in mentor identity, 33% of the variance in mentor self-efficacy, and 27% of the variance in motivation to mentor reside at the within-individual level. Notably, significant Chi-square test results supported that the slopes of change were significantly different for various values of the Level 2 predictor variable (i.e., the provision of traditional and/or the provision of relational mentoring).

Prior to reporting the results, it is noteworthy that for none of the outcome variables, the slope of change over time was significantly different from zero (Model 1 in Tables 27 to 32). It means that the participants in the experimental group did not experience growth in any of the outcome variables. However, for two reasons, these results do not mean that the impact of mentoring on leader development outcomes is insignificant. First, as shown in Tables 21 to 26 (Hypotheses 1 and 2), the growth rates between the experimental and control group were significantly different in most of the leader development outcomes. Although the growth appears to be flat among the participants in the experimental group, the participants in the control group seem to have experienced decrease in leader development outcomes. This effect will be discussed further in the discussion section. Second, as will be discussed in the subsequent paragraphs, for the participants in the experimental group, the provision of mentoring was associated with leader development. Therefore, although the growth rates seem to be constant for these participants as a group, the level of mentoring provided was associated with changes in the outcomes. In the next few paragraphs, the results regarding the impact of mentoring provision on leader development outcomes will be discussed.

Hypothesis 3a predicted that the provision of traditional mentoring is associated with change in leader identity for mentors. As shown in Table 27 (Model 2), the provision of traditional mentoring is related to growth rate in leader identity (Coefficient = .05, $t = 3.13$, $p <$ .01). These results provide support for Hypothesis 3a. Hypothesis 4a predicted that mentor perception of relational mentoring is associated with change in leader identity for mentors. As shown (Model 3), mentor perception of relational mentoring is related to growth rate in leader identity (Coefficient = .03, $t = 2.19$, $p < .05$). These results provide support for Hypothesis 4a. Hypothesis 5a predicted that the provision of traditional mentoring and mentor perception of relational mentoring explain unique variance of change in leader identity for mentors. As shown (Model 4), only the provision of traditional mentoring is related to growth rate in leader identity (Coefficient = .05, $t = 1.74$, $p < .05$) when both predictor variables are introduced into the model. These results do not provide support for Hypothesis 5a.

Hypothesis 3b predicted that the provision of traditional mentoring is associated with change in leader self-efficacy for mentors. As shown in Table 28 (Model 2), the provision of traditional mentoring is related to growth rate in leader self-efficacy (Coefficient = .06, $t = 4.38$, $p < .01$). These results provide support for Hypothesis 3b. Hypothesis 4b predicted that mentor perception of relational mentoring is associated with change in leader self-efficacy for mentors. As shown (Model 3), mentor perception of relational mentoring is related to growth rate in leader self-efficacy (Coefficient = .05, $t = 2.87$, $p < .01$). These results provide support for Hypothesis 4b. Hypothesis 5b predicted that the provision of traditional mentoring and mentor perception of relational mentoring explain unique variance of change in leader self-efficacy for mentors. As shown (Model 4), only the provision of traditional mentoring is related to growth rate in leader

self-efficacy (Coefficient = .05, $t = 2.02$, $p < .05$) when both predictor variables are introduced into the model. These results do not provide support for Hypothesis 5b.

Hypothesis 3c predicted that the provision of traditional mentoring is associated with change in motivation to lead for mentors. As shown in Table 29 (Model 2), the provision of traditional mentoring is not related to growth rate in motivation to lead (Coefficient = .01, $t = .66$, p = ns). These results do not provide support for Hypothesis 3c. Hypothesis 4c predicted that mentor perception of relational mentoring is associated with change in motivation to lead for mentors. As shown (Model 3), mentor perception of relational mentoring is not related to growth rate in motivation to lead (Coefficient = .01, $t = .15$, p = ns). These results do not provide support for Hypothesis 4c. Hypothesis 5c predicted that the provision of traditional mentoring and mentor perception of relational mentoring explain unique variance of change in motivation to lead for mentors. As shown (Model 4), neither the provision of traditional mentoring (Coefficient = .01, $t = .61$, p = ns) nor mentor perception of relational mentoring (Coefficient = -.01, $t = -.02$, p = ns) is related to growth rate in motivation to lead when both predictor variables are introduced into the model. These results do not provide support for Hypothesis 5c.

Hypothesis 3d predicted that the provision of traditional mentoring is associated with change in mentor identity for mentors. As shown in Table 30 (Model 2), the provision of traditional mentoring is related to growth rate in mentor identity (Coefficient = .09, $t = 2.99$, $p < .01$). These results provide support for Hypothesis 3d. Hypothesis 4d predicted that mentor perception of relational mentoring is associated with change in mentor identity for mentors. As shown (Model 3), mentor perception of relational mentoring is related to growth rate in mentor identity (Coefficient = .07, $t = 2.95$, $p < .01$). These results provide support for Hypothesis 4d. Hypothesis 5d predicted that the provision of traditional mentoring and mentor perception of

relational mentoring explain unique variance of change in mentor identity for mentors. As shown (Model 4), only the provision of traditional mentoring is related to growth rate in mentor identity (Coefficient = .07, $t = 1.81$, $p < .10$) when both predictor variables are introduced into the model. These results do not provide support for Hypothesis 5d.

Hypothesis 3e predicted that the provision of traditional mentoring is associated with change in mentor self-efficacy for mentors. As shown in Table 31 (Model 2), the provision of traditional mentoring is related to growth rate in mentor self-efficacy (Coefficient = .04, $t = 2.27$, $p < .05$). These results provide support for Hypothesis 3e. Hypothesis 4e predicted that mentor perception of relational mentoring is associated with change in mentor self-efficacy for mentors. As shown (Model 3), mentor perception of relational mentoring is related to growth rate in mentor self-efficacy (Coefficient = .03, $t = 2.76$, $p < .01$). These results provide support for Hypothesis 4e. Hypothesis 5e predicted that the provision of traditional mentoring and mentor perception of relational mentoring explain unique variance of change in mentor self-efficacy for mentors. As shown (Model 4), neither the provision of traditional mentoring (Coefficient = .03, $t = 1.03$, p = ns) nor mentor perception of relational mentoring (Coefficient = .01, $t = .88$, p = ns) is related to growth rate in mentor self-efficacy when both predictor variables are introduced into the model. These results do not provide support for Hypothesis 5e.

Hypothesis 3f predicted that the provision of traditional mentoring is associated with change in motivation to mentor for mentors. As shown in Table 32 (Model 2), the provision of traditional mentoring is related to growth rate in motivation to mentor (Coefficient = .06, $t = 3.41$, $p < .01$). These results provide support for Hypothesis 3f. Hypothesis 4f predicted that mentor perception of relational mentoring is associated with change in motivation to mentor for mentors. As shown (Model 3), mentor perception of relational mentoring is related to growth rate

in motivation to mentor (Coefficient = .04, $t = 2.78$, $p < .01$). These results provide support for Hypothesis 4f. Hypothesis 5f predicted that the provision of traditional mentoring and mentor perception of relational mentoring explain unique variance of change in motivation to mentor for mentors. As shown (Model 4), only the provision of traditional mentoring is related to growth rate in motivation to mentor (Coefficient = .06, $t = 1.84$, $p < .10$) when both predictor variables are introduced into the model. These results do not provide support for Hypothesis 5f.

Figure 2. Change in leader identity at various levels of traditional mentoring provision

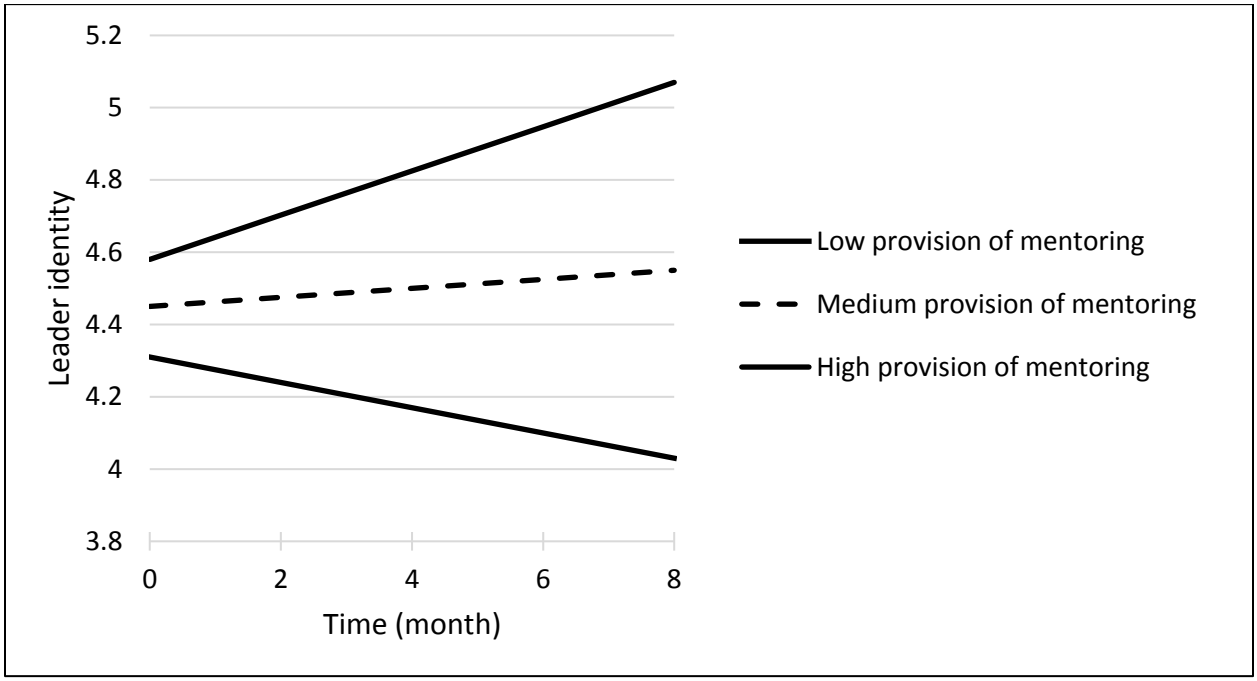


Figure 2 illustrates the significant impact of traditional mentoring on the trajectory of change for leader identity (Hypothesis 3a). In particular, as a common choice in research (Hayes & Montoya, 2017), the trajectory of change in leader identity has been depicted at the mean level of traditional mentoring as well as one standard deviation below and above the mean. As the impact of traditional and relational mentoring on development outcomes followed a similar pattern for all significant results, only this illustration is provided as an example.

Study 3: Discussion

In Study 3, I investigated the leader and mentor development outcomes of mentoring for mentors. To do so, mentors of a mentoring program, which I implemented for PhD students at Concordia University, participated in my study. The results from this study provided partial support for the positive impact of mentoring on many of the leader and mentor development outcomes for mentors. Although the impact of mentoring on change in development outcomes was modest, it was statistically significant. In addition, the provision of mentoring and the quality of mentoring were each associated with growth trajectories in five of the six outcome variables. However, after including both traditional and relational mentoring, only traditional mentoring was significantly related to growth trajectories in some of the development outcomes.

The present study makes many contributions to the leadership development and mentoring literatures. First, it suggests that individuals develop their leadership capabilities and competencies not only in formal training programs but also through daily life experiences and challenges. In particular, this study introduces mentoring as a leader development practice for mentors. As illustrated in the figures and presented in the results, mentors who participated in Study 3 did not experience decrease in mentoring- and leadership-related identity, self-efficacy, and motivation, as the participants in the control group did. Moreover, the extent to which mentors provide mentoring is associated with their development in mentor and leader development outcomes. These results encourage leadership development scholars to broaden their investigation of leadership development practices and to consider various organizational practices and challenging assignments as potential leader development tools.

Second, this study sheds light on mentoring outcomes for mentors. As demonstrated, the mentors who participated in this study experienced development in almost all of the outcome

variables. This finding introduces mentoring as a mutual development practice for both mentors and protégés, solely as a means of development for protégés. These results are promising for future research to examine mentor outcomes further. Finally, this study investigates further the construct of relational mentoring. Its results showed that the relationship between mentoring and its outcomes were virtually the same, when using traditional mentoring and relational mentoring. In other words, traditional and relational mentoring produced similar relationships with mentoring outcomes for mentors in the context of Study 3. The contributions and implications of Studies 1, 2, and 3 are discussed further in Chapter 6.

The difference in trajectories of change between the experiment and control group is a finding in my research that might raise questions. Originally, I expected to observe positive change in leader development outcomes for mentors and no change in leader development outcomes for participants in the control group. However, the findings show that leader development outcomes appear to decline in the control group and that these outcomes increase only slightly or not at all in the experimental group. In other words, it appears that mentoring prevented the development outcomes to decline in mentors. I have two possible explanations for such observation. First, declining weather might have contributed to a steady negative change in all participants. In particular, my data collection stretched from September to April within which the weather gets "worse" in the location of research, which is known worldwide for extremely long and fierce winters. Given that there is an important international student population, it is possible that some of the participants had declining mood at the end of the winter season, which may have influenced negatively their self-perception. Research also has shown that bad weather induces negative moods in individuals (Keller et al., 2005). As the impact of weather on individuals' perceptions and evaluations of themselves is still understudied, I recommend future

research to investigate such impact further. Second, it is possible that Ph.D. candidates suffer from exhaustion towards the end of winter semester and evaluate themselves lower on leadership characteristics. For instance, on top of his or her own program of research, a Ph.D. candidate might be heavily involved in teaching and assistantship tasks during fall and winter semesters. Such busy schedules, heavy workload, and stress could influence how Ph.D. candidates evaluate themselves. This proposition is aligned with previous research, which has shown that teachers who experience classroom stress have lower evaluation of their self-efficacy (Klassen & Chiu, 2010). This is while those Ph.D. candidates who engage in such prosocial behaviors as mentoring others might gain some of their lost self-efficacy through feeling helpful and useful in mentoring.

CHAPTER SIX: GENERAL DISCUSSION

The primary contributions of the current dissertation could be summarized as follows. First, it brought into focus mentors, as compared to protégés who are at the center of attention in the mentoring literature traditionally. In particular, this dissertation examined mentoring outcomes for mentors. Second, it connected the mentoring and leadership development literatures by proposing and investigating leader development outcomes for mentors. Finally, the studies conducted and presented here aimed to unfold the construct of relational mentoring (i.e., high-quality mentoring) further and to compare it with traditional mentoring functions. Below, I elaborate on the theoretical and practical implications of this dissertation.

Theoretical Implications

Relational mentoring and traditional mentoring functions. The first objective of this dissertation was to investigate the construct of relational mentoring and to examine whether it is distinct from, and explains more variance in mentoring outcomes than, traditional mentoring. To advance this investigation, it was necessary to test the recently developed Relational Mentoring Index (RMI; Ragins, 2011). Thus, in Study 1, I tested the RMI's reliability and validity. The results of Study 1 showed that RMI has high inter-item agreement and is valid, meaning that this scale operationalizes the construct of relational mentoring (i.e., high-quality mentoring) accurately. In addition, I reduced the number of items of RMI from 21 to only 6 and formed the Relational Mentoring Index – Short Form (RMI-SF). While the number of items were reduced dramatically in the RMI-SF, the results showed that the short-form scale maintained high inter-item agreement. Also, the RMI and RMI-SF were highly and positively correlated and had similar patterns with relational mentoring's expected correlates – namely traditional mentoring, frequency of contact between mentor and protégé, and dysfunctional mentoring.

To investigate the validity of the RMI-SF further, I examined the RMI-SF's criterion-related validity and incremental validity in Study 2. In particular, I examined whether RMI-SF had meaningful relationships with well-known and previously tested mentoring outcomes (i.e., criterion-related validity) and whether it explained variance in mentoring outcomes, above and beyond traditional mentoring (i.e., incremental validity). The findings of Study 2 confirmed that RMI-SF had significant relationships with all mentoring outcomes for mentors (i.e., career satisfaction and work-life balance) and protégés (i.e., career satisfaction, career motivation, career commitment, and satisfaction with mentor). However, the results did not provide overwhelming support for the RMI-SF's incremental validity. In particular, although relational mentoring explained significantly more variance in mentoring outcomes above and beyond traditional mentoring, its explanatory power was slim for almost all outcome variables, except for protégé satisfaction with mentor. The results from Study 3 also confirmed that introducing relational mentoring into models did not help explain more variance in mentoring outcomes for mentors. Therefore, relational mentoring and traditional mentoring seem to generate very similar relationship patterns and results, except for some dependent variables. According to the results of this dissertation, it is possible that relational mentoring and traditional mentoring predict mentoring outcomes in a similar fashion. However, relational mentoring might be more powerful in explaining dependent variables that are directly related to mentor and/or protégé satisfaction with the relationship, dependent variables such as mentoring program success and program evaluation. This is important as this may lead to greater mentor recruitment and retention, thus facilitating the implementation, management, and success of such programs.

Many reasons might have contributed to relational mentoring explaining marginal or no variance in some of the mentoring outcomes above and beyond traditional mentoring. First, it is

likely that, regardless of their mentoring relationship quality, participants gain some outcomes from being in a mentoring relationship. Mentors, for instance, could still have an opportunity to reflect on their skills and competencies (e.g., leadership competencies) when they interact with their protégés. In a formal mentoring program particularly, mentors and protégés are often expected or required to meet or interact on a timely basis. The mentors of such programs might continue interacting with their protégés even if they find themselves in mentoring relationships that are not high quality. Thus, such relationships might still provide these mentors with self-reflection opportunities. In addition, individuals' learning style might also encourage them to stay in mentoring relationships even if those relationships are average quality rather than high quality. In particular, while some individuals desire to see a positive image of themselves in various situations (i.e., self-enhancement motives), some might insist on improving their capabilities and competencies (i.e., self-improvement motives; Fiske, 2009). While the first group might avoid being in average or low quality relationships, the second group might still stay in such relationships for the sake of learning more about themselves and their skills. Accordingly, even when they would not evaluate their relationships as high quality, the second group might still provide mentoring and gain outcomes from their mentoring relationships.

Second, relational mentoring's limited explanatory power in this dissertation might be due to relatively high correlations between traditional and relational mentoring (above .70 in Studies 1, 2, and 3). In particular, it might be relatively rare to witness a mentoring relationship where the mentor provides a high level of traditional mentoring and yet perceives a low level of relationship quality. In other words, in most cases, mentoring relationships might be either high or low in both traditional and relational mentoring. This high correlation as well as relatively low variance in mentoring quality could impose a challenge for research to investigate mentoring

outcomes of relational mentoring. Despite this, relational mentoring is still a largely unchartered territory. Therefore, there are many promising research avenues that will be discussed in the future research directions.

Introducing the RMI-SF contributes to the mentoring literature by making it more convenient for researchers to operationalize relational mentoring. The construct of relational mentoring was introduced more than a decade ago (Ragins & Verbos, 2007; Ragins, 2005, 2011). However, its use in empirical studies has been limited. I hope that the results of the present dissertation will pave the way for future research to test relational mentoring further.

Mentor and leader development outcomes for mentors. The second objective of this dissertation was to test whether individuals can see an increase in leader and mentor development outcomes through mentoring others. In Study 3, I examined the mentor and leader development outcomes of mentoring for mentors. I hypothesized that mentoring others would improve mentors' leader identity, leader self-efficacy, and motivation to lead as well as mentor identity, mentor self-efficacy, and motivation to mentor. According to the findings, as a whole, individuals who participated in the mentoring program as mentors did not experience negative trajectories of change in most of the development outcomes – namely, leader identity, leader self-efficacy, motivation to lead, mentor identity, and autonomous motivation to mentor – as the participants in the control group did (the potential reasons behind this decline were discussed in the discussion section of Study 3 in Chapter Five). Although this impact was relatively modest, it was statistically significant. In addition, when treated as independent variables in separate models, the provision of traditional mentoring and of relational mentoring by mentors explained some of the variance in change trajectories in leader identity, leader self-efficacy, mentor identity, mentor self-efficacy, and motivation to mentor. This means that the amount of

mentoring provided by a mentor and his or her perception of relational mentoring are associated with improvement in his or her leader and mentor development outcomes.

The findings suggested that greater provision of mentoring could contribute to developing leader and mentor development outcomes in mentors. Therefore, this study added to previous research, recommending that not only is receiving mentoring a leadership development tool (e.g., Day, 2000; Lester et al., 2011), but also that the act of providing mentoring is an opportunity for mentors to develop leadership. This finding is aligned with Day and colleagues' (Day et al., 2014; Day, 2000) propositions that beyond training programs in classroom settings, providing individuals with challenging opportunities (e.g., mentoring others) contributes to individuals' leader and leadership development.

The findings are also aligned with Ashford and DeRue's (2012) proposed model, the mindful engagement experiential learning process. According to this model, individuals improve their leadership effectiveness mindfully through following three learning phases: (1) *Approach*: looking for learning opportunities actively and setting learning goals, rather than avoiding failure; (2) *Action*: Engaging in learning experimentation, seeking for feedback, and being emotionally prepared to face criticism; and (3) *Reflection*: exploring causes and effects of actions, questioning assumptions, and developing the lessons learned. Providing individuals with challenging assignments such as mentoring others could offer them an opportunity to engage in deep learning and self-reflection and contribute to their leadership development.

Second, this dissertation focused on mentoring outcomes for mentors, who are understudied compared to protégés (Ghosh & Reio, 2013). While early mentoring research was dedicated almost exclusively to protégés and their mentoring outcomes, recent research has started to investigate mentoring through mentors' perspective and evaluate mentoring benefits

for mentors (Allen, Eby, Chao, & Bauer, 2017). The majority of studies on mentor outcomes have focused mainly on mentors' career development and career outcomes (e.g., Ghosh & Reio, 2013). Study 3, however, investigated leader and mentor development in mentors and confirmed that the provision of mentoring was associated with mentors' leader and mentor characteristics. This finding holds promise for future research to investigate a wider range of mentoring outcomes and benefits for mentors, including leader and leadership development. These recommendations will be discussed in the future research directions.

Although the results supported the relationship between traditional and relational mentoring as predictor variables and development in leader identity, leader self-efficacy, mentor identity, mentor self-efficacy, and motivation to mentor as outcomes, they did not support the impact of mentoring on the development of mentors' motivation to lead. There are possible explanations for this lack of result. First, to operationalize motivation to lead, I used items that represent affective motivation to lead. As this dimension and its items are more related to intrinsic motivation to lead (Chan & Drasgow, 2001), it is highly likely that change in this dimension would take more time to occur. Second, personality traits (e.g., conscientiousness) are some of the antecedents of motivation to lead (Chan & Drasgow, 2001). As personality traits are relatively stable throughout a person's life span, motivation to lead might be relatively stable, compared to other development variables. Finally, as leader self-efficacy is another strong antecedent of motivation to lead (Chan & Drasgow, 2001), it is likely that change in individuals' motivation to lead occurs with a time lag after change in individuals' leader self-efficacy. It means that I might have found significant results for motivation to lead as well, if I had measured mentors' motivation to lead on a longer time period.

This leads to the recommendation to pay particular attention to two details when investigating change in motivation to lead. First, change in motivation to lead may take a long time to appear. Although meaningful within-person change takes place in several constructs, not all changes occur in the same fashion and within the same time period (Shipp & Cole, 2015). Regarding motivation to lead, in particular, scholars need to investigate further how and when change occurs. Second, as discussed in the literature review, motivation to lead consists of three distinct dimensions. It is likely that change in these three dimensions does not take place at the same rate. For instance, change in affective motivation to lead, which I used, might occur within a longer period compared to noncalculative and social-normative motivation to lead. Thus, future research should investigate the impact of organizational practices, such as mentoring, on developing other dimensions of motivation to lead as well.

Practical Implications

This dissertation has practical implications. First, it provides researchers and practitioners with a six-item scale to measure relational mentoring and to capture high-quality mentoring relationships. As time is becoming more and more valuable in organizational settings, it is comprehensible that researchers and practitioners prefer to use scales with fewer items to reduce the time spent by their participants on surveys. In addition, using short form scales that are equally valid and reliable helps prevent participant fatigue. The RMI-SF has significantly fewer items compared to the RMI and is virtually as valid and reliable as the RMI. Therefore, researchers and practitioners could use this short form scale in their investigations when they intend to assess global relational mentoring. However, if researchers need to assess one of the relational mentoring dimensions, they still need to utilize the items of that dimension from the longer RMI scale.

Second, it clarified whether mentoring could be used as a leader development tool. This finding could be of interest, especially to mentoring and leadership development program administrators. In particular, providing individuals with an opportunity to mentor others may be a complementary leader development method, alongside other developmental practices including leadership courses and workshops. This is important because individuals' leader identity and leader self-efficacy, for instance, are the distal outcomes of leader and leadership development programs that aim to develop proximal outcomes such as various leadership competencies and leadership effectiveness (Day & Dragoni, 2015). Therefore, to develop leadership capabilities in their employees and students, organizations and universities can provide them with a combination of challenging opportunities and assignments (e.g., mentoring others) in addition to training programs.

Third, it provides mentoring program administrators with reasons to encourage their organizational members to join mentoring programs as mentors. Often, it is easier for program administrators to list mentoring benefits for protégés and more difficult for them to explain mentoring benefits for mentors. It might be a challenge in mentor recruitment for program administrators. However, as the results show, mentoring could be promoted as an organizational practice that not only is beneficial for protégés and new members, but also useful for more experienced members who want to develop certain leadership and interpersonal skills. Therefore, more experienced organizational members could be encouraged to participate in mentoring programs as mentors in order to develop their leadership skills and competencies.

Fourth, it emphasizes the importance of implementing mentoring programs at universities, especially as part of PhD student development plans. As discussed in Study 3, PhD students are in a career transition from being students to being professionals, consultants, or

faculty members. This transition requires PhD students to obtain and develop several skills, including many leadership competencies. For this reason, scholars have investigated the leadership competencies that PhD students need to acquire before getting to the job market as well as the training programs through which such competencies could be developed (e.g., Boies, Martin, Ayoobzadeh, Peng, & Briand, 2017). The results of this dissertation suggest to graduate program administrators that providing PhD students with a combination of training programs and challenging assignments, particularly mentoring others, paves the way for these students to prepare faster for their forthcoming roles as consultants or faculty members.

Finally, the results from Study 3 showed that the provision of mentoring is associated with positive changes in mentors' development outcomes; specifically, the provision of traditional mentoring and of relational mentoring are related to some improvement in leader identity, leader self-efficacy, mentor identity, mentor self-efficacy, and motivation to mentor in mentors. In other words, high provision of mentoring leads to positive improvement and low provision of mentoring might even decrease these characteristics in mentors. This low provision of mentoring could be the result of many factors that are out of mentors' control, such as mismatch between mentor and protégé and protégés' lack of commitment. Therefore, program administrators could employ various techniques and methods to engage mentors and protégés further in mentoring relationships. For instance, they might employ evidence-based matching methods to make sure that their participants are matched based on well-thought criteria and that they would develop fruitful relationships (see Eby et al., 2013). The matching process is extremely important as research shows that mentor-protégé similarity and match influence the provision and receipt of mentoring (e.g., Ghosh, 2014; Hu, Baranik, & Wu, 2014), particularly when matching has been done based on deep-level similarities (e.g., common perspective and

liking) rather than surface-level similarities (e.g., demographics; Eby et al., 2013). In addition, mentoring program administrators could (1) provide opportunities and incentives to mentors to engage them further in mentoring (e.g., providing certificates, support, and social events) and (2) recruit protégés who are open to receiving mentoring support.

Strengths and Limitations

The present dissertation has both strengths and limitations. An important strength is found in Study 3, where longitudinal data were collected in a quasi-experimental design. Data were collected at four points in time from participants in a mentoring program, which was implemented for the purpose of this dissertation. Therefore, I was able to observe and investigate change in the outcome variables for mentors. In addition, I collected data from both an experimental group and a control group whose participants did not provide mentoring. This design improved the robustness of the results. Finally, a rigorous scale validation process through Studies 1 and 2 ensured that the measures met validity and reliability requirements and could be used in the main study of this dissertation, Study 3.

Despite these strengths, this dissertation has potential limitations as well. First, I collected data from one source and through self-reports in Studies 1, 2, and 3. According to the literature, self-reports of behaviors might be biased and might inflate correlations (Spector, 2006). In addition, one might argue that collecting data from one source through online panel data raises even more questions compared to data from traditional samples (e.g., employees or students in field research). However, there are many reasons that justify this choice and make me believe that it is not a major concern in this dissertation. First, Studies 1 and 2 were scale reduction and validation studies that required large samples. Recruiting such large samples was more feasible when collecting data from one source rather than multiple sources. Previous research, also,

shows that collecting data from one source in scale validation studies is common (e.g., Liden et al., 2015; Meriac, Woehr, Gorman, & Thomas, 2013). Although this rationale does not justify collecting data from one source, it explains why this approach is more practical for researchers. Second, as explained in each study, I followed previous research (e.g., Podsakoff et al., 2012) and employed many techniques to alleviate issues related to common source bias. Third, according to a recent meta-analysis (Walter, Seibert, Goering, & O'Boyle, 2018), using online panel data and conventionally sourced data produce similar results and have similar psychometric properties. Finally, regarding Study 3, as I aimed to investigate changes in mentors' self-perceptions of leadership characteristics (i.e., identity, self-efficacy, and motivation), I followed previous research (e.g., Day & Sin, 2011; Miscenko et al., 2017; Quigley, 2013) and collected data from mentors (or leaders), rather than protégés (or followers).

Second, in Study 3, a potential limitation may be that I used the provision of mentoring (rated by mentors) rather than the receipt of mentoring (rated by protégés) to measure mentoring. I used mentors' perception of mentoring for various reasons. First, I believe that mentors' perception of mentoring – and not their protégés' perception – influences changes in mentors' self-perceptions of leadership. Various research has shown that mentors' (or leaders') and protégés' (or followers') perceptions of the same construct are not highly correlated (Eby et al., 2013; Waters, 2004). It means that individuals might have dissimilar perceptions and opinions of a same construct, even in close relationships (Levinger, 1983). In the present study, I hypothesized that mentors' evaluation of their mentoring relationships increase or decrease their self-perceptions. Thus, it is more logical to measure mentoring through mentors, rather than protégés. Second, as sample sizes are rather small in leadership development studies (e.g., Ladegard & Gjerde, 2014; Yeow & Martin, 2013), I decided to measure variables from one

source to reduce the risk of extremely small samples and, consequently, low statistical power. Finally, my follow up discussion with study participants confirmed that they did not realize the purpose of Study 3 throughout the mentoring program and data collection process. After the study was completed, the participants were informed about the study results through a presentation. Prior to the presentation, they were asked if they had guessed the purpose of this study. Although many of them shared their guesses, none of these was remotely related to the purpose of this study and many of the participants were surprised to discover the purpose of the research.

Third, a limitation of Study 3 is the measurement of mentoring at one time and of leader development outcomes at not more than four times. One might argue that the relationship between mentoring and leader development is not from mentoring to leader development (as proposed and discussed in this dissertation), but is from leader development level (e.g., leader self-efficacy) to provision of mentoring. In other words, one might argue that the higher the level of leader self-efficacy, for instance, in a mentor, the more he or she provides mentoring. Although measuring mentoring provision at one point in time does not allow me to test the reverse causality, it is highly likely that the relationship between mentoring provision and leader development is as proposed and tested in this dissertation for the following reason. As many scholars have proposed and tested (e.g., Day & Sin, 2011; Day, 2000; Miscenko et al., 2017), leader development takes place after the person is involved in an experience. For instance, Ashford and DeRue (2012) propose the impact of experience on developing leader identity in individuals. Therefore, it is highly likely that mentoring, as an experience, precedes leader development in participants. One might also argue that leader development outcomes could or should have been measured at more than four points in time throughout the mentoring program.

As I was concerned about low response rate in my study, I did not collect data at more than four points in time. Thus, I recommend future research to assess development in individuals by collecting data at more than four points in time, especially as research shows that leader development might happen in periods shorter than two months (e.g., Miscenko et al., 2017).

Fourth, the data in Study 3 were collected from a small sample in a university context and in a peer mentoring program. Therefore, the results might not be generalizable to a broader population in other types of mentoring programs and in other contexts that are different from an academic setting. Therefore, I recommend future research to investigate the tested hypotheses in other samples. Also, I suggest that practitioners who design leader development programs pay attention to context when employing mentoring as a technique. In particular, using mentoring as a leader development practice in contexts different from universities and academic settings might lead to different outcomes.

Fifth, the measures for mentoring might have excluded some of the elements of mentoring. To measure career support, for instance, I used the three items of the Mentoring Functions Questionnaire (MFQ; Castro & Scandura, 2004). These three items are relatively broad and do not include some of the detailed elements of career support (e.g., sponsorship and protection). Although such broad items as well as focusing on some of the key points are common in developing short-form scales, future research needs to develop and test mentoring scales that are more specific and that can be modified for, and based on, various contexts (e.g., academic settings, workplaces, and sports).

Sixth, as the assignment of participants in Study 3 to experimental and control groups was not random and as the study design was not experimental, unmeasured confound variables could have explained a portion of the results. Study 3 was a quasi-experimental study in which

participants were not assigned to the experimental and control groups randomly. As researchers have lower control on quasi-experimental designs compared to experimental designs (Grant & Wall, 2009), it is possible that confound variables in the context of Study 3 influenced the results. Moreover, as the assignment of participants was not random, individual characteristics might also have influenced the results. Despite these limitations, there are many reasons that play in favor of such quasi-experimental designs and that mitigate potential concerns. In particular, quasi-experimental studies have many advantages over experimental designs, such as higher external validity and generalizability (Grant & Wall, 2009). Thus, implementing this study could have insightful recommendations for practitioners. Regarding the concern of random assignment, as the participants in both groups had volunteered to take part in the same mentoring program, it is highly likely that they did not differ significantly in many characteristics (e.g., prosocial behaviors and motivation) prior to the intervention. Moreover, the t-test analyses conducted in Study 3 showed that the participants in the two groups did not differ significantly on basic demographics. Therefore, significant individual differences between the participants in two groups might not be a major concern.

Finally, although the impact of mentoring and mentoring provision on leader development was tested and confirmed in Study 3, the results cannot point out which part of the mentoring program had the highest influence on mentors' leader development. In particular, mentors of the mentoring program were involved in many components of the program, including the training session, formal meetings on a monthly basis, and email communications. The results cannot confirm which component of the mentoring program had the highest influence on mentors. Yet, as the results showed, the provision of mentoring was associated with leader

development for mentors. Thus, it is highly likely that the level of mentor participation in all components of mentoring matters, and not involvement in one of the components specifically.

Future Research Directions

This dissertation provides scholars with many research avenues to explore in the future. First, research needs to investigate further the construct of relational mentoring. The findings confirmed that traditional and relational mentoring are two distinct constructs. They also showed that relational mentoring explains variance in some of the mentoring outcomes above and beyond traditional mentoring. However, they raised a very important question: if relational mentoring explains more variance in only some of the mentoring outcomes above and beyond traditional mentoring, in which outcome variables does relational mentoring have higher explanatory power? Future research needs to investigate this question further. In this dissertation, relational mentoring had greater explanatory power in some variables such as satisfaction with mentoring and less explanatory power in other variables such as mentor leader development outcomes. Thus, it is possible that, compared to traditional mentoring, relational mentoring explains more variance in participants' attitudes towards the organization or the mentoring program (e.g., perceived organizational support and satisfaction with mentoring) and less variance in participants' career and skill development outcomes (e.g., career success, mentor development, and leadership development).

Second, although this dissertation confirmed that mentoring others contributes to leader development in mentors, future research should investigate whether participants' individual differences would influence the benefits they may get from mentoring. Although participation in a mentoring program and providing plenty of mentoring support are associated with leader development in mentors, some mentors might be more likely to benefit from such development

programs. Drawing upon performance feedback theory (Jordan & Audia, 2012), I expect that mentor motives and learning orientations, in particular, would influence the extent to which mentors reflect on, and learn from, their mentoring interactions. In developing their leadership effectiveness, individuals have two motives and feedback-seeking approaches: (1) individuals with a *fixed mindset* (i.e., individuals are born with personal attributes and cannot change them; Dweck, 2006) who look for not so challenging experiences that confirm their self-image and that provide them with a positive self-image (i.e., *self-enhancement*; Fiske, 2009); and (2) individuals with a *growth mindset* (i.e., individuals can develop their personal attributes with effort; Dweck, 2006) who look for challenging assignments that show them their weaknesses and that help them improve their weaknesses (i.e., *self-improvement*; Fiske, 2009). It is likely that individuals with self-improvement motives would learn more from their challenging experiences and, thus, develop more leadership outcomes, compared to individuals with self-enhancement motives. The moderating role of individuals' motives is a promising topic for future research.

Third, future research should investigate further the leadership development outcomes of mentoring through a Positive Organizational Scholarship (POS) perspective. POS emphasizes that organizations need to go beyond recruiting and retaining high-quality employees and should, indeed, provide employees with development and growth opportunities. On the one hand, Ragins (2011) suggests that, compared to traditional mentoring, relational mentoring is better suited to explain POS outcomes of mentoring (e.g., personal growth and development as well as acquisition of relational skills and competencies). On the other hand, many leadership development scholars (e.g., Ashford & DeRue, 2012), through a POS perspective, argue that organizations need to ensure that not only do employees have the required leadership skills, but that they also have opportunities to develop their leadership competencies further, to see

themselves as leaders, and to be seen by others as leaders. Although I strived to address the recommendations by these mentoring and leadership development scholars, the gaps in the literature require future research to examine further the leadership development outcomes of relational mentoring.

Finally, future research needs to examine how program administrators can improve protégé commitment, motivation, and involvement in mentoring relationships. The findings confirmed that mentor provision of mentoring is associated with mentor outcomes. However, as mentioned earlier, mentors do not control the provision of mentoring completely. One of the factors that might influence mentor provision of mentoring is protégé commitment to, and involvement in, mentoring. In fact, in many mentoring relationships, it is likely that mentors are unable to deepen their relationships because their protégés are not interested enough or hesitate to continue further their mentoring relationships. Thus, as protégé proactivity is an antecedent of mentoring provision (Ghosh, 2014), future research should investigate further the impact of recruiting motivated and proactive protégés. In addition, research needs to investigate how to increase protégé motivation for, and involvement in, mentoring, as these are overlooked research areas and important ones to ensure the success of mentoring programs.

Conclusion

In this dissertation, I investigated the construct of relational mentoring and examined its leader development outcomes for mentors. The findings confirmed that relational mentoring is distinct from previously developed mentoring constructs, such as traditional mentoring functions (i.e., career support, psychosocial support, and role modeling). However, the findings were not consistent in regards to the power of relational mentoring in explaining variance in mentoring outcomes above and beyond traditional mentoring. Thus, future research is encouraged to

examine where using relational mentoring is more beneficial. In addition, the findings confirmed that mentoring others improved leader development outcomes in mentors. It means that mentoring, as a challenging assignment, could be used to develop leadership in mentors. This, in itself, is powerful and contributes to the leadership development literature, which has focused extensively on leadership development through formal training program. Therefore, I encourage future research to investigate further what challenging assignments could be used as leadership development tools.

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APPENDICES

Appendix A: Ethics Committee Approval

CERTIFICATION OF ETHICAL ACCEPTABILITY

FOR RESEARCH INVOLVING HUMAN SUBJECTS

Name of Applicant:	Mostafa Ayoobzadeh
Department:	John Molson School of Business\Management
Agency:	Social Sciences & Humanities Research Council Concordia University
Title of Project:	Investigating Mentoring Relationships
Certification Number:	30006559
Valid From: October 25, 2017	To: October 24, 2018

The members of the University Human Research Ethics Committee have examined the application for a grant to support the above-named project, and consider the experimental procedures, as outlined by the applicant, to be acceptable on ethical grounds for research involving human subjects.

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Dr. James Pfaus, Chair, University Human Research Ethics Committee

Appendix B: Measures

Mentoring Functions Measures

Participants indicated the degree to which they agreed with the following statements using the following scale: from 1 (strongly disagree) to 7 (strongly agree).

Relational Mentoring Index (RMI)

1. My mentee (mentor) is helping me learn and grow as a person.
2. My mentee (mentor) helps me learn about my personal strengths and weaknesses.
3. My mentee (mentor) helps me learn more about myself.
4. This mentoring relationship helps both my mentee (mentor) and I to learn about our personal strengths and weaknesses.
5. My mentee (mentor) has been a source of inspiration for me.
6. My mentee (mentor) gives me a fresh perspective to think "outside the box."
7. I am often inspired by my mentee (mentor).
8. My mentee (mentor) is helping me become the person I aspire to be.
9. My mentee (mentor) sees me not only for who I am, but also for who I aspire to be.
10. My mentee (mentor) always sees the best in me.
11. My mentee (mentor) seems to bring out the best in me.
12. My mentee (mentor) accepts me for who I am.
13. I can be myself with my mentee (mentor).
14. In our relationship, we help each other without expecting repayment.
15. We never keep score of who gives and who gets in our relationship.
16. We give to each other without expecting repayment.
17. My mentee (mentor) and I respect each other.

18. My mentee (mentor) and I value what each person has to say.
19. There is mutual respect and influence in our relationship.
20. Our relationship is founded on mutual trust and commitment.
21. My mentee (mentor) and I trust each other.
22. My mentee (mentor) and I are committed to the relationship.
23. Trust and commitment are central to our relationship.

Relational Mentoring Index Short-Form (RMI-SF)

1. This mentoring relationship helps both my mentee (mentor) and I to learn about personal strengths and weaknesses.
2. I am often inspired by my mentee (mentor).
3. My mentee (mentor) is helping me become the person I aspire to be.
4. In our relationship, we help each other without expecting repayment.
5. There is mutual respect and influence in our relationship.
6. Trust and commitment are central to our relationship.

Vocational support

1. I take a personal interest in my mentee's career.
2. I help my mentee coordinate professional goals.
3. I have devoted special time and consideration to my mentee's career.

Psychosocial support

1. My mentee shares personal problems with me.
2. My mentee exchanges his/her confidences (secrets) with me.
3. My mentee considers me to be a friend.

Role modeling

1. I try to model my behavior after my mentor.
2. I admire my mentor's ability to motivate others.
3. I respect my mentor's ability to teach others.

Mentor Identity

Participants rated on a seven-point scale how descriptive (1=not at all to 7=completely) each of the following four statements is as to how they viewed themselves:

1. I am a mentor.
2. I see myself as a mentor.
3. If I had to describe myself to others I would include the word “mentor.”
4. I prefer being seen by others as a mentor.

Mentoring Self-Efficacy (Mentor Efficacy)

Participants indicated the degree to which they agreed with the following statements using the following scale: from 1 (strongly disagree) to 7 (strongly agree).

1. I can connect the new PhD students with ample career resources.
2. I wonder if I have the necessary skills to be an effective mentor.
3. I can assist new PhD students in observing their professional growth.
4. When interacting with new PhD students, I usually welcome their questions.
5. When new PhD students talk with me, I use good listening skills.
6. I have difficulty managing my time so that I am available to new PhD students.

Leader Identity

Participants rated on a seven-point scale how descriptive (1=not at all to 7=completely) each of the following four statements is as to how they viewed themselves:

1. I am a leader.
2. I see myself as a leader.
3. If I had to describe myself to others I would include the word "leader."
4. I prefer being seen by others as a leader.

Leadership Self-Efficacy

Participants indicated the degree to which they agreed with the following statements using the following scale: from 1 (strongly disagree) to 7 (strongly agree).

In a team work project, I have a high degree of confidence in my ability to:

1. Steer my team in a successful direction.
2. Get my team to develop viable strategies.
3. Inspire others on my team to be motivated to do well.
4. Build my team's sense of spirit and cohesiveness.
5. Get the people on my team to be excited about working together.

Motivation to Lead (Affective; MTL)

Participants indicated the degree to which they agreed with the following statements using the following scale: from 1 (strongly disagree) to 7 (strongly agree).

1. Most of the time, I prefer being a leader rather than a follower when working in a group.
2. I am the type of person who is not interested to lead others.
3. I am definitely not a leader by nature.

4. I am the type of person who likes to be in charge of others.
5. I believe I can contribute more to a group if I am a follower rather than a leader.
6. I usually want to be the leader in the groups that I work in.
7. I am the type who would actively support a leader but prefers not to be appointed as leader.
8. I have a tendency to take charge in most groups or teams that I work in.
9. I am seldom reluctant to be the leader of a group.

Frequency of Contact

Participants responded to the following questions on a 7-point scale from 1 (only once) to 7 (several times a day)

1. How frequently did you initiate interaction with your mentee in the last 2 months?
2. How frequently did your mentee initiate interaction with you in the past 2 months?
3. How frequently did you interact with your mentee (e.g., through email, phone call, face-to-face meeting, etc.) in the past 2 months?
4. How frequently did you socialize with your mentee (e.g., meeting, coffee break, lunch break, etc.) in the past 2 months?

Protégé Negative Mentoring Experience

Participants indicated the degree to which they agreed with each of the following statements regarding their mentoring relationship, using the following scale: from 1 (strongly disagree) to 7 (strongly agree).

1. My mentor seems to have “more important things to do” than to meet with me.

2. My mentor is more concerned about his/her own career than helping me develop in mine.
3. My mentor keeps me “out of the loop” on important issues.
4. My mentor is unwilling to delegate responsibility to me.
5. My mentor has intentionally hindered my professional development.
6. My mentor has deliberately misled me.
7. I have my doubts about my mentor’s job-related skills.
8. My mentor does not know much about the organization.
9. My mentor does not communicate well.
10. My mentor has a bad attitude.
11. My mentor approaches tasks with a negative attitude.
12. My mentor has a pessimistic attitude.

Social Desirability

Participants indicated the degree to which they agreed with the following statements using the following scale: from 1 (strongly disagree) to 7 (strongly agree).

1. I have never intensely disliked anyone.
2. I sometimes feel resentful when I don't get my way.
3. No matter who I'm talking to, I'm always a good listener.
4. There have been occasions when I took advantage of someone.
5. I'm always willing to admit it when I make a mistake.
6. I sometimes try to get even, rather than forgive and forget.
7. There have been occasions when I felt like smashing things.
8. There have been times when I was quite jealous of the good fortune of others.

9. I have never felt that I was punished without cause.
10. I have never deliberately said something that hurt someone's feelings.

Career Satisfaction (Subjective Career Success)

Participants indicated the extent to which they agreed with the following statements using the following scale: from 1 (strongly disagree) to 7 (strongly agree).

1. I am satisfied with the success I have achieved in my career.
2. I am satisfied with the progress I have made toward meeting my overall career goals.
3. I am satisfied with the progress I have made toward meeting my goals for income.
4. I am satisfied with the progress I have made toward meeting my goals for advancement.
5. I am satisfied with the progress.

Career Commitment

Participants indicated the extent to which they agreed with the following statements using the following scale: from 1 (strongly disagree) to 7 (strongly agree).

1. My career field is an important part of who I am.
2. My career field has a great deal of personal meaning to me.
3. I do not feel “emotionally attached” to my career field.
4. I have not identified specific goals for my development during my career.
5. I do not often think about my personal development in my career.
6. Given the problems I encounter in my career field, I sometimes wonder if I get enough out of it.

Career Motivation

The stem is "Why do you put efforts into your current career?" and is accompanied by the scale: 1 = "not at all", 2 = "very little", 3 = "a little", 4 = "moderately", 5 = "strongly", 6 = "very strongly", 7= "completely".

1. Because I personally consider it important to put efforts in my career field.
2. Because I have fun in my career field.
3. Because putting efforts in this career field aligns with my personal values.
4. Because what I do in my career field is exciting.
5. Because putting efforts in this career field has personal significance to me.
6. Because my career field is interesting.

Satisfaction with Mentor

Participants indicated the extent to which they agreed with the following statements using the following scale: from 1 (strongly disagree) to 7 (strongly agree).

1. My mentor is someone I was satisfied with.
2. My mentor failed to meet my needs.
3. My mentor was effective in his/her role.
4. My mentor disappointed me.

Work-Life Balance

Participants rated on a seven-point scale how descriptive (1=not at all to 7=completely) each of the following four statements is as to how they viewed themselves:

1. I am satisfied with my work–life balance, enjoying both roles.

2. I manage to balance the demands of my work and personal/family life well.
3. Nowadays, I seem to enjoy every part of my life equally well.

Appendix C. Mentoring Training Program

The mentors of the PhD Mentoring Program participated in a two-hour workshop on mentoring. In this workshop, I provided participants with basic definitions of mentoring and shared with them examples of activities that they might do (e.g., visiting the library with their protégés) or should not do (acting as a PhD supervisor) in a mentoring relationship. The workshop covered the following topics:

- An overview of the PhD Mentoring Program
- Who is a mentor, and what is mentoring?
- Who is an effective mentor?
- Who is an ineffective mentor?
- What can we do in a mentoring relationship?