Fall 2019

Integrating Coaching and Self-Determination Theory: The Development and Validation of the Managerial Coaching Questionnaire

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2019

Approval of the Dissertation Committee

This dissertation has been duly read, reviewed, and critiqued by the Committee listed below, which hereby approves the manuscript of Hunter T. Black as fulfilling the scope and quality requirements for meriting the degree of Doctor of Philosophy in Psychology.

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Abstract

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Despite increasing practitioner application and decades of research on the topic of managerial coaching, the topic continues to lack conceptual clarity, foundational theory, and sound measures. As a result, there is little understanding of the underlying psychological mechanisms connecting coaching behaviors to employee outcomes. This dissertation develops a new theory-based framework and survey measure of managerial coaching behaviors (the managerial coaching questionnaire; MCQ) grounded in self-determination theory (Deci & Ryan, 1985; Ryan & Deci, 2000). Time-lagged results support the theoretical propositions of the framework with results showing a positive relationship between the MCQ and employee well-being mediated by employee need satisfaction, as well as the MCQ's predictive validity above and beyond established measures of leader behaviors (n = 328). The MCQ survey measure is developed using expert panel review and data collected from full-time working professionals in the United States sourced from Amazon's Mechanical Turk (MTurk) to evaluate structural, construct, and predictive validity. Confirmatory factor analysis reveals good fit with the hypothesized structure, as well as evidence of convergent and discriminant validity using established measures of managerial coaching, transformational leadership, empowering leadership, and social desirability. This study advances managerial coaching research by providing a theory-based framework and measure of managerial coaching behaviors and

establishing need satisfaction as a primary psychological mechanism. In addition, this study contributes to leadership theory by proposing that the creation of social conditions that either facilitate or hinder employees' intrinsic motivation through need satisfaction is a key mechanism of effective leadership and management.

Dedication

I would like to dedicate this manuscript to my wife, Dr. Celina Benavides Black, my daughter Eliana Benavides Black, and my daughter on the way, who I cannot wait to meet.

I would like to thank my family without whom this manuscript would not have been possible. First and foremost, my wife, Dr. Celina Benavides-Black whose love, sacrifice, and dedication will require several lifetimes to return. My grandparents Ann and James Black who instilled in me the value of education. My father-in-law, Richard Benavides, whose kind heart and generosity gave me the health I needed to endure. I would also like to express my gratitude for the love and support of Shannon and John Muller, Erik and Inessa Black, Andrea and Lee Taylor, Hunter and James Taylor, Julie Benavides, Amber and Robert Benavides, and Dr. Robert and Irene Benavides.

I would like to thank my fellow students at Claremont Graduate University for their passion, partnership, and friendship. In particular, I would like to express my gratitude to Dr. Gia DeMichele for our weekly calls that provided the support and accountability that helped me complete this manuscript. As well as, the continued friendship and years of support provided by Dillon Balthasar, Dr. Eric Middleton, Dr. Dayna Walker, Dr. Andrew Thompson, Dr. Samantha Imada, and Mackenzie Shultz.

Lastly, I would like to acknowledge the years of support and inspiration provided by my friends and colleagues at BetterUp and the Hudson Institute of Coaching. Thank you all for your tireless efforts to bring more clarity, purpose, and passion to organizations around the world. It has been an honor to work with such thoughtful and dedicated professionals.

Acknowledgements

I would like to acknowledge the guidance and thoughtful feedback provided by Dr. Celina Benavides-Black, Dr. Rebecca Reichard, Dr. Jeffrey Yip, and Dr. Michelle Bligh in the development and revisions of this manuscript. I would also like to recognize the significant contributions to the field of psychology made by Dr. Richard Ryan, whose research serves as the primary theoretical foundation and inspiration for this work.

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Chapter I: Introduction and Literature Review

Managerial coaching, or the highly personalized process of managers utilizing feedback, behavioral modeling, and goal setting to facilitate employee motivation and performance (Dahling, Taylor, Chau, & Dwight, 2016), has become a prevalent leadership topic in recent years. Popular business publications proclaim managerial coaching to be a critical skill for leaders and managers (Frankovelgia, 2010; Graham-Leviss, 2011; Grote, 2016; Jacobs, 2015; Valcour, 2014; Weintraub & Hunt, 2015), training programs have emerged that develop managerial coaching skills (e.g., SkillPath, Ken Blanchard Companies, Human Capital Institute, University of California Davis, & Harvard University Extension), and popular business books tout the importance of coaching skills for managers (e.g., Bock, 2015; Welch & Welch, 2005). Additionally, a survey of learning and development professionals found that leadership and management skills are the most important development area for organizations, with coaching as the highest priority of leadership skills (Thompson et al., 2017).

The recent interest in managerial coaching is the result of several converging factors in today's workplace. In recent years, many organizations have been shifting their performance management processes from periodic formal reviews to a process of ongoing feedback and coaching (Schwartz, Collins, Stockton, Wagner, & Walsh, 2017). Increases in high-skill jobs (Autor, 2010) and flatter organizational structures formed around flexible teams rather than hierarchies have led to a greater emphasis on collaborative leadership styles (Arnold, Arad, Rhoades, & Drasgow, 2000; Pearce, 2004), as well as organizational cultures that support continuous learning and innovation (Schwartz et al., 2017). Furthermore, organizations are increasingly competing to attract and retain millennial talent, the generation of individuals born roughly between 1982 and 2000. Millennials are a growing majority of the U.S. workforce (U.S.

Census Bureau, 2015) and place a higher value on learning and development compared to other generations (Adkins & Rigoni, 2016). These trends have made the role of managers as coaches more important than ever before, yet there are still significant gaps in our understanding of managerial coaching in the academic literature (Dahling et al., 2016; Ellinger & Kim, 2014; Hagen, 2012; Liu & Batt, 2010; Smither, London, Flautt, Vargas, & Kucine, 2003).

A particular challenge for advancing managerial coaching research is the lack of theoretical understanding of the mechanisms that connect managerial coaching behaviors to employee motivation and performance (Dahling et al., 2016; Liu & Batt, 2010). The absence of theory has resulted in diverse conceptualizations of managerial coaching (Dahling et al., 2016; Hagen, 2012), as well as measures of managerial coaching with limited validity and reliability (Hagen & Peterson, 2015). Part of this issue has been a dependence on surveys of managerial coaching practices rather than theory to conceptualize managerial coaching (e.g., Arnold, Arad, Rhoades, & Drasgow, 2000; Hamlin, Ellinger, & Beattie, 2006; Stowell, 1988). However, as others have noted, the utilization of inductive methods to develop behavioral frameworks can be problematic due to the resulting lack of unifying conceptualization, confusion of behaviors with outcomes, and imprecise criteria for inclusion (van Knippenberg & Sitkin, 2013). As a result, researchers have more recently questioned the validity of such frameworks and called for the grounding of behavioral measures in established psychological theory (Behrendt, Matz, & Göritz, 2017), and for a clearer articulation of causal psychological mechanisms (Antonakis, 2017; Dinh et al., 2014).

This dissertation begins to answer these calls by developing the first theory-based framework and validated measure of managerial coaching behaviors grounded in self-determination theory (SDT). SDT is an extensively studied and refined theory of human

motivation (Deci & Ryan, 2017; Gagné & Deci, 2005) that proposes the satisfaction of one's psychological needs facilitates intrinsic motivation, and in turn, well-being. To date, our understanding of the theoretical linkages between leader behaviors and employee well-being has been underdeveloped, and researchers have called for additional research to better understand this relationship (Inceoglu, Thomas, Chub, Plans, & Gerbasi, 2018). This paper draws upon the theoretical propositions of SDT to propose that coaching processes create social conditions that help satisfy the three needs of autonomy, relatedness, and competence by supporting personal agency, relational quality, and individualized development. In turn, need satisfaction enables intrinsic motivation, which facilitates well-being and the inherent propensity for personal growth (Deci & Ryan, 1985; Ryan & Deci, 2000). Thus, SDT can provide an important theoretical explanation for the relationship between managerial coaching behaviors and employee well-being.

In this dissertation, I integrate managerial coaching research and SDT to propose a new theory-based framework of managerial coaching behaviors and corresponding psychological processes. Subsequently, I develop a new measure of these managerial behaviors and examine evidence of validity through three studies that include a pilot study, exploratory factor analysis, confirmatory factor analysis, and an assessment of convergent, discriminant, incremental, and predictive validity. I begin this discussion with an overview of prior managerial coaching research and theoretical development. I then discuss SDT in relation to managerial coaching practices and employee outcomes. Next, I develop a framework of managerial coaching behaviors that are (1) established within existing managerial coaching literature and (2) aligned with the propositions of SDT. This section is followed by three studies that develop a new measure of these managerial coaching practices and assess the theoretical propositions that

underlie the behavioral framework. Specifically, the identified behaviors relationship with employee need satisfaction is examined, as well as their relationship with need satisfaction above and beyond measures of transformational leadership and empowering leadership. Furthermore, I examine the relationship between managerial coaching behaviors and employee well-being with need satisfaction examined as a mediator of this relationship. Lastly, I provide a discussion of the implications of managerial coaching and leadership research, theory, and practice in the workplace.

The Field of Coaching

To better understand the state of managerial coaching research, it is important to consider the field of coaching more broadly. As coaching has become very popular in organizational practice, researchers have consistently cited the need for additional research (De Meuse, Dai, & Lee, 2009; Gray, 2011; Jones, Woods, & Guillaume, 2015; Passmore & Fillery-Travis, 2011; Sonesh, Coultas, Lacerenza, Marlow, Benishek, & Salas, 2015; Theeboom, Beersma, & Vianen, 2013). However, a particular challenge for coaching research is the lack of standardized practices (Bono, Purvanova, Towler, & Peterson, 2009; Hagen, 2012), or even an agreed-upon definition of coaching (Hamlin, Ellinger, Beattie, 2008; Kilburg, 1996). This lack of clarity is due in part to the many ways coaching is utilized. In the workplace, coaching is applied to managers coaching their subordinates individually (e.g., Dahling et al., 2016), managers coaching their entire team (e.g., Hackman & Wageman, 2005), internal and external coaches coaching executives and leaders (e.g., Ely, Boyce, Nelson, Zaccaro, Hernez-Broome, & Whyman, 2010), and peers coaching one another (e.g., Parker, Hall, & Kram, 2008).

Despite this variability in coaching practice, there are consistencies across different conceptualizations of coaching. Specifically, some have proposed that coaching is differentiated

from other helping relationships, such as leadership, management, teaching, consulting, training, and mentoring, in that a coach is not presumed to be an expert in a particular business area (Liu & Blatt, 2010), nor are coaches expected to provide specific advice or recommendations (Miller & Hart, 2001). From this perspective, coaches are facilitators that guide the coachee through listening, questioning techniques, providing feedback, goal-setting, giving support, cultivating trust, empowering, and collaborating (Ellinger, Ellinger, & Keller, 2003; Hamlin et al., 2006; Ting & Hart, 2004). A key differentiator contrasting coaching from other dyadic helping relationships, as well as more directive forms of leadership and management, is the distinction between asking questions to support exploration and autonomy versus telling others what to do (Evered & Selman, 1989; Pousa & Mathieu, 2010). As a result, this paper defines coaching as the facilitation of goal-directed personal growth through the utilization of autonomy supportive practices. This definition is inclusive of the many techniques and contexts in which coaching is applied and differentiates coaching from other dyadic helping relationships.

Managerial vs. Professional Coaching

In the field of organizational behavior, the term *coach* is most often applied to either managerial coaching or one-on-one professional coaching. The two practices are similar in approach but have important distinctions. One-on-one professional coaching is a terminal series of scheduled coaching interactions between an individual and a professional coach who is internal or external to the organization. In comparison, managerial coaching is the informal coaching of a direct report by their manager or leader. In both professional and managerial coaching, the objective for the coach is to facilitate the motivation, development, and goal attainment of the coachee. Both approaches emphasize the role of the coach in creating an environment that supports development but also challenges the coachee to reach new levels of

performance (Hamlin et al., 2006; Ting & Hart, 2004). However, managerial coaching is intended to help employees develop their skills and improve job performance through increased motivation (Hamlin et al., 2006; Orth, Wilkinson, & Benfari, 1987), whereas common developmental targets of professional coaching are improved self-knowledge, behavior change, and career development (Day, 2000).

This review focuses on managerial coaching rather than professional coaching due to the availability of existing research on managerial coaching behaviors. Although recent meta-analyses have found that professional coaching has a positive effect on employee outcomes, they also note the lack of agreed-upon standard coaching practices (Jones et al., 2015; Sonesh et al., 2015; Theeboom et al., 2013). In contrast, although there is no agreed-upon framework, managerial coaching research has produced several comprehensive surveys of coaching behaviors (e.g., Ellinger et al., 2003; Ellinger & Bostrom, 1999; Hamlin et al., 2006). Thus, this review develops a theory-based framework of managerial coaching rather than professional coaching behaviors due to the more advanced state of the literature. However, all forms of coaching have the potential to support personal development through autonomy support and the cultivation of intrinsic motivation. As such, the theoretical propositions between managerial coaching and SDT in this review could be applied to other forms of coaching as well.

Managerial Coaching

Managerial coaching is considered to be a category of empowering leader behaviors (Arnold, Arad, Rhoades, & Drasgow, 2000; Konczak, Stelly, & Trusty, 2000), and has been broadly defined as managerial behaviors that help employees learn by providing guidance, encouragement, and support (Ellinger et al., 2003). The goal of managerial coaching is to facilitate the motivation and development of employees and teams (Cannon & Edmondson,

2001; Hamlin et al., 2006; Orth, Wilkinson, & Benfari, 1987). Unlike professional coaches, managerial coaching behaviors may also influence the manager's team and the broader organization through the creation of organizational norms, modeling, and emotional contagion (Visser, van Knippenberg, van Kleef, & Wisse, 2013; Wood & Bandura, 1989). This section will review managerial coaching theoretical development and research to date.

Theory and Conceptualizations of Managerial Coaching

Researchers' understanding of managerial coaching is still evolving, and there is no commonly agreed upon theory or model (Hagen, 2012; Kim, Egan, Kim, & Kim, 2013). Interest in developing a clearer conceptualization of managerial coaching emerged in the late 1980s and early 1990s as management literature began to tout the importance of coaching skills for managers (e.g., Aurelio & Kennedy, 1991; Bell, 1987; Gerber, 1992; Keeys, 1994; Kiechel, 1991). During this period and continuing to today, the term managerial coaching has been used in two different ways. Managerial coaching is described as either as a new motivational approach to management to "enable and empower" rather than control employees (Evered & Selman, 1989, p. 16; Stowell, 1988), or as a general term for managerial techniques that facilitate learning in followers (Orth, Wilkonson, & Benfari, 1987; Popper & Lipshitz, 1992). Over time, this theoretical distinction has become muddied, and the two meanings are often applied simultaneously (e.g., Ellinger, Beattie, Hamlin, Wang, & Trolan, 2006).

An early perspective of managerial coaching as a method to facilitate learning came from Orth et al. (1987) who saw coaching as a core skill required of effective managers to help employees reach their full performance potential. Like later conceptualizations, the authors proposed that coaching required managers to ask questions, listen actively, and provide feedback. Central to coaching, according to the authors, was the ability of managers to create a

supportive rather than evaluative climate (Orth et al., 1987). Evered and Selman (1989) also viewed coaching as being core to effective management. However, they presented coaching as a new paradigm for management utilizing empowerment rather than traditional control-based methods. Both groups of researchers emphasized the importance of developing a trusting relationship and a positive developmental climate to support employees in performing at their highest level (Evered & Selman, 1989). However, unlike Orth et al., Evered and Selman (1989) distinguished between the source of motivation in contrasting coaching and traditional management. Specifically, they suggested that traditional management requires managers to get employees to buy-into their perspective, but in a coaching paradigm the employee brings a commitment to the task and the manager's role is to partner with them to maximize performance (Evered & Selman, 1989).

Out of these early theoretical propositions emerged a line of research that aimed to identify the core skills and behaviors of managerial coaches. One such early investigation was conducted by Stowell (1988), who interviewed 26 leaders to identify 47 coaching behaviors. Stowell (1988) concluded that support is the most important aspect of coaching, as expressed through the behaviors of collaborative problem-solving, providing training and resources, empathy, acknowledging employee contributions, and interactions allowing the employee to express their feelings. Following Stowell (1988), Graham, Wedman, and Garvin-Kester (1994) examined the coaching behaviors of sales managers. Graham et al. (1994) also contrasted managerial coaching's utilization of empowerment and participation in comparison to traditional control-based management methods. However, Graham et al. (1994) utilized coaching behaviors developed in an earlier study conducted by Schelling (1991) that conceptualized coaching as supporting learning, rather than as an empowering management approach. As a result, the

behavioral framework includes directive strategies, such as communicating clear performance expectations, appraising performance, and offering suggestions.

Following these early explorations, a significant proportion of published research cataloging managerial coaching behaviors emerged from the field of human resource development. The majority of this research has been produced by Ellinger and colleagues who have defined managerial coaching as the facilitation of learning (Ellinger et al., 2006: Ellinger & Bostrom, 1999; Hamlin et al., 2006). Similar to prior research, their objective was to identify managerial coaching behaviors using surveys and interviews of employees and managers (e.g., Ellinger & Bostrom, 1999; Ellinger et al., 2003; Ellinger et al., 2008; Ellinger, Watkins, & Bostrom, 1999). The most comprehensive of these studies is a cross-cultural comparison of three exploratory qualitative studies that utilized critical incident techniques and semi-structured interviews to survey managerial coaching behaviors (Hamlin et al., 2006). In this study, the authors aggregated the findings of three large-scale surveys to identify common behavioral themes. These themes included being a resource, sharing information, effective planning, providing feedback, encouraging reflection, providing support, asking questions, role modeling, creating a positive learning environment, advising, holding back, and empowering, among others (Hamlin et al., 2006). Other existing frameworks of managerial coaching behaviors were also developed based on exploratory qualitative studies and identified similar coaching behaviors as those proposed by Hamlin et al. (2006; Ellinger et al., 2006; Hagen, 2012).

The reliance on exploratory research within the managerial coaching literature has several limitations. In particular, the development of theory and frameworks based upon interview and survey data can be problematic due to cognitive biases in self-report data and the potential to confuse leader behaviors for perceptions of leader behaviors (Behrendt, Matz, &

Göritz, 2017; van Knippenberg & Sitkin, 2013). This process of model development has resulted in managerial coaching frameworks derived from perceptions of effective coaching rather than from an understanding of underlying theoretical mechanisms that make coaching effective (see Table 1). In addition, managerial coaching studies have relied upon coaching behaviors identified by past qualitative studies rather than theory or research evidence as the reasoning for selecting hypotheses, conceptualizations, and operationalizations of managerial coaching (e.g., Dahling et al., 2016; Hamlin et al., 2006; Heslin, Vandewalle, & Latham, 2006; McLean et al., 2005). This dependence on exploratory findings has resulted in a limited understanding of what coaching is, its relationship to other variables, and what differentiates effective from ineffective managerial coaching behaviors (Dahling et al., 2016; Liu & Batt, 2010).

An additional conceptual challenge is that researchers have defined managerial coaching as both (1) an empowering management philosophy and (2) as any management practice that facilitates employee learning. Without acknowledging coaching's unique autonomy supportive approach, there is little to distinguish coaching from other interpersonal processes that intend to facilitate learning such as teaching, training, advising, mentoring, and consulting. As a result, defining managerial coaching only as management practices that facilitate learning (e.g., Ellinger et al., 2006), appears to have contributed to a lack of clarity on the boundaries of what constitutes coaching behaviors. Past studies have reflected this ambiguity in the diversity and breadth of behaviors and skills included in coaching conceptualizations. These include diverse practices such as directive management techniques, empowering management techniques, relationship building, crafting a positive learning environment, communication methods, and even attitudes and beliefs (Ellinger et al., 2006; Hamlin et al., 2006; McLean et al., 2005).

Managerial Coaching Outcomes and Antecedents

Although managerial coaching lacks conceptual clarity and focuses on employee development, recent studies have found a relationship between managerial coaching and employee performance. For example, Dahling et al. (2016) found that a manager's coaching skill predicted their direct reports' sales performance. The authors also found an interaction effect between coaching skill and frequency. There were no differences in employee sales performance at higher levels of coaching frequency for high skill managers, but a decrease in sales performance for individuals with managers of low managerial coaching skill who provided frequent coaching (Dahling et al., 2016). This finding suggests that managerial coaching effectiveness may be the result of the quality of coaching rather than the quantity. Similarly, Pousa and Mathieu (2015) discovered that managerial coaching skill was related to employee self-efficacy and job performance. However, Liu and Batt (2010) found that the quantity of managerial coaching time received by call center employees had a negative relationship with the time required to handle a call, suggesting an increase in employee performance.

Earlier studies also explored the relationship between managerial coaching and job performance, as rated by the employee or their supervisor. For example, Agarwal, Angst, and Magni (2009) found that employee rated managerial coaching intensity predicted self-reported employee sales performance, and Ellinger, Ellinger, and Keller (2003) discovered that ratings of managerial coaching were related to both employee job satisfaction and supervisor-rated employee job performance. Research further suggests that managers may also benefit from coaching others by gaining increased trust in subordinates, role-efficacy, and even stress reduction (Boyatzis, Smith, & Blaize, 2006; Ladegard & Gjerde, 2014). In sum, these studies suggest that job performance improves when managers coach employees.

Prior research has also explored the antecedents of a manager's propensity to engage in managerial coaching. Heslin, Vandewalle, and Latham (2006) noted that leaders who ascribe to an incremental theory of ability, that is they believe abilities are developable, are more likely to coach their subordinates than leaders with a fixed or entity theory of abilities. The researchers discovered that inducing an incremental theory of ability in managers increased their willingness to coach an underperforming employee (Heslin et al., 2006). Pousa and Mathieu (2010) have also proposed that a manager's willingness to engage in coaching may be dependent on their relative interest in short-term goals over long-term objectives. In other words, managers interested in short-term goals may be less likely to provide coaching compared to managers who value long-term outcomes, like developing others. In a study examining what triggers managers to engage in coaching, Ellinger (2003) discovered that managers reported providing coaching primarily in three conditions, 1) when they identified a gap in employee knowledge or ability, 2) when the manager identified a gap in their instructions to their employees, 3) and when an employee actively asked for the manager's input or expertise. Culture may also be an important antecedent to managerial coaching. Noer, Leupold, and Valle (2007) found significant differences between Saudi Arabian and American managers in their self-reported coaching behaviors. These findings indicate that many different factors influence whether a manager engages in coaching, including their attitudes and beliefs, contextual triggers, and culture. However, a challenge in generalizing across managerial coaching studies is that researchers have conceptualized and operationalized coaching in many different ways.

Key Theoretical Developments in Managerial Coaching

More recent research has gone beyond outcomes and antecedents to explore the theoretical explanations for the relationship between managerial coaching practices and positive

outcomes. In particular, several scholars have proposed feedback as a key mechanism of effective managerial coaching. For example, Dahling et al. (2016) tested team-level role clarity as a mediator between managerial coaching and improved job performance based on feedback intervention and goal setting theories. The authors predicted that managers who provided task-focused feedback would improve subordinate performance by drawing their attention to discrepancies between goals and performance and providing clarity around task importance and completion strategies. Although they discovered a statistically significant partial mediation by team-level role clarity, it only accounted for 2% of the variance in performance.

Similarly, Lin et al. (2016) proposed that managerial coaching feedback would increase future work self-salience, and in turn, boost performance by helping employees identify valued developmental goals. Their results showed that the relationship between self-salience and engagement was stronger for employees who received high levels of managerial coaching, as was the relationship between self-salience and sales performance. However, managerial coaching did not significantly moderate the relationship between employee engagement and job performance. The authors concluded that feedback from managerial coaching likely helps direct motivational resources, which translate to increased engagement (Lin et al., 2016).

Others have proposed relational quality to be a central mechanism of effective managerial coaching (Graham et al., 1993; Gregory & Levy, 2010; Gregory & Levy, 2011; Orth et al., 1987). Although research has yet to examine relational quality as a moderator of managerial coaching effectiveness, the topic has received some attention. Based on the previous exploratory literature, Gregory and Levy (2010) developed a direct report measure of managerial coaching relational quality focused around four dimensions. These dimensions included genuineness, effective communication, comfort with the relationship, and facilitating development (Gregory &

Levy, 2010). A subsequent study suggested variables such as individual consideration, perceived empathy, feedback environment, regular interaction, and trust play a role in the perceptions of managerial coaching relational quality (Gregory & Levy, 2011). Also, Ladegard and Gjerde (2014) found that managers who provide managerial coaching experienced higher levels of trust in subordinates, which in turn related to lower levels of subordinates' turnover intentions. In contrast, Gao, Janssen, and Shi (2011) found that managerial coaching moderated the relationship between leader trust and employee voice, suggesting that coaching may moderate relational quality and employee outcomes as opposed to relational quality moderating the relationship between coaching and employee outcomes.

Despite decades of research and writing on the topic of managerial coaching, researchers acknowledge that we are still in the early stages, and more research is needed. Understanding the theoretical mechanisms of managerial coaching is an important next step in advancing research on the topic. In particular, theory can help provide clear criteria for what behaviors constitute managerial coaching, differentiate effective from ineffective coaching behaviors, and allow for theoretical predictions about the nomological network of managerial coaching and its relationship to antecedents and outcomes.

Self-Determination Theory

Researchers have identified the need to develop models of leader behaviors grounded in sound psychological theory (Behrendt et al., 2017), and for greater exploration of the processes of effective leadership (Antonakis, 2017; Dinah, Lord, Gardner, Meuser, Liden, & Hu, 2014). Self-Determination Theory (SDT) provides a well-researched theoretical foundation for the identification of managerial coaching behaviors and mechanisms. In particular, there is unique alignment between coaching practices and the creation of social conditions that satisfy the three

universal psychological needs identified by SDT's basic psychological needs theory of autonomy, competence, and relatedness (Ryan & Deci, 2017). The fulfillment of these psychological needs and the resulting facilitation of intrinsic motivation provides a probable explanation for the relationship between managerial coaching and positive employee outcomes. The following section describes SDT and its related theoretical propositions, followed by a discussion of SDT in relation to managerial coaching research.

Self-Determination Macro-Theory

SDT is an organismic macro-theory of human motivation that proposes people are intrinsically motivated to explore, build social connections, and develop mastery starting in infancy (Ryan & Deci, 2000). Furthermore, the theory posits that there is a continuum of motivational quality from intrinsically and extrinsically motivated that result in different behavioral outcomes. Intrinsically motivated actions are autonomous and undertaken for the enjoyment of the activity itself. Intrinsic motivation has been associated with positive outcomes, including performance, persistence, creativity, vitality, self-esteem, and well-being (Baard, Deci, & Ryan, 2004; Ryan & Deci, 2000).

In contrast, extrinsically motivated action is undertaken to achieve some other outcome or avoid a negative outcome. Extrinsically motivated action can vary regarding being autonomous or controlled, depending on the extent to which it is "internalized" or aligned with one's values or interests (Gagne´ & Deci, 2005). For example, pursuing a work goal may be extrinsically motivated and controlled if failure to reach the goal will result in termination from one's job, or it can be extrinsically motivated and autonomous if the work goal will result in a personally valued outcome such as a promotion. In addition to the distinction between intrinsic

and extrinsic motivation, the role of psychological needs must be considered to understand the relationship between managerial coaching and intrinsic motivation.

Basic Psychological Needs Theory

SDT's basic psychological needs mini-theory proposes that the extent to which our social environment satisfies or limits our basic psychological needs of autonomy, relatedness, and competence influences our ability to thrive and grow. The need for autonomy is defined as "the need to self-regulate one's experiences and actions" (Ryan & Deci, 2017, p. 10). The need for relatedness pertains to feeling a sense of belonging, connection, and support from others (Ryan & Deci, 2017). Lastly, competence is the need for a sense of efficacy and mastery (Ryan & Deci, 2017). Need-thwarting environments resulting in the psychological perception of being controlled, rejected, or incompetent undermines one's motivation and can result in aggressive, antisocial, and self-focused behavior with corresponding decreases in well-being and personal growth (Deci & Ryan, 2000; Ryan & Deci, 2017).

Conversely, social environments that support the basic needs of autonomy, relatedness, and competence enable optimal functioning and well-being. Researchers have found support for the proposition that need satisfaction is associated with well-being (Reis, Sheldon, Gable, Roscoe, & Ryan, 2000; Sheldon & Niemiec, 2006), and research suggests this relationship holds across cultures (Church et al., 2013; Deci et al., 2001). Interestingly, Sheldon and Niemiec (2006) discovered that the balance of satisfaction across the three needs uniquely predicts well-being above and beyond the satisfaction of any of the individual needs. This finding suggests that the satisfaction of all three needs is more important to well-being than the satisfaction of any individual need.

Research has also shown that needs satisfaction at work is related to positive outcomes. For example, in a meta-analysis of 99 studies, Van den Broeck, Ferris, Chang, and Rosen (2016) found that all three psychological needs proposed by SDT be positively related to multiple positive workplace outcomes, including perceptions of organizational support, organizational justice, person-environment fit, well-being, job satisfaction, engagement, positive affect, organizational citizenship behaviors, and work performance. Furthermore, this study revealed negative relationships between needs satisfaction and role stressors, negative affect, work-family conflict, and job insecurity (Van den Broeck et al., 2016). A study of U.S. factory workers found self-reported needs satisfaction to be related to job satisfaction, self-esteem, and mental health, providing additional support for needs satisfaction's relationship with positive organizational outcomes (Ilardi, Leone, Kasser, & Ryan, 1993). Similarly, a cross-cultural study found that the needs satisfaction of workers in the U.S. and Bulgaria significantly predicted task engagement and well-being (Deci et al., 2001).

Need satisfaction also serves as a mediator between organizational factors and positive outcomes. For example, one study found that needs satisfaction partially mediated the relationship between person-environment fit and organizational outcomes (Greguras & Diefendorff, 2009). Another study discovered that needs satisfaction fully mediated the relationship between job resources and exhaustion, and partially mediated the relationship between job demands and exhaustion, as well as job resources and vigor (Van den Broeck, Vansteenkiste, De Witte, & Lens, 2008). Taken together, this body of research strongly suggests that the cultivation of social conditions that facilitate employee need satisfaction in organizations is an important mechanism for enabling positive employee outcomes.

Management Practices and Needs Satisfaction

Additional research has also examined the relationship between SDT and general management practices. Research suggests that managers have a significant impact on employee need satisfaction at work, and that need satisfaction is a key mechanism that links managerial practices to positive outcomes. Prominent leadership theories including servant leadership (Chiniara & Bentein, 2016), transformational leadership (Breevaart, Bakker, Demerouti, Sleebos, & Maduro, 2014), and leader-member exchange (LMX; Graves & Luciano, 2013) are associated with employee need satisfaction. These studies also found need satisfaction to be a key mechanism of effective leadership in mediating the relationship between leader behaviors and task performance, organizational citizenship behaviors, autonomous motivation, and work engagement (Breevaart et al., 2014, Chiniara & Bentein, 2016; Graves & Luciano, 2013).

Furthermore, Van den Broeck, Ferris, Chang, and Rosen (2016) discovered that satisfaction of each of the three needs was associated with factors that influenced by one's manager, including job autonomy, social support, feedback, workload, and job demands. In summary, there is strong evidence that managers and leaders have a significant impact on the extent to which the work environment fulfills employee needs and that leadership practices that enable employee need satisfaction to support positive employee outcomes. As a result, these findings indicate that a manager's ability to satisfy employee needs is a primary mechanism of effective leadership.

Motivation and Managerial Coaching

The motivational mechanisms proposed by SDT of autonomous motivation and internalization are central to linking managerial coaching practices and positive employee outcomes. The following section discusses these two processes and their importance for the relationship between managerial coaching and employee motivation.

Autonomous Motivation. Central to SDT's conceptualization of autonomous motivation is de Charms' (1968) notion of perceived locus of causality (PLOC). When we perceive ourselves to be the originator of action, that action can be said to have an internal perceived locus of causality (I-PLOC). In contrast, actions that have an external perceived locus of causality are perceived as resulting from external conditions or pressures (E-PLOC; de Charms, 1968). SDT proposes that perceptions of autonomy, that is actions that have an I-PLOC, increase intrinsic motivation, which supports greater levels of persistence, performance, and well-being (Ryan & Deci, 2017).

In contrast, when behavior is perceived to be externally controlled, autonomy and competence are diminished, which in turn undermines intrinsic motivation (Deci, Olafsen, & Ryan, 2017; Deci & Ryan, 1980). This proposition has been supported by many studies that have found external contingent rewards to undermine intrinsic motivation and negatively impact performance (see Deci, Koestner, & Ryan, 1999). Furthermore, employees whose managers are more controlling have been found to report lower levels of job satisfaction and place a greater value on extrinsic factors at work when compared to employees whose managers were autonomy-supportive (Deci, Connell, & Ryan, 1989).

The enablement of autonomous motivation and employees' I-PLOC is aligned with coaching approach to management and leadership. As previously noted, some researchers have proposed that what differentiates coaching is the utilization of facilitation strategies that encourage autonomy rather than providing advice and direction that may inhibit employees' sense of autonomy (Pousa & Mathieu, 2010). By using facilitation strategies instead of directive management techniques, managerial coaches are more likely to facilitate an I-PLOC, intrinsic motivation, and as a result, well-being and performance.

Internalization. In addition to facilitating an I-PLOC, another motivational process proposed by SDT that sheds light on the motivational mechanisms of managerial coaching is internalization. SDT proposes that extrinsic motivations are internalized depending upon the extent to which they are perceived as autonomous. Motivational factors are endorsed as if they are intrinsically motivated if fully internalized, and have the same corresponding positive benefits to behavior, well-being, and performance (Ryan & Deci, 2017). For example, if an employee is directed by their manager to complete a task, it is unlikely to be internalized. However, if that manager takes a coaching approach and asks the employee questions to facilitate the employee's awareness that the task needs completing, the employee will be more likely to internalize the action because they will have chosen the task autonomously.

Furthermore, internalized behavioral regulations are more likely to be maintained and transferred to new situations and contexts (Ryan & Deci, 2008). Thus, managers who support internalization through coaching are more likely to facilitate sustainable development and behavior change, and the resulting change is more likely to persist in the absence of oversight or external managerial control. Previous research has also found empowering leadership styles such as coaching to be associated with increased proactive employee behaviors compared to directive leadership styles (Martin, Liao, & Campbell, 2013). This finding further supports the contention that managers who are autonomy supportive encourage internalization, and in turn employee motivation and proactivity.

A New Framework for Managerial Coaching Grounded in SDT

Grounding managerial coaching behaviors in the motivational propositions of SDT has several purposes, including (a) helping to differentiate coaching from other management philosophies by emphasizing its unique autonomy supportive approach, (b) providing a

theoretical foundation for developing a unified framework of managerial coaching practices, and (c) identifying clear mechanisms that explain the relationship between coaching behaviors and positive employee outcomes. The identification of specific coaching practices that support employee need satisfaction is an important step in developing an SDT-based behavioral framework of managerial coaching behaviors. In the following section, I will propose such a framework by connecting established managerial coaching practices to SDT's propositions related to the satisfaction of each psychological need.

Although there is limited coaching theory, previous research has produced comprehensive surveys of managerial coaching practices as reported by leaders and employees. However, the most theoretically relevant coaching behaviors can be identified by comparing established behaviors against SDT's theoretical propositions. To be considered for inclusion in the framework a behavior must be identified in prior research as a managerial coaching behavior, and have a clear theoretical relationship with the satisfaction of one of the three basic psychological needs of autonomy, competence, or relatedness. The proposed framework is organized into four levels to explicate the theoretical linkages from SDT to specific coaching behaviors. These four levels include: (1) the psychological need, (2) the theoretical mechanisms that support that need, (3) the managerial coaching skill associated with the mechanism, and lastly (4) the specific managerial coaching behaviors that constitute the broader coaching skill. Table 2 provides a complete visualization of the framework.

---------- INSERT TABLE 2 ABOUT HERE ----------

Autonomy

Ryan and Deci (2017) define autonomy as "the need to self-regulate one's experiences and actions" (p. 10). A manager's ability to support autonomy is considered integral to employee

need satisfaction. Particularly because autonomy support does not just benefit autonomy needs, but also helps to satisfy the needs of competence and relatedness as well (Baard, Deci, & Ryan, 2004). The two proposed theoretical mechanisms connecting managerial coaching and employees' autonomy need satisfaction are (1) understanding the employees' internal frame of reference through *perspective taking* and (2) encouraging an I-PLOC by *granting control* to employees over how to complete their work when possible (Deci, Connell, & Ryan, 1989).

Understanding the internal frame of reference. Crucial to supporting autonomy is understanding a person's perspective without judgment to ensure that they feel understood (Deci, Connell, & Ryan, 1989; Deci & Ryan, 1985; Ryan & Deci, 2008). This process is referred to as understanding their internal frame of reference (IFR), or their "needs, feelings, and attitudes with respect to the issue or situation at hand" (p. 581, Deci, Connell, & Ryan, 1989). When a manager takes the time to understand an employee's IFR, they increase perceived autonomy by expressing personal consideration, which in turn encourages internally originated actions (Ryan & Deci, 2017). In contrast, if a manager acts without soliciting or understanding employees' perspectives, they are likely to perceive that their interests are not respected and that they have little control over their work environment, thus thwarting employees' need for autonomy.

Perspective taking. The managerial coaching skill required for successfully understanding employees' IFR is perspective taking. Successful perspective taking requires information sharing from the employee, and openness to employee communication on the part of the manager. Established managerial coaching behaviors that allow for open communication include *soliciting employee feedback and input, asking follow-up and clarifying questions, and acknowledging the employee perspective* (Hamlin et al., 2006).

Both soliciting employee feedback and asking follow-up questions provide an opportunity for the employee to express their ideas and shows the employee that the manager cares about their IFR. Soliciting feedback and input entails asking employees to provide their thoughts on proposed work projects, strategies, and processes. In addition, the utilization of coaching behaviors associated with active listening, such as asking clarifying questions and acknowledging the employee perspective, can further help managers solicit the employee perspective and ensure that they understand correctly. Acknowledging the employee perspective by repeating back to the employee the manager's interpretation of their thoughts confirms to the employee that the manager is listening and provides the employee with the opportunity to correct their interpretation to ensure understanding.

I-PLOC. The second theoretical mechanism that supports autonomy is encouraging an internal perceived locus of causality (I-PLOC). As described earlier, an I-PLOC is the perception that one's actions emanate from and are fully endorsed by one's self which is fundamental to perceived autonomy and intrinsic motivation (Ryan & Deci, 2017). Managers can undermine an employee's I-PLOC by exerting control and instruction without consideration for the interests or endorsement of the employee. In contrast, managers can support perceived autonomy by empowering and encouraging employees to exercise their will and judgment in their work.

Granting control. Managerial coaches can help support an I-PLOC by granting employees control over how to complete their work tasks (Zuckerman, Porac, Lathin, Smith, & Deci, 1978). Granting control does not require complete noninterference on the part of the manager, but rather allowing the employee to act autonomously when they are capable of doing so. Drawing on established managerial coaching behaviors, this includes ensuring employees can make informed decisions by *providing information and context*, *allowing choice* for employees

to determine the best way to complete their work (Hamlin et al., 2006), and *using questions to support problem solving* (Evered & Selman, 1989; Hamlin et al., 2006; Pousa & Mathieu, 2010).

These three coaching practices support autonomy by providing employees with the information necessary to determine what action is appropriate, the ability to identify next steps, and the managerial support to follow through on that action. By providing information and asking questions to support problem-solving the manager enables the employee to exercise their judgment so they can act autonomously. If a manager withholds information or provides immediate answers to problems, they are limiting employees' ability to do their job effectively without having to depend upon their manager's direction. For example, if a manager provides answers or suggestions without first encouraging the employee to think through the problem themselves, the employee may become dependent on the manager's input when they encounter similar situations in the future.

Managers can also give control to employees by allowing them to make choices over how to complete their work. Giving others choice has been shown to support an I-PLOC and intrinsic motivation (Patall, Cooper, & Robinson, 2008; Reeve, Nix, & Hamm, 2003), and this type of empowering leadership style is considered central to managerial coaching practice (Ellinger et al., 2003; Evered & Selman, 1989). Collectively, these three coaching behaviors allow employees' to autonomously engage in their work environment and experience a sense of control that will help satisfy all three needs proposed by SDT. As previously mentioned, research suggests that the satisfaction of autonomy support provides a foundation for the satisfaction of the other two needs as well (Baard et al., 2004).

Competence

Competence is the psychological need to feel "effectance and mastery" (Ryan & Deci, 2017, p. 11). Ryan and Deci (2017) posit that contexts where an individual can utilize their abilities and experience growth and development foster intrinsic motivation and perceived competence. As researchers have proposed, learning and development is a primary function of managerial coaching practices (Ellinger & Bostrom, 1999; Hamlin et al., 2006). The two proposed theoretical mechanisms connecting managerial coaching and employees' competence need satisfaction are (1) increasing awareness by *giving feedback*, and (2) creating conditions for optimal challenge through *personalized development* (Ryan & Deci, 2017).

Awareness. Through the lens of SDT, awareness serves as a foundation for engaging with both our inner-selves and the world around us. For this reason, awareness is essential for effective self-regulation, need satisfaction, and wellbeing (Deci, Ryan, Schultz, & Niemiec, 2015; Ryan & Deci, 2017; Ryan, Huta, & Deci, 2008). In a therapeutic environment, Ryan and Deci (2017) propose that providing expert perspective to a client for the purposes of increasing their awareness can support competence by helping them to "identify misconceptions about his or her situation or behaviors and to understand available options in an accessible, open-minded manner" (p. 452). In a coaching context, managers can serve a similar function in supporting employee development by using feedback to help employees cultivate an awareness of themselves and the work context. Feedback can help employees identify strengths, opportunities, and potential barriers which can facilitate learning and competence.

Feedback. Feedback is consistently identified as a fundamental managerial coaching behavior used to increase employee awareness (Dahling et al., 2016; Hamlin et al., 2006; Heslin et al., 2006). Although referenced as a singular behavior in the managerial coaching literature, there are three specific forms of feedback that are likely to increase employees' perceived

competence. These feedback behaviors include *positive feedback*, *informational feedback*, and *reflective dialogue*.

Both positive and informational feedback require a manager to share their observations with the employee. Positive feedback recognizes positive employee behaviors, while informational feedback is more objective and intended to provide information to help guide decision making or adjust behavior. As meta-analytic results have discovered, positive feedback supports intrinsic motivation in the form of interest and free-choice behavior (Deci, Koestner, & Ryan, 1999), while informational feedback is particularly valuable for learning complex tasks that lack inherent feedback such as many work activities (Ryan & Deci, 2017). Furthermore, informational feedback has been found to support learning and behavior change (Becker, 1978; Earley, Northcraft, Lee, & Lituchy, 1990; Locke, Shaw, Saari, & Latham, 1981), and is believed to be integral for the development of expertise (Ericsson, Krampe, & Tesch-Römer, 1993). However, if perceived as controlling, both positive and informational feedback can negatively impact intrinsic motivation (Pittman, Davey, Alafat, Wetherill, & Kramer, 1980; Ryan, 1982; Ryan & Deci, 2017). Thus, to effectively support employees' need for competence, feedback must be perceived as informing rather than controlling (Ryan & Deci, 2017).

In contrast to the unidirectional nature of positive and informational feedback, another feedback technique that supports employee awareness is a reflective dialogue (Hamlin et al., 2006; Heslin et al., 2006). Developing awareness of one's self and the environment through reflective questioning techniques has long been considered a central aspect of managerial coaching (e.g., Orth et al., 1987; Whitmore, 1985). This process involves asking questions about the outcomes, processes, or context to encourage insights, self-awareness, and reflection (Hamlin et al., 2006; Kombarakaran, Yang, Baker, & Fernandes, 2008). This type of reflection facilitates

experiential learning, efficacy, and autonomy (Ellis, Mendel, & Nir, 2006; Kolb, 1984; Villado & Arthur, 2013). As such, reflective dialogue can support competence by helping employees to consider their context and strategies, so they can navigate the workplace effectively.

Optimal Challenge. In addition to awareness, the second proposed mechanism of managerial coaching for supporting employees' need for competence is through optimal challenge (Danner & Lonky, 1981; Ryan & Deci, 2017). Providing optimal challenge requires job tasks and assignments that deliver a modest amount of challenge (Dragoni, Tesluk, Russell, & Oh, 2009; Ryan & Deci, 2017). Tasks that are not sufficiently challenging may result in under-arousal and boredom, yet tasks that are perceived as too challenging may result in over-arousal or anxiety (Csikszentmihalyi, 1997). Importantly, people tend to select tasks that allow for an optimal challenge when they have the freedom to choose what they work on (see Danner & Lonky, 1981; Shapira, 1976). Thus, supporting the need for competence as a manager requires providing development that is determined collaboratively and suited to the individual employee.

Personalized development. Challenging employees to motivate and facilitate growth has been identified as a central skill of effective managerial coaches (Dahling et al., 2016; Hamlin et al., 2006; Heslin et al., 2006). However, as previously mentioned, what is optimally challenging for one employee may be underwhelming or anxiety producing for another. Thus, satisfying employees' need for competence requires a personalized approach to align challenge and skill. The coaching behaviors that reflect this type of individualized development include *participative goal setting*, *appropriately challenging work assignments*, and *personalized learning opportunities*.

The first coaching behavior that provides personalized development is participative goal setting. Researchers have identified setting goals as a core aspect of managerial coaching

(Dahling et al., 2016; Ellinger et al., 2003; Heslin et al., 2006; Lin et al., 2016). Through the lens of SDT, the most effective method for setting goals to maximize intrinsic motivation and need satisfaction is by including the employee in the goal-setting process through participative goal setting (Ryan & Deci, 2017). Research suggests that goal setting in combination with feedback supports performance, self-confidence, and effort (Earley et al., 1990; Erez, 1977). For example, one study found that intrinsic motivation mediated the relationship between goal setting and self-reported performance, suggesting that the cultivation of intrinsic motivation may be a key mechanism of goal setting interventions (Kuvaas, 2007). Thus, to support intrinsic motivation and competence, effective managerial coaches must collaborate with employees to identify clear goals for their work and personal development.

Another behavior proposed by Ryan and Deci (2017) for supporting the need for competence is by providing an appropriate challenge. Appropriately challenging work assignments that support intrinsic motivation are those that allow individuals to exercise and develop their skills (Flavell, 1977). Providing appropriate challenge requires managerial coaches to match employees with projects and job assignments that align with the employee's current skill level. Identifying appropriate challenges requires having a dialogue with the employee to explore potential opportunities and how they align with employee skill. Similar to goal setting, it is important that opportunities are selected collaboratively as not to violate the employee's perceived autonomy and to allow them the freedom to choose those that will provide an optimal level of challenge.

The last managerial coaching behavior that can facilitate employee's development and need for competence is providing personalized learning opportunities. As previously mentioned, encouraging the development and learning of employees is a central function of managerial

coaching (Hamlin et al., 2006; Heslin et al., 2006, Lin et al., 2016). Providing such development has been associated with decreased turnover and increased productivity (Huselid, 1995). Coaches can support the need for competence by working with employees to identify opportunities that will allow them to learn and expand their skills. These opportunities should be tailored to the role, interests, and skill level of the employee to maximize autonomy and development. Examples of such opportunities include on-the-job projects that require a new skill set, formal classroom training, or coaching and mentoring. Managers who do not provide such opportunities likely have employees with lower levels of competence need satisfaction, and thus lower motivation and well-being.

In summary, the managerial coaching practices that meet the inclusion criteria for supporting employees' need for competence include the broader coaching skills of feedback and personalized development. The specific feedback behaviors include positive feedback, informational feedback, and reflective dialogue. Personalized development includes the behaviors of providing appropriately challenging work assignments, participative goal setting, and personalized learning opportunities. The next section discusses the managerial coaching practices that support the final need for relatedness.

Relatedness

The need for relatedness is the need to feel a sense of belonging, connection, and being cared for (Ryan & Deci, 2017). SDT proposes that relationships are a fundamental human need that have inherent value to the parties involved beyond any instrumental function (Ryan & Deci, 2017). In an organizational context, manager-employee relational quality is considered a key mechanism of effective leadership (Gerstner & Day, 1997; Gottfriedson & Aguinis, 2016), and researchers have pointed to the importance of relational quality in managerial coaching in

particular (e.g., Hamlin et al., 2006; Heslin et al., 2006; Gregory & Levy, 2011). The relational coaching behaviors that have been identified as supporting positive managerial coaching relationships include support, reassurance, encouragement, empathy, concern, caring, respect, appreciation, and trust (Ellinger et al., 2010; Gregory & Levy, 2011; Hamlin et al., 2006; Lin et al., 2016; Hawes & Rich, 1998). Two relational mechanisms support relatedness need satisfaction aligned with these coaching behaviors, including (1) encouraging secure attachment by *providing support,* and (2) cultivating trust by *expressing benevolence* in the form of personal caring and concern.

Secure attachment. To satisfy employees' need for relatedness, managerial coaches can provide a relational foundation for learning and exploration by cultivating a secure attachment by providing support. Ryan and Deci (2017) note that the need for relatedness is related to the attachment system (Bowlby, 1969), which has been shown to play an important role in work relationships (Yip, Ehrhardt, Black, & Walker, 2017). The function of secure attachment in dyadic relationships is to provide a secure relational base to support exploratory behavior and a safe haven for protection against threats (Bowlby, 1988; Feeney, 2004). Originally, attachment theorists identified secure base and safe haven relational functions as supporting well-being and exploratory behavior in children (Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1973). However, managerial secure-base support has more recently been found to be positively associated with proactive employee work behavior through increased self-efficacy and autonomous motivation (Wu & Parker, 2017). Furthermore, safe haven managerial behaviors such as problem-solving support and protection in times of personal threat are key components of existing leadership models (e.g., LMX; Graen & Uhl-Bien, 1995), that have been found to

predict positive employee outcomes such as performance, satisfaction, and turnover intentions (Gerstner & Day, 1997).

Providing support. Based on attachment theory, three established managerial coaching support behaviors likely encourage a securely attached manager-employee relationship. These behaviors are *availability*, *encouragement toward novelty and growth*, and *support in times of threat* (Ellinger et al., 2010; Hamlin et al., 2006; Lin et al., 2016). First, a manager must be available to the employee when they are needed. If a manager is consistently unavailable, it will undermine employee confidence that they can depend on the manager as an attachment figure in times of distress or when they need guidance (Feeney & Thrush, 2010; Wu & Parker, 2017). Second, to be an effective secure-base figure, a manager must encourage exploration, novelty, and growth (Feeney & Thrush, 2010; Wu & Parker, 2017). If a manager does not encourage exploration, it may deter employees from pursuing personal growth or taking risks beyond their formal job requirements. Lastly, the manager must provide support and reassurance in times of challenge or threat to satisfy the safe haven functions of a secure relational attachment (Bowlby, 1973; Hazan & Shaver, 1994). When a work task is too difficult, a set-back is encountered, or there is a threat to the employee that is external to the manager-employee relationship, the manager can provide support in the face of these threats.

Perceived Intentions. In addition to secure attachment, the second mechanism of managerial coaching that supports the need for relatedness is the employee's perceived positive intentions of the manager. SDT proposes that the psychological significance given to events is responsible for the resulting impact on intrinsic motivation (Ryan & Deci, 2017). For example, instrinsic motivation is supported when a person in a position of authority is perceived as acting out of their own volition rather than in the interest of achieving a secondary outcome (Radel,

Sarrazin, Legrain, & Wild, 2010; Wild, Enzle, & Hawkins, 1992). Thus, managers who are perceived as being genuinely interested in the well-being and best interests of their employees as an end in themselves rather than as a means to a secondary benefit, such as productivity or their own personal gain, are likely to have employees who feel a stronger sense of trust and relatedness to the manager. The perception that one's manager has one's best interests at heart, in turn, is likely to result in increased relatedness need satisfaction and a climate conducive to intrinsic motivation for employees. Specifically, managerial coaches can support such perceptions by openly expressing benevolence toward employees.

Expressing benevolence. Benevolence has been defined as "the extent to which a trustee is believed to want to do good to the trustor" (Mayer, Davis, Schoorman, 1995, p. 718), and is associated with relational trust in organizational contexts (Colquitt, Scott, & LePine, 2007). Within existing managerial coaching research the expression of benevolence is identified through behaviors such as empathy, concern, and caring for an employee's well-being (Gregory & Levy, 2011; Hamlin et al., 2006; Heslin et al., 2006). More specifically, managerial coaches can express benevolence through the behaviors of *unconditional positive regard*, *expressing concern for the employee's well-being*, and *considerate decision making* that takes into account the employee's best interests.

Unconditional positive regard is a topic of research in both parenting and clinical practice due to its foundational importance for high-quality dyadic relationships (see Assor, Roth & Deci, 2004; Rogers, 1951). Unconditional positive regard refers to offering acceptance and support for another person independent of their choices or actions (Rogers, 1951). It is of particular value in the context of need satisfaction because of the interconnectedness of autonomy and relatedness needs (Ryan & Deci, 2007). Ryan and Deci (2017) explain that if positive regard is conditional

upon one's behavior, this creates a tension between the satisfaction of one's need for autonomy and one's need for relatedness. In particular, it results in a forced choice between sacrificing our volitional action by complying with the desires of the relational figure to secure their affection or pursuing our autonomous action at the expense of relational support.

In a managerial coaching context, a manager can show unconditional positive regard to employees by expressing caring for their well-being despite their level of performance, errors, or failures. Unconditional positive regard does not mean that a manager will ignore poor performance, or that there will not be repercussions or even job loss resulting from poor performance. Instead, a manager to effectively exercises unconditional positive regard will continue to support and express an interest in the well-being of the employee independent of their performance. In contrast, if a manager expresses positive regard conditionally depending upon compliance or performance to control employee behavior, they will force the employee to choose between thwarting their need for relatedness or autonomy, with a corresponding negative impact on intrinsic motivation.

Two additional managerial behaviors that support relatedness through benevolence are also expressions of consideration for the well-being of the employee. These include verbally expressing concern for employee well-being and decision making that is considerate of the well-being and interests of the employee. Verbally expressing concern for employee well-being is aligned with established managerial coaching behaviors such as caring, concern, and empathy. In addition, by making decisions that are considerate of the interests of employees, managerial coaches express benevolence by showing that they understand employee needs and are interested in acting in their best interests. Expressing benevolence will, in turn, satisfy relational needs by creating a sense of trust between the employee and manager through perceptions of positive

intentions. Similar to feedback, however, this positive effect can be undermined if efforts to express benevolence are perceived as manipulative rather than genuine (Ryan & Deci, 2017). Thus, expressions must be perceived as being genuine rather than as a method of control.

Managerial Coaching Questionnaire Development

In summary, prior research suggests that SDT provides a probable explanation for the theoretical motivational mechanisms that connect managerial coaching behaviors with employee outcomes. To test these relationships, we must first be able to measure managerial coaching behaviors effectively, and subsequently, examine their relationship with theoretically relevant constructs. However, to date, such a measure of managerial behaviors has not been developed. As a result, this dissertation proposes to construct and validate a survey measure of managerial coaching behaviors based on the theoretical propositions of SDT named the managerial coaching questionnaire (MCQ). In addition to developing a new managerial coaching measure, this dissertation also proposes to test the theoretical propositions related to SDT by examining of the relationship between managerial coaching, employee need satisfaction, and employee well-being (see Figure 1). As outlined below, research questions 1 through 3 focus on the development of the new managerial coaching measure, and research questions 4 and 5 are related to testing these theoretical propositions.

Proposed Study

The proposed series of studies for developing a new measure of managerial coaching behaviors will follow survey development and validation procedures in alignment with classical test theory as outlined by several sources (e.g., Clark & Watson, 1995; DeVellis, 2017; Hinkin, 1995; Netemeyer, Bearden, & Sharma, 2003). This process includes eight primary steps, including (1) the development of clear conceptualizations of the constructs being measured based

on existing theory, (2) identifying the appropriate measurement format, (3) developing a representative item pool, (4) subjecting draft items to expert review and revision, (5) administration to a representative developmental sample, (6) item evaluation and reduction, (7) testing the theoretical factor structure with a secondary representative sample, and (8) evaluating the validity and reliability of the newly developed measure.

Item Development

Research Question 1 focuses on assessing the content validity and clarity of the items generated for the MCQ through the development of a representative item pool (step 3) and revising the items and item pool (steps 4-6). The item revision process ensures that selected behaviors reflect the proposed managerial coaching skills and supports reliability.

Research Question 1: Is the initial managerial coaching item pool composed of high-quality items that reflect the coaching skills they are intended to assess?

In alignment with the eight-step scale development process above, the prior literature review and theoretical framework have identified and defined the constructs of interest (step 1). Others' ratings of managerial coaching behaviors have been selected as the appropriate measurement format as prior research suggests others' ratings of leader behaviors are more accurate than self-reported ratings (step 2; Atkins & Wood, 2002). As such, the next necessary step in the process is the development and refinement of an initial item pool (steps 3-4). The development of an initial item pool requires drafting a comprehensive sample items that thoroughly capture the target constructs of interest and making sure items worded to be easily interpretable by the target population (Clark & Watson, 1995; DeVellis, 2017). Therefore, the first step in the research process is developing an item pool that is comprehensive and reflective of the managerial coaching skills proposed in the theoretical framework (see Table 2).

Subsequently, items were refined to ensure they are clear, simple, and unambiguous as to be easily interpreted by respondents.

Once I have developed an item pool, items were administered to a representative sample that reflects the target population and item-level validity was evaluated (Clark & Watson, 1995; DeVellis, 2017; Hinkin, 1995). In particular, following researchers recommendations, items were evaluated and refined based on several criteria including, item variances, item response distributions, item-scale correlations, inter-item correlations, and coefficient alpha (Clark & Watson, 1995; DeVellis, 2017). However, Clark and Watson (1995) also note that theory should be considered in addition to item-level data. In particular, they suggest focusing on uni-dimensionality over internal consistency. Therefore, item-level metrics were used to help guide the item-revision process and the removal of redundant items, but theory was referenced to ensure content validity is maintained.

Structural Analysis

The next step in the psychometric evaluation of the new scale is to conduct structural analyses to identify the dimensionality of the constructs of interest (Clark & Watson, 1995; DeVellis, 2017; Hinkin, 1995). Thus, Research Question 2 focuses on assessing the underlying factor structure of the newly generated survey items.

Research Question 2: What is the underlying factor structure of managerial coaching behaviors as represented by the refined item pool?

Exploratory factor analysis. Understanding the factor structure will allow for the refinement of the proposed framework, as well as the items and subscales. As reflected in Table 2, the proposed theoretical framework posits the existence of distinct coaching skills that reflect multiple coaching behaviors. Exploratory structural analyses will help evaluate the broader skills

that underlying the various behavioral items as reflected by independent factors. Initially, the most important consideration for establishing a clear factor structure is the identification and removal of items with high cross-loadings as these items suggest a lack of uni-dimensionality within each factor (Netemeyer, 2003).

Hypothesis 1. The items in the refined item pool load on multiple uni-dimensional factors corresponding to separate managerial coaching skills and discriminate from other factors as reflected by low cross-loadings.

Confirmatory factor analysis. Once a hypothesized structure has been identified and refined, confirming this structure requires delivering the refined measure to a secondary representative sample (step 7; Netemeyer, 2003). If the structure is replicable with a second sample, it suggests that the proposed structure accurately reflects the underlying dimensions of managerial coaching skills as opposed to reflecting unique attributes of the developmental sample, or overfitting the hypothesized model to the data.

Hypothesis 2. The hypothesized factor structure is generalizable to the second sample of employees, as reflected by a good fit between the data and the refined structural model.

Hierarchical structure analysis. Another important consideration in evaluating the validity of the hypothesized structure is comparing potential alternative structural frameworks. Confirmatory factor analysis allows for the comparison of fit of competing structural models (Netemeyer, 2003). The psychometric structure of managerial coaching behaviors has not been explored, however prior research has grouped coaching behaviors into categories based on conceptual similarity (see Hamlin et al., 2006).

As previously noted, prior research has included a wide breadth of managerial coaching behaviors due to a broad conceptualization and lack of unifying theory. In contrast, the current

framework is focused around a singular conceptualization of coaching as facilitative manager behaviors that are autonomy supportive, and in turn, encourage individual agency and exploration. As a result of this common conceptual foundation, the identified coaching behaviors are expected to be related to one another and to reflect a manager's overall tendency to apply a facilitative coaching approach. Thus, it is hypothesized that managerial coaching is best represented by a two-level hierarchical factor structure represented by a single overall managerial coaching factor composed of lower level factors representing coaching skills.

> ***Hypothesis 3***. The factor structure of managerial coaching will display better model fit when conceptualized as having a single underlying latent construct of overall managerial coaching skill, as compared to a model specifying the coaching skills independently without a single higher order factor.

Construct Validity

Once item-level and structural validity have been examined, the next step in the scale development process is an evaluation of the construct-level validity and reliability of the new measure (step 8). Evidence of strong relationships between the measure and constructs that are related supports convergent validity, whereas weak relationships between constructs that are theoretically distinct suggests discriminant validity (Netemeyer et al., 2003). Research Question 3 focuses on the convergent and discriminant validity of the MCQ by examining its relationship with established measures of leader behaviors, specifically an existing measure of managerial coaching behaviors, transformational leadership, empowering leadership, and social desirability. An examination of these relationships helps to establish the psychometric properties of the new measure.

Research Question 3: Does managerial coaching demonstrate construct-level validity in its relationship to relevant constructs in the direction supported by theory?

Employee perceptions of supervisor/line manager coaching behavior. Ellinger, Ellinger, and Keller (2003) define coaching as "a form of facilitating learning to encourage growth and development" (p. 438). The authors developed the *employee perceptions of supervisor/line manager coaching behavior measure* in their investigation into the relationship between the managerial coaching behaviors of line managers and employee performance (Ellinger et al., 2003). This eight-item measure was developed based on a review of prior research that conducted thematic analyses of interviews investigating how high-performing managers coach their employees. Eight themes were selected by the researchers that could be easily turned into survey items. These themes included, (1) using analogies, scenarios, and examples, (2) broadening employees' perspectives, (3) providing feedback to employees, (4) soliciting feedback from employees, (5) being a resource – removing obstacles, (6) question framing to encourage employees to think through issues, (7) setting and communicating expectations, and (8) stepping into other to shift perspective (Ellinger et al., 2003).

This scale was selected for inclusion because it is the most popular scale of managerial coaching behaviors currently available, and it also shares several coaching behaviors represented with the current framework. In a review of managerial coaching scales, Hagen and Petersen (2015) suggest that the measure developed by Ellinger and colleagues (2003) is the best currently available to assess others' ratings of managerial coaching behaviors, however they concluded that all of the managerial coaching measures they examined displayed limited reliability and validity. An important point of distinction is that Ellinger and colleagues (2003) utilize a conceptualization of managerial coaching primarily grounded in the facilitation of learning rather

than an empowering form of management emphasized by the current investigation. However there are several coaching behaviors shared by both frameworks. Both include the utilization of questions to encourage employee reflection, giving and seeking feedback, as well as efforts to understand employees' perspectives. As a result of these conceptual similarities, I predict managerial coaching will display a moderate to a strong positive relationship with *employee perceptions of supervisor/line manager coaching behavior measure*.

Hypothesis 4. Managerial coaching is positively correlated with employee perceptions of supervisor/line manager coaching behavior.

Empowering leadership. Another thoroughly researched leadership framework that is conceptually related to managerial coaching is empowering leadership. Empowering leadership has been defined as "behaviors that share power with subordinates" (Vecchio, Justin, & Pearce, 2010, p. 531). Both empowering leadership and managerial coaching have been posited to facilitate intrinsic motivation by supporting employee autonomy (Amundsen & Martinsen, 2014), and some have conceptualized managerial coaching as a category of empowering leadership behaviors (Arnold et al., 2000). Thus, coaching can be considered a form of empowering leader behaviors existing within the broader theoretical concept of empowering leadership. As a result of these conceptual similarities, empowering leadership is predicted to have a moderate to strong positive relationship with managerial coaching.

Hypothesis 5. Managerial coaching is positively correlated with empowering leadership.

Transformational leadership. Transformational leaders develop and inspire their followers to help them achieve at higher levels and build their leadership capacity (Bass, 1985; Bass & Riggio, 2006). Prior research has found transformational leadership to be related to employee job performance (Judge & Piccolo, 2004), work engagement (Tims, Bakker, &

Xanthopoulou, 2011), and well-being (Nielsen & Daniels, 2012; Skakon, Nielsen, Borg, & Guzman, 2010). Transformational leadership is composed of four components, including idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (Bass & Riggio, 2006). First, idealized influence refers to behaviors and qualities that result in followers identifying with and emulating the leader. Second, inspirational motivation is the ability for a leader to rally others around a positive vision of the future. Third, intellectual stimulation is the ability of a leader to inspire creativity and innovation by encouraging others to see situations from new and different perspectives. Lastly, individualized consideration is the practice of providing personalized development and support for each employee.

There are similarities and differences between transformational leadership and managerial coaching. Both coaching and transformational leadership emphasize supporting the development and individualized treatment of followers. However, from the perspective of transformational leadership, the direction of influence is from role modeling and charisma of the leader to the follower, as opposed to coaching's focus on facilitating followers' natural growth tendencies that emanate from the follower. As noted by Bass and Riggio (2006), transformational leaders are charismatic and act as role models that "followers seek to identify with… and emulate" (p. 5). In contrast, managerial coaching does not focus on any particular characteristic of the leader or manager but on the content and processes of the dyadic interaction. As a result of these conceptual differences, to provide evidence of discriminant validity, managerial coaching and transformational leadership are predicted to be only moderately positively correlated.

Hypothesis 6. Managerial coaching is moderately positively correlated with transformational leadership.

Social desirability. Several scale development guidelines recommend assessing the relationship between newly developed measures and measures of social desirability to provide evidence of discriminant validity (DeVellis, 2017; Podsakoff et al., 2003). Social desirability is defined as the tendency to seek social approval by displaying culturally appropriate behaviors (Crowne & Marlowe, 1964) and can manifest as a method bias in survey research when respondents display socially desirable responses rather than giving accurate answers (Podsakoff et al., 2003). Prior research suggests that social desirability can result in spurious findings, can moderate relationships, and even suppress the relationship between two variables (Ganster, Hennessey, & Luthans, 1983). As a result, it is important to determine if the newly developed scale of managerial coaching only measures the included behaviors or whether it is introducing method bias by compelling a social desirable response, which would bias the results of observed relationships. Therefore, I predict that managerial coaching with not be significantly related to social desirability.

Hypothesis 7. Managerial coaching is not significantly correlated with social desirability.

Predictive Validity: Employee Need Satisfaction

To further investigate the validity of the new measure, the remaining investigations focus on the theoretical propositions of the managerial coaching framework. The proposed framework draws from the theoretical propositions of SDT to identify coaching behaviors that support the three psychological needs of autonomy, competence, and relatedness of employees at work (see Table 2). Therefore, Research Question 4 evaluates whether this theoretical assumption is

supported by investigating the relationship between managerial coaching and employee need satisfaction.

Research Question 4: Does managerial coaching support employee need satisfaction in alignment with the theoretical propositions of the managerial coaching framework?

Employee need satisfaction. Testing the new measure's relationship with employee need satisfaction evaluates the predictive validity of the managerial coaching measure, as well as the theoretical propositions of the managerial coaching framework. As outlined earlier, the coaching framework draws on prior research and theory related to the social conditions that facilitate each of the three psychological needs proposed by SDT.

Six coaching skills with three respective coaching behaviors each have been identified in alignment with theory and research on SDT (see Table 2). In particular, within the framework, the need for autonomy is proposed to be supported by perspective taking and granting control. Perspective taking is believed to support autonomy by expressing consideration for the individual's internal frame of reference which encourages autonomously directed action (Ryan & Deci, 2017; Deci, Connell, & Ryan, 1989). Granting control supports autonomy by encouraging an employee's internalized perceived locus of causality (Zuckerman, Porac, Lathin, Smith, & Deci, 1978). The coaching skills of giving feedback and providing personalized development supports employees' need for competence. Giving feedback is proposed to encourage competence by increasing employee awareness of external conditions, which supports effective self-regulation toward one's goals and interests (Deci, Ryan, Schultz, & Niemiec, 2015).

Furthermore, personalized development supports the need for competence by providing an optimal level of challenge that engages employees rather than overwhelms or underwhelms their abilities or level of interest (Danner & Lonky, 1981; Dragoni, Tesluk, Russell, & Oh,

2009). Lastly, the need for relatedness is proposed to be supported by providing support and expressing benevolence. Providing support assists the need for relatedness by cultivating a secure relationship between manager and employee, which can serve as a secure base for exploratory behavior (Wu & Parker, 2017; Yip, Ehrhardt, Black, & Walker, 2017). Similarly, expressing benevolence supports employees' need for relatedness by enabling perceived positive intentions of the manager by the employee, which creates a relational climate that supports intrinsic motivation (Radel, Sarrazin, Legrain, & Wild, 2010; Wild, Enzle, & Hawkins, 1992).

However, to date, research has not yet explored the relationship between managerial coaching behaviors and employee need satisfaction. Examining this relationship is an important step in establishing the relationship between employee need satisfaction and the identified managerial coaching behaviors. Furthermore, research suggests that each psychological need is interrelated and supported by others (Baard et al., 2004; Deci & Ryan, 2017). As a result, we would expect managerial coaching behaviors to be related to all three psychological needs as well as overall need satisfaction.

Hypothesis 8. Managerial coaching is positively related to the satisfaction of employee needs, including overall employee need satisfaction (*8a*), autonomy need satisfaction (*8b*), competence need satisfaction, (*8c*), and relatedness need satisfaction (*8d*).

Incremental Validity: Employee Need Satisfaction

I evaluated incremental validity by examining managerial coaching's relationship with employee need satisfaction above and beyond an existing measure of managerial coaching, as well as other well-established leadership measures (i.e., transformational leadership, empowering leadership). Unlike other conceptualizations of managerial coaching that emphasize coaching as the facilitation of learning (i.e., Ellinger et al., 2003), the theoretical foundations of the current

conceptualization of managerial coaching suggest that it would more strongly relate to employee need satisfaction. Prior research has also found other measures of leader behaviors to be related to employee need satisfaction (Breevaart et al., 2014; Chiniara & Bentein, 2016; Graves & Luciano, 2013; Kovjanic, Schuh, Jonas, Van Quaquebeke, & Van Dick, 2012). Therefore, examining whether managerial coaching is associated with need satisfaction above and beyond other leadership measures helps to establish the incremental validity of the new measure and support its proposed unique theoretical relationship with employee need satisfaction.

Need satisfaction and managerial coaching. As noted previously, existing conceptualizations of managerial coaching have been developed without consideration for psychological theory and have been based largely upon qualitative interview data. In contrast, the current framework seeks to identify the specific managerial coaching behaviors that are likely to support employee need satisfaction based on the propositions of SDT. However, there are common managerial coaching behaviors included in both existing conceptualizations. However, there are coaching behaviors that are unlikely to support employee need satisfaction that exist in the framework developed by Ellinger and colleagues (2003) that are excluded from the current model, such as using analogies, scenarios, and examples, being a resource, and communicating expectations. Furthermore, absent in the Ellinger and colleagues (2003) framework are additional behaviors that are likely to support need satisfaction that are included in the new framework, including granting control, personalized development, providing support, and expressing benevolence. Therefore, I hypothesize that the current measure of managerial coaching will predict employee need satisfaction above and beyond the *employee perceptions of supervisor/line manager coaching behavior measure*.

Hypothesis 9. Managerial coaching is positively related to the satisfaction of employee needs above and beyond the *employee perceptions of supervisor/line manager coaching behavior measure*, including overall employee need satisfaction (*9a*), autonomy need satisfaction (*9b*), competence need satisfaction, (*9c*), and relatedness need satisfaction (*9d*).

Need satisfaction and transformational leadership. Several studies have found a significant relationship between transformational leadership and employee need satisfaction (Breevaart et al., 2014; Kovjanic et al., 2012). Researchers have put forth several explanations for this relationship. Specifically, Kavjanic et al. (2012) suggest that transformational leaders support employee autonomy by communicating compelling collective goals and considering followers' perspectives. In addition, they argue that transformational leaders support employees' need for competence through personalized development and by creating a climate of trust and confidence. Lastly, they propose transformational leaders satisfy employees' need for relatedness by gaining followers' favor and creating a bond among fellow employees. In contrast, Breevaart and colleagues (2014) found that transformational leadership leads to increased employee need satisfaction through the creation of job resources.

Evidence supports the association between transformational leadership and employee need satisfaction; however, many of the proposed mechanisms connecting transformational leadership and employee need satisfaction are secondary to the leader's behaviors. Furthermore, transformational leadership does not include many leader behaviors that prior theory and research suggest support employee needs. As previously stated, some of the mechanisms linking transformational leadership to employee need satisfaction include job resources (Breevaart et al., 2014), positive work climate, and compelling shared goals (Kavjanic et al., 2012). It is these

secondary mechanisms that are believed to allow transformational leaders to influence employee need satisfaction. In contrast, the proposed model of managerial coaching behaviors is hypothesized to influence employee need satisfaction exclusively through direct personal interaction with employees. The proposed coaching framework includes leader behaviors absent in transformational leadership, such as granting control, giving feedback, and providing support, which are directly aligned with prior theory and research on the interpersonal conditions that support employees' need for autonomy, competence, and relatedness respectively (see Table 2). As a result, it is predicted that the managerial coaching measure is associated with the satisfaction of all three employee needs and overall need satisfaction above and beyond transformational leadership.

> ***Hypothesis 10***. Managerial coaching is positively related to the satisfaction of employee needs above and beyond transformational leadership, including overall employee need satisfaction (*10a*), autonomy need satisfaction (*10b*), competence need satisfaction, (*10c*), and relatedness need satisfaction (*10d*).

Need satisfaction and empowering leadership. Similar to transformational leadership, empowering leadership also includes leader behaviors likely to support employee need satisfaction. Specifically, empowering leadership strongly emphasizes employee autonomy (Amundsen & Martinsen, 2014). Prior research has found autonomy supportive leader behaviors to be related to the satisfaction of all three psychological needs of employees (Baard et al., 2004). Furthermore, the current managerial coaching model shares behaviors with Arnold et al.'s (2000) framework of empowering leadership, such as including employees in decision making, encouraging employee learning, information sharing, and expressing concern for employees' well-being. However, unlike managerial coaching, empowering leadership does not directly

consider how leaders support employees' need for relatedness or competence. In contrast, managerial coaching includes behaviors such as giving feedback, personalized development and providing support, which are aligned with supporting employees' need for relatedness and competence. As a result, I hypothesize that managerial coaching is associated with employee need for relatedness, competence, and overall need satisfaction, but not autonomy, above and beyond empowering leadership.

> ***Hypothesis 11***. Managerial coaching is positively related to the satisfaction of employee needs above and beyond empowering leadership, including overall employee need satisfaction (*11a*), competence need satisfaction, (*11b*), and relatedness need satisfaction (*11c*).

Predictive Validity: Employee Well-Being

Lastly, to further test the theoretical propositions related to SDT, Research Question 5 investigates the relationship between managerial coaching and employee well-being. SDT proposes that social conditions that satisfy the three basic psychological needs are more likely to result in well-being (Deci & Ryan, 1985; Ryan & Deci, 2000). In addition, prior research has found supportive and empowering leader behaviors, like coaching, to be associated with employee well-being (Skakon et al., 2010). As a result, to examine the evidence for the proposition that the identified managerial coaching behaviors help create such an environment, it is important to examine the relationship between the coaching behaviors and employee well-being.

Research Question 5: Is managerial coaching predictive of employee well-being in alignment with the theoretical propositions of SDT?

Well-being. Several well-being indicators have been selected to investigate the relationship between managerial coaching and employee well-being thoroughly. Well-being is defined as a multi-faceted construct representing the subjective evaluation of one's affect, satisfaction, and judgments about one's life (Diener, Suh, Lucas, & Smith, 1999). Researchers have suggested that it is important to measure multiple facets of well-being to effectively assess the impact of leader behaviors (Inceoglu et al., 2018; Nielsen & Daniels, 2012). Well-being facets include positive psychological indicators, negative psychological indicators, and indicators of physical well-being. Psychological well-being is further divided into hedonic (subjective experience of pleasure), eudemonic (subjective experience of vitality), and negative (subjective negative experience; Inceoglu et al., 2018). As a result, I will assess four aspects of well-being including job satisfaction (hedonic), work engagement (eudemonic), burnout (negative well-being indicator), and sleep quality (physical well-being). Together, these four constructs provide a comprehensive picture of an employee's well-being to uncover its relationship with managerial coaching behaviors.

Job satisfaction. Job satisfaction is defined as pleasure or positive emotions resulting from the subjective appraisal of one's work (Lock, 1969). Prior research has found that supportive and empowering leader behaviors, like managerial coaching, to be associated with employee job satisfaction (Skakon et al., 2010). Furthermore, higher levels of psychological need satisfaction have been associated with job satisfaction and hedonic well-being (Church et al., 2012; Van den Broeck et al., 2016). Therefore, as a supportive and empowering form of leadership that is proposed to support employee need satisfaction, it is anticipated that there is a direct relationship between managerial coaching and job satisfaction.

Hypothesis 12. Managerial coaching is positively related to job satisfaction.

Engagement. Work engagement is defined as a positive affective-cognitive state characterized by energy, effort, and persistence in one's work (Schaufeli, Bakker, & Salanova, 2006). Employee engagement and eudemonic well-being are associated with employee need satisfaction (Church et al., 2012; Van den Broeck et al., 2016), as well as autonomy supportive work environments (Deci et al., 2001). Due to coaching's emphasis on autonomy and supporting employee need satisfaction, I predict a direct relationship between managerial coaching and work engagement.

Hypothesis 13. Managerial coaching is positively related to employee work engagement.

Burnout. Burnout is defined as the psychological experience of exhaustion perceived as resulting from prolonged exposure to a demanding work environment (Kristensen, Borritz, Villadsen, & Christensen, 2005). Prior research has found employees with leaders who display supportive and empowering behaviors, like coaching, experience lower levels of burnout (Skakon et al., 2010). Furthermore, prior research has found employee need satisfaction also to be associated with lower levels of employee burnout (Van den Broeck et al., 2016). Therefore, coaching practices align with prior research on conditions that buffer against burnout, and as a result, a negative relationship between managerial coaching and employee burnout is expected.

Hypothesis 14. Managerial coaching is negatively related to employee burnout.

Sleep quality. Lastly, sleep quality represents physical well-being and reflects one's perception of how well one has slept over a specified period (Kecklund & Åkerstedt, 1992). Prior research suggests that poor sleep quality is related to job stress (Burgard & Ailshire, 2009; Knudsen, Ducharme, & Roman, 2007). Skakon and colleagues (2010) note that several studies have discovered supportive and empowering leader behaviors to be associated with lower levels of employee stress. In addition, research suggests that employee need satisfaction and higher

levels of social support are associated with lower levels of employee stress (Akerstedt et al., 2002; Deci et al., 2001; Van den Broeck et al., 2016). Consequently, managerial coaching is in alignment with conditions that support lower stress levels, which are expected to be reflected in a positive relationship between managerial coaching and employee sleep quality.

Hypothesis 15. Managerial coaching is positively related to employee sleep quality.

Mediation: Employee Need Satisfaction

The primary theoretical proposition of this paper is that managerial coaching is theoretically consistent with the creation of social conditions that satisfy employees' psychological needs (see Table 2). As previously stated, a fundamental premise of SDT and its basic psychological needs mini-theory is that social conditions supportive of the three psychological needs result in higher levels of well-being (Ryan & Deci, 2000). Furthermore, prior research supports this proposition and has found employee need satisfaction to be associated with multiple indicators of employee well-being, including job satisfaction, engagement, burnout, and stress (Van den Broeck et al., 2016). Thus, in line with prior research, managerial coaching behaviors are predicted to be associated with employee well-being through the mediating process of the satisfaction of employees' psychological needs (see Figure 1).

Hypothesis 16. Employee need satisfaction mediates the relationship between managerial coaching and employee well-being, including employee job satisfaction (*16a*), work engagement (*16b*), burnout (*16c*), and sleep quality (*16d*).

Incremental Validity: Employee Well-Being

Prior research has found leader behavior to be related to employee well-being (Skakon et al., 2010). However, to date, such investigations have primarily drawn on leadership approaches intended to increase employee performance, and without a clear articulation of the processes that

connect leader behavior and employee well-being (Inceoglu et al., 2018). In particular, studies have found both transformational and empowering leadership to be related to many indicators of employee well-being (see Nielsen, & Daniels, 2012; Inceoglu et al., 2018; Kovjanic et al., 2012; Skakon et al., 2010; Tims et al., 2011). However, both forms of leadership were developed to identify leader behaviors that increase performance rather than well-being. In addition to being focused on employee performance, both concepts were developed using qualitative interviews rather than theory (Arnold et al., 2000; Bartunek & Spreitzer, 2006; Bass, 1985). This methodology for developing leadership frameworks has been criticized for resulting in a lack of conceptual clarity and the selection of conceptually independent behaviors without clear mediating processes (Behrendt, Matz, Göritz, 2017; MacKenzie et al., 2005; Van Kippenberg & Sitkin, 2013).

In contrast, the coaching behaviors included in the managerial coaching framework (see Table 2) are grounded in the well-established psychological theory of SDT and centered around the mediating process of facilitating employee need satisfaction. As a result, SDT provides a clear rationale and articulated mechanisms for understanding the relationship between managerial coaching and employee well-being. Furthermore, the relationship between employee need satisfaction, and well-being has been thoroughly studied and supported by prior empirical research (Gagne & Deci, 2005; Van den Broeck et al., 2016). Therefore, we would expect managerial coaching practices to result in working conditions that uniquely support employees' well-being compared to other forms of leadership. This proposition is assessed by examining managerial coaching's relationship with employee well-being above and beyond transformational and empowering leadership.

Hypothesis 17. Managerial coaching is predictive of employee well-being above and beyond transformational leadership, including employee job satisfaction (*17a*), work engagement (*17b*), burnout (*17c*), and sleep quality (*17d*).

Hypothesis 18. Managerial coaching is predictive of employee well-being above and beyond empowering leadership, including employee job satisfaction (*18a*), work engagement (*18b*), burnout (*18c*), and sleep quality (*18d*).

Chapter II: Study 1 - Item Generation and Evaluation

Introduction

Classical survey development methodology was selected in consideration of the ongoing debate in the literature regarding methods for developing formative measures (i.e., those in which the items of the measure define the construct) as opposed to traditional reflective measures (i.e., items are assumed to be caused by a singular underlying construct) based on classical measurement theory (Bollen & Lennox, 1991; Diamantopoulos, Riefer, & Roth, 2008; Edwards, 2011; Howell et al., 2007; MacKenzie, Padsakoff, & Jarvis, 2005; Wilcox, Howell, & Breivik, 2008). Some researchers argue that it is appropriate to conceptualize the meaning of latent constructs as emanating from the measures that it is composed of, and that a misspecified formative measure as reflective can undermine construct validity and bias parameter estimates (Bollen & Diamantopoulos, 2017; Bollen & Lennox, 1991; Diamantopoulos et al., 2008; MacKenzie et al., 2005; MacKenzie, Podsakoff, & Podsakoff, 2011). However, others argue that reflective measurement is always preferable to a formative approach due to inherent issues, such as 1) interpretational confounding, 2) the resulting model is composed of the strongest predictors of dependent variables, and 3) the required assumption of error-free items (Edwards, 2011; Hardin & Marcoulides, 2011; Howell et al., 2007).

As a result of this debate, researchers on both sides have cited the importance of considering the theoretical relationship between indicators and the latent construct of interest and recommend aligning scale validation procedures with these theoretical considerations (Bollen & Diamantopoulous, 2017; Bollen & Lennox, 1991; MacKenzie et al., 2005). In relationship to measures of leadership behaviors, MacKenzie et al. (2005) draw attention to the composite measure of transformational leadership which includes the components of idealized influence,

inspirational appeal, intellectual stimulation, and individualized consideration. The authors argue that because these concepts are distinct and have no shared singular theoretical cause, they are best conceptualized as formative indicators of transformational leadership. However, MacKenzie and colleagues (2011) acknowledge that "constructs are not inherently formative or reflective in nature" (p. 302), and that a researcher may make this determination depending on theory and the definition of the constructs of interest.

The purpose of this discussion is not to resolve this debate in the literature, but instead to acknowledge this discourse and clarify the decisions involved in the current investigation. Concerning the study at hand, theoretical considerations determined whether items measuring managerial coaching behaviors are best conceptualized as formative or reflective. In particular, the current model of managerial coaching behaviors places itself in juxtaposition to past leadership and management research that has identified effective leader behaviors in an atheoretical fashion through survey and interview methods. This inductive process results in frameworks of leader behaviors in which the behaviors define the domain (formative), rather than through consideration for underlying theoretical mechanisms that manifest in the included behaviors or skills (reflective). Furthermore, an assumption made in the presented framework is that the identified behaviors are reflective of the leader's competence in the broader coaching skill, which enables the associated interpersonal mechanism.

As a result, reflective scale development techniques were deemed most appropriate following the previously outlined eight-step process. This method was selected in consideration of the theoretical propositions of the constructs being measured in alignment with a realist ontology that posits the existence of these constructs independent of their measurement (Howell, Breivik, & Wilcox, 2007). This process includes several sequential steps across three studies. In

Study 1, an initial item pool is generated that is subject to expert review. In Study 2, an exploratory factor analysis is conducted to refine the item pool and develop a hypothesized structure. Lastly, in Study 3, a confirmatory factor analysis is conducted to assess the generalizability of the hypothesized structure and is followed by an evaluation of the convergent, discriminant, predictive, and incremental validity of the new measure. This process was selected based upon best practices identified by several sources delineating scale development methods based on classical test theory (i.e., Clark & Watson, 1995; DeVellis, 2017; Netemeyer, Bearden, & Sharma, 2003).

Methods

Study 1 was undertaken to evaluate the face validity of the initial item pool, revise existing items to increase clarity, as well as to generate new items for the pool to ensure content adequacy. Following guidelines from DeVellis et al. (2017) and Netemeyer et al. (2003), an initial pool of items was generated based on theory and prior literature capturing manager behaviors that are representative of the respective coaching skill. A panel of expert reviewers was selected to to evaluate item representativeness, clarity, and completeness of the item pool (DeVellis, 2017; Netemeyer et al., 2003). The initial pool included 76 items composed of between 11 and 15 items for each of the six coaching skills with three to six items per behavior (see Appendix). The pool was intended to be over-inclusive of potential behaviors to ensure the content domain is well represented (Clark & Watson, 1995).

Participants. The panel included five Ph.D. level experts in the areas of leadership, leader development, and/or survey design.

Materials and procedure. The panel was provided with a document containing definitions of each coaching skill and behaviors, along with their corresponding draft items (the

full materials given to the expert panel including instructions, coaching skill definitions, and draft items can be found in the Appendix). Participants were asked to rate each item's relevance to the broader coaching skill on a five-point scale from (1) "Not at all representative" to (5) "Extremely representative" of the broader coaching skill. In addition, participants were instructed to provide suggestions on how to revise items for clarity and representativeness of the construct of interest, and give recommendations for additional items not captured in the existing item pool to improve content validity in capturing the coaching skill.

Analysis. Average relevance ratings were calculated across the expert panel. Items with relatively low average relevance scores, when compared to other items, were removed or revised. Adjustments were made to the item wording, and additional items were added to the pool based on the expert opinions of the panel.

Results

Research Question 1: Is the initial managerial coaching item pool composed of high-quality items that reflect the coaching skills they are intended to assess.

To evaluate research question one, average representativeness ratings were calculated across the expert panel. The average representativeness rating across the reviewers was a 4.45 out of 5.00 with a standard deviation of 0.35, generally suggesting the initial items were representative of their relevant constructs. Eight of the 75 items received average ratings less than 4.00 ("Very representative") and were significantly revised based on expert reviewers' suggestions. The vast majority of items received wording changes based on expert reviewers' suggestions to improve interpretability or representativeness, and an additional 10 questions were added that were recommended by the expert panel to increase item sampling adequacy of the constructs of interest. This resulted in a final refined item pool of 85 items (see Table 4). Taken

together, the results of Study 1 and the refinements to the initial item pool suggest high quality and content adequacy of the refined item pool.

Chapter III: Study 2 - Exploratory Factor Analysis

Introduction

Study 2 included the administration of the refined item pool to a representative sample of full-time employees to evaluate items, dimensionality, and reliability (DeVellis, 2017; Netemeyer et al., 2003). An exploratory factor analysis (EFA) is necessary because the factor structure underlying managerial coaching behaviors is unknown. This process resulted in a final set of 24 items and hypothesized factor structure of the managerial coaching behaviors to ensure structural validity (Loveinger, 1957).

Studies two and three utilized data collected on Amazon's Mechanical Turk (MTurk). An MTurk sample is appropriate for the current investigation due to the ability to access a diverse sample who are representative of employees in the United States. MTurk provides access to employees across geographies, demographics, and work experience that are more heterogeneous than samples from a single geographic region or organization. For example, research suggests that samples from MTurk are generally representative of the United States population (Buhrmester, Kwang, & Gosling, 2011), and tend to be older, more ethnically diverse, and have more work experience than traditional college student samples (Behrend, Sharek, Meade, & Wiebe, 2011). In addition, MTurk samples have been found to produce test-retest reliabilities and coefficient alphas similar to those of traditional research samples (Buhrmester et al., 2011).

Methods

Participants. MTurk participants were restricted to English speaking employees based in the United States who work full-time (35 or more hours per week), are not self-employed, and have a direct supervisor that they interact with on at least on a bi-weekly cadence.

The final sample size for study two was 511 participants, which is considered adequate for an EFA (Clark & Watson, 1995). Participants averaged 40 years old, ranging from 22 to 71 years of age, was 42% female and 58% male, and made an average of $62,633 per year with a range of $4,200 to $201,000. The sample had an average of 19.4 years of work experience, worked an average of 42.3 hours per week, had been at their organization for 8.7 years, and in their current position for 6.0 years. Participants worked in a range of industries (see Table 5). The sample was composed of 54% managers and 46% individual contributors, and report interacting with their manager on average 13.7 times per week for a total of 5.9 hours per week on average. The highest level of educational attainment of the sample included 7.8% with a high-school diploma, 14.6% completing some college, 11.2% having an associate's degree, 45.7% having a bachelor's degree, 14.6% having a master's degree, 2.9% with a professional degree (e.g. MBA, JD, MD), and 3.1% having a doctorate degree. Approximately 78.1% identified as White, 4.1% identified as Hispanic or Latino, 5.5% identified as Black or African American, 0.4% identified as Native American or American Indian, 6.8% identified as Asian or Pacific Islander, and 3.9% identified as multiple races or ethnicities.

Procedure. Responses were collected from MTurk using Qualtrics survey software on the 85 revised items from 589 participants. The managerial coaching items were randomized to minimize order effects. Data was initially cleaned based on the inclusion criteria for the study. Specifically, six participants failed to give consent to participate in the study, three cases were removed for missing significant data (90% or more), 31 cases were removed because they did not have a manager at work, seven cases were removed because they were not employed full-time, two cases were removed because they interacted with their manager fewer than 3 times per week on average, seven cases were removed for invariant responding (i.e., selecting the same

response for all questions), and 22 cases were removed for failing one of the four attention check questions.

Measures.

Managerial coaching. Members were presented with the 85 refined managerial coaching items developed in Study 1 reflective of 6 dimensions (see Table 2). Thirteen items represented the coaching skill of perspective taking (e.g., "My manager asks for my suggestions related to our work"), 14 items represented granting control (e.g., "My manager allows me to decide the best way to complete my work"), 14 items represented giving feedback (e.g., "My manager shares recommendations for how to perform my work more effectively"), 14 items represented personalized development (e.g., "My manager gives me opportunities to learn about work-related topics that interest me"), 16 items represented providing support (e.g., "My manager provides encouragement when I feel discouraged"), and 14 items represented expressing benevolence (e.g., "My manager asks me how I am doing personally"). Participants were asked the frequency with which their direct manager engages in the proposed coaching behavior when he or she has the opportunity to do so based on a seven-point scale (1 = "Never", 2 = "Rarely", 3 = "Sometimes", 4 = "About half the time", 5 = "Often", 6 = "Very often", 7 = "Always").

Demographics. Demographics were collected on respondents age, gender, race/ethnicity, income, education, and years of work experience.

Work Context. Members were asked to provide the average number of hours they work per week, the frequency of contact with their supervisor, and their industry of employment.

Analysis. All analyses for Study 2 were conducted using IBM SPSS version 24. A principal axis exploratory factor analysis (EFA) was applied (Comrey, 1988), with an oblique rotation as the factors are expected to be related to one another (DeVellis, 2017). Items were

retained based on univariate normality (skew and kurtosis), item variances, item means, communalities, factor loadings, cross-loadings, interitem correlations, and item-total correlations (Clark & Watson, 1995; DeVellis, 2017). In particular, items with non-normal distributions and low variance, as well as those that do not hang well together with the other items were removed. In addition, items with communalities less than .35, relatively low factor loadings, and relatively high cross-loadings were also removed (Clark & Watson, 1995; see Table 5). Factors were examined based on the Kaiser rule with factors having eigenvalues greater than one being retained (Kaiser, 1966), and the number of factors confirmed or revised based on an examination of the scree plot (Cattell, 1966). These analyses resulted in a refined factor structure of the coaching skills that underlie managerial coaching behaviors. This hypothesized structure was then evaluated with the second sample in Study 3.

Results

Research Question 2: What is the underlying factor structure of managerial coaching behaviors as represented by the refined item pool?

All items had skew within recommended range of ±1.0, however seven items had kurtosis values larger than ±1.0 and were removed (Muthén and Kaplan, 1985). Item variances ranged from 1.84 to 3.22, with item means ranging from 3.54 to 5.45. In addition to univariate normality, the assumption of multivariate normality was evaluated by examining the quantile-quantile (Q-Q) plots and the probability-probability (P-P) plots, which supported multivariate normality. Sphericity and sampling adequacy were also assessed to evaluate the data's appropriateness for factor analyses. Bartlett's test of Sphericity was significant (χ^2 (378) = 13,954.82, $p < .001$) suggesting items were correlated beyond zero. In addition, the Kaiser-Myer-

Olkin (KMO) index was .97 suggesting the sampling adequacy was “marvelous” (Kaiser, 1974). In addition, EFA results found adequate item communalities (.47 to .85; Clark & Watson, 1995).

Hypothesis 1. The items in the refined item pool load on multiple unidimensional factors corresponding to separate managerial coaching skills and discriminate from other factors as reflected by low cross-loadings.

An exploratory principle axis factor analysis with oblique rotation was conducted to evaluate hypothesis one. The EFA produced five factors with Eigenvalues greater than 1.0. To arrive at the simplest structure, five iterative analyses were conducted by removing items with low factor loadings and high cross-loadings (see Table 5). This resulted in a four-factor solution consisting of 28 items. Subsequent reliability analyses were conducted on the remaining 28 items to evaluate the inter-item relationships with more specificity. In general, inter-item correlations were modest across the dimensions (.39 to .79) with the exception of four items in factor three that represented positive feedback (.82-.87). According to Netemeyer (2003), items with disproportionately higher correlations compared to other items in the scale can produce correlated measurement errors. In reviewing the item language, there were two sets of two items related to positive feedback that were highly redundant (posfdbk_1 & posfdbk_2, posfdbk_3 & posfdbk_4). As a result, the two items with lowest correlations with the other items included in the dimension were removed (posfdbk_1 & posfdbk_3). Once these two items were removed and the items were re-evaluated, another item then had a relatively low item-total correlation (.74) compared to the other items in the scale (.82-.86). In reviewing the language of that item, it represented a related but separate concept from the other included items (acceptance rather than support) and was also removed. This resulted in a final 24 item solution (see Tables 6 and 7).

Hypothesis 1 was supported with a revised EFA evaluating the factor structure of the remaining 24 items. This solution resulted in a four-factor structure with satisfactory factor loadings (.61-.88) and cross-loadings (-.26 to .32; see Table 7). All four factors were extracted having Eigenvalues greater than 1 (Kaiser, 1966), which was confirmed with an examination of the scree plot (Cattell, 1966; see Figure 2). All four factors were significantly correlated with one another and inter-factor correlations ranged from .53 to .68 (see Table 8). Cronbach's alphas suggest that each factor has good internal-consistency ranging from .87 to .95, with the internal-consistency of overall scale being .97 (see Table 8).

The four factors were labeled challenge, autonomy, reflection, and support based on the managerial coaching behaviors they represented. The challenge factor (seven items) is composed of coaching behaviors that encourage employees toward new opportunities for learning and growth that are aligned with one's skill level and interests. From the original theoretical model (see Table 1), the challenge dimension represented behaviors from the coaching skills of personalized development (appropriately challenging work assignments and personalized learning opportunities) and providing support (encouragement toward novelty and growth). The autonomy factor (five items) is composed solely from the allowing choice coaching behavior from the granting control coaching category of the theoretical model and are related to giving employees the freedom to make decisions and complete their work in a manner of their choosing. The reflection factor (six items) consists of behaviors that stimulate reflective dialogue through soliciting and listening to employees' perspectives and asking questions to stimulate reflection. Reflection is composed of items from the coaching skills of granting control (using questions to support problem solving) and perspective taking (asking follow-up and clarifying questions). Lastly, the support factor (six items) includes supportive coaching behaviors such as offering

help, encouragement, and positive feedback that were drawn from the coaching skills of expressing benevolence (unconditional positive regard), perspective taking (acknowledging the employee perspective), giving feedback (giving positive feedback), and providing support (support in times of threat). The resulting scale was then administered to a second representative sample in Study 3 to examine whether this factor structure is generalizable.

Chapter IV: Study 3 - Confirmatory Factor Analysis and Validity Evaluation

Introduction

Study 3 included the administration of the refined items to a second representative sample of employees to evaluate the hypothesized factor structure. In addition, Study 3 evaluated the construct and criterion validity of the MCQ by exploring its relationship with established measures of related constructs. The CFA is intended to replicate the dimensionality and factor structure underlying the items to a second representative sample providing additional evidence of structural validity (Loveinger, 1957). However, it was also be used to further refine the scales in reviewing the significance and magnitude of parameter estimates (Netemeyer et al., 2003). Also, to examine convergent and discriminant validity Study 3 assesses whether the MCQ is associated in predicted ways to constructs that are theoretically related and unrelated to managerial coaching, including an existing measure of managerial coaching, empowering leadership, transformational leadership, and social desirability. In addition, predictive and incremental validity were examined by exploring the relationship between the MCQ and employee need satisfaction, including its relationship to need satisfaction above and beyond an existing measure of managerial coaching, transformational leadership, and empowering leadership. Lastly, predictive and incremental validity were assessed by examining the MCQ's relationship with employee well-being, including above and beyond transformational and empowering leadership.

Methods

Consideration for Potential Method Biases. Method biases identified by methodologists requiring consideration when conducting single source, single method research include common method bias, social desirability, and leniency biases (Podsakoff, Mackenzie, Lee, & Podsakoff, 2003). Common method bias occurs when the observed variance is

attributable to the shared method utilized in the measurement of variables rather than a reflection of the real relationship between them (Podsakoff et al., 2003). Social desirability bias is the tendency for respondents to respond in a socially favorable way to present themselves in a positive light (Crown & Marlowe, 1964). Similarly, leniency bias is the tendency to rate individuals one knows more favorably (Guilford, 1954).

In consideration of these potential sources of bias, measures of employee need satisfaction and well-being were collected at a second time point to provide temporal separation between predictor and criterion variables which helps to mitigate common method bias (Podsakoff et al., 2003). In addition, the anonymity of employee responses, as well as informing respondents that there are no right or wrong answers were utilized to help to minimize the effects of social desirability and leniency effects (Podsakoff et al., 2003). Furthermore, the relationship between the managerial coaching measure and social desirability was utilized to determine whether variance in responses to the new scale can be attributed to the effects of social desirability. These steps were selected to mitigate common method bias and social desirability as potential confounds of the observed relationships.

Furthermore, past research on leniency bias have been mixed with some researchers finding no effect of leniency bias on leader ratings (e.g., Bass & Avolio, 1989), and others finding a significant effect (Schriesheim, Kinicki, & Schriesheim, 1979). As a result, a measure of leniency toward one's manager was measured and assessed as a control variable in analyses examining the relationship between leader behaviors and employee well-being.

Participants. The participants for Study 3 were also from MTurk and again restricted to individuals who work full time (35 or more hours per week), are not self-employed, and have a

direct supervisor that they interact with on at least two times per week. The sample size for Study 3 was 446 employees at time one and 328 at time two.

Participants at time one averaged 39 years old, ranging from 19 to 68 years of age, was 44% female and 56% male, and made an average of $57,270 per year with a range of $11,000 to $201,000. The sample had an average of 18.6 years of work experience, worked an average of 42.1 hours per week, had been at their organization for 7.5 years, and in their current position for 5.3 years. Participants worked in a range of industries (see Table 5). The sample was composed of 50% managers and 50% individual contributors, and reported interacting with their manager on average 10.7 times per week for a total of 6.3 hours per week on average. The highest level of educational attainment of the sample included 7.8% with a high-school diploma, 14.6% completing some college, 11.2% having an associate's degree, 45.7% having a bachelor's degree, 14.6% having a master's degree, 2.9% with a professional degree (e.g. MBA, JD, MD), and 3.1% having a doctorate degree. Approximately 74.4% identified as White, 4.3% identified as Hispanic or Latino, 7.0% identified as Black or African American, 0.4% identified as Native American or American Indian, 8.1% identified as Asian or Pacific Islander, and 5.8% identified as multiple races or ethnicities.

In total there were 390 responses at Time 2. The data was cleaned based on the inclusion criteria, with one case removed who did not consent to participate, 28 cases removed who had changed their manager in the previous seven days, seven cases removed who had changed organizations in the past seven days, and 22 cases removed who had changed jobs or teams in the past seven days, and four cases removed who failed one of the two attention checks. This resulted in a final sample of 328 who one-sample t-tests revealed were not significantly different than the broader sample in age ($t(326) = .19$, $p = .852$), income ($t(326) = .40$, $p = .692$), years of

work experience ($t(326) = .23$, $p = .817$), hours worked per week ($t(326) = .90$, $p = .371$), time interacting with their manager ($t(326) = .46$, $p = .460$), or frequency of interaction ($t(326) = .10$, $p = .924$). However, they did show significantly longer role tenure ($t(326) = 5.71$, $p < .001$) than the broader sample at time 1. The time two sample averaged 39 years old, ranging from 19 to 68 years of age, were 46% female and 54% male, and made an average of $56,593 per year with a range of $4,200 to $201,000. The sample had an average of 18.7 years of work experience, worked an average of 41.9 hours per week, had been at their organization for 7.3 years, and in their current position for 5.2 years. Participants worked in a range of industries (see Table 5). The sample was composed of 45% managers and 55% individual contributors, and report interacting with their manager on average 10.8 times per week for a total of 5.9 hours per week on average. The highest level of educational attainment of the sample included 6.1% with a high-school diploma, 14.3% completing some college, 11.0% having an associate's degree, 48.2% having a bachelor's degree, 13.1% having a master's degree, 2.7% with a professional degree (e.g. MBA, JD, MD), and 2.7% having a doctorate degree. Approximately 73.8% identified as White, 3.7% identified as Hispanic or Latino, 7.0% identified as Black or African American, 0.6% identified as Native American or American Indian, 7.0% identified as Asian or Pacific Islander, and 7.9% identified as multiple races or ethnicities.

Procedure. Survey responses were collected from MTurk using Qualtrics survey software. The MCQ, employee perceptions of supervisor/line manager coaching behavior, transformational leadership, empowering leadership, social desirability, liking of manager, and demographics were collected at time one. Employee need satisfaction, engagement, job satisfaction, burnout, and sleep quality were collected at time two. As previously mentioned, the temporal separation between the administration of the predictor variables (leadership measures)

and criterion variables (employee need satisfaction and well-being) was applied to minimize common method bias (Podsakoff et al., 2003). The time between administration of time one and time two surveys was three days to avoid the problems associated with waiting too long between administrations, such as attrition, history, and maturation (Podsakoff et al., 2003).

Measures.

Managerial coaching. Members were presented with the finalized 24 MCQ items refined in Study 2 representing the four sub-dimensions of challenge, autonomy, reflection, and support**.** The challenge sub-scale contains seven items (e.g., "My manager assigns me work projects that allow me to use my full capabilities"). The autonomy sub-scale contains five items (e.g., "My manager allows me to decide the best way to complete my work"). The reflection sub-scale contains six items (e.g., "My manager asks questions to help me think through problems on my own"). Lastly, the support sub-scale contains six items (e.g., "My manager goes out of his/her way to help me when I have a problem").The items were again presented in random order and participants were asked the frequency with which their direct manager engages in the proposed coaching behavior when they have the opportunity to do so based on a seven-point scale (1 = "Never", 2 = "Rarely", 3 = "Sometimes", 4 = "About half the time", 5 = "Often", 6 = "Very often", 7 = "Always").

Demographics. Demographic details were assessed using individual questions that will ask respondents for their age, gender, race/ethnicity, income, education, and years of work experience.

Work context. Participants were asked to provide the average number of hours they work per week, the frequency of contact with their supervisor, and their industry of employment.

Change in work context. At time two, participants were asked whether they have changed managers or organizations since completing the survey at time one.

Employee Perceptions of Supervisor/Line Manager Coaching Behavior Measure. Ellinger and colleagues (2003) measure of managerial coaching behaviors was included as a comparative measure of managerial coaching (α=.91). This measure includes eight items, including "My supervisor uses analogies, scenarios, and examples to help me learn" and "My supervisor provides me with constructive feedback." Response options range from 1 ("almost never") to 7 ("almost always").

Transformational leadership. Transformational leadership was measured using the 20-item transformational leadership subscale of the Multifactor Leadership Questionnaire (MLQ 5x-Short; α = .97; Bass & Avolio, 1995). The transformational subscale of the MLQ contains five sub-dimensions (individualized consideration: 8 items, inspirational motivation: 4 items, intellectual stimulation: 4 items, idealized influence: 4 items). Example items include, "My leader talks about his/her most important values and beliefs" (idealized influence) and "My leader seeks differing perspectives when solving problems" (intellectual stimulation). Response options range from 0 ("not at all") to 4 ("frequently, if not always"). A composite score was calculated by averaging responses across all items.

Empowering leadership. Empowering leadership was measured using Arnold, Arad, Rhoades, and Drasgow (2000) 38-item Empowering Leadership Questionnaire (ELQ; α = .98). The ELQ has five sub-scales, including coaching, informing, leading by example, showing concern, and participative decision-making. Example items include "Listens to my work group's ideas and suggestions" and "Treats work group members as equals." Response options range

from 1 (“Never”) to 5 (“Always”). A composite score was calculated by averaging responses across all items.

Social desirability. Social desirability was measured using a 13-item measure developed by Reynolds (1982; α = .80) based on the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960). Example items include, “It is sometimes hard for me to go on with my work if I am not encouraged” and “I sometimes feel resentful when I don't get my way.” The scale utilizes a true-false binary response format. A scale score was created by calculating the sum all socially desireable responses.

Liking of manager. Liking of manager was measured using the three-item measure of affect developed by Liden and Maslyn (1998; α = .94). The authors define affect as “mutual affection members of the dyad have for each other based primarily on interpersonal attraction” (p. 50; Liden & Maslyn, 1998). Example items include “I like my supervisor very much as a person” and “My supervisor is a lot of fun to work with.” Response options range from 1 (“Strongly disagree”) to 7 (“Strongly agree”). A composite score was calculated by averaging responses across all items.

Employee need satisfaction. Employee need satisfaction, including autonomy (α = .83), competence (α = .80), relatedness (α = .92), and overall need satisfaction (α = .93) was assessed using the 21-item Basic Psychological Need Satisfaction at Work Scale (Deci, Ryan, Gagné, Leone, Usunov, & Kornazheva, 2001; Ilardi, Leone, Kasser, & Ryan, 1993; Kasser, Davey, & Ryan, 1992). Example items include: “I feel like I can make a lot of inputs to deciding how my job gets done” (autonomy), “Most days I feel a sense of accomplishment from working” (competence), and “I really like the people I work with” (relatedness). Response options range

from 1 (“Not at all true”) to 7 (“Very true”). A composite score was calculated by averaging responses across all items.

Employee engagement. Work engagement was measured using the nine-item Utrecht Work Engagement Scale (UWES-9; Schaufeli, Bakker, & Salanova, 2006; α = .95). This scale measures the engagement facets of dedication, absorption, and vigor. Example items include, “When I get up in the morning, I feel like going to work” (vigor), “I am enthusiastic about my job” (dedication), and “I feel happy when I am working intensely” (absorption). Response options range from 0 (“Never”) to 6 (“Always”). A composite score was calculated by averaging responses across all items.

Job satisfaction. Job satisfaction was measured using the three-item general job satisfaction scale from the Job Diagnostic Survey (Hackman & Oldham, 1975; α = .90). Items include “Generally speaking, I am very satisfied with my job,” “I am generally satisfied with the kind of work I do in this job,” and “I frequently think of quitting this job.” Response options range from 1 (“Strongly disagree”) to 7 (“Strongly agree”). A composite score was calculated by averaging responses across all items.

Burnout. Burnout was measured using the 16-item Maslach Burnout Inventory (MBI; Maslach, Jackson, & Leiter, 1996; α = .83). The MBI has three sub-scales including exhaustion, cynicism, and professional efficacy. Example items include, “I feel emotionally drained from my work” (exhaustion), “I doubt the significance of my work” (cynicism), and “I can effectively solve the problems that arise in my work” (personal efficacy). Response options range from 1 (“Strongly disagree”) to 5 (“Strongly agree”). A composite score was calculated by averaging responses across all items.

Sleep quality. Sleep quality was measured using the 4-item sleep quality sub-scale (α = .90) of the Karolinska Sleep Questionnaire (Nordin, Åkerstedt, & Nordin, 2013). Respondents are asked to rate how frequently they experienced different sleep complaints over the past three months. Examples items include, "…difficulties falling asleep" and "…disturbed/restless sleep." Response options range from 0 ("Never") to 5 ("Always – 5 times or more per week"). A composite score was calculated by averaging responses across all items.

Analysis. The data was initially cleaned to ensure the participants met the criteria for the study. The 24 revised managerial coaching items were administered to 508 participants. Three cases were removed who did not provide informed consent, 10 cases were removed because they were self-employed, 19 cases were removed because they worked fewer than 35 hours per week, 17 cases were removed because they did not have a direct manager in their work place, two cases were removed for being at their organization less than six months, three cases were removed who interreacted with their manager fewer than three times on average per week, and finally 10 cases were removed who failed one of the three attention check questions.

Analyses related to convergent and discriminant validity, as well as structural validity utilized data from time one only (n = 446), however analyses examining predictive and incremental validity utilized data from both time one and time two (n = 328).

Structural validity. A CFA was conducted using a maximum likelihood estimation method in IBM SPSS Amos version 24 to test the four-factor refined factor structure identified in Study 2. A hierarchical model was created specifying each item as loading onto one of the four respective dimensions, along with a single underlying latent factor representing managerial coaching underlying the four behavioral dimensions (see Figure 3). Error terms were estimated

for each item as well as for the four endogenous latent coaching behaviors. To specify the model, one path between each latent variable and its reflective measures was fixed to one.

The model fit was assessed using common fit indicators including x^2 goodness-of-fit statistic, RMSEA, CFI, TLI, and SRMR (Hu & Bentler, 1999; Netemeyer et al., 2003). For the x^2 statistic, non-significance is desirable as it suggests a similarity between the sample and hypothesized covariance matrices (Hu & Bentler, 1999). However, it is sensitive to sample size and as such additional indices are recommended (Netemeyer et al., 2003). In particular, Hu and Bentler (1999) suggest that a cutoff value near .95 for TLI and CFI, .08 for SRMR, and .06 for RMSEA as indicators suggesting good fit between the specified model and the data. Results that fall within these suggested values was taken as evidence for a good fit between the hypothesized factor structure and the data.

In addition, non-hierarchical CFA models of the data were also specified to compare whether managerial coaching behaviors are best conceptualized as hierarchical or non-hierarchical. In particular, the comparison models included specifying a single latent managerial coaching factor as well as four independent first-order factors representing each managerial coaching skill. Model fit was compared based on AIC values using a chi-square difference test.

***Control variables*.** Binary correlations between the MCQ, leadership measures, outcomes of interest, and potential control variables were examined to identify potential confounding variables that would need to be controlled for in analyses. Furthermore, t-tests were utilized to examine gender differences, and ANOVAs were conducted to examine racial differences on the outcomes of need satisfaction, work engagement, job satisfaction, burnout, and sleep quality.

Construct validity. Convergent and discriminant validity was evaluated by examining relationships between the MCQ and related constructs using Pearson correlations and

hierarchical linear regression models with appropriate control variables. In addition, hierarchical linear regression was also utilized to examine the MCQ's relationship with employee need satisfaction and well-being outcomes. Age, gender, and tenure within the organization were examined as potential control variables, due to previous research suggesting these factors are related to attitudes and employee outcomes (e.g., Riordan, Griffith, & Weatherly, 2003). As previously specified, social desirability and leniency bias (liking for manager) were also examined as potential control variables due to their potential confounding effects.

Incremental validity. Hierarchal linear regression models were used to evaluate incremental validity by entering control variables at step one, the established leadership measures at step two, and the MCQ at step three.

Mediation. Lastly, employee need satisfaction was examined as a mediator of the relationship between the MCQ employee well-being using bootstrapping methods in SPSS 24 by utilizing the PROCESS macro to generate path estimates (Hayes, 2017).

Results

Hypothesis 2. The hypothesized factor structure is generalizable to a second sample of employees, as reflected by a good fit between the data and the refined structural model.

A CFA was conducted using a maximum likelihood estimation method in IBM SPSS Amos version 24 to test the four-factor refined factor structure identified in Study 2. A hierarchical model was created specifying each item as loading onto one of the four respective dimensions, along with a single underlying latent factor representing managerial coaching underlying the four behavioral dimensions (see Figure 3). Error terms were estimated for each item as well as for the four endogenous latent coaching behaviors. To specify the model, one path between each latent variable and its reflective measures was fixed to one.

Hypothesis 2 was supported with the model reflecting good fit with the data (CMIN/DF = 2.84, TLI = .94, CFI = .95, RMSEA = .064, SRMR = .038). To evaluate model fit, Hu and Bentler (1999) suggest that a cutoff value near .95 for TLI and CFI, .08 for SRMR, and .06 for RMSEA as indicators suggesting good fit between the specified model and the data. For the x^2 statistic, non-significance is desirable as it suggests a similarity between the sample and hypothesized covariance matrices (Hu & Bentler, 1999). Although the chi-square test of the model was significant (χ^2 (248) = 704.91, p < .001), it is sensitive to sample size and as such additional indices are recommended (Netemeyer et al., 2003).

The item-factor loadings ranged from .66 (autonomy_3) to .89 (autonomy_1) and were all significant at *p* less than .001. In addition, the loadings from managerial coaching to the four dimensions were also significant at *p* less than .001 and ranged from .71 (autonomy) to .95 (challenge). Cronbach alphas for the sub-scales suggest strong internal consistency for challenge (.93), autonomy (.88), reflection (.93), and support (.94), as well as for the managerial coaching scale overall (.97).

Hypothesis 3. The factor structure of managerial coaching will display better model fit when conceptualized as having a single underlying latent construct of overall managerial coaching skill, as compared to a model specifying the coaching skills independently without a single higher order factor.

Two additional non-hierarchical CFA models were specified using a maximum likelihood estimation method in IBM SPSS Amos version 24 to evaluate hypothesis three. The two comparison models included one with items reflecting a single latent factor representing managerial coaching (see Figure 4), and the other with four separate latent factors representing each of the four coaching skills specified by their respective coaching behavioral items (see

Figure 5). Based on Hu and Bentler's (1999) criteria, fit indices suggest poor overall fit to the data for both the single latent factor model (χ^2 (253) = 2,538.46, p < .001, CMIN/DF = 10.03, TLI = .73, CFI = .75, RMSEA = .142, SRMR = .183), as well as the four independent latent factor model (χ^2 (252) = 1,928.74, p < .001, CMIN/DF = 7.65, TLI = .80, CFI = .82, RMSEA = .122, SRMR = .438). In addition, chi-square difference tests and a lower AIC value for the hierarchical model (AIC = 856.91) compared to either the single latent factor model (AIC = 2,680.46, χ^2 (2) = 1,895.47, p < .001) or the four latent factor model (AIC = 2,072.74, χ^2 (2) = 1,285.75, p < .001) suggest significantly better fit for the hierarchical model.

Therefore, results support hypothesis three suggesting a hierarchical structure with four first-order latent factors reflecting each coaching skill and a single second-order factor reflecting managerial coaching better represents the theoretical relationships observed between the managerial coaching skills and behaviors when compared to non-hierarchical models.

Research Question 3: Does managerial coaching demonstrate construct-level validity in its relationship to relevant constructs in the direction supported by theory?

Control variables were first identified through an examination of the correlation table including the MCQ, established leadership measures, well-being outcomes, and demographic variables (see Table 9). Results revealed that both liking and social desirability were significantly correlated with the MCQ, all leadership measures, and all four well-being outcomes (p < .001). In addition, work engagement was found to be significantly related to both age (r(327) = .14, p = .009) and gender (t(325) = -1.99, p = .047). Lastly, sleep quality was also found to be significantly related to gender (t(325) = -2.69, p = .007). As a result, these control variables were included in analyses related to these constructs.

Hypothesis 4. Managerial coaching is positively correlated with employee perceptions of supervisor/line manager coaching behavior.

Pearson correlations and hierarchical linear regression were utilized to evaluate hypothesis four. The newly created managerial coaching scale is significantly positively correlated with employee perceptions of supervisor/line manager coaching behavior ($r(446) = .84$, $p > .001$). In addition, this relationship was consistent when controlling for social desirability and liking of manager using linear regression ($\beta = .71$, $t(442) = 18.85$, $p > .001$, $r^2 = .72$, $F(1, 442) = 372.37$, $p > .001$). As an exploratory step, correlations were also calculated between perceptions of coaching behavior and the MCQ sub-dimensions of challenge ($r(446) = .78$, $p > .001$), autonomy ($r(446) = .51$, $p > .001$), reflection ($r(446) = .82$, $p > .001$), and support ($r(446) = .79$, $p > .001$).

Hypothesis four was supported with both correlational and regression results showing a positive relationship between managerial coaching and employee perceptions of supervisor/line manager coaching behavior. Exploratory correlations further reveal that the MCQ sub-dimensions were also each independently significantly correlated with employee perceptions of supervisor/line manager coaching behavior further supporting hypothesis four.

Hypothesis 5. Managerial coaching is positively correlated with empowering leadership.

Pearson correlations and hierarchical linear regression were utilized to evaluate hypothesis five. The MCQ was found to be significantly positively correlated with empowering leadership ($r(446) = .82$, $p > .001$). In addition, this relationship was consistent when controlling for social desirability and liking of manager using linear regression ($\beta = .46$, $t(442) = 14.28$, $p > .001$, $r^2 = .79$, $F(1, 442) = 554.31$, $p > .001$). As an exploratory step, correlations were also calculated between empowering leadership and the MCQ sub-dimensions of challenge ($r(446) =$

.72, $p > .001$), autonomy ($r(446) = .55$, $p > .001$), reflection ($r(446) = .73$, $p > .001$), and support ($r(446) = .86$, $p > .001$).

Hypothesis five was supported with both correlational and regression results showing a positive relationship between managerial coaching and empowering leadership. Exploratory correlations further reveal that the MCQ sub-dimensions were also each independently significantly correlated with empowering leadership further supporting hypothesis five.

Hypothesis 6. Managerial coaching is moderately positively correlated with transformational leadership.

Pearson correlations and hierarchical linear regression were utilized to evaluate hypothesis six. The newly created managerial coaching scale was highly (rather than moderately) positively correlated with transformational leadership ($r(446) = .84$, $p > .001$), however this relationship becomes moderate when controlling for social desirability and liking of manager using linear regression ($\beta = .61$, $t(442) = 17.61$, $p > .001$, $r^2 = .75$, $F(1, 442) = 456.08$, $p > .001$). As an exploratory step, correlations were also calculated between transformational leadership and the MCQ sub-dimensions of challenge ($r(446) = .76$, $p > .001$), autonomy ($r(446) = .57$, $p > .001$), reflection ($r(446) = .77$, $p > .001$), and support ($r(446) = .85$, $p > .001$).

Hypothesis six was supported with both correlational and regression results showing a positive relationship between managerial coaching and transformational leadership. Exploratory correlations further reveal that the MCQ sub-dimensions were also each independently significantly correlated with transformational leadership further supporting hypothesis six.

Hypothesis 7. Managerial coaching is not significantly correlated with social desirability.

Pearson correlations were utilized to evaluate hypothesis seven. Results showed that the MCQ is significantly correlated with social desirability ($r(446) = .17$, $p > .001$), however similar

relationships were observed between social desirability and the other leadership measures including perceptions of coaching behavior ($r(446) = .16$, $p > .001$), empowering leadership ($r(446) = .10$, $p > .001$), and transformational leadership ($r(446) = .12$, $p > .001$). In addition, the observed relationship is weak which is considered sufficient evidence for discriminant validity (Netemeyer et al., 2003). As an exploratory step, correlations were also calculated between social desirability and the MCQ sub dimension including challenge ($r(446) = .18$, $p > .001$), autonomy ($r(446) = .09$, $p = .059$), reflection ($r(446) = .17$, $p > .001$), and support ($r(446) = .14$, $p = .004$).

Hypothesis seven was not supported with correlational results showing a significant positive relationship between managerial coaching and social desirability. Exploratory correlations further reveal that the MCQ sub-dimensions were also each independently significantly correlated with social desirability, with the exception of the autonomy dimension.

Research Question 4

Does managerial coaching support employee need satisfaction in alignment with the theoretical propositions of the managerial coaching framework?

Hypothesis 8. Managerial coaching is positively related to the satisfaction of employee needs, including overall employee need satisfaction (*8a*), autonomy need satisfaction (*8b*), competence need satisfaction, (*8c*), and relatedness need satisfaction (*8d*).

Hierarchical linear regression was utilized to evaluate hypothesis eight with control variables entered at step one followed by the MCQ at step two predicting employee need satisfaction. Results found that managerial coaching accounted for significant variance in overall employee need satisfaction ($\beta = .45$, $t(323) = 7.47$, $p > .001$, $r^2 = .48$, $F(3, 323) = 99.11$, $p < .001$), competence need satisfaction ($\beta = .47$, $t(323) = 7.09$, $p > .001$, $r^2 = .37$, $F(3, 323) = 64.14$,

$p < .001$), autonomy need satisfaction ($\beta = .52$, $t(323) = 8.56$, $p > .001$, $r^2 = .45$, $F(3, 323) = 90.42$, $p < .001$), and relatedness need satisfaction ($\beta = .22$, $t(323) = 3.18$, $p = .002$, $r^2 = .29$, $F(3, 323) = 43.93$, $p < .001$) above and beyond social desirability and liking of manager (see Table 12).

As an exploratory analysis, the relationships between the satisfaction of employee needs and the four coaching sub-dimensions were examined. Results found that the challenge coaching skill ($\beta = .36$, $t(323) = 6.91$, $p > .001$, $r^2 = .47$, $F(3, 323) = 94.86$, $p < .001$), autonomy coaching skill ($\beta = .39$, $t(323) = 8.41$, $p > .001$, $r^2 = .50$, $F(3, 323) = 107.23$, $p < .001$), reflection coaching skill ($\beta = .19$, $t(323) = 3.37$, $p > .001$, $r^2 = .41$, $F(3, 323) = 74.87$, $p < .001$), and support coaching skill ($\beta = .42$, $t(323) = 5.72$, $p > .001$, $r^2 = .45$, $F(3, 323) = 86.49$, $p < .001$) all independently predict *overall* employee need satisfaction controlling for social desirability and liking of manager.

Hypothesis eight was supported regression results showing a positive relationship between managerial coaching and employee need satisfaction overall, and all three needs individually. Exploratory correlations further reveal that the MCQ sub-dimensions are also each independently significantly correlated with overall need satisfaction further supporting hypothesis eight.

Hypothesis 9. Managerial coaching is positively related to the satisfaction of employee needs above and beyond the *employee perceptions of supervisor/line manager coaching behavior measure*, including overall employee need satisfaction (*9a*), autonomy need satisfaction (*9b*), competence need satisfaction, (*9c*), and relatedness need satisfaction (*9d*).

Hierarchical linear regression was utilized to evaluate hypothesis nine with control variables entered at step one, followed by perceptions of supervisor/line manager coaching at

step two, and the MCQ at step three, predicting employee need satisfaction. Managerial coaching accounted for significant variance in overall employee need satisfaction (β = .50, $t(322) = 6.09$, $p > .001$, $r^2 = .48$, $F(4, 322) = 74.52$, $p < .001$), competence need satisfaction (β = .45, $t(322) = 6.06$, $p > .001$, $r^2 = .38$, $F(4, 322) = 48.62$, $p < .001$), autonomy need satisfaction (β = .60, $t(322) = 8.16$, $p > .001$, $r^2 = .47$, $F(4, 322) = 70.99$, $p < .001$), but not relatedness need satisfaction (β = .15, $t(322) = 1.65$, $p = .101$, $r^2 = .29$, $F(4, 322) = 33.19$, $p < .001$) above and beyond the measure of employee perceptions of supervisor/line manager coaching, after controlling for social desirability and liking of manager.

As an exploratory analysis, the relationship between the four coaching sub-dimensions and *overall* need satisfaction beyond employee perceptions of supervisor/line manager coaching behavior was examined. Results found that the challenge coaching skill (β = .36, $t(322) = 5.33$, $p > .001$, $r^2 = .47$, $F(4, 322) = 70.79$, $p < .001$), autonomy coaching skill (β = .36, $t(322) = 7.42$, $p > .001$, $r^2 = .51$, $F(4, 322) = 82.28$, $p < .001$), and support coaching skill (β = .36, $t(322) = 5.33$, $p > .001$, $r^2 = .47$, $F(4, 322) = 70.79$, $p < .001$) all independently predict overall employee need satisfaction above and beyond employee perceptions of supervisor/line manager coaching behavior controlling for social desirability and liking of manager. However, reflection coaching skill (β = .05, $t(322) = .63$, $p = .532$, $r^2 = .42$, $F(4, 322) = 58.69$, $p < .001$) did not account for significant unique variance in overall employee need satisfaction above and beyond employee perceptions of supervisor/line manager coaching behavior controlling for social desirability and liking of manager.

Hypotheses *9a, 9b*, and *9c* were supported, but not *9d* (see Table 13). Regression results found a significant relationship between managerial coaching and employee need satisfaction overall, autonomy need satisfaction, and competence need satisfaction, but not relatedness need

satisfaction above and beyond perceptions of supervisor/line manager coaching. Exploratory regression analyses further reveal that the MCQ sub-dimensions each independently significantly predict overall need satisfaction beyond perceptions of supervisor/line manager coaching, with the exception of the reflection sub-dimension which was non-significant.

Hypothesis 10. Managerial coaching is positively related to the satisfaction of employee needs above and beyond transformational leadership, including overall employee need satisfaction (*10a*), autonomy need satisfaction (*10b*), competence need satisfaction, (*10c*), and relatedness need satisfaction (*10d*).

Hierarchical linear regression was utilized to evaluate hypothesis 10 with control variables entered at step one, followed by transformational leadership at step two, and the MCQ at step three, predicting employee need satisfaction. Managerial coaching accounted for significant variance in overall employee need satisfaction ($\beta = .33$, $t(322) = 5.34$, $p > .001$, $r^2 = .48$, $F(4, 322) = 56.63$, $p < .001$), competence need satisfaction ($\beta = .33$, $t(322) = 4.61$, $p > .001$, $r^2 = .38$, $F(4, 322) = 48.57$, $p < .001$), and autonomy need satisfaction ($\beta = .53$, $t(322) = 7.52$, $p > .001$, $r^2 = .46$, $F(4, 322) = 68.66$, $p < .001$), but not relatedness need satisfaction ($\beta = .14$, $t(322) = 1.59$, $p = .114$, $r^2 = .29$, $F(4, 322) = 33.20$, $p < .001$) above and beyond transformational leadership after controlling for social desirability and liking of manager.

Hypotheses *10a, 10b*, and *10c*, but not *10d* were supported (see Table 14). Regression results found a significant relationship between managerial coaching and employee need satisfaction overall, autonomy need satisfaction, and competence need satisfaction, but not relatedness need satisfaction above and beyond transformational leadership.

Hypothesis 11. Managerial coaching is positively related to the satisfaction of employee needs above and beyond empowering leadership, including overall employee need satisfaction (*11a*), competence need satisfaction, (*11b*), and relatedness need satisfaction (*11c*).

Hierarchical linear regression was utilized to evaluate hypothesis 11 with control variables entered at step one, followed by empowering leadership at step two, and the MCQ at step three, predicting employee need satisfaction. Managerial coaching accounted for significant variance in overall employee need satisfaction ($\beta = .34$, $t(322) = 5.88$, $p > .001$, $r^2 = .48$, $F(4, 322) = 74.15$, $p < .001$), competence need satisfaction ($\beta = .38$, $t(322) = 5.64$, $p > .001$, $r^2 = .37$, $F(4, 322) = 47.97$, $p < .001$), and relatedness need satisfaction ($\beta = .21$, $t(322) = 2.46$, $p = .001$, $r^2 = .29$, $F(4, 322) = 32.86$, $p < .001$) above and beyond empowering leadership after controlling for social desirability and liking of manager.

Hypotheses *11a, 11b*, and *11c* were supported (see Table 15). Regression results found a significant relationship between managerial coaching and employee need satisfaction overall, competence need satisfaction, and relatedness need satisfaction above and beyond empowering leadership.

Research Question 5

Is managerial coaching predictive of employee well-being in alignment with the theoretical propositions of SDT?

Hypothesis 12. Managerial coaching is positively related to job satisfaction.

Hierarchical linear regression was utilized to evaluate hypothesis 12 with control variables entered at step one and the MCQ entered at step two in predicting job satisfaction. Hypothesis 12 was supported with managerial coaching accounting for significant variance in

employee job satisfaction after controlling for social desirability and manager liking (β = .39, $t(323) = 4.83$, $p > .001$, $r^2 = .39$, $F(3, 323) = 69.16$, $p < .001$; see Table 16).

Hypothesis 13. Managerial coaching is positively related to employee work engagement.

Hierarchical linear regression was utilized to evaluate hypothesis 13 with control variables entered at step one and the MCQ entered at step two in predicting work engagement. Hypothesis 13 was supported with managerial coaching accounting for significant variance in employee engagement after controlling for social desirability, manager liking, age and gender (β = .35, $t(321) = 5.15$, $p > .001$, $r^2 = .35$, $F(5, 321) = 34.10$, $p < .001$; see Table 16).

Hypothesis 14. Managerial coaching is negatively related to employee burnout.

Hierarchical linear regression was utilized to evaluate hypothesis 14 with control variables entered at step one and the MCQ entered at step two in predicting employee burnout. Hypothesis 14 was supported with managerial coaching accounting for significant variance in employee burnout after controlling for social desirability and liking of manager (β = -.14, $t(323) = -1.97$, $p = .05$, $r^2 = .26$, $F(3, 323) = 38.45$, $p < .001$; see Table 16).

Hypothesis 15. Managerial coaching is positively related to employee sleep quality.

Hierarchical linear regression was utilized to evaluate hypothesis 15 with control variables entered at step one and the MCQ entered at step two in predicting employee sleep quality. Hypothesis 15 was not supported with the relationship between managerial coaching and employee sleep quality being non-significant after controlling for social desirability, liking of manager, and gender (β = .-.09, $t(322) = -1.16$, $p = .246$, $r^2 = .14$, $F(4, 322) = 12.74$, $p < .001$; see Table 16).

Hypothesis 16. Employee need satisfaction mediates the relationship between managerial coaching and employee well-being, including employee job satisfaction (*16a*), work engagement (*16b*), burnout (*16c*), and sleep quality (*16d*).

Bootstrapped estimates of direct and indirect effects were used to investigate need satisfaction as a mediating mechanism accounting for the relationship between managerial coaching and employee well-being measures for hypothesis 16. The SPSS PROCESS macro was used to estimate mediation effects based on 10,000 bootstrapped samples using bias-corrected and accelerated 95% confidence intervals (Hayes, 2017).

A significant indirect effect of managerial coaching on job satisfaction through employee need satisfaction was discovered (IE = .34, SE = .06, 95% CI [.23, .46]), as well as a non-significant direct effect of managerial coaching on job satisfaction (DE = .05, SE = .07, 95% CI [-.09, .19]), after controlling for social desirability and liking of manager.

A significant indirect effect of managerial coaching on work engagement through employee need satisfaction was discovered (IE = .20, SE = .04, 95% CI [.14, .28]), as well as a non-significant direct effect of managerial coaching on work engagement (DE = .10, SE = .06, 95% CI [-.01, .21]), after controlling for employee age, gender, social desirability, and liking of manager.

A significant indirect effect of managerial coaching on employee burnout through employee need satisfaction was discovered (IE = -.15, SE = .03, 95% CI [-.21, -.10]), as well as a non-significant direct effect of managerial coaching on employee burnout (DE = .06, SE = .04, 95% CI [-.02, .15]), after controlling for social desirability and liking of manager.

Despite a significant indirect effect of managerial coaching on employee sleep quality through employee need satisfaction (IE = .13, SE = .05, 95% CI [.05, .22]) and a non-significant

direct effect of managerial coaching on employee sleep quality (DE = .03, SE = .09, 95% CI [-.15, .21]) after controlling for social desirability and liking of manager, the model shows a non-significant total effect of managerial coaching on sleep quality (TE = .10, SE = .09, [-.07, .27]) in alignment with the prior regression analysis.

Hypotheses *16a*, *16b*, and *16c*, but not *16d* were supported with need satisfaction mediating the relationship between managerial coaching and employee engagement, job satisfaction, and burnout, but not sleep quality respectively.

Hypothesis 17. Managerial coaching is predictive of employee well-being above and beyond transformational leadership, including employee job satisfaction (*17a*), work engagement (*17b*), burnout (*17c*), and sleep quality (*17d*).

Hierarchical linear regression was utilized to evaluate hypothesis 17 with control variables entered at step one, followed by transformational leadership at step two, and the MCQ at step three, predicting employee well-being outcomes. Managerial coaching accounted for significant variance in employee job satisfaction controlling for social desirability and liking of manager ($\beta = .26$, $t(322) = 2.50$, $p = .013$, $r^2 = .40$, $F(4, 322) = 53.13$, $p < .001$), as well as engagement controlling for social desirability, manager liking, age, and gender ($\beta = .20$, $t(320) = 2.76$, $p > .001$, $r^2 = .34$, $F(6, 320) = 29.42$, $p < .001$), above and beyond transformational leadership. Managerial coaching did not account for significant variance in burnout controlling for social desirability and liking of manager ($\beta = -.14$, $t(322) = -1.49$, $p = .138$, $r^2 = .25$, $F(4, 322) = 28.75$, $p < .001$), nor sleep quality above and beyond transformational leadership after controlling for social desirability, liking of manager, and gender ($\beta = -.11$, $t(321) = -.92$, $p = .358$, $r^2 = .14$, $F(5, 321) = 10.16$, $p = .001$; see Table 17).

Hypotheses *17a* and *17b*, but not *17c* or *17d* were supported with the MCQ accounting for significant unique variance in employee engagement and job satisfaction, but not burnout or sleep quality above and beyond transformational leadership.

Hypothesis 18. Managerial coaching is predictive of employee well-being above and beyond empowering leadership, including employee job satisfaction (*18a*), work engagement (*18b*), burnout (*18c*), and sleep quality (*18d*).

Hierarchical linear regression was utilized to evaluate hypothesis 18 with control variables entered at step one, followed by empowering leadership at step two, and the MCQ at step three, predicting employee well-being outcomes. Managerial coaching accounted for significant variance in overall employee job satisfaction controlling for social desirability and liking of manager ($\beta = .32$, $t(322) = 3.24$, $p = .001$, $r^2 = .39$, $F(4, 322) = 52.29$, $p < .001$), as well as engagement controlling for social desirability, manager liking, age, and gender ($\beta = .29$, $t(320) = 4.03$, $p > .001$, $r^2 = .35$, $F(6, 320) = 28.34$, $p < .001$), above and beyond empowering leadership. Managerial coaching did not account for significant variance in burnout controlling for social desirability and liking of manager ($\beta = -.07$, $t(322) = -1.17$, $p = .241$, $r^2 = .26$, $F(4, 322) = 28.93$, $p < .001$), nor sleep quality above and beyond empowering leadership after controlling for social desirability, liking of manager, and gender ($\beta = -.01$, $t(321) = -.09$, $p = .928$, $r^2 = .15$, $F(5, 321) = 10.89$, $p < .001$; see Table 18).

Hypotheses *18a* and *18b*, but not *18c* or *18d* were supported with the MCQ accounting for significant unique variance in employee engagement and job satisfaction, but not burnout or sleep quality above and beyond empowering leadership.

Chapter V: Discussion

Coaching, and managerial coaching, in particular, has become increasingly relevant in practice and research as an interpersonal process that enables motivation and development though practices that allow for the self-direction and agency of the coachee (Ellinger, Ellinger, & Keller, 2003; Evered & Selman, 1989; Pousa & Mathieu, 2010; Hamlin et al., 2006; Ting & Hart, 2004). As a philosophy of management and leadership, coaching's emphasis on autonomy has resulted in it being considered a category of empowering leadership behaviors (Arnold, Arad, Rhoades, & Drasgow, 2000; Konczak, Stelly, & Trusty, 2000), and intrinsic motivation has been identified as the key mechanism of the effectiveness of such forms of empowering leadership (Amundsen & Martinsen, 2014). However, to date there has been a lack of theory informing managerial coaching research and practice (Dahling et al., 2016; Liu & Batt, 2010), nor are there rigorously validated measures of managerial coaching behaviors (Hagen & Peterson, 2015). As a result, the measurement and conceptualization of managerial coaching has been inconsistent within existing research as evidenced by frameworks that have included concepts that are antithetical to the empowering nature of coaching, such as directive management techniques, or even non-behavioral attitudes and beliefs (Ellinger et al., 2006; Hamlin et al., 2006; McLean et al., 2005).

This dissertation set out to clarify the conceptual boundaries of managerial coaching and provide theoretical underpinnings by integrating it with self-determination theory. In doing so, this dissertation makes three primary contributions to the existing leadership and managerial coaching literature. First, it contributes to theory by providing a model of managerial coaching behaviors grounded in established psychological theory with clearly articulated motivational mechanisms. Second, it contributes to managerial practice by proposing coaching behaviors that

managers can utilize to create the social conditions to enable intrinsic motivation and employee well-being. Lastly, this dissertation contributes to future managerial coaching research by providing a rigorously developed measure of managerial coaching behaviors, as well as laying a foundation for our understanding of the relationships between managerial coaching and theoretically-related constructs. In the following discussion, each of these contributions is explored, along with limitations and directions for future research.

Theoretical Contributions

This dissertation has theoretical implications for both managerial coaching and leadership theory. In relation to managerial coaching, findings provide insight into the alignment of managerial coaching and SDT, as well as the dimensionality of coaching skills. In relation to leadership theory, the grounding of managerial coaching in SDT provides a new perspective through which to view the mechanisms of leadership which contrast significantly with prior leadership theory. Furthermore, the place of coaching within the broader category of empowering leadership theory is discussed.

Managerial Coaching and SDT. The integration of managerial coaching with SDT lays out a clear line of theoretical causality between managerial coaching behaviors and employee outcomes. Specifically, this paper proposes coaching behaviors create social conditions that support employee need satisfaction which in turn enable positive employee outcomes such as motivation and well-being.

These theoretical relationships are largely supported by several findings. First, the finding that coaching behaviors as measured in the MCQ (challenge, support, autonomy, and reflection) are related to overall employee need satisfaction at work, as well as the need for autonomy, competence, and relatedness individually, provides evidence for the linkage between coaching

practices and employee need satisfaction. Furthermore, exploratory findings further reinforce this relationship showing that all four dimensions of the MCQ are independently related to overall employee need satisfaction. Second, results also largely support the direct relationship between managerial coaching and employee well-being indicators, including work engagement, job satisfaction, and burnout. However, no direct relationship was found between the MCQ and employee sleep quality. One possible explanation for this null finding is that sleep quality may be too distal of a well-being outcome to be impacted by managerial coaching behaviors.

Beyond direct relationships, results also generally support the theoretical proposition that employee need satisfaction is a mechanism of managerial coaching. Findings suggest that need satisfaction mediates the relationship between managerial coaching and both employee engagement and job satisfaction. Interestingly, this mediating effect was not found for employee burnout. However, exploratory analyses revealed that a significant mediating effect was found when liking of manager was not included as a control variable.

Four Dimensions of Managerial Coaching.

Another contribution of the present research is to provide a clearer understanding of the dimensionality of managerial coaching skills and behaviors. As previously mentioned, prior research on managerial coaching behaviors largely depended upon exploratory qualitative research without a guiding theory, which has resulted in a wide breadth of what has been considered managerial coaching (e.g., Hamlin et al., 2006; Ellinger et al., 2006; Hagen, 2012; McLean et al., 2005). The current investigation leveraged both psychological theory and exploratory factor analysis to limit and consolidate key managerial coaching behaviors. This process resulted in a structure composed of four broader coaching skills, namely challenge, autonomy, reflection, and support.

The exploratory factor analysis reveals four common skills underlying the discrete coaching behaviors that were selected from existing literature. In reviewing the initial exploratory findings, the commonality across the coaching behaviors in matching to the four broader skills seems intuitive. For example, the behaviors that initial loaded on the *support* dimension include unconditional positive regard, giving positive feedback, acknowledging the employee perspective, considerate decision making, support in times of threat, and expressing concern for employee well-being. All of which are foundationally supportive in nature. The behaviors that primarily loaded on the *reflection* dimension included using questions to support problem-solving, reflective dialogue, asking follow-up and clarifying questions, and providing informational feedback. This category includes behaviors that represent the inquiry process of coaching and includes soliciting information and enabling awareness. Behaviors that aligned with the *challenge* dimension included appropriately challenging work assignments, personalized learning opportunities, and encouragement toward novelty and growth. The challenging behaviors all include practices that ensure employees have the opportunity to utilize their skills fully and pursue new areas of learning and interest. Lastly, allowing choice was the only behavior that loaded on the *autonomy* factor, with these items being uniquely oriented toward the direct non-interference of a manager in an employee's choices at work.

The behaviors originally included in the theoretical model that were not noted above (soliciting feedback and employee input, providing information and context, participative goal setting, and availability) were iteratively removed due to across multiple underlying dimensions. For example, asking for employee input loaded on both the supportive and reflection dimensions. These behaviors appear to have elements of multiple skills, and thus lack sufficient unique contributions to be considered independent of the four broader skills.

An additional finding that helps to advance theoretical understanding of managerial coaching behaviors is the discovery that the coaching behaviors are best represented by two-level hierarchical factor structure having a single managerial coaching factor identified by the four first level managerial coaching skills, rather than a single level factor structure. As theorized, this finding suggests that there is a common higher-order managerial coaching dimension underlying the four coaching skills. This implies that coaching constitutes a broader style or philosophy of management rather than a collection of discrete skills. In addition, it also supports the utilization of the MCQ both to measure overall managerial coaching as a singular construct, as well as any one of the individual coaching skills captured in each sub-scale.

Managerial Coaching and Leadership Theory. Beyond the field of managerial coaching, this paper contributes more broadly to management and leadership theory by suggesting a novel conceptualization of what makes managers and leaders more or less effective. Specifically, I propose that a coaching approach to leadership and management is aligned with SDT's proposition that human beings are inherently motivated to explore and grow, and that managers and leaders either facilitate or inhibit these natural inclinations (Ryan & Deci, 2017). Focusing on a manager's behaviors that support employees' inherent capacity for growth and self-determination by shaping social conditions suggests a different mechanism of effective leadership compared to prior leadership theory which has been traditionally grounded in a leader's qualities or modeled behaviors (e.g., transformational leadership, charismatic leadership, authentic leadership) or relational quality (e.g., leader-member exchange) as the originating source of effective leadership.

The coaching perspective of the manager as the shaper of the employee work environment is much more closely aligned with empowering leadership theory which

emphasizes the leader's role in creating conditions that foster self-efficacy (e.g., Arnold et al., 2000; Conger & Kanungo, 1988). However, where the current research diverges from traditional empowering leadership theory is in shifting from the lens of the leader or manager as sharing their power with the employee (Arnold et al., 2000; Amundsen & Martinsen, 2014; Conger & Kanungo, 1988; Thomas & Velthouse, 1990; Vecchio, Justin, & Pearce, 2010), to creating conditions within which employees can exercise their natural capacity for agency that exists independent of the leader or manager. Although these two perspectives are related in that the manager needs to grant autonomy in order for the employee to exercise agency, for empowering leadership theory power is seen as being transferred to the employee, whereas in a coaching paradigm the manager creates conditions that enable employee's natural tendency toward agency through non-interference and encouragement. An agrarian analogy for this distinction might represent coaching as the tending of soil in which employee's seeds of agency can flourish, whereas traditional empowering leadership theory would represent giving employees the seeds in the first place.

Coincidentally, the perspective of managerial coaching as an empowering form of leadership that enables growth is an extension of the early conceptualization suggested by Evered and Selman (1989) who presented managerial coaching as a new paradigm for management. Both Evered and Selman (1989) and the SDT driven approach to managerial coaching presented in this paper emphasize autonomy, relational support, and the creation of the social conditions that allow employees to flourish and perform at their highest potential. Also, both propose that the value of a coaching approach to management is through the cultivation of the motivation of the employee rather than external control from the leader. The current research revives this perspective by linking it to psychological theory and arguing that it is this

conceptualization of coaching that makes it a unique from other forms of interpersonal development and provides a foundation for understanding its mechanisms.

Despite the theoretical differences between managerial coaching and transformational leadership, the current research uncovered a strong correlation between the two rather than the predicted moderate relationship. One possible explanation for this finding is that both have been associated with employee need satisfaction (Breevaart et al., 2014; Kovjanic et al., 2012), suggesting they may produce a similar effect on the employee experience. However, methodological considerations should also be taken into account. For example, common method bias may have artificially inflated this relationship since the constructs where measured at the same time point, from the same source, and using the same survey methodology (Podsakoff et al., 2003). In addition, exploratory analyses found the relationship to be moderate after leniency effects and social desirability were taken into account, suggesting that these effects may also have played a role in inflating this relationship.

Managerial Implications

Beyond theory, this dissertation has important implications for management practice by providing a framework of managerial coaching behaviors that can be enacted to support employee well-being. The framework can be utilized within leader development and management training programs to guide the development of coaching skills and behaviors grounded in well-established psychological theory. Specifically, this research suggests that training managers to provide optimal challenge, encourage autonomy, enable reflection, and provide support could help employees and organizations interested in increasing employee engagement and job satisfaction in particular. Prior research suggests that managerial training programs focused on skills that enable employee self-determination have been found to have a

positive organizational impact (Deci, Connell, & Ryan, 1989). Also, having a validated measure of these behaviors allows for the examination of the efficacy of these behaviors in influencing employee outcomes to ensure that managerial coaching practices are evidence-based and have their intended impact on employee and organizational outcomes, which can help inform effective managerial coaching practice.

Limitations and Future Research

Several important limitations must be taken into consideration despite the noted contributions of the current research. First, participants were recruited through Amazon's MTurk. Although MTurk samples are generally representative of the broader U.S. population (Buhrmester, Kwang, & Gosling, 2011), there is the potential that workers from MTurk have qualities or circumstances that are not representative of the general working population. For example, utilizing the MTurk platform requires a high level of technical computer skills that may be unique to this population. Also, because MTurk participants are paid for their participation and do so in addition to their normal job responsibilities, MTurk participants may be less satisfied with their work or level of compensation at their fulltime position. Future research should attempt to replicate the current findings with a traditional sample of U.S. workers to ensure that the results are generalizable.

Another important limitation of the current research is the potential for common method bias resulting from the study design. Although temporal separation was applied to mitigate common method bias in examining the predictive validity of managerial coaching and employee well-being and need satisfaction, all measures were in a survey format and collected from a single source. A method for testing these relationships that would better mitigate common method bias would be to have separate data sources and measurement techniques for the

predictor and criterion variables (Podsakoff et al., 2003). For example, the concept of a "coaching style" of leadership or management could be further explored in future literature through observation of the coaching behaviors of managers and leaders, or through leader's own reports of how they think about applying coaching techniques. Also, prior research suggests that managerial practices that support employee engagement and satisfaction, in turn, support business unit outcomes, including profitability (Harter, Schmidt, & Hayes, 2002). As a result, future research should explore the direct relationship between managerial coaching practices included in the MCQ and objective business unit outcomes, or other non self-report outcomes such as turnover or physiological indicators of stress and well-being.

Future research should also further clarify the discriminant validity of managerial coaching to better understand the potential effects of common method bias in the current investigation, as well as to minimize construct proliferation by ensuring managerial coaching is unique from existing constructs (Shaffer, DeGeest, & Li, 2016). Managerial coaching was found to be highly related to employee perceptions of supervisor/line manager coaching behavior, empowering leadership, as well as transformational leadership, which were also found to be strongly related to one another (see Table 8). Although exploratory analyses suggest that these relationships may have been inflated due to the effects of leniency and social desirability, future research should confirm this finding and consider taking additional steps such as utilizing a multitrait-multimethod analysis, confirmatory factor analysis, a disattenuation formula, or administering across time periods (Shaffer et al., 2016).

Also, although the causal relationships inferred in this study are consistent with theory, causality cannot be determined from the current methodology. Future research evaluating the directional relationships related to managerial coaching, need satisfaction, and employee well-

being could better evaluate the directionality of these relationships by utilizing a control group and random assignment. For example, a more rigorous approach might be to conduct an intervention study in which mangers are randomly assigned to a coaching skills training or an alternative training, and employee need satisfaction and well-being are assessed longitudinally from multiple data sources. However, given practical limitations, the current study provides a foundation from which future research can further explore these theoretical relationships.

Lastly, another important direction for future research is to utilize the MCQ to advance managerial coaching research and practice. As previous research has discovered, others' ratings of leadership behaviors tend to be more accurate than self-assessments (Atkins & Wood, 2002), and existing measures of managerial coaching are limited in their validity and reliability (Hagen & Peterson, 2015). Therefore, future research can leverage the MCQ to further explore the nomological network of managerial coaching skills and behaviors and identify other organizational and employee outcomes of interest.

Conclusion

The purpose of this paper was to integrate existing research on managerial coaching with established psychological theory to develop a theoretical framework of managerial coaching behaviors, and to create a validated measure of these behaviors. In general, the findings of this dissertation support the core theoretical proposition of this paper that managerial coaching practices enable employee well-being through the creation of social conditions that support employee need satisfaction. Although this is only a first step toward developing a theory-based body of managerial coaching research, this can provide a valuable foundation for moving forward our knowledge of effective and testable managerial coaching behaviors.

As the pace of change within business continues to accelerate with advances in technology and globalization, we will need new methods of organizing that shift knowledge and decision making down the chain of command. Coaching is one such interpersonal dynamic that has the potential to enable the intrinsic motivation and continual learning of employees making it well suited to the rapidly evolving organizational landscape of the future.

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Tables and Figures

Table 1

Definitions of Managerial Coaching

Source	Definition	Theoretical Basis	Empirical Basis
Orth, Wilkinson, & Benfari, 1987	"a day-by-day, "hands-on" process of helping employees recognize opportunities to improve their performance and capabilities" (p. 67)	None	None
Evered & Selman, 1989	"discovering actions that enable and empower people to contribute more fully, productively, and with less alienation than the control model entails" (p. 16)	None	None
Stowell, 1988	"a one-on-one discussion of problems and challenges" (p. 34)	None	Semi-structured interviews
Popper & Lipshitz, 1992	"(1) improving of performance at the skill level; and (2) establishing relations allowing a coach to enhance his trainee's psychological development" (p. 15)	Social Learning Theory	None
Arnold, Arad, Rhoades, & Drasgow, 2000	"a set of behaviors that educate team members and help them become self-reliant" (p. 254)	None	In-depth interviews
Ellinger, Ellinger, & Keller, 2003	"a form of facilitating learning to encourage growth and development" (p. 438)	None	Previous definitions
Hamlin, Ellinger, & Beattie, 2006	"facilitative behaviours that focus on employee empowerment, learning and development? (p. 306)	None	None
Heslin, Vandewalle, & Latham, 2006	"providing one-on-one feedback and insights aimed at guiding and inspiring improvements in an employee's work performance (London, 2003; Yukl, 2002)" (p. 872)	None	None
Dahling, Taylor, Chau, & Dwight, 2016	"(a) providing continual constructive, developmental feedback to subordinates, (b) serving as a behavioral model for good performance, and (c) working collaboratively with each subordinate to set engaging, challenging goals that motivate performance" (p. 5)	None	Previous definitions

Note. Definitions are listed in chronological order. Theoretical basis refers to whether the definition was derived from psychological theory. Empirical basis refers to the evidence that was utilized for the development of the definition.

Table 2

A Framework of Managerial Coaching Behaviors Grounded in Self-Determination Theory

Basic Psychological Need	Theoretical Mechanism	Coaching Skill	Managerial Coaching Behaviors
Autonomy (Autonomy Support)	Understanding Frame of Reference	Perspective Taking	Soliciting feedback and employee input Asking follow-up and clarifying questions Acknowledging the employee perspective
	I-PLOC	Granting Control	Providing information and context Allowing choice Using questions to support problem solving
Competence (Structure)	Awareness	Giving Feedback	Giving positive feedback Providing informational feedback Reflective dialogue
	Optimal Challenge	Personalized Development	Appropriately challenging work assignments Participative goal setting Personalized learning opportunities
Relatedness (Involvement)	Secure Attachment	Providing Support	Availability Encouragement toward novelty and growth Support in times of threat
	Perceived Intentions	Expressing Benevolence	Unconditional positive regard Expressing concern for employee well-being Considerate decision making

Note. I-PLOC refers to internal perceived locus of causality (de Charms, 1968).

Table 3

Summary of Hypotheses and Results

	Hypothesis	Result
H1	The items in the refined item pool load on multiple unidimensional factors corresponding to separate managerial coaching skills and discriminate from other factors as reflected by low cross-loadings.	Supported
H2	The refined factor structure identified in Hypothesis 1 is generalizable to a second sample of employees, as reflected by a good fit between the data and the refined structural model.	Supported
H3	The factor structure of managerial coaching will display better model fit when conceptualized as having a single underlying latent construct of overall managerial coaching skill, as compared to a model specifying the coaching skills independently without a single higher order factor.	Supported
H4	Managerial coaching is positively correlated with employee perceptions of supervisor/line manager coaching behavior.	Supported
H5	Managerial coaching is positively correlated with empowering leadership.	Supported
H6	Managerial coaching is moderately positively correlated with transformational leadership.	Partially Supported
H7	Managerial coaching is not significantly correlated with social desirability.	Not Supported
H8	Managerial coaching is positively related to the satisfaction of employee needs, including overall employee need satisfaction (8a), autonomy need satisfaction (8b), competence need satisfaction, (8c), and relatedness need satisfaction (8d).	Supported
H9	Managerial coaching is positively related to the satisfaction of employee needs above and beyond the employee perceptions of supervisor/line manager coaching behavior measure, including overall employee need satisfaction (9a), autonomy need satisfaction (9b), competence need satisfaction, (9c), and relatedness need satisfaction (9d).	Partially Supported
H10	Managerial coaching is positively related to the satisfaction of employee needs above and beyond transformational leadership, including overall employee need satisfaction (10a), autonomy need satisfaction (10b), competence need satisfaction, (10c), and relatedness need satisfaction (10d).	Partially Supported
H11	Managerial coaching is positively related to the satisfaction of employee needs above and beyond empowering leadership, including overall employee need satisfaction (11a), competence need satisfaction, (11b), and relatedness need satisfaction (11c).	Supported
H12	Managerial coaching is positively related to job satisfaction.	Supported
H13	Managerial coaching is positively related to employee work engagement.	Supported
H14	Managerial coaching is negatively related to employee burnout.	Supported
H15	Managerial coaching is positively related to employee sleep quality.	Not Supported
H16	Employee need satisfaction mediates the relationship between managerial coaching and employee well-being, including employee job satisfaction (16a), work engagement (16b), burnout (16c), and sleep quality (16d).	Partially Supported

H17	Managerial coaching is predictive of employee well-being above and beyond transformational leadership, including employee job satisfaction (17a), work engagement (17b), burnout (17c), and sleep quality (17d).	Partially Supported
H18	Managerial coaching is predictive of employee well-being above and beyond empowering leadership, including employee job satisfaction (18a), work engagement (18b), burnout (18c), and sleep quality (18d).	Partially Supported

Table 4

Initial item pool for the managerial coaching questionnaire from Study 2.

Coaching Skill	Item Label	Item
Perspective taking	solicit_1	My manager asks for my input during our conversations.
	solicit_2	My manager gives me a chance to share my ideas during work meetings.
	solicit_3	My manager encourages me to share my recommendations.
	solicit_4	My manager asks for my input into how to accomplish our work.
	solicit_5	My manager asks for my suggestions related to our work.
	clarify_1	My manager repeats what I say in his/her own words to make sure he/she understands my point of view.
	clarify_2	My manager asks me clarifying questions so that he/she can fully understand my point of view.
	clarify_3	My manager asks me to elaborate on my thoughts during discussions.
	clarify_4	My manager rephrases what he/she heard me say to ensure that he/she understands how I see things.
	acknoledge_1	My manager lets me know that he/she cares about my perspective.
	acknoledge_2	My manager listens closely when I share my ideas.
	acknoledge_3	My manager expresses a genuine interest in what I have to say.
	acknoledge_4	My manager makes an effort to understand how I see things.
Granting control	context_1	My manager explains how my tasks support the broader organization.
	context_2	My manager gives me all the details I need to make informed decisions.
	context_3	My manager explains the reasoning behind any work he/she assigns me.
	context_4	My manager gives me all the information I need to do my job effectively.
	context_5	My manager explains to me why my work is important.
	choice_1	My manager allows me to decide the best way to complete my work.
	choice_2	My manager does not interfere when I want to try new ways of doing things.
	choice_3	My manager allows me to try and figure things out on my own before getting involved.
	choice_4	My manager gives me the freedom to make my own decisions.
	choice_5	My manager lets me choose what I work on.
Giving feedback	probsolv_1	My manager asks questions that help me come up with my own solutions to problems.
	probsolv_2	My manager asks questions to help me to solve problems rather than giving me the answers.
	probsolv_3	My manager asks questions to help me think through problems on my own.
	probsolv_4	My manager asks questions that help me learn how to think through challenges.
	posfdbk_1	My manager acknowledges when I produce good work.
	posfdbk_2	My manager tells me when he/she sees I have done a good job.
	posfdbk_3	My manager lets me know when he/she notices that I have done something well.

	posfdbk_4	My manager provides encouragement when I perform well at work.
	posfdbk_5	My manager lets me know what he/she sees as my strengths.
	infofdbk_1	My manager gives me feedback that helps guide my work.
	infofdbk_2	My manager provides feedback that I can use to improve at work.
	infofdbk_3	My manager shares his or her observations of ways I can improve.
	infofdbk_4	My manager provides actionable feedback related to how I complete work.
	infofdbk_5	My manager shares recommendations for how to perform my work more effectively.
	reflect_1	My manager talks with me about what went well after completing work projects.
	reflect_2	My manager talks with me about what I could have done better after completing work projects.
	reflect_3	My manager talks with me about what I would like to do differently in the future after completing work projects.
	reflect_4	My manager talks with me to help me learn from my experiences.
Personalized development	challenge_1	My manager gives me assignments that I find challenging, but not overwhelming.
	challenge_2	My manager assigns me work projects that allow me to use my full capabilities.
	challenge_3	My manager gives me work that is appropriately challenging for me.
	challenge_4	My manager provides me with increasingly challenging work assignments as my skills grow.
	challenge_5	My manager checks in with me about whether my work is challenging enough for me.
	goals_1	My manager helps me clarify what I think my work goals should be.
	goals_2	My manager has discussions with me about what I want to achieve though my work.
	goals_3	My manager helps me choose my own work goals, rather than telling me what they should be.
	goals_4	My manager works alongside me to identify clear goals for my work.
	learning_1	My manager gives me opportunities to learn from other professionals in my field.
	learning_2	My manager shares training opportunities with me when they arise (e.g., classes, conferences, courses, etc.).
	learning_3	My manager gives me opportunities to develop new skills.
	learning_4	My manager gives me opportunities to learn about work-related topics that interest me.
	learning_5	My manager encourages me to spend time on my professional development.
Providing support	avail_1	My manager schedules time to meet with me one-on-one.
	avail_2	My manager makes an effort to be available when I need him/her.
	avail_3	My manager responds in a timely manner when I contact him/her.
	avail_4	My manager takes the time to answer my questions.
	avail_5	My manager checks-in with me regularly.
	encourage_1	My manager encourages me when I want to try new things at my work.
	encourage_2	My manager encourages me to strive for goals that are important to me.
	encourage_3	My manager encourages me to take risks that I would not attempt if I did not have his/her support.

	encourage_4	My manager encourages me to take on new challenges.
	encourage_5	My manager encourages me to try and take on new projects that interest me.
	encourage_6	My manager encourages me to reach my full potential.
	support_1	My manager goes out of his/her way to help me when I have a problem.
	support_2	My manager supports me when I experience difficulties.
	support_3	My manager provides encouragement when I feel discouraged.
	support_4	My manager defends me when I am treated unfairly.
	support_5	My manager stands-up for me when others are critical of me.
Expressing benevolence	upr_1	My manager is kind to me even when I make mistakes.
	upr_2	My manager cares about my perspective even when I disagree with him/her.
	upr_3	My manager is caring toward me even when I perform poorly.
	upr_4	My manager accepts me regardless of how I perform at work.
	upr_5	My manager shows me unconditional support.
	concern_1	My manager asks me how I am doing personally.
	concern_2	My manager talks to me about my interests outside of work.
	concern_3	My manager remembers details about my personal life.
	concern_4	My manager makes efforts to get to know me on a personal level.
	concern_5	My manager expresses caring for me as a person, rather than just as an employee.
	decisions_1	My manager is considerate of my needs when making decisions that affect me.
	decisions_2	My manager does not make choices that negatively impact me.
	decisions_3	My manager considers how his/her decisions will impact me.
	decisions_4	My manager takes my perspective into account when making decisions that affect me.

Table 5

Industry Composition for Study 2 and Study 3.

Industry	Study 2 (n = 511)	Study 3 T1 (n = 446)	Study 3 T2 (n = 328)
Construction	2.5% (13)	1.8% (8)	2.1% (7)
Education	15.3% (78)	13.9% (62)	13.4% (44)
Health Services	7.8% (40)	11.9% (53)	12.5% (41)
Financial Services	10.6% (54)	8.7% (39)	9.8% (32)
Leisure and Hospitality	2.0% (10)	4.0% (18)	3.7% (12)
Manufacturing	8.4% (43)	7.8% (35)	7.6% (25)
Professional and Business Services	8.8% (45)	7.8% (35)	8.0% (26)
Computers and Electronics Hardware	2.9% (15)	2.5% (11)	1.5% (5)
Software and Programing	4.5% (23)	3.6% (16)	2.7% (9)
Utilities	1.0% (5)	1.1% (5)	0.9% (3)
Agriculture, Forestry, and Fishing	1.4% (7)	0.9% (4)	1.2% (4)
Retail	7.0% (36)	8.3% (37)	6.4% (21)
Government	6.7% (34)	5.8% (26)	6.1% (20)
Transportation	3.1% (16)	2.7% (12)	2.4% (8)
Telecommunications	2.2% (11)	2.0% (9)	1.8% (6)
Information Services and Data Processing	4.9% (25)	4.3% (19)	5.5% (18)
Insurance	2.5% (13)	2.2% (10)	2.4% (8)
Arts and Entertainment	2.5% (15)	3.6% (16)	4.0% (13)
Other	5.5% (28)	7.0% (31)	7.6% (25)

Note. Participant count per industry represented in parentheses.

Table 6

Initial managerial coaching item pool and EFA results from Study 2.

Item Label	Removal Sage	Reason for Removal
solicit_1	Round 2	High cross-loading, low factor loading
solicit_2	Round 2	High cross-loading, low factor loading
solicit_3	Round 2	High cross-loading, low factor loading
solicit_4	Round 2	High cross-loading, low factor loading
solicit_5	Round 2	High cross-loading, low factor loading
clarify_1	Retained	
clarify_2	Retained	
clarify_3	Retained	
clarify_4	Round 4	Low factor loading
acknoledge_1	Round 1	High cross-loading, low factor loading
acknoledge_2	Round 4	Low factor loading
acknoledge_3	Retained	
acknoledge_4	Round 2	High cross-loading, low factor loading
context_1	Round 1	Low factor loading
context_2	Round 2	High cross-loading
context_3	Round 1	High cross-loading, low factor loading
context_4	Round 2	High cross-loading
context_5	Univariate analysis	Non-normal univariate distribution
choice_1	Retained	
choice_2	Retained	
choice_3	Retained	
choice_4	Retained	
choice_5	Retained	
probsolv_1	Retained	
probsolv_2	Round 1	High cross-loading, low factor loading
probsolv_3	Retained	
probsolv_4	Retained	
posfdbk_1	Reliability analyses	High inter-item correlation
posfdbk_2	Retained	
posfdbk_3	Reliability analyses	High inter-item correlation
posfdbk_4	Retained	
posfdbk_5	Round 1	High cross-loading, low factor loading
infofdbk_1	Round 1	Low factor loading
infofdbk_2	Round 1	High cross-loading, low factor loading
infofdbk_3	Round 3	Low factor loading
infofdbk_4	Round 1	Low factor loading

infofdbk_5	Round 4	Low factor loading
reflect_1	Round 1	High cross-loading, low factor loading
reflect_2	Round 4	Low factor loading
reflect_3	Round 2	High cross-loading
reflect_4	Round 1	High cross-loading, low factor loading
challenge_1	Retained	
challenge_2	Retained	
challenge_3	Round 4	Low factor loading
challenge_4	Retained	
challenge_5	Univariate analysis	Non-normal univariate distribution
goals_1	Round 1	High cross-loading, low factor loading
goals_2	Univariate analysis	Non-normal univariate distribution
goals_3	Round 1	High cross-loading, low factor loading
goals_4	Univariate analysis	Non-normal univariate distribution
learning_1	Retained	
learning_2	Round 1	Low factor loading
learning_3	Retained	
learning_4	Round 1	Low factor loading
learning_5	Round 1	Low factor loading
avail_1	Univariate analysis	Non-normal univariate distribution
avail_2	Round 1	High cross-loading, low factor loading
avail_3	Round 1	Low factor loading
avail_4	Round 3	Low factor loading
avail_5	Round 1	High cross-loading, low factor loading
encourage_1	Round 1	Low factor loading
encourage_2	Round 1	High cross-loading, low factor loading
encourage_3	Univariate analysis	Non-normal univariate distribution
encourage_4	Retained	
encourage_5	Retained	
encourage_6	Round 1	Low factor loading
support_1	Retained	
support_2	Round 1	High cross-loading, low factor loading
support_3	Round 1	High cross-loading, low factor loading
support_4	Round 2	High cross-loading
support_5	Retained	
upr_1	Round 2	High cross-loading
upr_2	Round 1	Low factor loading
upr_3	Round 2	High cross-loading, low factor loading
upr_4	Reliability analyses	Low item-total correlation
upr_5	Retained	

concern_1	Round 4	High cross-loading
concern_2	Univariate analysis	Non-normal univariate distribution
concern_3	Round 3	Low factor loading
concern_4	Round 4	High cross-loading
concern_5	Round 3	High cross-loading, low factor loading
decisions_1	Round 1	High cross-loading, low factor loading
decisions_2	Round 1	High cross-loading, low factor loading
decisions_3	Round 1	High cross-loading, low factor loading
decisions_4	Round 1	High cross-loading, low factor loading

Table 7

Study Two Exploratory Factor Analysis Using Principal Axis Factoring with Oblique Rotation (N = 511)

Factor/Item No.	Item (item text available upon request)	F1	F2	F3	F4	Communality
Challenge						
Item 1	Challenge_1	**.88**	-.02	.06	.04	0.77
Item 2	Challenge_2	**.78**	.01	-.08	-.16	0.71
Item 3	Challenge_3	**.76**	.06	.05	-.08	0.79
Item 4	Challenge_4	**.75**	.03	-.10	-.21	0.75
Item 5	Challenge_5	**.74**	-.01	.19	.05	0.69
Item 6	Challenge_6	**.70**	.11	.10	-.09	0.80
Item 7	Challenge_7	**.69**	.18	.04	-.11	0.81
Autonomy						
Item 8	Autonomy_1	.02	**.88**	-.11	-.08	0.79
Item 9	Autonomy_2	-.11	**.85**	.00	-.13	0.77
Item 10	Autonomy_3	-.01	**.76**	.06	.05	0.58
Item 11	Autonomy_4	.05	**.73**	.05	.06	0.56
Item 12	Autonomy_5	.11	**.72**	.03	.01	0.63
Reflection						
Item 13	Reflection_1	-.07	-.02	**.79**	-.13	0.67
Item 14	Reflection_2	.23	.07	**.72**	.02	0.81
Item 15	Reflection_3	-.04	.00	**.70**	-.26	0.72
Item 16	Reflection_4	.32	.02	**.68**	.04	0.80
Item 17	Reflection_5	.27	.17	**.65**	.09	0.77
Item 18	Reflection_6	-.03	.18	**.61**	-.20	0.69
Support						
Item 19	Support_1	.03	.14	-.03	**-.81**	0.80
Item 20	Support_2	.10	.03	.00	**-.80**	0.78
Item 21	Support_3	.13	-.01	.02	**-.80**	0.80
Item 22	Support_4	.10	-.05	.16	**-.75**	0.81
Item 23	Support_5	.09	.00	.18	**-.73**	0.83
Item 24	Support_6	.01	.15	.12	**-.72**	0.81
Extracted Eigenvalue		13.98	1.76	1.13	1.05	
Rotated % of variance		58.25	7.32	4.70	4.38	

Note. Loadings are from the pattern matrix after oblique rotation (Oblimin) and the largest loading for each variable is bolded.

Table 8

Study Two Reliabilities, Means, Standard Deviations, and Inter-factor Correlations for Exploratory Factor Analysis (n = 446)

Factor	Managerial Coaching Questionnaire	No. of items	α	*M*	*SD*	Correlations			
						F1	F2	F3	F4
F1	Challenge	7	.94	4.61	1.43	--			
F2	Autonomy	5	.87	4.95	1.18	.53	--		
F3	Reflection	6	.93	4.34	1.37	.61	.43	--	
F4	Support	6	.95	4.82	1.46	.68	.59	.58	--
Total	MCQ	24	.97	4.67	1.21	.93	.77	.89	.92

Note. F = Factor.

Table 9: Intercorrelations of Managerial Coaching, Leadership Measures, Control Variables, and Demographic Variables from Study Three (n = 327)

	MCQ	PMCB	MLQ	ELQ	Engage.	Job Sat.	Burnout	Sleep Qual.	Liking of Mgr.	Social Des.	Age	Income	Work Exp.	Org. Tenure
MCQ	1													
PMCB	.85*	1												
MLQ	.85*	.88*	1											
ELQ	.83*	.83*	.90*	1										
Engagement	.48*	.46*	.48*	.43*	1									
Job Satisfaction	.57*	.54*	.57*	.57*	.71*	1								
Burnout	-.42*	-.40*	-.40*	-.42*	-.56*	-.73*	1							
Sleep Quality	-.21*	-.21*	-.18*	-.22*	-.25*	-.30*	.44*	1						
Liking of Manager	.73*	.72*	.77*	.84*	.40*	.56*	-.44*	-.19*	1					
Social Desirability	.18*	.17*	.13*	.11*	.34*	.22*	-.28*	-.27*	.07	1				
Age	-.09	-.10	-.04	-.11*	.14*	.09	-.06	.04	-.07	.03	1			
Income	.09	.05	.03	-.02	.06	.02	.03	-.07	-.03	-.07	.07	1		
Work Experience (yrs.)	-.10	-.11	-.06	-.12*	.07	.08	-.04	.05	-.09	-.01	.91*	.04	1	
Org. Tenure	-.05	-.05	.00	-.06	-.03	-.03	.09	.04	-.07	.01	.41*	.12*	.41*	1

Note: MCQ = managerial coaching questionnaire, PMCB = perceptions of managerial coaching behaviors, MLQ = multifactor leadership questionnaire, ELQ = empowering leadership questionnaire. *correlation significant at $p < .05$.

Table 10

Pearson correlations Between the Managerial Coaching Questionnaire (MCQ) and Convergent/Discriminant Measures (n = 446)

Hypothesis	Construct	*r*	Validity Evaluation
H4	Supervisor/line manager coaching behavior	.84*	Convergent
H5	Empowering leadership	.82*	Convergent
H6	Transformational leadership	.84*	Convergent
H7	Social desirability	.17*	Discriminant

Note. *$p > .001$

Table 11

Summary of Relationships Between Managerial Coaching Questionnaire (MCQ) and Theoretically Related Constructs via Linear Regression. (n = 327)

Hypothesis	Construct	β	*t*	*df*	*p*
H8a	Overall need satisfaction[a]	.45	7.47	323	>.001
H8b	Autonomy need satisfaction[a]	.52	8.56	323	>.001
H8c	Competence need satisfaction[a]	.47	7.09	323	>.001
H8d	Relatedness need satisfaction[a]	.22	3,.18	323	.002
H12	Job satisfaction[a]	.39	4.83	323	>.001
H13	Work engagement[abc]	.35	5.15	321	>.001
H14	Burnout[a]	-.14	-1.97	323	.049
H15	Sleep quality[ac]	.09	1.16	322	.246

Note. [a]Controlled for liking of manager and social desirability. [b]Controlled for age. [c]Controlled for gender.

Table 12

Summary of Linear Regression Analyses of Managerial Coaching Predicting Employee Need Satisfaction at Work (n = 327)

Variable	*B*	*SE B*	*β*	R^2	$R^2\Delta$	*F*	Δ *F*
Overall Need Satisfaction				.479	..090	99.11	55.80
Social Desirability	.042	.012	.147				
Liking of Manager	.204	.048	.252				
MCQ	.346	.046	.447				
Competence Need Satisfaction				.373	.097	64.14	50.24
Social Desirability	.052	.014	.172				
Liking of Manager	.103	.056	.119				
MCQ	.386	.055	.466				
Autonomy Need Satisfaction				.456	.123	90.42	73.24
Social Desirability	.039	.014	.120				
Liking of Manager	.143	.056	.155				
MCQ	.463	.054	.524				
Relatedness Need Satisfaction				.290	.022	43.93	10.10
Social Desirability	.036	.017	.102				
Liking of Manager	.333	.070	.331				
MCQ	.214	.067	.222				

Note. $R^2\Delta$ represents the change in R^2 when the MCQ was entered into the model social desirability and liking of manager.

Table 13

Summary of Linear Regression Analyses of Incremental Validity of Managerial Coaching Predicting Employee Need Satisfaction Beyond Employee Perceptions of Supervisor/Line Manager Coaching Behavior (PMCB; n = 327)

Variable	*B*	*SE B*	*β*	R^2	$R^2\Delta$	*F*	Δ *F*
Overall Need Satisfaction				.481	.060	74.52	37.06
Social Desirability	.042	.012	.149				
Liking of Manager	.216	.050	.267				
PMCB	.387	.064	.500				
MCQ	.387	.064	.500				
Competence Need Satisfaction				.377	.071	48.62	36.74
Social Desirability	.053	.014	.175				
Liking of Manager	.122	.058	.141				
PMCB	-.091	.071	-.113				
MCQ	.452	.075	.545				
Autonomy Need Satisfaction				.469	.110	70.99	66.63
Social Desirability	.041	.013	.125				
Liking of Manager	.183	.057	.198				
PMCB	-.189	.070	-.219				
MCQ	.599	.073	.678				
Relatedness Need Satisfaction				.292	.006	33.01	2.71
Social Desirability	.035	.017	.100				
Liking of Manager	.315	.072	.312				
PMCB	.087	.088	.092				
MCQ	.152	.092	.158				

Note. $R^2\Delta$ represents the change in R^2 when the MCQ was entered into the model social desirability and liking of manager.

Table 14

Summary of Linear Regression Analyses of Incremental Validity of Managerial Coaching Predicting Employee Need Satisfaction Beyond Transformational Leadership (MLQ; n = 327)

Variable	*B*	*SE B*	*β*	R^2	$R^2\Delta$	*F*	Δ *F*
Overall Need Satisfaction				.480	.046	74.25	28.50
Social Desirability	.042	.012	.147				
Liking of Manager	.192	.053	.237				
MLQ	.032	.058	.046				
MCQ	.325	.061	.419				
Competence Need Satisfaction				.376	.041	48.57	21.26
Social Desirability	.052	.014	.172				
Liking of Manager	.070	.062	.081				
MLQ	.085	.069	.114				
MCQ	.329	.071	.397				
Autonomy Need Satisfaction				.460	.095	68.66	56.57
Social Desirability	.039	.014	.119				
Liking of Manager	.183	.061	.198				
MLQ	-.103	.068	-.129				
MCQ	.532	.071	.602				
Relatedness Need Satisfaction				.294	.006	33.45	2.51
Social Desirability	.036	.017	.103				
Liking of Manager	.291	.077	.288				
MLQ	.110	.085	.127				
MCQ	.140	.088	.145				

Note. $R^2\Delta$ represents the change in R^2 when the MCQ was entered into the model social desirability and liking of manager.

Table 15

Summary of Linear Regression Analyses of Incremental Validity of Managerial Coaching Predicting Employee Need Satisfaction Beyond Empowering Leadership (ELQ; n = 327)

Variable	*B*	*SE B*	*β*	R^2	$R^2\Delta$	*F*	Δ *F*
Overall Need Satisfaction				.473	.056	74.15	34.62
Social Desirability	.042	.012	.147				
Liking of Manager	.193	.060	.238				
ELQ	.030	.097	.028				
MCQ	.336	.057	.434				
Competence Need Satisfaction				.373	.062	47.97	31.75
Social Desirability	.052	.014	.172				
Liking of Manager	.094	.071	.108				
ELQ	.023	.114	.020				
MCQ	.378	.067	.456				
Relatedness Need Satisfaction				.290	.013	32.86	6.06
Social Desirability	.036	.017	.103				
Liking of Manager	.322	.088	.320				
ELQ	.028	.141	.022				
MCQ	.205	.083	.212				

Note. $R^2\Delta$ represents the change in R^2 when the MCQ was entered into the model social desirability and liking of manager.

Table 16

Summary of Linear Regression Analyses of Managerial Coaching Predicting Employee Well-Being (n = 327)

Variable	*B*	*SE B*	*β*	R^2	$R^2\Delta$	*F*	Δ *F*
Job Satisfaction				.391	.044	69.16	23.31
Social Desirability	.066	.020	.143				
Liking of Manager	.418	.083	.321				
MCQ	.390	.081	.313				
Work Engagement				.347	.054	34.10	26.50
Social Desirability	.082	.015	.257				
Liking of Manager	.132	.061	.144				
Age	.017	.004	.177				
Gender	.150	.099	.069				
MCQ	.304	.059	.347				
Burnout				.263	.009	38.45	3.88
Social Desirability	-.055	.011	-.235				
Liking of Manager	-.210	.046	-.317				
MCQ	-.089	.045	-.140				
Sleep Quality				.137	.004	12.74	.35
Social Desirability	-.109	.022	-.264				
Liking of Manager	-.123	.089	-.105				
Gender	.486	.145	.175				
MCQ	-.101	.087	-.090				

Note. $R^2\Delta$ represents the change in R^2 when the MCQ was entered into the model at the step following control variables.

Table 17

Summary of Linear Regression Analyses of Incremental Validity of Managerial Coaching Predicting Employee Well-Being Beyond Transformational Leadership (MLQ; n = 327)

Variable	*B*	*SE B*	*β*	R^2	$R^2\Delta$	*F*	Δ *F*
Job Satisfaction				.398	.012	53.13	6.25
Social Desirability	.066	.020	.144				
Liking of Manager	.346	.092	.266				
MLQ	.188	.101	.167				
MCQ	.263	.105	.211				
Work Engagement				.356	.013	29.42	6.63
Social Desirability	.083	.015	.259				
Liking of Manager	.072	.067	.078				
Age	.017	.004	.170				
Gender	.119	.099	.055				
MLQ	.155	.075	.197				
MCQ	.199	.077	.228				
Burnout				.263	..005	28.75	2.21
Social Desirability	-.055	.011	-.235				
Liking of Manager	-.209	.051	-.316				
MLQ	-.001	.057	-.002				
MCQ	-.088	.059	-.139				
Sleep Quality				.137	.002	10.16	.85
Social Desirability	-.109	.022	-.264				
Liking of Manager	-.126	.099	-.107				
Gender	.485	.147	.174				
MLQ	.006	.110	.006				
MCQ	-.105	.114	-.094				

Note. $R^2\Delta$ represents the change in R^2 when the MCQ was entered into the model at the step following control variables.

Table 18

Summary of Linear Regression Analyses of Incremental Validity of Managerial Coaching Predicting Employee Well-Being Beyond Empowering Leadership (ELQ; n = 327)

Variable	*B*	*SE B*	*β*	R^2	$R^2\Delta$	*F*	Δ *F*
Job Satisfaction				.394	.020	52.29	10.48
Social Desirability	.066	.020	.145				
Liking of Manager	.342	.105	.263				
ELQ	.199	.168	.117				
MCQ	.321	.099	.258				
Work Engagement				.347	.033	28.34	16.25
Social Desirability	.083	.015	.257				
Liking of Manager	.120	.077	.131				
Age	.018	.005	.178				
Gender	.147	.100	.067				
ELQ	.032	.125	.026				
MCQ	.293	.073	.335				
Burnout				.264	.003	28.93	1.38
Social Desirability	-.055	.011	-.236				
Liking of Manager	-.183	.059	-.277				
ELQ	-.069	.094	-.080				
MCQ	-.065	.055	-.103				
Sleep Quality				.145	.000	10.89	0.01
Social Desirability	-.110	.022	-.268				
Liking of Manager	.000	.113	.000				
Gender	.523	.146	.188				
ELQ	-.322	.182	-.211				
MCQ	.010	.106	.009				

Note. $R^2\Delta$ represents the change in R^2 when the MCQ was entered into the model at the step following control variables.

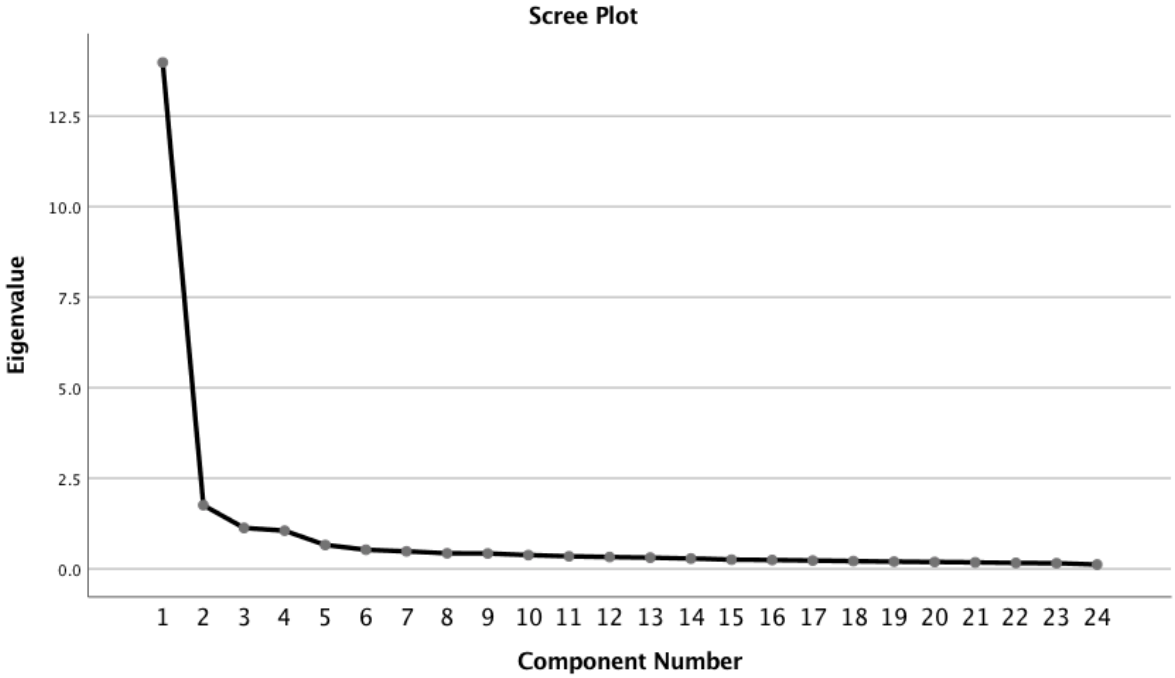

Figure 1. Scree plot results from principle axis factor analysis in study two with oblique rotation (Oblimin).

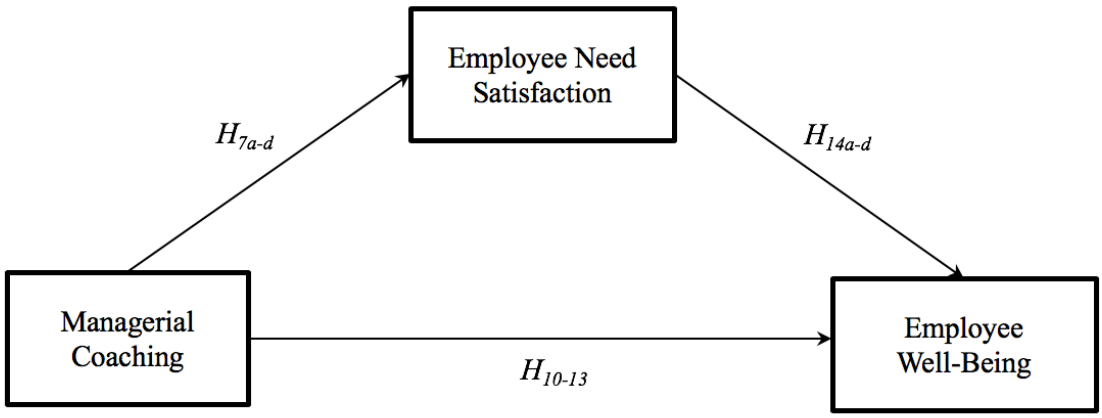

Figure 2. Visual depiction of hypotheses related to employee need satisfaction mediating the relationship between managerial coaching and employee well-being.

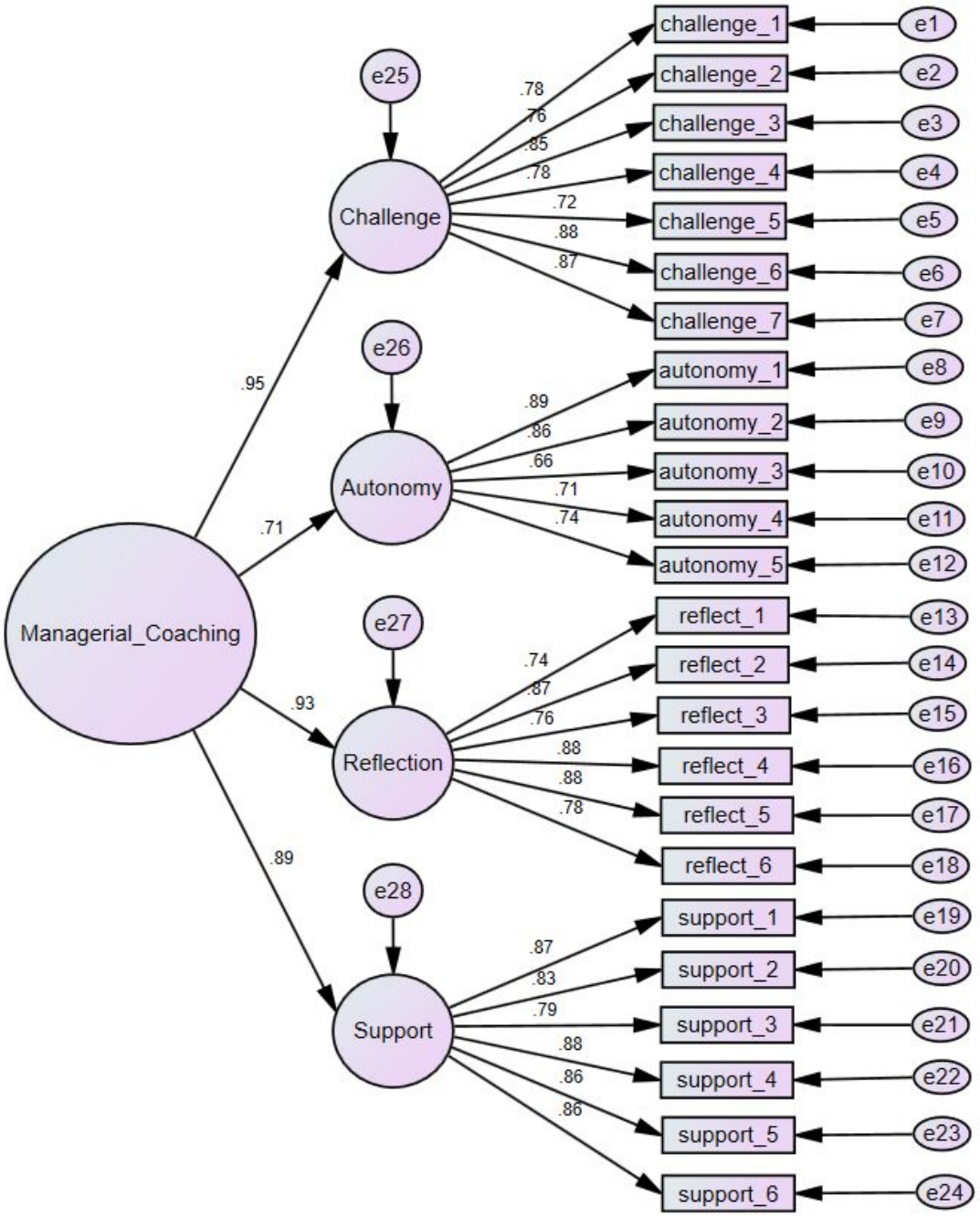

Figure 3. Hierarchical confirmatory factor analysis of managerial coaching scales with a single underlying factor of managerial coaching.

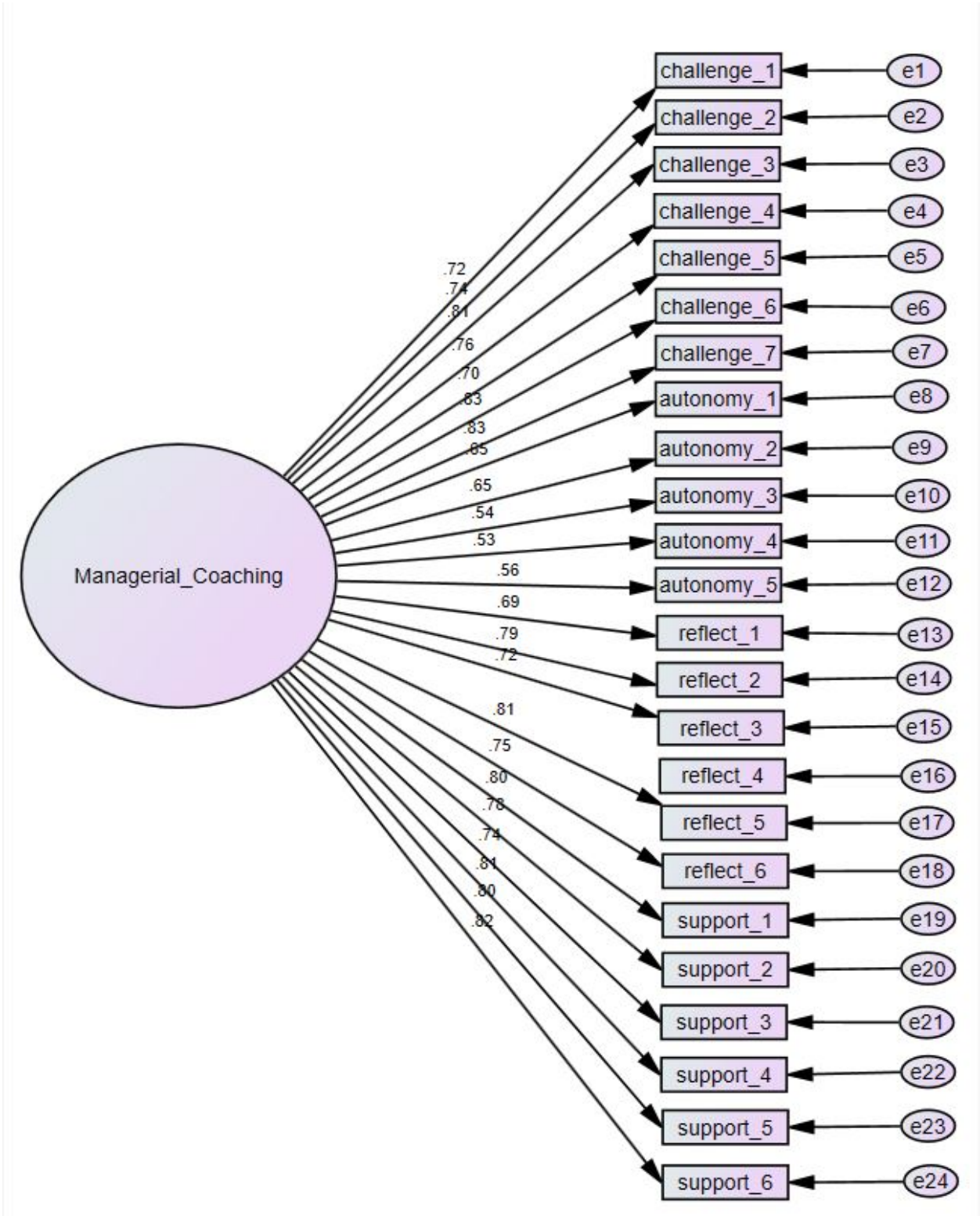

Figure 4. Factor loadings of non-hierarchical confirmatory factor analysis of managerial coaching scales with single underlying factor.

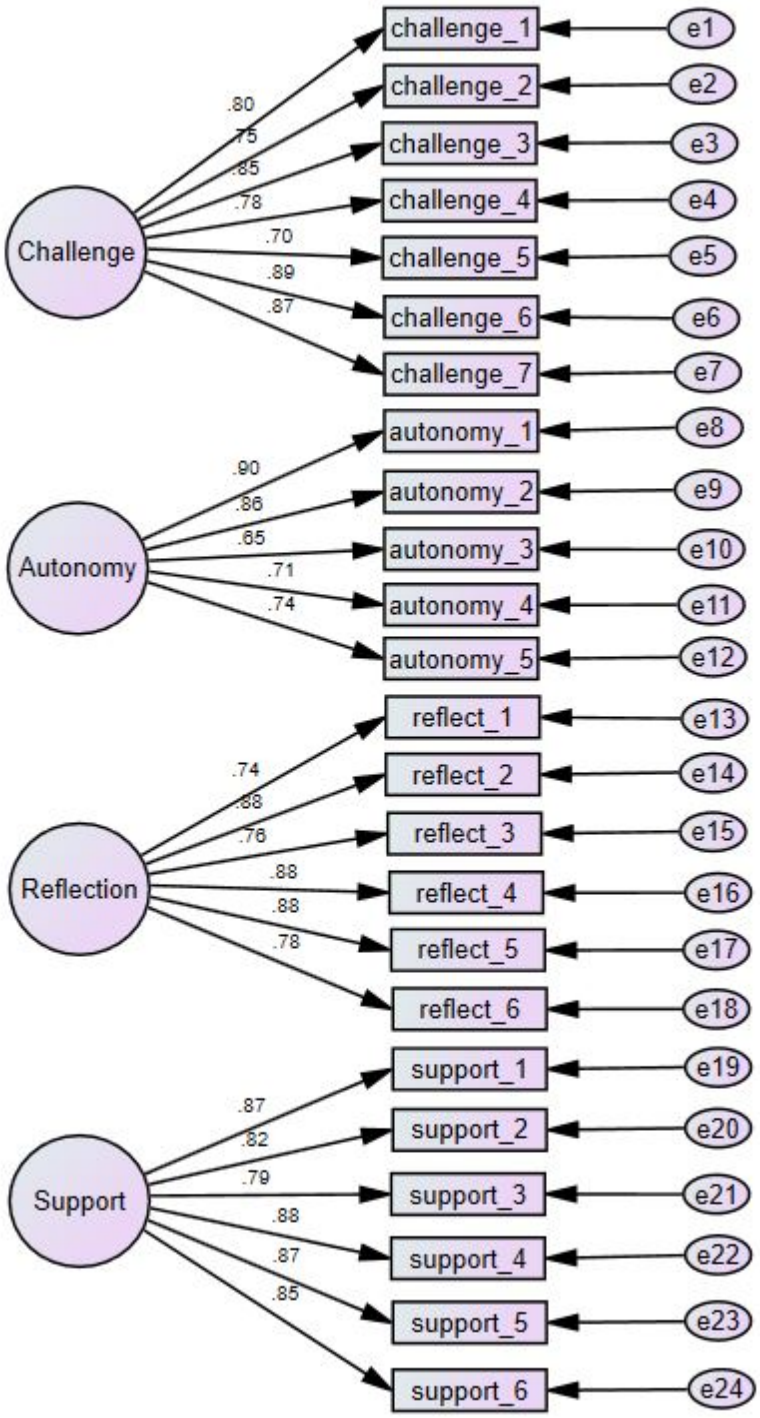

Figure 5. Factor loadings of non-hierarchical confirmatory factor analysis of managerial coaching scales with four independent underlying factors.

Appendix

Managerial Coaching Draft Items for Subject Matter Expert Feedback

Instructions
Thank you so much for your willingness to be a subject matter expert for my dissertation! The purpose of the study is to develop a new measure of managerial coaching behaviors. You will be lending your expertise to help develop a high-quality initial pool of items.

Below you will find a description of six managerial coaching skills with three respective coaching behaviors that reflect that skill. Each of the three coaching behaviors are followed by the individual items that represent the behavior (nested as skills -> behaviors -> items).

Please provide feedback on **three aspects** of these draft **items**:

1) Representativeness: Please rate each item on the following five-point scale depending on how well you believe each item represents the corresponding coaching behavior - "(1) Not at all representative", "(2) A little representative", "(3) Somewhat representative", "(4) Very representative", "(5) Extremely representative". If necessary, please then use track changes to provide comments and recommend edits for improving the representativeness of the item in relation to its respective coaching behavior.

2) Clarity of wording: Please use track changes to recommend edits to item wording to ensure clarity and ease of interpretation for future respondents.

3) Additional items: Please also provide any suggestions for additional items that would help thoroughly capture the managerial coaching behavior.

Example: In the example below seen in blue text, the key coaching behavior is *considerate decision making* and the item being reviewed is *"My manager makes decisions that are considerate of my best interests"*. In reviewing the item, I would:

1. Consider whether the item is representative of considerate decision making and provide a rating on the five-point scale reflecting its representativeness.
2. Provide comments and recommend edits to improve representativeness.
3. Review the item for clarity and recommended edits via track changes. For example, I might recommend deleting the word *best* if I thought it would make the item clearer.
4. Lastly, I would review all the items representing the behavior of *considerate decision making* and provide suggestions for additional items in the space below the item list.

Example Key Behavior #3: Considerate decision making
My manager…
…makes decisions that are considerate of my ~~best~~ interests. ___2__

Recommended new items:
My manager is considerate when making decisions.

Thanks again for your time and support! Your expertise is invaluable to the developing a high-quality item pool. Please feel free to contact me if you have any questions.

Best,
Hunter

Please rate the items on how representative they are of their respective coaching behavior, and then provide your recommended edits using comments and track changes.

1 *Not at all representative*	***2*** *A little representative*	***3*** *Somewhat representative*	***4*** *Very representative*	***5*** *Extremely representative*

Coaching Skill #1 - <u>Perspective Taking</u>

Behaviors that help the manager understand the needs, feelings, and attitudes of employees so they can appreciate the employee's point of view.

<u>Key Behavior #1:</u> <u>Soliciting feedback and employee input</u>
Definition: Asking employees to provide their thoughts on proposed work projects, strategies, processes, and managerial practices
<u>Items</u>:
My manager…
…asks for my feedback about how we can best work together. _____
…asks for my input when making decisions related to my work. _____
…seeks my recommendations for how to best accomplish our work. _____
…encourages me to share my perspective on work topics. _____
<u>Recommended new items:</u>

<u>Key Behavior #2:</u> <u>Asking clarifying questions and mirroring</u>
Definition: The utilization of clarifying questions and repeating the employees' thoughts in the manager's own words to better understand their meaning.
<u>Items:</u>
My manager…
…asks me follow-up questions about my ideas to better understand my perspective. _____
…repeats my ideas back to me to make sure he/she understands my point of view. _____
…restates what I say in his/her own words to clarify my point of view. _____
<u>Recommended new items:</u>

<u>Key Behavior #3:</u> <u>Acknowledging the employee perspective</u>
Definition: The expression of care and understanding for employees' unique perspectives.
<u>Items:</u>
My manager…
…expresses that he/she cares about my perspective. _____
…listens closely when I share my ideas. _____
…expresses a genuine interest in what I have to say. _____
…expresses a genuine interest in understanding my point of view. _____
<u>Recommended new items:</u>

Coaching Skill #2 - Granting Control

Enabling the employee to decide how to complete their work and act autonomously when they are capable of doing so.

Key Behavior #1: Providing information and context

Definition: Sharing information with the employees so that they understand the broader context of their work.

Items:

My manager…

…shares important details with me so I can understand the context of my work. _____

…explains the purpose behind my work tasks. _____

…explains to me how my work helps the broader organization. _____

…gives me all the details I need to make informed decisions. _____

Recommended new items:

Key Behavior #2: Allowing choice

Definition: Giving employees the freedom to exercise judgement and choose the best way to complete their job tasks.

Items:

My manager…

…allows me to choose the best way to complete my work. _____

…trusts me to make decisions about my own work. _____

…gives me the freedom to start new projects when I think they are needed. _____

…does not interfere when he/she sees that I am trying something in a new or different way. _____

…allows me to try and solve problems on my own before he/she gets involved. _____

Recommended new items:

Key Behavior #3: Using questions to support problem solving

Definition: Asks open ended questions to stimulate reflection and support the employee in solving problems independently.

Items:

My manager…

…asks me questions that force me to think deeply about my work. _____

…asks me questions that help me explore new ways to solve problems. _____

…asks me questions that help me consider work situations from many different perspectives. _____

…asks me questions that help me see possibilities that I had not considered before. _____

Recommended new items:

Coaching Skill #3 - Giving Feedback

Sharing recommendations and observations to help employees learn and cultivate an awareness of themselves and the work context.

Key Behavior #1: Giving positive feedback
Definition: Providing recognition and support for positive work performance.
Items:
My manager…
…expresses gratitude towards me when I am working hard. _____
…tells me when he/she thinks I have done a good job. _____
…lets me know what he/she sees as my strengths at work. _____
…gives me recognition when I put in extra effort at work. _____
…expresses genuine appreciation for my work. _____
Recommended new items:

Key Behavior #2: Providing informational feedback
Definition: Sharing observations and recommendations for how to perform job tasks more effectively.
Items:
My manager…
…gives me feedback that helps me learn and improve. _____
…provides helpful suggestions for how I can be more effective at work. _____
…provides additional guidance if I am struggling to learn something at work. _____
…provides clear feedback to let me know what he/she thinks about my work. _____
Recommended new items:

Key Behavior #3: Reflective dialogue
Definition: Engaging employees' in conversations to stimulate reflection related to personal strengths, weaknesses, and how to improve future performance.
Items:
My manager…
…helps me reflect upon what I did well after completing work projects. _____
…helps me reflect upon what I could have done better after completing work projects. _____
…asks me questions that help me gain insight into how I can be more effective at work. _____
…asks me questions to help me reflect on how I work best. _____
…asks me questions that help me think through important decisions. _____
…has conversations with me that help me gain new insights about myself. _____
Recommended new items:

Coaching Skill #4 - Personalized Development

Providing work and learning opportunities that are aligned with the interests, goals, and ability level of the employee.

Key Behavior #1: Appropriately challenging work assignments

Definition: Providing work assignments that are aligned with the employee's skills and skill level.

Items:

My manager…

…gives me work assignments that I find challenging, but not overwhelming. _____

…assigns me work projects that allow me to use my skills. _____

…gives me work that is well-matched to my abilities. _____

…adjusts my work to be more challenging if I get bored. _____

…provides me with increasingly challenging work assignments to help me grow. _____

Recommended new items:

Key Behavior #2: Participative goal setting

Definition: Collaborating with employees' to set goals for their work.

Items:

My manager…

…collaborates with me in setting specific goals for my work. _____

…encourages me set specific goals for my professional growth. _____

…asks for my input into what I think my goals should be. _____

…encourages me to choose my own work goals, rather than telling me what they should be. _____

Recommended new items:

Key Behavior #3: Personalized learning opportunities

Definition: Providing opportunities for learning that are suited to the unique capabilities, role, and interests of the employee.

Items:

My manager…

…connects me with people who can help support my professional growth. _____

…encourages me to take advantage of formal learning opportunities when they arise (e.g., classes, conferences, trainings). _____

…encourages me to take on projects that will help me grow professionally. _____

…encourages me to learn new skills that I am interested in developing. _____

…helps me think about where I want to go in my career. _____

Recommended new items:

Coaching Skill #5 - Providing Support

Behaviors that encourage a secure relational foundation to develop trust and encourage exploration.

Key Behavior #1: Availability
Definition: Making one's self available for conversations and interactions with employees.
Items:
My manager…
…schedules time to meet with me one-on-one. _____
…makes an extra effort to be available when I need him/her. _____
…responds quickly when I contact him/her. _____
Recommended new items:

Key Behavior #2: Encouragement toward novelty and growth
Definition: Encouraging employees to explore, experiment, and grow professionally.
Items:
My manager…
…gives me encouragement when I tell him/her about new things that I would like to try at work. _____
…gives me encouragement when I tell him/her about my work goals. _____
…encourages me to take risks that I would not attempt if I did not have his/her support. _____
…gives me encouragement when I tell him/her about opportunities I am interested in for my professional growth. _____
Recommended new items:

Key Behavior #3: Support in times of threat
Definition: Providing support when the employee is experiencing a threat or challenge.
Items:
My manager…
…goes out of his/her way to help me when I have a problem. _____
…offers me help when I take a risk that does not work out. _____
…defends me if I am treated unfairly at work. _____
…expresses that he/she believes in me, even when I doubt myself. _____
Recommended new items:

Coaching Skill #6 - Expressing Benevolence

Expressing empathy, concern, and caring for an employee's well-being and best interests.

Key Behavior #1: Unconditional positive regard

Definition: Offering acceptance and support for employees independent of their choices or actions.

Items:

My manager…

…provides encouragement to me even when I make mistakes. _____

…listens to me even when he/she disagrees with me. _____

…is caring toward me even if I perform poorly at work. _____

Recommended new items:

Key Behavior #2: Expressing concern for employee well-being

Definition: Openly expressing an interest in the well-being of the employee within and beyond the workplace.

Items:

My manager…

…expresses that he/she cares about me as a person, rather than just as an employee. _____

…empathizes with me when I feel discouraged. _____

…expresses genuine care for my well-being. _____

…expresses that he/she wants what is best for me. _____

Recommended new items:

Key Behavior #3: Considerate decision making

Definition: Decision making that is considerate of the well-being and interests of the employee.

Items:

My manager…

…makes decisions that are considerate of my best interests. _____

…changes his/her decision when I express that a course of action would negatively affect me. _____

…considers how his/her decisions impact me before making a decision. _____

…listens closely to my needs before making decisions. _____

Recommended new items: