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EXAMINING THE MEDIATING INFLUENCE OF OCCUPATIONAL SELF-EFFICACY AND PERCEIVED ORGANIZATIONAL SUPPORT ON THE RELATIONSHIP BETWEEN PERCEIVED MANAGERIAL COACHING BEHAVIORS AND EMPLOYEE ENGAGEMENT AMONG HIGHER EDUCATION ENROLLMENT MANAGEMENT PROFESSIONALS

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by

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Abstract

EXAMINING THE MEDIATING INFLUENCE OF OCCUPATIONAL SELF-EFFICACY AND PERCEIVED ORGANIZATIONAL SUPPORT ON THE RELATIONSHIP BETWEEN PERCEIVED MANAGERIAL COACHING BEHAVIORS AND EMPLOYEE ENGAGEMENT AMONG HIGHER EDUCATION ENROLLMENT MANAGEMENT PROFESSIONALS

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The U.S. higher education environment is characterized by significant governmental/regulatory scrutiny, increasing competition, decreasing State funding, and demands for professionals to do more with less. In this environment, managers are increasingly expected to take on functions typically associated with traditional human resource roles, in particular the training, development, and retention of employees, often with limited or no access to formalized training resources.

This study predicted that a relationship exists between the perceived managerial coaching behaviors enacted by a direct supervisor and employee engagement among manager-level employees in strategic enrollment management divisions within higher education institutions. The hypotheses predicted this relationship would be positive, and

partially mediated by both perceived organizational support (POS) and occupational self-efficacy (OSE).

A quantitative half-longitudinal survey design was employed for data collection. Two pilot studies were conducted prior to the main study, which was executed in coordination with the American Association of Collegiate Registrars and Admissions Officers (AACRAO). The first phase of data collection completed via an AACRAO 60-Second Survey, and the second was completed by the primary researcher. Structural equation modeling was utilized to analyze the collected data and test the hypotheses. Results indicated managerial coaching and employee engagement were positively correlated, and that managerial coaching influences engagement largely through its positive relationship with POS; OSE was dropped from the final analysis due to ceiling effect issues.

Findings from the study support the efficacy of managerial coaching as a leadership approach in enrollment management, and the importance of its relationship to POS. Implications for theory and future research are discussed.

Chapter One - Introduction

Background to the Problem

The modern workplace has become an uncertain, often unstable, environment in which organizations, their leaders, managers, and employees, must contend with rapidly evolving technology, market globalization, escalating customer expectations, and increased competition among other factors (Fatien & Otter, 2015; Pousa & Mathieu, 2015; Pousa, Mathieu, & Trepanier, 2017). Public institutions of higher education in the United States (U.S.), often referred to as "ivory towers", have proven to be as vulnerable to the changing landscape as any other industry (Bruininks, Keeney, & Thorp, 2010; Kutchner & Kleschick, 2016). Issues associated with partisan politics, shifting of political priorities to areas such as the aging population and healthcare, and increasing demands for transparency are currently impacting such institutions (Bruininks et al., 2010; Dar, 2012). These challenges, coupled with an acceleration of the trend in declining State funding following the Great Recession of 2008 (Hempsall, 2014), have left higher education institutions struggling to adapt to such change (Kutchner & Kleschick, 2016; Langston & Scheid, 2014).

In light of shifting demographics, the rapid expansion of for-profit higher education institutions, and State and Federal initiatives aimed at increased graduation rates and campus accountability (Bruininks et al., 2010; Kutchner & Kleschick, 2016), the need to seek out new ways to overcome challenges and secure competitive advantage,

as has been seen in many other industries (e.g. healthcare, financial services, manufacturing), has become paramount (Pousa & Mathieu, 2015; Shuck, Rocco, & Albornoz, 2011). Based on these pressures, as well as demands to do more with less a State funding resources continue to diminish (Hempsall, 2014), higher education institutions have begun to follow the global trend of streamlining and refining operations for the sake of competitive efficiencies (Kuo, Chang, & Chang, 2014). For many institutions there has been a particular focus on strategic enrollment management initiatives geared toward stabilizing tuition and maintaining compliance with governmental requirements from both State and Federal levels (Seefeld, 2015). The enrollment management divisions behind these initiatives, which have been characterized as "the administrative backbone that supports...the academic research and instructional endeavors of the university" (Seefeld, 2015, p. 29) are composed of teams of administrative and service offices including admissions, registrar, and financial aid. These teams are often staffed by personnel with diverse educational backgrounds, organizational tenure, and demographic characteristics (Schultheis, 2014).

While enrollment management divisions operate as autonomous units, their component offices are required to engage with stakeholders from virtually all areas of campus, as well as external stakeholders, simultaneously (Cramer, 2012; Seefeld, 2015). This broad scope of interface and impact necessitates that enrollment management teams, which are typically composed of a complex array of employees with subject matter expertise in specialized duty sets, be capable of effectively executing their duties toward the fulfillment of institutional goals (Schultheis, 2014). In order to attain these goals, each team member must be capable of functioning at the highest levels, both in their own areas

of expertise and in collaboration with their peers (Schultheis, 2014). This requires that their knowledge and skill bases remain up-to-date at all time. Based on these factors and recommendations, the training and development of all enrollment management team members should be viewed as a critical concern for campuses as they strive to remain competitive (Cramer, 2012; Kutchner & Kleschick, 2016; Langston & Scheid, 2014; Schultheis, 2014; Tansky & Cohen, 2001).

Within the present atmosphere of austerity and increasing accountability in higher education, as in many other industry contexts, the responsibility of developing those skilled employees whose capabilities are so heavily relied upon to satisfy the daily goals of the campus has shifted from traditional human resources functions to individual managers themselves (Ellinger, Ellinger, Bachrach, Wang, & Elmadag, 2011; Fatien & Otter, 2015; Kim, Egan, Kim, & Kim, 2013a; Kutchner & Kleschick, 2016; McGuire & Kissack, 2015; Schultheis, 2014). These duties must often be carried out with limited or no dedicated resources (Ellinger, 2013; Ellinger & Ellinger, 2013; Kuo et al., 2014). This devolution of human resource management (HRM) and human resource development (HRD) responsibilities to middle managers suggests that traditional leadership skills, command and control structures, and compliance-based management are no longer viewed as effective (Gilley, Gilley, & Kouider, 2010; Hamlin, Ellinger, & Beattie, 2006; Hempsall, 2014; Pousa et al., 2017; Shuck & Herd, 2012).

Accordingly, managers are increasingly being encouraged to adopt more developmental, collaborative, and motivationally-focused approaches to engage the expertise and improve overall productivity of their employees (Chong, Yuen, Tan, Zarim, & Hamid, 2016; Gregory & Levy, 2011; Hagen, 2012; McGuire & Kissack, 2015;

Schultheis, 2014; Woo, 2017). As such adaptations are unlikely to be supported by formalized training or other resources, managers are often required to rely upon approaches they can directly exert influence over, such as leveraging their own skills and behaviors to enhance relationships with their employees. It is likely many managers may prefer to deliver these types of approaches through informal, conversational channels with their employees as part of their day-to-day managerial practices (Dixey, 2015; Hunt & Weintraub, 2002; Kunst, van Woerkom, van Kollenburg, & Poell, 2018; Matsuo & Matsuo, 2017).

The growing need for managers to serve as people developers has catalyzed the increase of managerial coaching in practice (Dahling, Taylor, Chau, & Dwight, 2015; Fatien & Otter, 2015; Kim & Kuo, 2015; Lawrence, 2017; Ozduran & Tanova, 2017a; Woo, 2017). Managerial coaching is defined as "a manager or supervisor serving as a coach or facilitator of learning in the workplace setting, in which he or she enacts specific behaviors that enable his/her employees to learn and develop" (Ellinger et al., 2011, p. 69), and has become a rapidly expanding area of academic research (Beattie, Kim, Hagen, Egan, Ellinger, & Hamlin, 2014; Ellinger, Beattie, & Hamlin, in press; Ladyshewsky & Taplin, 2017; Pousa et al., 2017) and practitioner interest (Ellinger, 2013). Managerial coaching has been framed as being related to performance, development, and learning (Anderson, 2013; Hamlin, Ellinger, & Beattie, 2009) and relies upon the actions, beliefs, and relationship approaches of individual managers (Ellinger, Watkins, & Bostrom, 1999; Longenecker, 2010).

Despite its surge in popularity in recent years, the concept of managerial coaching has been previously criticized as being atheoretical (Ellinger & Kim, 2014; Ellinger et al.,

in press). However, more recently in the literature, scholars are applying an eclectic array of theories to underpin their research (Cox, Bachkirova, & Clutterbuck, 2014). While empirical research on managerial coaching has established relationships with a number of constructs deemed important in the workplace context, such as job satisfaction (Kim et al., 2013a), organizational citizenship behaviors (Kim & Kuo, 2015), and self-efficacy (Leonard-Cross, 2010), the base of research on managerial coaching has yet to reach maturity (Beattie et al., 2014; Ellinger & Kim, 2014; Ellinger et al., in press; Lawrence, 2017). Accordingly, scholars have called for research that more comprehensively examines the antecedent variables that influence managerial coaching and the mediating and moderating factors that may influence relationships between managerial coaching and various outcome variables (Beattie et al., 2014; Ellinger, Beattie, & Hamlin, 2014; Ellinger et al., in press; Hagen, 2012; Kuo et al., 2014). In addition, examining such variables across different industries and cultures is warranted along with more research that focuses on managers themselves as providers and recipients of coaching (Ellinger et al., 2014, Ellinger et al., in press; Lawrence, 2017; Ozduran & Tanova, 2017b). Lastly, scholars have advocated for research designs that extend beyond cross-sectional surveys to incorporate more rigorous designs and longitudinal investigations (Beattie et al., 2014; Hagen, 2012; Kuo et al., 2014; Lawrence, 2017; Steelman &Wolfeld, 2016).

Statement of the Problem

Managerial coaching has been conceived as both a source of learning facilitation and development (Ellinger at al., in press) and as an ongoing, supportive leader-employee dyadic relationship (Agarwal, Angst, & Magni, 2009; Batson & Yoder, 2012; Gregory &

Levy, 2011; Woo, 2017). Such an approach to relationships with direct reports has been considered to be critical for leaders and managers in enrollment management to develop as they invest in their employees and teach them key skills on the job (Cramer, 2012; Hempsall, 2014; Kutchner & Kleschick, 2016). However, the role of middle managers as employees and potential beneficiaries of managerial coaching behaviors from their own respective higher-level managers has gone underexplored to date (Lawrence, 2017). Most studies have focused on front-line employees' perceptions and outcomes based upon the managerial coaching behaviors received from their own front-line supervisors (Beattie et al., 2014).

Ultimately, this lack of perspective in the existing literature about middle managers as recipients of coaching from their own respective higher-level managers is underscored by the following quote from a senior executive in the Longenecker and Neubert (2005) focus group study. This quotation is one of the few framed largely from the viewpoint of middle managers:

> Coaching is one of those managerial practices that everyone agrees is important, and yet most people will only have one or two bosses in their entire career who takes coaching seriously, and this is especially true when you become a manager yourself. . . . As a manager, having a coach/mentor can make a real difference in your performance. (p. 494)

As acknowledged by this manager, being recipients of and benefactors of managerial coaching behaviors provided by their own direct higher-level managers may promote and encourage the deployment of managerial coaching behaviors by middle managers themselves, thus cascading these practices throughout the leadership structure of an

organization. Such an approach aligns with recent calls from the literature for coaching of managers and modeling of supportive behaviors by senior leaders (Ellinger, 2013; Ellinger et al., in press; Paustian-Underdahl, Shanock, Rogelberg, Scott, Justice, & Altman, 2013; Woo, 2017). Extending research to investigate the coaching of middle managers by their own more senior managers opens an area of inquiry around how those same middle managers may, in turn, model those behaviors toward their own direct employee(s), which aligns with the conclusions of Hempsall (2014) following a series of interviews with higher education leaders across multiple nations that:

> the way people identify with the role of leader...the degree to which they are organisationally supported...and the extent to which the learning is grounded in experience seem to be components of leadership development that need to be considered in an integrated leadership development programme. (p. 392)

Further, the types of attitudes and perceptions enrollment management leaders are expected to foster among their employees (Bender, 2017; Cramer, 2012; Schultheis, 2014) are potentially well aligned with, and supported by, managerial coaching through its positive relationship to factors such as role clarity (Kim, Egan, & Moon, 2013b), occupational self-efficacy (Anderson, 2013), reflection (Matsuo & Matsuo, 2017), and perceived organizational support (Kuo et al., 2014). However, how and why these relationships exist has not been thoroughly explored through examination of mediating and moderating factors, or integration into broader models explaining the benefits of managerial coaching overall to organizations (Beattie et al., 2014; Lawrence, 2017). In order to better understand how managerial coaching behavior impacts both managers and their employees, it is necessary to respond to calls in the literature to more fully explore

its relationship to other workplace constructs (Kim, 2014). To this end, Cramer (2012) acknowledged the importance of leaders and managers facilitating a learning environment for instilling confidence among, and offering support to members of their teams, which align with the concepts of managerial coaching (Ellinger et al., 2003), occupational self-efficacy (Schyns & von Collani, 2002), and organizational support (Eisenberger, Huntington, Hutchison, & Sowa, 1986). Further, Schultheis (2014) indicated the importance of instilling a sense of agency among staff and encouraging increased levels of effort and dedication toward divisional goals, which aligns well with the concept of employee engagement (Kahn, 1990; Rich, LePine, & Crawford, 2010; Shuck & Wollard, 2010). Therefore, the study sought to assess the influence of perceived managerial coaching behaviors on three constructs for which recent literature has noted additional research into their respective relationships to managerial coaching may be warranted: Occupational Self-Efficacy (OSE) (Dahling et al., 2015; Pousa & Mathieu, 2015), Perceived Organizational Support (POS) (Ellinger, 2013), and employee engagement (EE) (Ellinger, Musgrove, & Ellinger, 2012; Ladyshewsky & Taplin, 2017).

Occupational self-efficacy refers to "the competence that a person feels concerning the ability to successfully fulfill the tasks involved in his or her job (Rigotti, Schyns, & Mohr, 2008, p. 239)", which is a workplace-specific adaptation of Bandura's seminal definition of general self-efficacy as a component of Social Cognitive theory (Bandura, 1977a; Schyns & von Collani, 2002). Recent studies have begun to examine OSE and have found positive associations with both managerial coaching (Campbell & Evans, 2016; Pousa & Mathieu, 2015) and employee engagement (Chaudhary, Rangnekar, & Baru, 2013; Rich et al., 2010). However, to date, its potential for serving as

a mediator between these constructs, by helping to translate mastery experiences and learning into the resources Kahn (1990) specified as prerequisites for engagement, has yet to be explored.

Perceived organizational support reflects employees' perceptions of the extent to which their organization values their contributions, offers support and resources, and cares about their individual well-being (Eisenberger et al., 1986). Recently, POS has been examined in managerial coaching studies, but scholars contend that more research is needed to expand upon the potential influence of managerial coaching on POS (Ellinger, 2013). The conclusions of Kurtessis, Eisenberger, Ford, Buffardi, Stewart, and Adis (2017) that "support from higher-status organizational members (p. 8)" and "the extent to which the leader is supportive and shows concern for subordinates' well-being (p. 8)" were each strongly related to POS, suggesting that "leader behaviors that convey caring, concern, and support for followers appear to be effective ways to enhance POS (p. 8)." Accordingly, managerial coaching behaviors, which tend to reflect managers' care, concern, and a commitment to employee development, may enhance POS. As posited by engagement scholars (Jin & McDonald, 2017; Malenin & Harju, 2017; Saks, 2006; Shuck, Twyford, Reio, & Shuck, 2014; Zhong, Wayne, & Liden, 2016), employees may then demonstrate increased engagement as a method to discharge felt obligations to their supervisors and/or organizations through the Social Exchange principle of reciprocity (Blau, 1964; Gouldner, 1960), thus positioning POS as a potential mediator between coaching and engagement.

Lastly, employee engagement, the harnessing of oneself toward one's work role (Kahn, 1990) has become a compelling concept because of the many benefits attributed

to an engaged workforce. Many antecedents of employee engagement such as self-efficacy, perceived organizational support, and role clarity (Anderson, 2013; Caesens & Stinglhamber, 2014; Chaudhary et al., 2013; Grant, 2010; Jin & McDonald, 2017; Kim, 2014; Kim et al., 2013b; Saks, 2006; Wollard & Shuck, 2011; Zhong et al., 2016) are associated with support from supervisors, which is a central element of managerial coaching (Ellinger, 2013; Ellinger et al., 2011; Wheeler, 2011; Woo, 2017). Thus, such studies have hinted that managerial coaching may have a significant relationship to employee engagement (Ellinger et al., 2012; Ladyshewsky & Taplin, 2017; Saks & Gruman, 2014), potentially mediated by factors such as role clarity and job satisfaction that have been noted as both outcomes of coaching and antecedents of engagement (Beattie et al., 2014). However, to date, empirical studies exploring this relationship or how it may be influenced by factors such as occupational self-efficacy and perceived organizational support, which are linked to both coaching and engagement through principles central to Social Exchange (Blau, 1964) and Social Cognitive (Bandura, 1977a) theories, are largely absent from the literature. Scholars have called for further research into the outcomes of managerial coaching (Ellinger et al., 2014, in press), including those associated with working relationships with a direct supervisor, that may influence engagement (Anthony-McMann, Ellinger, Astakhova, & Halbesleben, 2017; Beattie & Crossan, 2015; Jin & McDonald, 2017; Saks, 2014), and how each may relate to other workplace constructs (Alfes, Truss, Soane, Rees, & Gatenby, 2013; Beattie et al., 2014; Hagen, 2012; Kim, Kolb, & Kim, 2012).

Purpose of the Study

The purpose of this study was to test a theoretical model informed by Social Exchange (Blau, 1964) and Social Cognitive (Bandura, 1977a) theories to examine the mediating influence of occupational self-efficacy and perceived organizational support on the relationship between perceived managerial coaching behaviors and employee engagement among management-level employees in a higher education strategic enrollment management context.

Theoretical Underpinning

Four theories collectively focused on elements of reciprocity, communication, and support within dyadic relationships between layers of management were selected to form the theoretical underpinning for the study based upon their provision of a strong theoretical perspective that encompasses many key elements of managerial coaching as posed in the literature (Anderson, 2013; Beattie et al., 2014; Ellinger et al., 2011). These theories are Social Exchange theory (SET) (Blau, 1964), Organizational Support theory (OST) (Eisenberger et al., 1986), Social Cognitive theory (SCT) (Bandura, 1977a) and Social Learning theory (SLT) (Bandura, 1977b).

Social exchange theory (Blau, 1964; Emerson, 1976) posits that employees develop dyadic relationships with others in the workplace, including their supervisors or even the organization itself, over time based on rules and norms of exchange, among which reciprocity (Gouldner, 1960) is the best known (Cropanzano & Mitchell, 2005). According to Blau (1964), reciprocity represents an attempt to maintain equilibrium in relationships in social exchanges with others and avoid perceived imbalances. Recent studies in managerial coaching have framed increased performance and other positive

behaviors as a form of reciprocation by employees for the benefits derived from managers' coaching behaviors toward them (Huang & Hsieh, 2015; Kim & Kuo, 2015; Woo, 2017). Other studies suggested such reciprocal behaviors may extend to managers who perceive they have been supported, in turn demonstrating more supportive behaviors toward their own employees, as a method by which to discharge their accumulated obligation to the organization (Eisenberger, Krischer Shoss, Karagonlar, Gonzalez-Morales, & Wickham, 2014; Shanock & Eisenberger, 2006).

Organizational support theory (OST) (Eisenberger et al., 1986), which is significantly underpinned by social exchange theory, focuses on the manner in which employees form beliefs about their organization's commitment to them based on their perception of the organization as possessing human-like attributes and attitudes toward them. Often, employees project these attributions onto a direct supervisor, whom they view as agents whose support, or lack thereof, toward them is representative of the organization when forming their perceptions of organizational support (Eisenberger et al., 1986).

Relevant to the study, scholars in the field of employee engagement have noted repeatedly that engagement may be properly viewed through the lens of SET as a form of reciprocation (Alfes et al., 2013; Gruman & Saks, 2011; Jin & McDonald, 2017; Saks, 2006, Shuck et al., 2014; Zhong et al., 2016). One such study highlighted the role of managerial behavior in driving engagement through social exchange principles by concluding that "where employees feel that their organization is investing in them through...line manager behavior, they are more willing to reciprocate through high levels of engagement" (Alfes et al., 2013, p. 852). The importance of OST, as represented by

perceived organizational support, to engagement has also been recently reinforced through the conclusion of Shuck, Twyford, Reio, and Shuck (2014) that "employees reciprocate positive support back to an organization that they perceive and positively supporting them" (p. 262) and that, conversely, "employees who perceived a lack of support would ultimately provide little of their own support back to the organization (i.e., higher level of engagement)" (p. 264). Similarly, Jin and McDonald (2017) noted that "employees are more likely to engage in their jobs with the expectation that the demonstrated care by supervisors will ultimately transcend to formal acknowledgement at the organizational level (p. 892)".

Social Cognitive Theory (SCT) and Social Learning Theory (SLT) (Bandura, 1977a, 1977b), contend that humans learn in significant part through modeling the observed behaviors of others, particularly those which are reinforced by an influential figure or are observed as producing desired results such as rewards or successful task completion. In support of the centrality of modeling to learning and enhanced self-efficacy, Bandura (2015) contended that SCT principles influence the development of behaviors and attitudes "through incidental social modeling (p. 1034)" and that "people's beliefs in their capability influence the goals they set for themselves and their commitment to them in the face of difficulties (p. 1026)."

Speaking to the role of leadership figures, Nanton (2011) acknowledged that SLT "methods are inherent in on-the-job training, observation, coaching, mentoring, and growth assignments" (p. 192) and that "the nature and quality of the leader development relationship is critical to the social learning experience" (p. 192). Further, Bandura (2012) noted that self-efficacy, a core element of SCT, influences individuals' motivations and

beliefs in their ability to overcome challenges and distractions, and are strengthened "by reducing anxiety and depression...and correcting the misreading of physical and emotional states" (p. 13). These aspects of self-efficacy substantially align with the psychological availability component of Kahn's (1990) original engagement framework, which depends in part on the ability to effectively cope with distractions and anxiety.

Research Hypotheses

The following eight hypotheses were proposed for this study.

Social cognitive theory posits the development of occupational self-efficacy, which may be derived from guided mastery modeling or verbal persuasion facilitated by a supervisor, as a worthy organizational goal (Bandura, 1977a; Bandura, 1988). Reasons noted for this include that "success requires not only skills but also strong self-belief in one's capabilities to exercise control over events to accomplish desired goals" (Bandura, 1988, p. 279) and "perceived managerial self-efficacy influences managers' organizational attainments both directly and through its effects on their goal setting and analytical thinking" (Wood & Bandura, 1989, p. 361). Social learning theory contends that "much social learning occurs on the basis of casual or directed observation of behavior as it is performed by others in everyday situations" (Bandura, 1977b, p. 39).

Accordingly, social learning is positioned as "inherent in on-the job training" (Nanton, 2011, p. 192) based in daily interactions in which "behavior is learned observationally through modeling: from observing others one forms an idea of how new behaviors are performed, and on later occasions this coded information serves as a guide for action" (Bandura, 1977b, p. 22). Recent studies by Grant (2010) and Pousa and Mathieu (2015) have each indicated significant positive relationships between employee

perceptions of their supervisors' managerial coaching behaviors and their own levels of perceived self-efficacy based on coach-coachee interactions, which are expected to be observed in this study. Further, Campbell and Evans (2015), based on a critical incident study of managerial perceptions regarding their role in workplace learning, posited that "managers who act as advocates of learning are well placed to support the self-efficacy and confidence of learners" (p. 86). In line with this research, H1 proposed that:

H1: L1 managers' perceptions of the coaching behaviors of L2 managers are positively related to their self-reported OSE.

Organizational support theory posits both that organizations are often personified by employees, and that supportive behaviors enacted by organizational agents, particularly supervisors, are often perceived by employees as support from the organization itself (Eisenberger et al., 1986). In line with this conceptualization, managerial coaching behaviors and supportive leadership behaviors have been posed as complementary and aligned to a sufficiently high degree (Agarwal et al., 2009; Bowen & Schofield, 2013; Ellinger, Hamlin, & Beattie, 2008; Paustian-Underdahl et al., 2013; Woo, 2017) to give rise to speculation that "managerial coaching can be regarded as a form of perceived organization support as well as an effective management and leadership behavior" (Kim, 2014, p. 63) and that "supportive supervisors may be well positioned to embrace coaching and assume roles as managerial coaches" (Ellinger, 2013, p. 313).

In support of this concept, results of a recent meta-analysis (k = 558 studies) of POS and OST (Kurtessis, Eisenberger, Ford, Buffardi, Stewart, & Adis, 2017) found that "support from higher-status organizational members" (p. 8) and "the extent to with the

leader is supportive and shows concern for subordinates' well-being" (p. 8) were each strongly related to POS, leading to the conclusion that "leader behaviors that convey caring, concern, and support for followers appear to be effective ways to enhance POS" (p. 8). Thus, based on OST, Hypothesis 2 predicted that a significant, positive relationship exists between perceptions of the managerial coaching behaviors of L2 managers and respondents' self-reported levels of perceived organizational support.

H2: L1 managers' perceptions of the coaching behaviors of L2 managers are positively related to their self-reported POS.

Ellinger, Musgrove, and Ellinger (2012) provided the first known direct statistical support for a link between managerial coaching and both job and organization engagement, in which managerial coaching was found to be significantly associated with both types of engagement. A social exchange-based study published shortly thereafter found perceived line manager behaviors, which were framed to include elements often associated with managerial coaching such as "encouraging open communication, sharing critical information, and providing support" (Alfes et al., 2013, p. 844) were positively related to levels of engagement. Beattie et al. (2014) acknowledged the strong positive relationships between perceived managerial coaching behaviors and multiple antecedents of engagement, while Saks and Gruman (2014) identified coaching as among the job resources found to be positively related to engagement. More recently, Ladyshewsky and Taplin (2017) found employees' perceptions of their manager's coaching behaviors to be positively related to their self-reported work engagement. Based on these theoretical perspectives and coaching-adjacent empirical findings, Hypothesis 3 predicted a significant, positive relationship will exist between managers' perceptions of their direct

supervisors' managerial coaching behaviors and the managers' own self-reported engagement.

H3: L1 managers' perceptions of the coaching behaviors of L2 managers are positively related to their self-reported engagement.

In addition to their relationship with managerial coaching (Grant, 2010; Leonard-Cross, 2010; Pousa & Mathieu, 2015), recent studies have also noted occupational self-efficacy and perceived organizational support as being positively related to levels of employee engagement (Ahmed, Nawaz, Ali, & Islam, 2015; Caesens & Stinglhamber, 2014; Jin & McDonald, 2017; Rich et al., 2010; Zhong et al., 2016), with a literature review proposing that each may serve as antecedents (Wollard & Shuck, 2011). Based upon the foundational needs-satisfaction conceptualization of engagement by Kahn (1990), POS (Eisenberger et. al., 1986) appears to align with two key elements of the engagement construct. First is the need for psychological meaningfulness, in which persons must feel "worthwhile, useful, and valuable - as though they made a difference and were not taken for granted...able to give to others and to the work itself in their roles and also able to receive" (Kahn, 1990, p. 704). Second is the need for psychological safety, in which "supportive managerial environments allowed people to try and to fail without fear of the consequences" (Kahn, 1990, p. 711). Further, as a mastery and confidence-centric concept (Bandura, 1977a), OSE appears well positioned to support the need for psychological availability, which is impaired by deficiencies in " how secure people felt about their work" (Kahn, 1990, p. 715) and in part attributable to a lack of

self-confidence (Kahn, 1990). Accordingly, Hypotheses 4 and 5 predicted that both POS and OSE are positively related to employee engagement.

H4: L1 managers' self-reported OSE are positively related to their self-reported engagement.

H5: L1 managers' self-reported POS are positively related to their self-reported engagement.

Building upon Hypotheses 1-5, perceived managerial coaching behaviors enacted by L2 managers were predicted to be significantly and positively related to respondents' self-reported levels of OSE and POS, and each in turn were significantly and positively related to their self-reported engagement. As managerial coaching behaviors provide support and resources to employees, their POS increases as does their felt obligations toward their supervisor and organization (Eisenberger et al., 1986; Ellinger, 2013; Jin & McDonald, 2017; Kuo et al., 2014). According to the Social Exchange principle of reciprocity, employees seek out ways to discharge this obligation, with increased engagement as one likely approach (Saks, 2006; Shuck et al., 2014; Zhong et al., 2016). The enhanced feelings of support may likewise contribute to employees' perceived psychological meaningfulness and safety, key components of engagement (Kahn, 1990).

Similarly, as managers work with employees to guide their learning and professional development, employees will translate their expanded knowledge and skill bases into enhanced levels of OSE (Agarwal et al., 2009; Bandura, 1977a,b; Pousa & Mathieu, 2015; Schyns & von Collani, 2002). This increased confidence in their own capabilities and ability to effectively carry out their duties may, in turn, support employees' psychological meaningfulness and availability and thus prepare them to

engage more fully in their work (Kahn, 1990). Accordingly, Hypotheses 6 and 7 predicted that the positive relationship between perceived managerial coaching behaviors of respondents' direct supervisors and self-reported engagement will be partially mediated by both self-reported OSE and POS.

H6: The positive relationship between L1 managers' perceptions of the coaching behaviors of L2 managers and their self-reported engagement are partially mediated by their self-reported OSE.

H7: The positive relationship between L1 managers' perceptions of the coaching behaviors of L2 managers and their self-reported engagement are partially mediated by their self-reported POS.

In both pilots conducted in advance of the main study, a direct path was suggested in the measurement modeling stage, and in each case this path was statistically significant and made a significant contribution to model fit. In support of this path, research using the JES in conjunction with POS and other constructs representing support from a supervisor or organization (Rich et al., 2010, Shuck et al., 2014) has previously noted the emotional engagement dimension as having a noteworthy relationship to perceptions of support. Speaking to this, Shuck et al. (2014) posited that

> While we would argue for the importance of all three facets within the engagement construct, it is plausible that emotional engagement acts as a sort of emotional tipping point toward behavioral intention. One explanation, for example, embedded within our theoretical framework, as employees in our sample felt supported in their learning efforts, this perception of support generated a positive state of feeling (a cognitive response, i.e., cognitive engagement) likely

> resulting in experienced positive emotions (an emotional response, i.e., emotional engagement) which spiraled upward toward an intention to engage in those behaviors operationalized as positive for the organization (lower turnover intention, i.e., behavioral engagement). This explanation connects well with models of employee reciprocity (Cerne, Nerstad, Dysvik, & Škerlavaj, 2013) and social exchange (O'Boyle, Forsyth, Banks, & McDaniel, 2012). That is, employees reciprocate positive support back to an organization that they perceive as positively supporting them. A representation for understanding the mechanisms of reciprocal, exchange-based support between employees and the organization they work within is an individual's level of employee engagement—within our study, emotional engagement is particularly salient. (p. 261-262)

Based upon these findings in the literature and both pilots, Hypothesis 8 predicted that a path from POS to the emotional dimension of the JES would be supported within the proposed study.

H8: POS makes a statistically significant contribution to the emotional engagement dimension of the JES scale to such a degree that the second order measurement model with a direct path from POS to emotional engagement demonstrates a significantly better model fit than an equivalent model without this path.

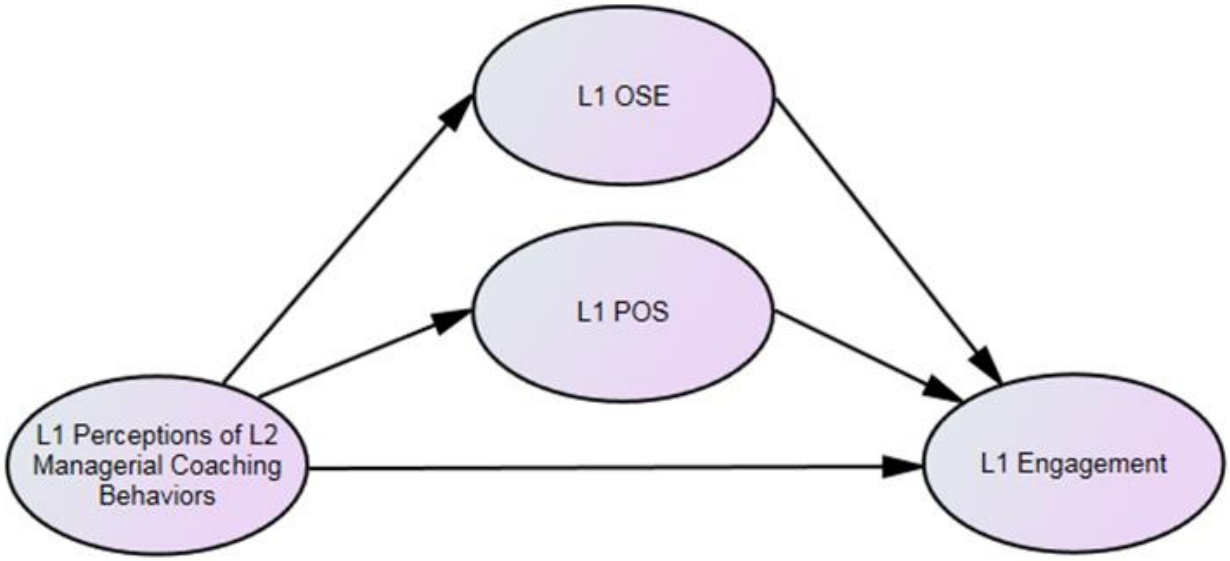

Figure 1.00: Theoretical Model

Overview of Pilot Studies and Influence on the Main Study Design

Two pilot studies were undertaken to inform and finalize the design of the main study; refer to Appendices B and C for the details associated with each study implementation. Pilot 1 was conducted in 2015 as part of a quantitative course to examine earlier versions of the hypotheses being proposed and the relationships among the four primary variables in the study. The following previously validated measures were used: Coaching Behaviors Inventory (CBI) (Ellinger, Ellinger, & Keller, 2003), Occupational Self-Efficacy Scale (OSES) (Rigotti et al., 2008), Survey of Perceived Organizational Support (SPOS) (Eisenberger et al., 2014), Job Engagement Scale (JES) (Rich et al., 2010). MTurk HIT was used to obtain the final sample of 205 usable surveys. Data were initially reviewed and cleaned utilizing IBM SPSS 22, then analyzed using structural equation modeling with IMB SPSS AMOS 23 software. The proposed hypotheses were supported except for the direct path between managerial coaching and

employee engagement. Further, Pilot 1 offered initial support for the overall suitability of the measurement instruments and the theoretical model.

Pilot study 2 was conducted during the Fall, 2016 term with the purpose of significantly redesigning the survey for deployment using Qualtrics. The same measurement instruments were used, except this pilot included a shorter form of the SPOS and a marker variable, Attitude Toward the Color Blue (ATCB) (Miller & Chiodo, 2009; Shanock & Eisenberger, 2006). A large email list of students enrolled during the Fall 2016 term at three public universities in the East Texas region was used as the population for this study. A total of 18,259 surveys were deployed, 3,379 were initiated, and 2,935 were completed; this represented a 100% completion rate among those who answered 'yes' to the informed consent item. From these completions, a final sample of 497 respondents working full-time as managers at the time of survey deployment was utilized for analysis with IBM SPSS and AMOS software.

An unexpected issue was encountered with the OSES measure, which required deletion of two items to achieve an acceptable AVE for the scale. The hypothesized correlational relationships between all substantive variables were confirmed, but the hypotheses predicting that managerial coaching would have a partial indirect effect on engagement through both mediators were not supported due to a lack of statistically significant direct paths between managerial coaching and both OSE and engagement. Analysis of the data did, however, support a complete indirect effect of coaching on engagement through POS, and a partial indirect effect of POS on engagement through OSE, the direct path from POS to the emotional dimension encountered in Pilot 1, and the efficacy of the ATCB measure as an ideal marker variable (Williams, Hartman, &

Cavazotte, 2010). Based on these findings, the ATCB measure was retained for use in the main study, hypothesis 8 was added, the original 8 item short form of the OSES replaced the 6 item version, and an alternative engagement measure (Saks, 2006) was included.

Overview of the Main Study Design

This section will overview the design of the study, population and sample, data collection and analysis, and reliability and validity.

Design of the Study

The design of the study was a half longitudinal quantitative survey (Cole & Maxwell, 2003), and utilized data collected from managers in strategic enrollment management offices within institutions of higher education located in the United States to test an *a priori* theoretical model. The choice to pursue a quantitative design was supported by the desire of the researcher to analyze respondent data for patterns of association between a number of workplace-based perceptions pursuant to *a priori* theory and prior empirical findings, as well as for the desire to produce findings generalizable to the strategic enrollment management profession within the U.S. (Bryman & Bell, 2011, 2015). The survey utilized within the study was designed based on previously validated measures, and was deployed in two sections over two time periods. The measures utilized included: the Coaching Behaviors Inventory (CBI) (Ellinger et al.,2003), a short form of the Survey of Perceived Organizational Support (SPOS) (Eisenberger et al., 1986; Rhoades & Eisenberger, 2002), a short version of the Occupational Self-Efficacy Scale (Schyns & von Collani, 2002), the Job Engagement Scale (Rich et al., 2010), the Saks job and organization engagement scales (Saks, 2006), and the Attitudes Toward the Color Blue (ATCB) scale (Miller & Chiodo, 2008). Two primary goals of the study were to test

the *a priori* model within, and to produce findings and conclusions generalizable to this population of higher education professionals.

Population and Sample

Managers, at the front-line supervisor level, within strategic enrollment management division of higher education institutions, who were current members of the American Association of Collegiate Registrars and Admissions Officials (AACRAO) as of the data collection window, were the target sample frame. To facilitate access to the desired sample of higher education professionals, the researcher partnered with the American Association of College Registrars and Admissions Officials (AACRAO), which has a membership base inclusive of a cross-sectional majority of strategic enrollment management divisions in U.S. institutions of higher education, as well as professionals from a number of international institutions. Based upon membership numbers in the largest professional organizations representing two of the core areas of modern enrollment management divisions (Hossler & Bontrager, 2014), the AACRAO population was expected to be relatively homogenous as most campuses face similar issues, particularly in the context of shifting demographics, new sources of competitive pressure, funding levels, and State and Federal regulations (Bruininks et al., 2010; Hossler & Bontrager, 2014; Langston & Scheid, 2014). Through this limited partnership, the first phase of the study was delivered directly to all of the over 11,000 active AACRAO members as of March 2017.

The minimum number of survey respondents required for the study was initially estimated at 500 using very conservative estimates, based on data from existing published literature and Pilot 2, following guidelines set forth by Wolf, Harrington, Clark, and

Miller (2003) for studies employing structural equation modeling. Once data collection was completed, the final necessary sample size was re-calculated using actual factor loadings from the study, resulting in a considerably smaller necessary *n* of 250.

Data Collection

Data collected during the first time period included the independent variable of managerial coaching behaviors and a modest number of demographic variables, and the survey for this phase was delivered directly to the AACRAO membership through the AACRAO 60 Second Survey that was sent in March 2017. Respondents to the 60 Second Survey were asked to indicate their willingness to participate further in the overall dissertation study. For each respondent who volunteered to do so, AACRAO provided both the collected data and detailed respondent demographics gleaned from the organization's user profiles; some of this data personally identified respondents. Data collected during the second time period included the mediating variables of POS and OSE, the dependent variable of employee engagement, the latent marker variable, ATCB, an alternative measure of engagement, and additional demographic questions. The survey for this portion of the study was sent by the primary researched through unique links, generated through the Mailer function within Qualtrics, based upon the identifiable data provided by AACRAO on each respondent opting to participate in the second phase. Access to all identifiable data was restricted to the primary investigator alone, and confidentiality was strictly maintained for each respondent.

Data Analysis

The collected data from the two surveys were joined using respondents' email addresses as the common factor. Once the files were joined, the data was reviewed, de-

identified, and cleaned, resulting in 301 usable complete responses. The data was then assessed to determine if it met relevant statistical assumptions. While the assumption of multivariate normality was not met, bootstrapping was performed at the .95 confidence interval, and no significant differences were noted. Descriptive statistics were generated utilizing IBM SPSS software, and at this point, it was noted that a higher than expected percentage of respondents were upper-level managers, resulting in analyses being carried out using all managers rather than only those at the frontline level.

Once the data file was ready for final analysis, it was loaded into IBM SPSS AMOS and assessed by means of maximum likelihood structural equation modeling following the steps set forth by Kline (2016). This was deemed an appropriate technique based on the need to examine, from a multivariate confirmatory standpoint, the relationships among each of the latent constructs in the *a priori* theoretical model (Hair, Black, Babin, & Anderson, 2010). While such analyses are largely beyond the scope of many statistical techniques, they can be accomplished using SEM in a manner that also accounts for measurement error (Byrne, 2010; Schumacker & Lomax, 2010). Each of the a priori measurement models was subjected to confirmatory factor analysis following Kline's (2016) guidelines, and during this phase a significant ceiling effect was noted with the OSES scale, resulting in it being dropped from the study and the measurement models being modified accordingly. Once the best-fitting measurement model was identified, versions of the three structural models with the OSES removed were tested, and bootstrapping analysis utilized to assess indirect effects.

Reliability and Validity

Cronbach's alpha values reported in the literature among the chosen instruments, which range from .85-.95, and thus exceed threshold recommendations of $\geq .8$ (Bryman & Bell, 2011), indicate that stability and internal reliability of findings based upon data collected from each instrument may be reasonably expected. All instruments chosen for inclusion were deemed to adequately measure their respective constructs in multiple previous published studies, thus indicating reasonable face validity (Bryman & Bell, 2011). Bias due to common method variance was tested using the confirmatory factor analysis (CFA) marker technique of Williams, Hartman, and Cavazotte (2010). Concerns related to Type I and II errors attributable to method variances causing inflation or deflation of observed relationships (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003) were addressed through CFA analysis of the variances and errors within the proposed study (Podsakoff, MacKenzie, & Podsakoff, 2012). Measures of validity including convergent, discriminant, and predictive, were assessed as part of the analysis approach of Anderson and Gerbing (1988), as recommended by Schumacker and Lomax (2010).

Significance of the Study

The primary significance of the study lies in its contributions to the existing literatures on managerial coaching, POS, and employee engagement theory and practice. Demonstrating a positive link between managers' perceptions of being coached and their own work-related beliefs and behaviors provides further support for the efficacy of managerial coaching as a developmental intervention for the training and support of management-level employees. Providing support for perceived organizational support as being related to both managerial coaching and employee engagement extends existing

streams of research by identifying factors that mediate the influence of managerial coaching behaviors, and provides further support for the role of POS as a significant antecedent of engagement. The positive relationship between managerial coaching behaviors and employee engagement, through the mediating influence of POS, found within the study provides new support to an emerging stream of literature exploring how managerial coaching behaviors and employee engagement are related.

The extension of managerial coaching and employee engagement concepts into the context of strategic enrollment management in higher education draws attention to a potentially fertile area for research that has yet to see receive significant attention from HRD scholars. It also provides additional tools for practitioners in enrollment management to inform their approach to management and employee learning and development. Further, such an extension promotes collaborative research opportunities between HRD scholars and the existing base of scholars and scholarly practitioners in the enrollment management field (Seefeld, 2015). Such collaborations may result in research conducted on HRD related topics that have not been previously examined within higher education contexts, thus providing additional avenues for publication in higher education journals.

Assumptions

The following assumptions were made for this research study. First, higher education support areas were assumed to face change and demands similar to those posed as facing organizations from other sectors, including increased reliance on managers to provide training and development and limited budget for those activities. Second, managers were expected to honestly and accurately perceive the managerial coaching

behaviors of their own managers, and derive perceptions of their own occupational self-efficacy, organizational support, and engagement in a manner substantially equivalent to front-line employees. Finally, managerial coaching behaviors are expected to function largely as part of the informal, day-to-day interactions between managers and their employees as opposed to manifesting as planned, formalized activities (Anderson, 2013; Dixey, 2015).

Definitions of Terms

Key terms employed in the study were defined as follows:

AACRAO

AACRAO is the official acronym for the American Association of Collegiate Registrars and Admissions Officers, and organization with a stated mission "to serve and advance higher education by providing leadership in academic and enrollment services." As of 2017, AACRAO has a membership of roughly 11,000 professionals, including representation from both public and private institutions, representing all fifty States, concentrated primarily in the areas of records and admissions (AACRAO, http://www.aacrao.org/home/about/aacrao-demographics 2/6/2018).

Coaching Behaviors Inventory (CBI)

The CBI (Ellinger et al., 2003, p. 443-4) is an eight item scale designed to measure managerial coaching behaviors. There are two versions, one for managers to self-rate and one for employees to rate their managers, both of which use a 7 item Likert-type scale ranging from 'Almost Never' to 'Almost Always'. Only the employee version was used in the present study. Sample items include 'My supervisor uses analogies,

scenarios, and examples to help me learn' and 'My supervisor provides me with constructive feedback'.

Employee Engagement (EE)

Employee engagement (engagement, EE) is based upon the original framework provided by Kahn (1990), who defined the concept as “the simultaneous employment and expression of a person’s ‘preferred self’ in task behaviors that promote connections to work and to others, personal presence (physical, cognitive, and emotional) and active, full performances” (p. 700).

Enrollment Management

Enrollment management is an increasingly common structural element on higher education campuses that has begun to emerge as a profession its own right (Bontrager, 2004). The field was originally derived from an expected demographic shift as the baby boom generation and "has been nurtured in an environment of increased accountability and... constrained resources" (Bontrager, 2004, p. 15) and often involves professionals with a broad array of education, ethnic, and socioeconomic backgrounds (Schultheis, 2014). Though enrollment management divisions take on a wide array of structures on different campuses, one prominent scholar-practitioner notes that "basic enrollment management organizations commonly include admissions, financial aid, registrar’s offices, and orientation" (Bontrager, 2004, p. 15). For the purposes of this study, enrollment management referred primarily to the first three areas of the common offices described by Bontrager (2004): admissions, student records / registrar, and financial aid.

Higher Education

For the purposes of this study, higher education collectively referred to all two and four-year educational institutions within the United States that offer educational programs culminating in the conferral of degrees at the associate, baccalaureate, master's or doctoral levels. This is based upon the definition for an institution of higher education established in the Higher Education Act of 1965 which, as most recently amended, reads as follows:

> the term ‘‘institution of higher education’’ means an educational institution in any State that—
>
> (1) admits as regular students only persons having a certificate of graduation from a school providing secondary education, or the recognized equivalent of such a certificate, or persons who meet the requirements of section 484(d);
>
> (2) is legally authorized within such State to provide a program of education beyond secondary education;
>
> (3) provides an educational program for which the institution awards a bachelor’s degree or provides not less than a 2-year program that is acceptable for full credit toward such a degree, or awards a degree that is acceptable for admission to a graduate or professional degree program, subject to review and approval by the Secretary;
>
> (4) is a public or other nonprofit institution; and
>
> (5) is accredited by a nationally recognized accrediting agency or association, or if not so accredited, is an institution that has been granted preaccreditation status by such an agency or association that has been recognized by the Secretary for the granting of preaccreditation status, and the Secretary has determined that there is

> satisfactory assurance that the institution will meet the accreditation standards of such an agency or association within a reasonable time. (Part I - General Higher Education Programs, p.12)

Job Engagement Scale (JES)

The JES (Rich et al., 2010, p. 634) is an 18 item measure of employee engagement composed of 3 six-item subscales yielding first-order factors of cognitive, emotional, and physical engagement that, in turn, load to a second order factor of employee engagement, as supported in the original article (Rich et al., 2010, p. 624) in which the authors

> specified an additional model in which we loaded the three first-order engagement dimensions onto a second-order engagement dimension...the second-order factor loadings for the physical, cognitive, and emotional dimensions were all positive, strong, and statistically significant (.89, .64, and .90, respectively), as were the factor loadings on the individual items...Thus, in keeping with Kahn's theorizing, specifying engagement as a second-order factor was supported.

Respondents rated each question on a 5-point Likert-type scale ranging from 'Strongly disagree' to 'Strongly agree'. Sample items include 'I exert and lot of energy on my job', 'I am proud of my job', and 'At work, my mind is focused on my job'.

Managerial Coaching

Managerial coaching (coaching, MC) is defined in the proposed study as "a manager or supervisor serving as a coach or facilitator of learning in the workplace setting, in which he or she enacts specific behaviours that enable his/her employee (coachee) to learn and develop" (Ellinger et al., 2014, p. 257).

Managerial Levels

Within this study two levels of managers were recognized, which were defined as follow:

Level one (L1): Associate/Assistant Director level employees who report directly to a level two manager. Level one managers typically supervise one or more non-managerial staff members and serve as the lowest tier of management within each enrollment management unit. Sample titles include Associate Registrar and Assistant Director of Admissions, and common alternative labels may include line manager or front-line manager.

Level two (L2): Director level employees who typically supervise one or more level one managers and serve as leaders and budget authorities for a single unit/office within enrollment management. Sample titles include Registrar and Director of Admissions, and common alternative labels may include unit director or dean / associate dean.

Occupational Self-Efficacy

Occupational self-efficacy (self-efficacy, OSE) is defined according to Rigotti, Schyns, and Mohr (2008) as "the competence that a person feels concerning the ability to successfully fulfill the tasks involved in his or her job" (p. 239).

Occupational Self-Efficacy Scale (OSES)

The OSES (Rigotti et al., 2008, p. 641) is a scale designed to measure occupational self-efficacy. The short form of the OSES deployed in the present study uses six items from the original 20 (Schyns & Collani, 2002, p. 241) to measure employees' own perceived occupation-related self-efficacy. Respondents rate each

question on a 6-point Likert-type scale ranging from 'Not at all true' to 'completely true'. Sample items include 'I feel prepared for most of the demands in my job' and 'Whatever comes my way in my job, I can usually handle it'.

Perceived Organizational Support (POS)

Perceived organizational support (organizational support, POS) is defined according to its conception in Eisenberger, Huntinington, Hutchison, and Sowa (1986) as employees' "global beliefs concerning the extent to which the organization values their contributions and cares about their well-being" (p. 501).

Strategic Enrollment Management

Strategic enrollment management (commonly abbreviated as SEM) refers to the broader context of in which enrollment management professionals and offices operate, including strategies, policies, and managerial paradigms (Bontrager & Hossler, 2015). One definition cited as particularly relevant in multiple AACRAO publications (Camille, 2015, p. 567; Kalsbeek, 2006, p. 4), which is adopted within the proposed study, poses SEM as

> the systematic evaluation of an institution’s competitive market position, the development of a research-based definition of the desired or preferred strategic market position relative to key competitors, and then marshalling and managing institutional plans, priorities, processes, and resources to either strengthen or shift that market position in pursuit of the institution’s optimal enrollment, academic, and financial profile.

Survey of Perceived Organizational Support (SPOS)

The SPOS (Eisenberger et al., 2014, p. 641) is a scale developed to measure employee engagement. The short form of the SPOS deployed in the present study uses six items from the original 36 (Eisenberger et al., 1986, p. 502) to measure employees' perceptions that they are supported by their organization. Respondents rate each question on a 7-point Likert-type scale ranging from 'Strongly disagree' to 'Strongly agree'. Sample items include 'The organization takes pride in my accomplishments at work' and 'The organization really cares about my well-being'.

Chapter Summary and Organization of the Dissertation

Chapter 1 presented the background to the problem, the statement of the problem, and the purpose of the study. Next, an explanation of the theoretical underpinnings of the study were described along with the research hypotheses and theoretical model. This was followed by a brief overview of the two pilot studies that were conducted. Next, the design of main study was presented, along with the significance of the study for research, theory, and practice. Lastly, the assumptions associated with the study and definitions of key terms to be used throughout this document were provided. A summary concluded the chapter.

Chapter 2 presents a review of the primary domains of literature relevant to the study. These include managerial coaching, employee engagement, occupational self-efficacy, and perceived organizational support.

Chapter 3 presents the design and methods of the study, including a brief summary of the two pilot studies, which are fully detailed in the appendices. The chapter then describes the design of the main study, the population and sample, measurement

instruments, survey design, data collection and analysis, and reliability and validity. A summary concludes the chapter.

Chapter 4 presents the results of the analysis of the data that were collected in support of the study. It begins with a discussion of the demographics associated with the sample frame and respondents. Next follows a discussion of assumptions, reliability, and validity, including detailed discussion of the issues encountered with the OSES measure and changes to the study as a result of those issues. The approaches employed to test the study's hypotheses, and the relationships among the study variables, and common methods variance are then discussed. The chapter concludes with a summary.

Chapter 5 presents the discussion of the findings, conclusions drawn from the study, along with implications for practice, theory, and future research. It begins with an overall summary of the study, followed by a discussion of the findings in relation to existing literature and data analysis presented in Chapter 4. Implications of the issues found with the OSES measure are also further discussed. Conclusions of the study are then presented, along with implications for research, theory, and practice. Next, limitations of the study and recommendations for future research are presented. The chapter concludes with a summary.

Chapter Two - Literature Review

Introduction

This chapter reviews the literature domains relevant to studying the relationships among managerial coaching (coaching), employee engagement (engagement), perceived organizational support (POS), and occupation self-efficacy (OSE). It is comprised of six sections. The first section introduces the context of higher education enrollment management. The second section reviews the managerial coaching literature. The third section reviews the employee engagement literature. The fourth section examines perceived organizational support. The fifth section describes occupational self-efficacy. The sixth section details the research hypotheses. The chapter concludes with a summary.

The resources of the Robert R. Muntz Library at The University of Texas at Tyler were used to conduct literature searches during the period of August 2013 through the present. Search terms utilized included "managerial coaching", "manager as coach", "employee engagement", "perceived organizational support", "occupational self-efficacy", "higher education", and "enrollment management". Primary search methods included utilization of the SwoopSearch feature available for broad-scope inquiry, direct searches of the Business Source Complete, SAGE: Management and Organization, Wiley Online, PsycINFO, Emerald, and ScienceDirect databases, and member access options to journals maintained by the Academy of Human Resource Development (AHRD) and the American Association of Collegiate Registrars and Admissions Officers (AACRAO); inter-library loan services were utilized as necessary throughout. All initial searches were limited to scholarly articles only using relevant filters within each database searched.

Abstracts of articles identified by the primary search criteria were reviewed to eliminate those that were not significantly related to the primary constructs. Significant secondary searching based on reference lists was conducted, particularly with regard to managerial coaching, to collect key articles not captured by the original searches. A third search method included directly searching commonly-cited authors by name and reviewing recent abstracts to identify articles covering the key constructs under slightly different terminology, again particularly in the area of coaching. Google Scholar, which was excluded during the primary review, was employed during the third phase as an additional tool to identify relevant articles by specific authors not available through other databases for request by inter-library loan. Finally, while books and practitioner articles other than AACRAO journals were not directly searched, seminal texts were incorporated as deemed necessary based upon frequency of citation in scholarly articles.

Higher Education Strategic Enrollment Management

History and Context of Strategic Enrollment Management

Strategic enrollment management (SEM), as it exists today, first appeared in the United States during the 1970s. At that time, college administrators sought out ways to address a number of significant demographic trends stemming from the post-World War II expansion of higher education and legislative changes including the Civil Rights Act, Title IV, and the Funding for Higher Education Act (Bontrager, 2004; Green, 2016; Hossler, 2015). Coupled with an expected decrease in traditional college age students, these factors contributed to an increasingly competitive environment in which higher education administrators became more concerned with both attracting and retaining students (Bontrager, 2004; Hossler, 2015; Kutchner & Kleschick, 2016).

The coining of the term "enrollment management", generally credited to Jack Maguire of Boston University in 1976, first appeared in literature in 1981, and then began featuring in a growing number of books (Hossler, 2015). As indicated by Hossler (2015), small enrollment management conferences began being held during the 1980s where "several core principles were crystallizing that remain key underpinnings of SEM" (p. 8), including principles related to marketing, leveraging financial aid, and a reliance on empirical research. Following these early conferences, AACRAO began holding its annual Strategic Enrollment Management Conference in 1991 (Green, 2016; Hossler, 2015).

As the concepts of enrollment management began to spread, first among private, not-for-profit institutions and then into public higher education, the term "strategic enrollment management" (SEM) emerged to replace the original terminology (Hossler, 2015). As public funding for higher education began to decline and pressure for accountability began to intensify through the 1990s and early 2000s, SEM concepts saw increasing popularity (Bruininks et al., 2010; Dar, 2012, Green, 2016; Hossler, 2015). This was primarily due to their focus on efficiency and the management of constrained resources (Bontrager, 2004; Bruininks et al., 2010), which became even more imperative after the great recession of 2008 (Langston & Scheid, 2014).

Strategic enrollment management also places a focus on the structuring of higher education campuses to enhance its core concepts as related to marketing, recruitment and retention of desirable student populations, and financial planning (Bontrager, 2004). Functional areas typically included within an SEM structure include "admissions, financial aid, student retention, and the office of the registrar (Hossler, p. 13)", but other

areas such as orientation, pre-college programs, and career services may also be included on some campuses (Bontrager, 2004).

In light of modern trends in higher education, including increased accountability, political pressure, and stagnant or falling public funding (Dar, 2012; Kutchner & Kleschick, 2016; Langston & Scheid, 2014; Pollock, 2015), Hossler (2015) acknowledged that

> at the moment, there seems little doubt that SEM is now, and will continue to be, a fixture and a key function within higher education administration in the United States, and it is likely to become increasingly important in many other countries (p. 12).

Research in Strategic Enrollment Management

Strategic enrollment management is well established as a highly research-dependent professional field (Hossler & Bontrager, 2015; Langston & Scheid, 2014; Seefeld, 2015). However, this focus is not on academic research, but rather "in general... research in SEM addresses the "3 R's of SEM: recruitment, retention, and revenue (Wohlgemuth, 2015, p. 450)" via a focus on SEM structures or "the admissions process, of the effects of financial aid on matriculation, of student retention, and so on (Hossler, Kalsbeek, & Bontrager, 2015, p. 36)". Based on this focus on campus-based research related largely to data-driven goals and needs of SEM units and professionals, Seefeld (2015) noted that, while scholar-practitioners have a significant role to play, SEM is a fledgling academic field that has yet to come into its own (Seefeld, 2015).

AACRAO publishes a number of texts on SEM, as well as two journals, *College & University* and *SEM Quarterly* (http://www.aacrao.org/resources/publications). In

addition to articles on how to better carry out campus-based research, these publication disseminate research, largely practitioner-focused, on topics such as professional development of SEM staff and leadership (Schultheis, 2014), mentoring (Altamirano, 2016; Bender, 2017; Kutchner & Kleschick, 2016; Munson, 2017; Seheult, 2016), and the impact of organizational culture (Flanigan, 2016).

Management in Strategic Enrollment Management

Discussions of management and development are relatively scarce in the academic and practitioner SEM literature. However, the needs for effective leadership, and skilled personnel in general, for SEM units to function properly (Bender, 2017; Flanigan, 2016; Hempsall, 2014; Hossler et al., 2015; Kutchner & Kleschick, 2016; Schultheis, 2014) and for SEM professionals to be prepared for continuous change (Bruininks et al., 2010; Kutchner & Kleschick, 2016; Langston & Scheid, 2014) are common themes. Schultheis (2014) noted the need for SEM leaders to become comfortable with relying on the expertise of personnel throughout and beyond their division, as "the unrealistic reliance upon individual leaders who have been expected to possess all of the knowledge necessary to make decisions" (p. 3) is not a sustainable strategy. To this end he called for the engagement of staff through the division and to facilitate their "ability to sense their agency within the organization" (p. 4).

Hempsall (2014), in an international study of higher education leaders, noted that "there was a strong sense that traditional leadership skills are no longer effective and that leaders need to develop additional skills to be able to meet the challenges they face" (p. 386) and that "managing only for compliance...is not sustainable" (p. 388). Interviewees from this study reported the need to focus on relationship management and the ability to

build trust and manager perceptions, with one interviewee paraphrased as stating that "a person needs to 'engage the heart, the hand, and the head to lead well'" (Hempsall, 2014, p. 387). In support of this, Langston and Scheid (2014) called for SEM organizations to make significant investments in people and positions, and posited that managers at the director level should "have the leadership skill and acumen to motivate staff to reach higher and achieve greater" (p. 9) and that those at the associate or assistant director levels must "be exceptionally collaborative, hands on, and a team player" (p. 9).

Cramer (2012), in an article on developing the next generation of SEM leaders, stressed the importance of current leaders assuming roles as mentors to foster the development their team members. Providing access to resources, focusing on listening and providing feedback, creating a learning organization, and providing opportunities for employees to demonstrate what they had learned were noted as behaviors of particular importance for managers to incorporate into their leadership practices. These themes have since been echoed in the *College & University* series on mentoring (Altamirano, 2016; Bender, 2017; Kutchner & Kleschick, 2016; Munson, 2017; Seheult, 2016), reinforcing their relevance.

Managerial Coaching

This section reviews the literature on managerial coaching to describe how managerial coaching is conceptualized and defined. Following this, a discussion of the origins of the term, its historical presence in the scholarly literature, theoretical perspectives, and the current state of the empirical research with respect to the proposed antecedents of and outcomes of managerial coaching behaviors are presented. Studies

underpinning the hypothesized relationships to the other constructs within the study are also discussed.

Conceptualizing and Defining Managerial Coaching

Scholars who research managerial coaching have yet to arrive at a universally accepted definition (Bond & Seneque, 2013; David & Matu, 2013; Kunst et al., 2018; Lawrence, 2017). However, there have been a number of general frameworks and conceptualizations that have been advanced in recent studies (Beattie et al., 2014; Hagen, 2012). Managerial coaching is often focused "mainly on improving skills, competence, and performance" (Beattie et al., 2014, p. 3). Other recent studies have described managerial coaching as a "range of behaviors comprising a development orientation, a performance orientation, planning and goal setting, and feedback processes" (Anderson, 2013, p. 257) and as "a process or set of behaviors that enables individuals to learn and develop as well as to improve their skills and enhance their performance" (Ellinger & Kim, 2014, p. 4). Lastly, Hagen acknowledged that managerial coaching is "most often related to the training, development, and retention of employees" (Hagen, 2012, p. 20). These align with a previous composite conceptualization that defined managerial coaching as an approach that "is designed to improve existing skills, competence and performance, and to enhance their personal effectiveness or personal development or personal growth" (Hamlin, Ellinger, & Beattie, 2008, p. 295). Such definitions indicate a degree of consistency throughout the field.

Carrell (2015) offered an analysis of themes and trends within definitions posed for managerial coaching in publications dating from 2009 to 2014. Table 2.00 presents a number of additional definitions extending those covered in Carrell (2015). When word

frequencies across definitions included in Carrell (2015) and Table 2.00 are analyzed, clusters emerged around certain themes, consistent with those found by Carrell (2015), including: growth, development, improvement, and enhancement; helping, guiding, facilitating, enabling, and teaching; performance; effectiveness; and learning. Phrases such as "hands-on" (Orth, Wilkinson, & Benfari, 1987), "one-[on/to]-one" (Heslin, Vandewalle, & Latham, 2006; Pousa & Mathieu, 2010), and "face-to-face" (Batson & Yoder, 2012) coupled with the pervasiveness of references to both coach/manager and coachee/employee highlighted the dyadic nature of managerial coaching (Egan & Hamlin, 2014). The phrases "ongoing process" (Huang & Hsieh, 2015; Joo, Sushko, & McLean, 2012) and "active process" (Gilley et al., 2010) spoke to the nature of managerial coaching as requiring effort over time (Hui, Sue-Chan, & Wood, 2013; Kim, 2014). The centrality of performance, which appeared in roughly two thirds of the examined definitions, could not be understated. According to Hagen and Peterson (2015) it "is generally accepted as the key desired outcome of managerial coaching" (p. 115).

Table 2.00: Managerial Coaching Definitions - Expanded from Carrell (2015, p. 7-9)

Authors	**Definitions**
(Orth et al., 1987, p. 67)	A day-by-day, "hands-on" process of helping employees recognize opportunities to improve their performance and capabilities.
(Evered & Selman, 1989, p. 18)	The managerial activity of creating, by communication only, the climate, environment, and context that empowers individuals and teams to generate results.

Table 2.00 (Continued)

Authors	Definitions
Ellinger (1997, p. 49)	The guidance and development of less experienced personnel
(McLean et al., 2005, p. 163)	A set of managerial skills that demonstrate effective coaching characteristics in terms of openly communicating with others, taking a team approach to tasks, valuing people over task, and accepting the ambiguous nature of the working environment for the purpose of developing employees and improving performance.
(Heslin et al., 2006, p. 872)	Managers providing one-on-one feedback and insights aimed at guiding and inspiring improvements in an employee's work performance.
(Ellinger et al., 2008, p. 243)	A supervisor or manager serving as a coach, or facilitator of learning, in which he or she enacts specific behaviours that enable his/her employee (coachee) to learn and develop
(Onyemah, 2009, p. 938)	A teaching technique for imparting facts and methods for accomplishing a task
(Pousa & Mathieu, 2014b, p. 77)	A nondirective, goal-focused, and performance-driven intervention led by the manager.

Table 2.00 (Continued)

Authors	Definitions
(Dahling et al., 2015, p. 5)	(a) providing continual constructive, developmental feedback to subordinates, (b) serving as a behavioral model for good performance, (c) and working collaboratively with each subordinate to set engaging, challenging goals that motivate performance.
(Huang & Hsieh, 2015, p. 42)	An ongoing process of helping employees develop themselves, not only for improving individual job performance but also for maximizing personal career potential.
(Pousa & Mathieu, 2015, p. 21)	A managerial tool to help his/her subordinates achieve a series of externally-set organisational goals and increase their job-related performance.
(Ye et al., 2015, p. 1)	A process in which managers (i.e. direct supervisors) communicate goals and expectations with subordinates, provide them with regular feedback and learning opportunities, in order to enhance subordinate performance and facilitate their professional development.
(Chong et al., 2016, p. 22)	A manager acts as a coach and plays the role of coaching an individual in daily interaction which focuses exclusively on achieving work goals.

Table 2.00 (Continued)

Authors	Definitions
(Ladyshewsky & Taplin, 2017, p. 27)	A process of helping employees to develop themselves for improving performance, elevating potential and increasing their vitality for the work they do.
(Woo, 2017, p. 2)	Managers' coaching activities that lead their own subordinates to improve their performance.

These clusters of behaviors and concepts align well with models posed by Hagen (2012) and Beattie, Kim, Hagen, Egan, Ellinger, and Hamlin (2014) based on their literature reviews and the frameworks of Anderson (2013) and Hamlin, Ellinger, and Beattie (2008). As the themes around development and facilitation are the most prominent, and the centrality of the manager-employee relationship is well supported, the study defined managerial coaching as "a manager or supervisor serving as a coach or facilitator of learning in the workplace setting, in which he or she enacts specific behaviours that enable his/her employee (coachee) to learn and develop" (Ellinger et al., 2014, p. 257).

History and Background of Managerial Coaching

The tern, coach, in the English language, has been traced back to the 1500s as a derivative of the word carriage, from which its verb usage inherited the meaning "to convey a valued person from where he or she was to where he or she wanted to be" (Evered & Selman, 1989, p. 32). The term was later employed to refer to boat racing team trainers and private academic tutors, with the a more general athletic instruction and performance role being the most common association in modern times (Evered &

Selman, 1989; Maltiba, Marsick, & Ghosh, 2014). Coaching in a management context was introduced to the academic literature in the 1980s as an analog to athletic coaches in which managers develop the employees they supervise (Orth et al., 1987). At that early juncture coaching was posed as a central component of effective management (Evered & Selman, 1989), a characterization that has been echoed in recent years (Anderson, 2013; Hamlin et al., 2006). The foundational articles by Orth, Wilkinson, and Benafri (1987) and Evered and Selman (1989) conceptualized coaching as taking place in dyads of managers and their direct reports, as based significantly on the communication skills of the manager, and as having the potential for significant performance improvements for both individuals and the organization.

Despite these promising early publications, the literature on managerial coaching did not see significant growth until a series of 1999-2002 studies were published on the role of managers as a facilitators of learning in learning organizations based on Ellinger's (1997) qualitative critical incident study featuring in-depth interviews with twelve managers which resulted in findings that identified sets of coaching behaviors, triggers, and outcomes. The findings were subsequently expanded upon (Ellinger, 1999; Ellinger & Bostrom, 1999, 2002; Ellinger et al., 1999). Findings from these studies indicated that, contrary to traditional conceptualizations, managers considered coaching as distinct from management and saw adopting coaching roles as essential to the learning organization concept, and also proposed that coaching had potential implications beyond learning and performance (Ellinger & Bostrom, 2002; Ellinger et al., 1999). The title of one of these studies was also significant as one of the first appearances of the full term "managerial coaching" in the scholarly literature (Ellinger & Bostrom, 1999).

Shortly thereafter, the findings of these studies were used by Ellinger and colleagues to create the Supervisor/Line Manager Coaching Behavior and Employee Perceptions of Supervisor/Line Manager Coaching Behavior measures (Ellinger et al., 2003), which are collectively referred to as the Coaching Behaviors Inventory (CBI) in current literature (Hagen & Peterson, 2015). Using this newly developed measure in a warehouse distribution context, Ellinger, Ellinger, and Keller (2003) found that the supervisors surveyed viewed themselves as providing more coaching behaviors than those perceived by their employees. However, despite relatively low levels of coaching perceived by warehouse employees, their perceptions of coaching behaviors received were significant predictors of their job satisfaction and job performance.

Theory in Managerial Coaching

The most recent decade has seen considerably increased attention on coaching in general, and managerial coaching more specifically, in the academic and practitioner literatures (Beattie et al., 2014; Lawrence, 2017; Segers Vloeberghs, Henderickx, & Inceoglu, 2011). Although coaching and managerial coaching have been criticized as being atheoretical (Ellinger et al., in press; Ellinger et al., 2008; Ellinger & Kim, 2014), scholars have begun to articulate an eclectic theory base to guide managerial coaching practice (Ellinger et al., 2014). Some scholars have posited that a lack of agreed upon theoretical bases for coaching may be a non-issue given the individually-tailored nature of the various forms of coaching, which cannot rely on a single universal solution for each person, thus requiring that practitioners are well-informed, flexible, and open-minded (Cox et al., 2014). Speaking of coaching in general, one recent study proposed that "the field of Adult Learning and Development....provides the foundational

underpinning " (Bachkirova et al., 2014 as cited in Cox et al., 2014, p. 9) through theories such as Andragogy (Knowles, 1990) and Experiential Learning (Dewey, 1910; Kolb, 1984), which offers support to prior studies which have found learning to be key factor in the managerial coaching (Beattie, 2006; Hagen, 2012; Wang, 2013).

Theories regarding how managers and employees perceive, process, and react to one another's actions through the course of their relationships in the workplace include Social Exchange (SET) (Blau, 1964; Emerson, 1976), Leader-Member Exchange (LMX) (Graen & Scandura, 1987; Scandura, Graen, & Novak, 1986; Kang & Stewart, 2007), and Social Cognitive (SCT) (Bandura, 1977a). These theories have featured prominently in research on managerial coaching in recent years (Anderson, 2013; Dahling et al., 2015; Kim & Kuo, 2015; Steelman & Wolfeld, 2016; Woo, 2017).

According to Blau (1964), SET contends that employees develop dyadic relationships in the workplace over time based on rules and norms of exchange one of which, reciprocity (Cropanzano & Mitchell, 2005; Gouldner, 1960), represents an attempt to maintain equilibrium in social exchanges with others. Social exchange theory also offers extensive further utility in managerial coaching research as it underpins Perceived Organizational Support (Eisenberger et al., 1986) which has recently received attention as a theoretical basis for coaching (Kim, 2014; Woo, 2017). Leader-member exchange provides a framework for the dyadic nature of coach-coachee relationships and the influence of their quality on outcomes of managerial coaching (Pousa & Mathieu, 2014b; Steelman & Wolfeld, 2016). The central SET principle of reciprocity is important to both LMX and POS as an explanation for why employees will strive to maintain a balance between perceptions of other parties' actions toward them, such as managerial coaching

behaviors, and their actions toward those parties (Blau, 1964; Huang & Hsieh, 2015; Kang & Stewart, 2007; Rhoades & Eisenberger, 2002).

Social Cognitive Theory and Social Learning Theory (Bandura, 1977a, 1977b) contend that humans learn in significant part through modeling the observed behaviors of others, particularly those which are reinforced by an influential figure or are observed as producing desired results such as rewards or successful task completion. In the workplace context these learning experiences give rise to occupational self-efficacy beliefs regarding the ability to perform one's job adequately (Bandura, 1977a; Dahling et al., 2015; Schyns & von Collani, 2002). Such beliefs have been found to be evident in exemplary managerial coaches (Ellinger et al., 2014), and also positioned as one potential antecedent to managers' coaching behaviors (Anderson, 2013). Such beliefs tend to increase following positive results from those behaviors (Grant, 2010) as suggested by recent managerial coaching literature, which offers particular salience to Bandura's theories.

Empirical Research on Managerial Coaching

Early empirical research on managerial coaching focused largely on identifying behaviors of effective managerial coaches such as promoting supportive learning environments and providing and receiving feedback (Ellinger & Bostrom, 1999, 2002; Hamlin et al., 2006), and skills such as open communication and the ability to motivate others (Beattie, 2006; McLean, Yang, Kuo, Tolbert, & Larkin, 2005). Despite these early findings, as noted by Hagen (2012) in the first major literature review on managerial coaching, there continue to be concerns in the literature about the ongoing paucity of empirical research related to managerial coaching prompting ongoing calls for expansion

of the empirical literature base. Such calls are related to individual and organizational performance improvement, antecedents to practice, (Beattie et al., 2014; Hagen, 2012; McCarthy & Milner, 2013) and benefits to managers themselves (Ellinger et al., 2014; Ellinger et al., in press).

In line with assertions by Hagen and Peterson (2015), numerous studies have linked perceptions of employee job performance to managerial coaching behaviors across a variety of industries (Agarwal et al., 2009; Buljac-Samardzic & van Woerkom, 2015; Dahling et al., 2015; Ellinger et al., 2003; Ellinger, Elmadag, & Ellinger, 2007; Liu & Batt, 2010; Pousa et al., 2017) and cultural contexts (Kim et al., 2013b; Pousa & Mathieu, 2014b; Sue-Chan, Wood, & Latham, 2012). Qualitative analyses also support managerial coaching's positive influence on performance for both line managers (Longenecker, 2010; Longenecker & Neubert, 2005) and employees (Wheeler, 2011) who receive coaching from their direct supervisors. Models advanced based on conceptual and literature reviews (Beattie et al., 2014; Hagen, 2012) concurred with conclusions drawn from many empirical studies that key outcomes of managerial coaching behaviors included increased employee job satisfaction (Ellinger et al., 2003; Kim et al., 2013a), role clarity (Kim, 2014), organizational citizenship behaviors (Kim & Kuo, 2015; Ozduran & Tanova, 2017a), reflection (Matsuo & Matsuo, 2017), job and career commitment (Kim et al., 2013a; Kuo et al., 2014; Onyemah, 2009; Woo, 2017), and self-efficacy (Leonard-Cross, 2010). Findings have also been identified around positive employee perceptions related to managers including satisfaction with supervisors (Onyemah, 2009), trust in supervisors (Chong et al., 2016; Kuo et al., 2014; Ladyshewsky, 2010), and strong managerial feedback orientations (Steelman & Wolfeld,

2016) that support general conceptualizations of how and why coaching functions (Beattie, 2006; Ellinger et al., in press; Ellinger et al., 2008; Kim, 2014; Misiukonis, 2011; Orth, Wilkinson, & Benfari, 1987).

Recent studies have further identified a number of mediating effects including role clarity, job satisfaction (Kim et al., 2013b), reflection (Buljac-Samardzic & van Woerkom, 2015), perceived organizational support, managers' trustworthiness, and psychological empowerment (Huang & Hsieh, 2015; Kim & Kuo, 2015; Kuo et al., 2014). A number of moderating factors have likewise been identified, including group management processes (Liu & Batt, 2010), mentoring (Woo, 2017). managers' implicit person beliefs (Sue-Chan et al., 2012), managers' coaching skill levels (Dahling et al., 2015), organizational investments in social capital (Ellinger et al., 2011), and person-organization value fit (Onyemah, 2009).

One recently-published, long-term international study (Ye, Wang, Wendt, Wu, & Euwerma, 2015) with an exceptionally large sample spanning "133,707 managers (75% male and 26% female) rated by their 605,367 subordinates in 1,752 organizations in 51 countries" (p. 1798) has contributed a number of findings related to gender and cultural contexts. First, managers from collectivist cultures were found to exhibit coaching behaviors more frequently than those from individualistic cultures. The authors noted that managers in such cultures "tend to focus on relational interactions with subordinates, and exhibit more nurturing and developmental behaviors (p. 1803)." Second, female managers were found to be more likely to exhibit managerial coaching behaviors than male managers worldwide, which the authors cited as a potential way for female managers to overcome double standards in the workplace. Third, gender was found to

moderate the relationship between collectivism and coaching, particularly for male managers whom Ye, Wang, Wendt, Wu, and Euweema (2015) posited may leverage coaching as a way "to fulfill the role obligations as collectivist managers" (p. 1804).

Studies related to self-efficacy are of particular interest within this study, as improvements for managers were found as both an outcome of coaching adoption (Grant, 2010) and a predictor of coaching practice (Anderson, 2013). These findings indicate self-efficacy may be central to the adoption and continuance of coaching practice (Carrell, 2015), which is supported by the Leonard-Cross (2010) study that managers' perceived personal self-efficacy increased in addition to those noted for their employees. In characterizing the role of Social Cognitive theory in managerial coaching, Agarwal, Angst, and Magni (2009) posed self-efficacy derives from supervisor support as "[providing] the motivation to exert effort" (p. 2116). In other publications, Ellinger and Bostrom (2002) and Ellinger (2013) acknowledged that "self-efficacy regarding their own capabilities relative to skills, process capabilities, and experiences" (Ellinger, 2013, p. 312) was characteristic of exemplary coaching managers. In a more recent study Pousa and Mathieu (2015) found employee-self efficacy to serve as both an outcome of coaching behaviors and a powerful mediator of behavioral performance, which aligns with characterization of self-efficacy as a key employee outcome for nurses by Batson and Yoder (2012). Despite these promising findings, to date, much of the research exploring managerial coaching and self-efficacy has utilized measures of managerial coaching and/or self-efficacy derived for a specific study (Anderson, 2013) or tailored to a specific industry (Grant, 2010; Pousa & Mathieu, 2015) rather than OSE, a well-validated measure with broader applicability. The use of consistent and previously

validated measures may ultimately enhance the generalizability of findings across studies in the future.

Managers as Coaches and Coachees

Beattie et al. (2014) recently identified line managers "who provide coaching to their direct reports and who may receive coaching from their own line managers" (p. 12), as an important stakeholder in managerial coaching who may assume roles as either coach or coachee. Beattie (2006) and Misiukonis (2011) each found that line managers may model their behavior based on experiences with their own managers, and although Agarwal et al., (2009) did not find support for a similar hypothesis, they did find a link between a senior manager's coaching and line manager performance.

With regard to managers' views and expectations, Longenecker and Neubert (2005) reported that managers expressed a preference for clarity about desired results and performance, honest and ongoing feedback, support in solving work problems, and relationships based on mutual trust, which are similar to expected employee outcomes of managerial coaching (Ellinger et al., 1999). Campbell and Evans (2016) found that managers desired to be seen as effective role models and to be supportive of their subordinates' learning and self-efficacy, with a goal of developing their subordinates into future leaders.

Regarding managerial stances on how to incorporate coaching behaviors, Dixey (2015) found a strong preference for adopting an informal, conversational approach to coaching as a part of their day-to-day interactions with employees, and a general aversion to more directive, formalized applications. This corresponds with Hunt and Weintraub's (2002) contention that managerial coaching be part of a manager's daily routine. Further

it, aligns with empirical findings suggesting that managerial coaching may be superior to formalized training at improving employees' job-related attitudes and behaviors (Elmadag, Ellinger, & Franke, 2008). Wheeler (2011) found that a lack of coaching behaviors from senior managers inhibited the development of line manager coaching skills, and DuPlessis, Carrell, and Kincade (2015) identified lack of prior experience with managerial coaching and lack of organizational support for coaching as significant inhibitors of managerial coaching behavior. In light of these findings the final quote put forward in the Longenecker and Neubert (2005) is particularly salient:

> Whether we want to admit it or not, we all need a coach to be the best we can be, and nowhere is this more true than doing the challenging work of being a manager (p. 499).

Measures of Managerial Coaching

Methods for measuring managerial coaching are also being investigated currently, with particular focus on the two scales conceived around the two main approaches, behavior-based and skill-based, espoused for managerial coaching (Hagen, 2012); the Coaching Behaviors Inventory (CBI; Ellinger et al., 2003) reflects the behavior-based approach, and the Measurement Model of Coaching Skills (McLean et al., 2005; Park, McLean, & Yang, 2008) represents the skills-based approach. These scales are noted as dominant in the literature, but Hagen and Peterson (2015) expressed some concerns regarding each measure, which may be a manifestation of their study design and sample. The most recent of two studies by Hagen and Peterson (2014, 2015), while acknowledging their respective issues, positioned the Park, McLean, and Yang (2008) scale as preferable for measuring managers' perceptions of their respective coaching

skills and the Ellinger et al. (2003) scale for measuring employee perceptions of the extent to which they have received coaching behaviors by their managers. As the present study is rooted in the behavior-based approach to managerial coaching, the CBI is considered the most desirable measure for deployment.

Summary of Managerial Coaching

Popularity and relevance of managerial coaching to scholars and practitioners in management, HRD, and other fields is expected to continue to rise (Batson & Yoder, 2012; Beattie et al., 2014; Chong et al., 2016) as the perceived value of, and demand for, managers to act as coaches (Bennett & Bush, 2009; Liu & Batt, 2010; Woo, 2017) remains high and is anticipated to remain this way (CIPD, 2012, 2015). Research on managerial coaching, scholars' consideration of relevant theories to underpin this form of coaching, and the rate of published studies are accordingly increasing and are expected to continue to increase (Ellinger & Kim, 2014; Lawrence, 2017). Many avenues for fruitful research remain, including factors influencing coaching practice (Beattie et al., 2014; Kunst et al., 2018), benefits derived by coaches themselves from participation in coaching relationships as either coach or coachee (Chong et al., 2016; Ellinger at al., 2014; Ellinger et al, in press; Lawrence, 2017), and the potential utility of self-efficacy (Carrell, 2015). Of particular interest are studies that establish constructs such as POS (Kou, Chang, & Chang, 2014; Ellinger, 2013) and employee engagement (Ellinger et al., 2012; Ladyshewsky & Taplin, 2017), each of which are desirable in many workplace contexts, as outcomes of managerial coaching practice.

Employee Engagement

Employee engagement was first introduced by Kahn (1990), whose seminal grounded theory of personal engagement and disengagement found that, "in engagement, people employ and express themselves physically, cognitively, and emotionally during role performances...in disengagement, people withdraw and defend themselves physically, cognitively, or emotionally during role performances" (Kahn, 1990, p. 694). Kahn, reflecting on "the multiple levels of influences...that shape people's personal engagement and disengagements" (1990, p. 719) stated that:

> People vary their personal engagements according to their perceptions of the benefits, or the meaningfulness, and the guarantees, or the safety, they perceive in situations. Engagement also varies according to the resources they perceive themselves to have - their availability (p. 704)

Similar to managerial coaching, employee engagement is an evolving concept (Shuck, Ghosh, Zigarmi, & Nimon, 2013) which has expanded significantly in popularity among academics and practitioners over the past decade (Madden & Bailey, 2017; Saks & Gruman, 2014). Employee engagement has no universally accepted definition or conceptualization (Christian, Garza, & Slaughter, 2011; Meyer, 2017; Saks, 2017; Saks & Gruman, 2014; Shuck, Osam, Zigarmi, & Nimon, 2017c). Engagement is also often cited as lacking in rigorous academic research and empirical findings (Saks, 2006, 2014; Shuck, Adelson, & Reio, 2016; Shuck et al., 2017c; Shuck & Wollard, 2010; Valentin, Valentin, & Nafukho, 2015), which Macey and Schneider (2008) noted has been the case during the early development of other psychological constructs.

Conceptualization of Employee Engagement

Shuck (2011), who previously framed employee engagement as "an individual employee's cognitive, emotional, and behavioral state directed toward desired organizational outcomes" (Shuck & Wollard, 2010, p. 103) proposed four conceptualizations of engagement. These included Kahn's (1990) needs satisfaction, the burnout antithesis concept of Maslach, Schaufeli, and Leiter (2001), a positive psychology-based model established by Harter, Schmidt, and Hayes (2002) based on Gallup research, and a multi-dimensional model by Saks (2006).

The needs satisfaction framework was originally put forth by Kahn (1990) in his seminal grounded theory research, in which engagement was framed as stemming from employees' perceptions of psychological meaningfulness, safety, and availability. The concept of meaningfulness was described as feeling "worthwhile, useful, and valuable - as though they made a difference and were not taken for granted...able to give to others and to the work itself in their roles and also able to receive" (Kahn, 1990, p. 704). Psychological safety was described in terms of "supportive managerial environments allowed people to try and to fail without fear of the consequences" (Kahn, 1990, p. 711). Each of these elements of engagement may be derived from positive interactions with managers, who may leverage their roles as organizational agents (Eisenberger et al., 2014) to help employees feel valued and supported (Ellinger, 2014). Psychological availability was described as "having the physical, emotional, or psychological resources to personally engage at a particular moment" (Kahn, 1990, p. 714). Kahn (1990) noted that availability may be impaired by deficiencies in "how secure people felt about their work" (p. 715), which positions self-efficacy of employees and potentially important in

light of Bandura's (1977) supposition that "people will approach, explore, and try to deal with situations within their self-perceived capabilities, but they will avoid transactions with stressful aspects of their environment they perceive as exceeding their ability (p. 203)."

The burnout antithesis conceptualization positions engagement as the opposite of burnout (Maslach, Schaufeli, & Leiter, 2001; Demerouti & Bakker, 2008). Maslach et al. (2001) accordingly measured the construct based on scores from their popular Maslach Burnout Inventory (MBI) instrument. In a related approach Schaufeli, Salanova, Gonzalez-Roma, and Bakker (2002) likewise viewed engagement as the opposite of burnout, but measured the construct separately using their own instrument, the Utrecht Work Engagement Scale (UWES), which is comprised of three factors of vigor, dedication, and absorption. Anthony-McMann, Ellinger, Astakhova, and Halbesleben (2017) noted that even though the UWES positions engagement as a distinct construct, its questions "are almost the exact opposite of questions in the...MBI (p.5)" and a meta-analysis by Cole, Walter, Bedeian, and O'Boyle (2012) found the UWES and MBI to be "empirically redundant" (p. 1576) and cautioned researchers against "treating the UWES as if it were tapping a distinct, independent phenomenon" (p. 1576). Further, Byrne, Peters, and Weston (2016) noted that the UWES "possesses substantial overlap with a reverse-scored [Maslach Burnout Inventory] (p. 1219)", that it "may demonstrate high correlations because of substantial overlap with other variables in the nomological network (p. 1217)", and that if the measure is to be utilized as a measure of only engagement "then changes are required to the UWES to reduce overlap with other job attitudes" (p. 1221).

Concerns with the UWES measure, and by extension the results based on it, have arisen due to the view that the measure is "inconsistent with Kahn's definition and conceptualization of engagement" (Saks & Gruman, 2014, p. 167). Further, the UWES measure "included items that confound engagement with the antecedent conditions suggested by Kahn" (Rich et al., 2010, p. 623), and "its foundation rests within the burnout literature" (Saks & Gruman, 2014, p. 164) which has been noted as "problematic because engagement is not burnout" (Shuck, 2013, p. 279). Another study (Viljevac, Cooper-Thomas, & Saks, 2012) found that both the UWES and the May scale (May, Gilson, & Harter, 2004), "which is theoretically grounded in the work of Kahn (Viljevac et al., 2012)", lacked discriminant validity with regard to job satisfaction. These authors went on to note that

> the continuation of research that uses different measures of engagement with questionable overlap and validity is likely to thwart the advancement of engagement theory and research and limit its implications for practice (Viljevac et al., 2012, p. 3707).

These issues exacerbate the underdevelopment of employee engagement from an empirical standpoint (Saks & Gruman, 2014). In particular, the position of the UWES as the most common measure of engagement deployed in recent years (Meyer, 2017; Saks & Gruman, 2014; Viljevac et al., 2012) leaves a significant portion of the existing empirical results subject to scrutiny. Saks and Gruman (2014) noted that "if we don't address these concerns now, it will be difficult to move forward toward a science of employee engagement" (p. 179).

Accordingly, significant concerns about the validity of research based on the UWES, which includes most of the studies framed by burnout-based conceptualizations, have been raised by many scholars (Byrne, Peters, & Weston, 2016; Kim et al., 2012; Saks, 2017; Saks & Gruman, 2014; Shuck, 2013). These issues have resulted in a movement towards a more Kahn-based approach, and away from burnout-based approaches, for future research (Cole, Walter, Bedeian, & O'Boyle, 2012; Saks & Gruman, 2014).

Harter et al. (2002) based their conceptualization of engagement, which captures engagement based on a measure of job satisfaction as a proxy, on data collected via the Gallup Workplace Audit (GWA) instrument. This conceptualization has raised concerns similar to those expressed for the burnout antithesis of being viewed as not well-grounded in Kahn's theory (Saks & Gruman, 2014; Shuck, 2011) and of deriving conclusions from the measurement of another construct which, while related to engagement, is not the same (Anthony-McMann et al., 2017; Christian et al., 2011; Saks, 2017).

Saks (2006) proposed a multi-dimensional approach to the measurement of engagement that distinguished between job engagement related to individuals' specific work duties and organization engagement related to their broader role as a member of their organization. This model was tested successfully against antecedents of engagement such as perceived organizational support and procedural justice, as well as consequences of engagement such as organizational commitment and job satisfaction.

In recent years a call for a return to Kahn's original needs-satisfaction conceptualization framework, and away from narrower conceptualizations, has gained

traction among scholars (Anthony-McMann et al., 2017; Saks & Grumman, 2014). Anthony-McMann et al. (2017) highlighted a key reason for this suggested shift by noting that "Kahn's needs-satisfaction framework implies a depth of consideration ...that seems inadequately served by positioning it in relation to burnout or by measuring it through the lens of job satisfaction" (p. 6).

Empirical Research on Employee Engagement

Much of the empirical research on employee engagement has focused on identifying antecedents and outcomes (Byrne et al., 2016; Saks & Gruman, 2014; Shuck & Rose, 2013). Wollard and Shuck (2011) proposed a number of individual (curiosity, POS, self-efficacy, motivation) and organizational (clear expectations, feedback, manager self-efficacy, opportunities for learning) antecedents to employee engagement. Saks (2006), in a study framing Kahn's concept of engagement as highly aligned with Social Exchange Theory (Blau, 1964), found significant differentiation between job and organization engagement and established POS as an antecedent to both job and organization engagement, which was supported by Jin and McDonald (2017), Malenin and Harju (2017), Rich, LePine, and Crawford (2010), and Zhong, Wayne, and Liden (2016), each of whom also found POS to be an antecedent of job or work engagement. In two 2011 studies, one quantitative and one qualitative, job fit and psychological climate were found to be antecedents (Shuck, Reio, & Rocco, 2011; Shuck et al., 2011). Other scholars have posed generally supportive and developmental leadership behaviors (Jin & McDonald, 2017; Xu & Thomas, 2011), coaching (Saks & Grumman, 2014; Ellinger et al., 2012) and LMX (Carasco-Saul, Kim, & Kim, 2015), as contributing to or fostering the conditions under which employees are likely to become engaged under Kahn's

conceptualization (Shuck & Herd, 2012). Shuck et al. (2014) established support for participating in HRD activities as antecedents to all three facets of engagement from the Shuck and Wollard (2010) definition.

The research on outcomes associated with employee engagement, found that reduced turnover intention (Malenin & Harju, 2017; Saks, 2006; Shuck et al., 2014; Zhong et al, 2016), task performance (Christian et al., 2011), and organizational citizenship behaviors (Rich et al., 2010) were most common. One recent study (Shuck, Alagaraja, Rose, Owen, & Bergman, 2017a) noted engagement as also related to positive health outcomes. Shuck and Reio (2014) found engagement moderated the relationships between psychological climate and factors such as well-being, accomplishment, and emotional exhaustion, with higher engagement associated with higher levels of positive and lower levels of negative outcomes.

Measurement of Employee Engagement

As an alternative to measures such as the UWES and May scale, realignment with Kahn's original concept (Saks & Gruman, 2014; Shuck, 2013) and a view of engagement as composed of multiple facets have been proposed for moving research forward (Carasco-Saul et al., 2015; Macey & Schneider, 2008; Shuck & Reio, 2011). In light of the desire to align research instruments with Kahn's original concept, instruments such as the Employee Engagement Scale (EES) (Shuck, Nimon, & Zigarmi, 2017b), Job Engagement Scale (JES) (Rich et al., 2010), ISA Scale (Soane, Truss, Alfes, Shantz, Rees, & Gatenby, 2012), and the Saks Job and Organization Engagement Scales (Saks, 2006) have been developed and validated in recent years.

Regarding the scale to be deployed in this study, a recent study by Anthony-McMann et al., (2017) compared engagement scales. Their study found that "regardless of conceptualization, employee engagement is domain specific, and thus the meaning of the construct is revealed only upon examination of the dimensional level of engagement instruments" (p. 26). In the dissertation upon which this study was based (Anthony-McMann, 2014), the primary author noted that among existing needs-satisfaction based engagement measures, the JES and ISA have "revealed better reliability and the potential for broad applicability" (p. 83). Each of these scales captures three dimensions of engagement rooted in Kahn's (1990) conceptualization of engagement as first order factors to be loaded onto a second order factor of engagement (Rich et al., 2010; Soane et al., 2012). Of these two, the ISA scale was found to be undesirable in the proposed study due to the focus of its social engagement dimension's questions on relationships with work colleagues (Soane et al., 2012), which are not the focal relationships to be investigated. Further, the strict adherence of the first order factors of the JES to Kahn's original conceptualization of engagement (Rich et al., 2010), and lack of a focus on any specific relationship(s) within the workplace, were determined to be a superior fit within the proposed study. The JES was also considered a good fit based upon findings that it has less overlap with associated attitudes than some other scales (Byrne et al., 2016).

Summary of Employee Engagement

As much prior research in employee engagement has been conducted based upon the UWES and burnout-based approaches, the efficacy of which have been called into question, significant avenues of research are available to re-confirm previous findings using a Kahn-based approach and measures (Anthony-McMann et al., 2017; Byrne et al.,

2016; Saks, 2017; Saks & Gruman, 2014). Many of the antecedents posed by Wollard and Shuck (2011), including POS and OSE, are among those that would benefit from such an approach. Further, the proposed relationship between coaching and engagement noted by Saks and Gruman (2014) holds a potential to link two rapidly expanding streams of literature.

Perceived Organizational Support

Perceived organizational support (POS) is defined as employees' "global beliefs concerning the extent to which the organization values their contributions and cares about their well-being" (Eisenberger et al., 1986, p. 501). This definition is based on their "beliefs in organizational support or malevolence [that] may be fostered by employees' anthropomorphic ascription of dispositional traits to the organization" (p. 500). These beliefs, which are stronger when based on individually-focused or personally meaningful rewards and feedback/praise, determine levels of employee efforts to meet organizational goals based on the social exchange principle of reciprocity (Blau, 1964; Eisenberger et al., 1986). Scholars have consistently contended that employees view the actions of immediate supervisors as critical to POS (Jin & McDonald, 2017; Rhoades & Eisenberger, 2002; Shelton, Waite, & Makela, 2010; Zhong et al, 2016) "because managers and supervisors are primarily responsible for the direction, evaluation, and coaching of employees" (Hayton, Carnabuci, & Eisenberger, 2012, p. 236) and "employees generalize their exchange relationships from their supervisors to the organization" (Eisenberger, Karagonlar, Stinglhamber, Neves, Becker, Gonzalez-Morales, & Mueller, 2010, p. 1086).

Research on Perceived Organizational Support

Supervisors' role in the creation of POS has been highly aligned with LMX (Kurtessis et al., 2017), which has also been associated with managerial coaching (Anderson, 2013), based on the concept that "employees see supervisors not only as organizational agents but also as individuals in their own right" (Eisenberger et al., 2010, p. 1086). Studies on the two constructs have indicated that LMX relationship quality and POS reciprocally influence one another (Wayne, Shore, & Liden, 1997), and that supervisors' own POS positively influences LMX quality, which in turn positively influences their subordinates' POS (Eisenberger et al., 2014). Further, both POS and LMX have been posited as contributing to employee performance as mediated by their positive influence on affective commitment (Casimir, Ng, Wang, & Ooi, 2014). These findings align with the assertions by Baran, Shanock, and Miller (2012) following their review of multilevel POS research that

> supervisors who have a favorable exchange relationships with those above them in the organization may be in a better position to provide good treatment of subordinates in part because provision of support to those below is a way for supervisors to reciprocate POS" and that "supervisors' attitudes toward working in their organization matter and organizations wishing to have supportive supervisors will want to pay attention to not only the POS of lower-level employees but also how supported their supervisors are feelings (p. 139).

Research has also associated POS positively with a number of other antecedents and outcomes to date, frequently in dyadic studies. Antecedents include management communication (Neves & Eisenberger, 2012), employee development (Tanksy & Cohen,

2001), perceived LMX quality (Eisenberger et al., 2014), factors related to social networks (Hayton et al., 2012), and perceived supervisor support (Eisenberger, Stinglhamber, Vandenberghe, Sucharski, & Rhoades, 2002). Perceived supervisor support (PSS) has been shown as a key antecedent of POS in cross-sectional (Shanock & Eisenberger, 2006) and longitudinal studies (Eisenberger et al., 2002). In the Eisenberger, Stinglhamber, Vandenberghe, Sucharki, and Rhoades (2002) study, PSS was found to be an outcome of supervisors' own POS and a mediator between supervisors' POS and employees' POS and their in-role and extra-role performance.

Associated outcomes include affective commitment (Caesens, Marique, & Stinglhamber, 2014; Wayne et al., 1997), organizational commitment (Jaiswal & Dhar, 2016; Kim, Eisenberger, & Baik, 2016), job satisfaction (Cullen, Edwards, Casper, & Gue, 2014; Zumrah & Boyle, 2015), reduced turnover intention (Eisenberger et al., 2002), organizational citizenship behaviors (Knippenberg, van Prooijen, & Sleebos, 2015), readiness for change (Yu and Lee, 2015), extra-role behaviors (Lam, Liu, & Loi, 2016), and performance (Neves & Eisenberger, 2012). Multiple recent studies (Joo, Hahn, & Peterson, 2015; Madden, Mathias, & Madden, 2015; Malenin & Harju, 2017; Shantz, Alfes, & Latham, 2016) found POS to be significantly negatively related to turnover intentions, suggesting managers may accomplish employee retention goals through a focus on improved employee POS. POS has also been found to positively impact transfer of training in the workplace (Simosi, 2012; Zumrah & Boyle, 2015), furthering its role as an important focus for managers seeking to develop and retain their employees. POS has been noted as significantly negatively related to both emotional exhaustion and organizational dehumanization (Caesens, Stinglhamber, Demoulin, & De

Wilde, 2017). A growing number of studies have also begun to build a case for POS as a significant antecedent of various forms of engagement (Ahmed et al., 2015; Caesens & Stinglhamber, 2014; Jin & McDonald, 2017; Malenin & Harju, 2017; Saks, 2006; Wang, Zhang, Thomas, Yu, & Spitzmueller, 2017; Zhong et al., 2016). Additionally, one recent study noted that the positive influence of POS is not without its limits, however, as some relationships are nonlinear and beyond certain points increases in POS do not necessarily continue to influence other workplace attitudes (Harris & Kacmar, 2017).

Measurement of Perceived Organizational Support

POS is generally measured utilizing versions of the Survey of Perceived Organizational Support (SPOS), which originally included 36 items (Eisenberger et al., 1986). At present shorter versions, including those of 6 (Eisenberger et al., 2014) or 8 (Neves & Eisenberger, 2012) items, are most commonly utilized (Conway, 2014).

Summary of Perceived Organizational Support

It has been shown that POS has strong positive relationships to both supervisory figures (Ahmed & Nawaz, 2015; Jin & McDonald, 2017; Kurtessis et al., 2017; Paustian-Underahl, Shanock, Rogelberg, Scott, Justice, & Altman, 2013) and desirable workplace outcomes (Ahmed et al., 2015; Caesens & Stinglhamber, 2014; Chiaburu, Chakrabarty, Wang, & Li, 2015; Hur, Han, Yoo, & Moon, 2015), positioning it as a significant mediating factor in many SET-based models (Conway, 2014; Kurtessis et al., 2017). The construct also enjoys relative stability in its definition and measurement, both of which have remained relatively consistent with the original conceptualization (Conway, 2014; Eisenberger et al., 1986). Further, POS holds particular relevance within the current study based on its relationship to managerial coaching skills during an analysis of its role as a

mediator between managerial coaching and commitment (Kuo et al., 2014), and managers' self-efficacy regarding their coaching skills as positively influencing employee POS (Tansky & Cohen, 2001). Additionally, Ellinger (2013) posed that "supportive supervisors may be well positioned to embrace coaching and assume roles as managerial coaches" (p. 313) based on similarities between managerial coaching and supportive supervisor behaviors.

Occupational Self-Efficacy

Self-efficacy was originally described in the seminal work of Bandura who defined the construct as one's convictions related to their ability to execute behaviors required for certain outcomes (Bandura, 1977a, p. 193) based on, and subject to, influence by mechanisms such as mastery experiences, social modeling, and social persuasion (Bandura, 2012; Chaudhary et al., 2013). It is often viewed in light of its role in Social Cognitive Theory (Agarwal et al., 2009; Bandura, 2012). Generalized self-efficacy has been noted as an outcome of managerial coaching (Leonard-Cross, 2010; Pousa & Mathieu, 2015) and cited as related to such constructs as performance, commitment, and job satisfaction (Schyns & von Collani, 2002) and concepts such as persistence in the face of obstacles (Bandura, 1977a). Occupational self-efficacy (OSE) is a more specialized, domain-specific form of Bandura's original construct defined as "the competence that a person feels concerning the ability to successfully fulfill the tasks involved in his or her job" (Rigotti et al., 2008, p. 239) and noted as intended to be applicable across multiple organizations or organizational levels (Schyns & von Collani, 2002).

Research on Occupational Self-Efficacy

The existing empirical research on OSE is still relatively small, however, it has been reported as superior to generalized self-efficacy in work settings and more proximal to work tasks (Elias, Barney, & Bishop, 2013; Rigotti et al., 2008). For example, in a nine year longitudinal study of college mathematics graduates' early careers, Spurk and Abele (2014) found that OSE had a reciprocal, positive relationship with both objective and subjective career success, and that the relationship between OSE and subjective success operated synchronously. These authors noted a number of findings including that OSE is relatively stable and becomes more so throughout a career, that employees' perceptions of subjective career success is an important determinant for organizations to consider, and that individuals beginning their careers with higher OSE may be more likely to succeed. This last implication aligns with the assertion that "management stands to benefit from taking a potential employee's self-efficacy into account when making hiring decisions" (Elias et al., 2013, pp. 818-819).

Recent studies have related OSE to positive workplace outcomes including career and organizational commitment (Park & Jung, 2015), job satisfaction (Guarnaccia, Scrima, Civilleri, & Salerno, 2016; Maggiori, Johnston, & Rossier, 2016), career adaptability (Rudolph, Lavigne, & Zacher, 2017), organizational citizenship behaviors, job performance (Park, Sohn, & Ha, 2016), work engagement, general health (Guarnaccia et al., 2016), salary (Hirschi & Jaensch, 2015), and knowledge sharing in the workplace (Runhaar & Sanders, 2016). Regarding antecedents of OSE, a longitudinal study has recently shown that OSE can be increased by employees shared participation in stress management courses over time (Fullemann, Jenny, Brauchil, & Bauer, 2015), a study of

university students in Germany indicated that core self-evaluations were highly related to OSE (Neureiter & Traut-Mattausch, 2017), and a study of German healthcare industry workers found a positive contribution from transformational leadership (Hentrich, Zimber, Gregersen, Nienhaus, & Petermann, 2017). Further, a recent Italian study indicated OSE moderated the relationship between stereotypes and age for older workers (Chiesa, Toderi, Dordoni, Henkens, Fiabane, & Setti, 2016).

Beyond these findings, the leadership and coaching implications found by Schyns and Sczesny (2010) and Anderson (2013), the dyad-centric findings of Elias, Barney, and Bishop (2013), and engagement implications of Chaudhary, Rangnekar, and Baru (2013) and Guarnaccia, Scrima, Civilleri, and Salerno (2016), and Maggiori, Johnston, and Rossier (2016), are of particular interest within the present study because they align with antecedent and outcome suppositions posed for the other variables (Hagen, 2012; Pousa & Mathieu, 2014b; Wollard & Shuck, 2011). However, as many of these studies have used custom-tailored instruments (Anderson, 2013) or measures such as the UWES (Chaudhary et al., 2013; Guarnaccia et al., 2016) for which scholars have raised concerns, further study of these relationships using well-validated measures for all constructs would offer a significant contribution to the literature.

Measurement of Occupational Self-Efficacy

With respect to measurement, Schyns and von Collani (2002) developed a commonly-used and readily accessible scale through a three study validation process that tested a variety of factors relevant to the construct's intended use. In the first study, the scale was noted as positively correlated with general self-efficacy, self-esteem, and locus of control, and negatively correlated to neuroticism. The second study revealed positive

relationships to task demands (marginal support), LMX, and satisfaction with supervisor, colleagues, and job tasks. The third study showed a correlation with affective commitment. The scale was further developed by Rigotti et al. (2008) in a multi-national study designed to validate a more parsimonious short form. This study supports the notion that OSE is aligned with general self-efficacy and should accordingly influence employees in a similar manner, and the association with LMX and satisfaction with supervisor are relevant to how it may be influenced by perceived coaching behaviors.

Summary of Occupational Self-Efficacy

Occupational self-efficacy, a relatively new work-specific conceptualization (Schyns & von Collani, 2002) of a long-established concept (Bandura, 1977a), has shown significant utility with respect to the other domains being studied (Anderson, 2013; Chaudhary et al., 2013; Pousa & Mathieu, 2014b; Wollard & Shuck, 2011). Its primary measure, the OSES (Rigotti et al., 2008; Schyns & von Collani, 2002) has also shown significant stability to date.

Research Hypotheses and Hypothesized Theoretical Model to be Tested

As a consequence of the aforementioned literature review and shortcomings that have been identified, 8 hypotheses were developed and tested in this study, and are described in this section.

Social cognitive theory posits the development of occupational self-efficacy, which may be derived from guided mastery modeling or verbal persuasion facilitated by a supervisor (Bandura, 1977a; Bandura, 1988), as a worthy organizational goal. Noted reasons include that "success requires not only skills but also strong self-belief in one's capabilities to exercise control over events to accomplish desired goals" (Bandura, 1988,

p. 279) and "perceived managerial self-efficacy influences managers' organizational attainments both directly and through its effects on their goal setting and analytical thinking" (Wood & Bandura, 1989, p. 361). Social learning theory contends that "much social learning occurs on the basis of casual or directed observation of behavior as it is performed by others in everyday situations" (Bandura, 1977b, p. 39).

Accordingly, social learning is positioned as "inherent in on-the job training" (Nanton, 2011, p. 192) based in daily interactions in which "behavior is learned observationally through modeling: from observing others one forms an idea of how new behaviors are performed, and on later occasions this coded information serves as a guide for action" (Bandura, 1977b, p. 22). Recent studies by Grant (2010) and Pousa and Mathieu (2015) have each indicated significant positive relationships between employee perceptions of their supervisors' managerial coaching behaviors and their own levels of perceived self-efficacy based on coach-coachee interactions, which are expected to be observed in the study population. Further, Campbell and Evans (2016), based on a critical incident study of managerial perceptions regarding their role in workplace learning, posited that "managers who act as advocates of learning are well placed to support the self-efficacy and confidence of learners" (p. 86). In line with these H1 follows:

H1: L1 managers' perceptions of the coaching behaviors of L2 managers are positively related to their self-reported OSE.

Organizational support theory posits both that organizations are often personified by employees, and that supportive behaviors enacted by organizational agents, particularly supervisors, are often perceived by employees as support from the organization itself (Eisenberger et al., 1986). In line with this conceptualization,

managerial coaching behaviors and supportive leadership behaviors have been posed as complementary and aligned to a sufficiently high degree (Agarwal et al., 2009; Bowen & Schofield, 2013; Ellinger et al., 2008; Paustian-Underdahl et al., 2013; Woo, 2017) to give rise to speculation that "managerial coaching can be regarded as a form of perceived organization support as well as an effective management and leadership behavior" (Kim, 2014, p. 63) and that "supportive supervisors may be well positioned to embrace coaching and assume roles as managerial coaches" (Ellinger, 2013, p. 313).

In support of this concept, results of a recent meta-analysis (n = 558 studies) of POS and OST (Kurtessis et al., 2017) found that "support from higher-status organizational members" (p. 8) and "the extent to with the leader is supportive and shows concern for subordinates' well-being" (p. 8) were each strongly related to POS, leading to the conclusion that "leader behaviors that convey caring, concern, and support for followers appear to be effective ways to enhance POS" (p. 8). Thus, based on OST, Hypothesis 2 predicted that a significant, positive relationship exists between perceptions of the managerial coaching behaviors of L2 managers and respondents' self-reported levels of perceived organizational support.

H2: L1 managers' perceptions of the coaching behaviors of L2 managers are positively related to their self-reported POS.

Ellinger et al. (2012) provided the first known direct statistical support for a link between managerial coaching and both job and organization engagement, in which managerial coaching was found to be significantly associated with both types of engagement. A social exchange-based study published shortly thereafter found perceived line manager behaviors, which were framed to include elements often associated with

managerial coaching such as "encouraging open communication, sharing critical information, and providing support" (Alfes et al., 2013, p. 844) were positively related to levels of engagement. Beattie et al., (2014) acknowledged the strong positive relationships between perceived managerial coaching behaviors and multiple antecedents of engagement, while Saks and Gruman (2014) identified coaching as among the job resources found to be positively related to engagement. More recently, Ladyshewsky and Taplin (2017) found employees' perceptions of their manager's coaching behaviors to be positively related to their self-reported work engagement. Based on these theoretical perspectives and coaching-adjacent empirical findings, Hypothesis 3 predicted a significant, positive relationship will exist between managers' perceptions of their direct supervisors' managerial coaching behaviors and the managers' own self-reported engagement.

H3: L1 managers' perceptions of the coaching behaviors of L2 managers are positively related to their self-reported engagement.

In addition to their relationship with managerial coaching (Grant, 2010; Leonard-Cross, 2010; Pousa & Mathieu, 2015), recent studies have also noted occupational self-efficacy and perceived organizational support as positively related to levels of employee engagement (Ahmed et al., 2015); Caesens & Stinglhamber, 2014; Jin & McDonald, 2017; Rich et al., 2010; Zhong et al., 2016), with a literature review proposing that each may serve as antecedents (Wollard & Shuck, 2011). Based upon the foundational needs-satisfaction conceptualization of employee engagement by Kahn (1990), POS (Eisenberger et. al., 1986) appears to align with two key elements of the engagement construct. First is the need for psychological meaningfulness, in which persons must feel

"worthwhile, useful, and valuable - as though they made a difference and were not taken for granted...able to give to others and to the work itself in their roles and also able to receive" (Kahn, 1990, p. 704). Second is the need for psychological safety, in which "supportive managerial environments allowed people to try and to fail without fear of the consequences" (Kahn, 1990, p. 711). Further, as a mastery and confidence-centric concept (Bandura, 1977a), OSE appears well positioned to support the need for psychological availability, which is impaired by deficiencies in " how secure people felt about their work" (Kahn, 1990, p. 715) and in part attributable to a lack of self-confidence (Kahn, 1990). Accordingly, Hypotheses 4 and 5 predicted that both POS and OSE are positively related to employee engagement.

H4: L1 managers' self-reported OSE are positively related to their self-reported engagement.

H5: L1 managers' self-reported POS are positively related to their self-reported engagement.

Building upon Hypotheses 1-5, perceived managerial coaching behaviors enacted by L2 managers were predicted to be significantly and positively related to respondents' self-reported levels of OSE and POS, which in turn are significantly and positively related to their self-reported engagement. As managerial coaching behaviors provide support and resources to employees, their POS will increase as will their felt obligations toward their supervisor and organization (Eisenberger et al., 1986; Ellinger, 2013; Jin & McDonald, 2017; Kuo et al., 2014). According to the Social Exchange principle of reciprocity, employees will then seek out ways to discharge this obligation, with increased engagement as one likely approach (Saks, 2006; Shuck et al., 2014; Zhong et

al., 2016). The enhanced feelings of support may likewise contributed to employees' perceived psychological meaningfulness and safety, key elements of engagement (Kahn, 1990).

Similarly, as managers work with employees to guide their learning and professional development, employees will translate their expanded knowledge and skill bases into enhanced levels of OSE (Agarwal et al., 2009; Bandura, 1977a,b; Pousa & Mathieu, 2015; Schyns & von Collani, 2002). This increased confidence in their own capabilities and ability to effectively carry out their duties may, in turn, support employees' psychological meaningfulness and availability, and thus prepare them to engage more fully in their work (Kahn, 1990). Accordingly, Hypotheses 6 and 7 predicted that the positive relationship between perceived managerial coaching behaviors of respondents' direct supervisors and self-reported engagement are partially mediated by both self-reported OSE and POS.

H6: The positive relationship between L1 managers' perceptions of the coaching behaviors of L2 managers and their self-reported engagement are partially mediated by their self-reported OSE.

H7: The positive relationship between L1 managers' perceptions of the coaching behaviors of L2 managers and their self-reported engagement are partially mediated by their self-reported POS.

In both pilots conducted ahead of the proposed study a direct path was suggested in the measurement modeling stage, and in each case this path was statistically significant and made a significant contribution to model fit. In support of this path, research using the JES in conjunction with POS and other constructs representing support from a

supervisor or organization (Rich et al., 2010, Shuck et al., 2014) has previously noted the emotional engagement dimension as having a noteworthy relationship to perceptions of support. Speaking to this, Shuck et al. (2014) posited that

> While we would argue for the importance of all three facets within the engagement construct, it is plausible that emotional engagement acts as a sort of emotional tipping point toward behavioral intention. One explanation, for example, embedded within our theoretical framework, as employees in our sample felt supported in their learning efforts, this perception of support generated a positive state of feeling (a cognitive response, i.e., cognitive engagement) likely resulting in experienced positive emotions (an emotional response, i.e., emotional engagement) which spiraled upward toward an intention to engage in those behaviors operationalized as positive for the organization (lower turnover intention, i.e., behavioral engagement). This explanation connects well with models of employee reciprocity (Cerne, Nerstad, Dysvik, & Škerlavaj, 2013) and social exchange (O'Boyle, Forsyth, Banks, & McDaniel, 2012). That is, employees reciprocate positive support back to an organization that they perceive as positively supporting them. A representation for understanding the mechanisms of reciprocal, exchange-based support between employees and the organization they work within is an individual's level of employee engagement—within our study, emotional engagement is particularly salient (p. 261-262)

Based upon these findings in the literature and both pilots, Hypothesis 8 predicted that a path from POS to the emotional dimension of the JES is supported within the proposed study.

H8: POS will make a statistically significant contribution to the emotional engagement dimension of the JES scale to such a degree that the second order measurement model with a direct path from POS to emotional engagement demonstrates a significantly better model fit than an equivalent model without this path.

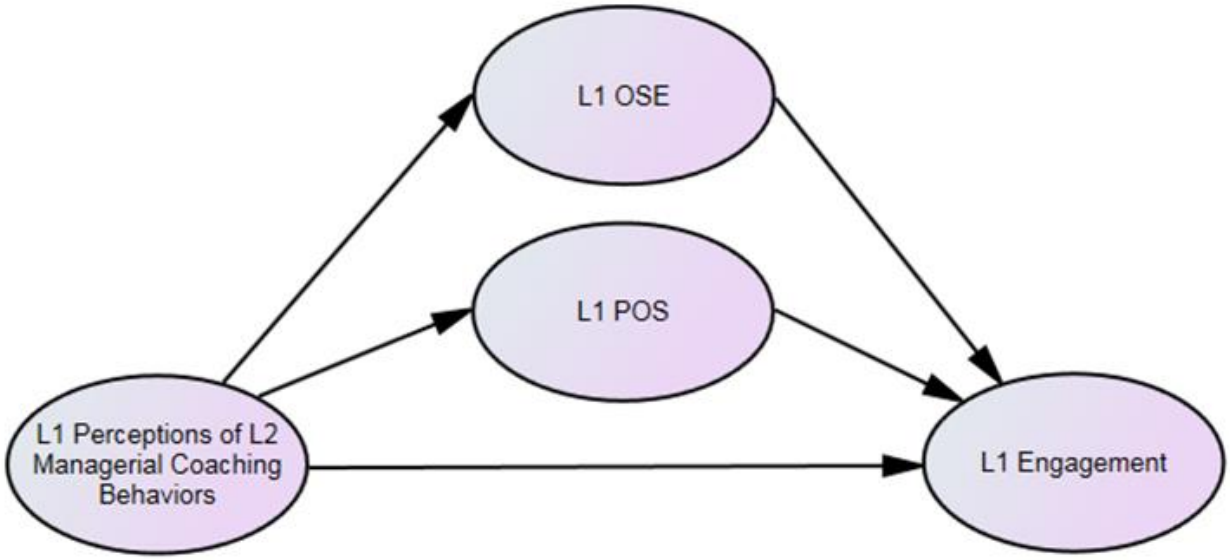

Figure 2.00: Theoretical Model

Summary of the Chapter

The literature reviewed in this chapter provided the history and context of the field of strategic enrollment management in modern higher education within the U.S., and the calls for managers' perspectives and behaviors to change which are beginning to emerge within the field's own literature that position the constructs explored within the proposed study as salient to the field. The review also explored the concepts of managerial coaching, employee engagement, perceived organizational support, and occupational self-efficacy, and has highlighted areas of convergence among them. Each

domain was discussed in terms of theoretical/conceptual backgrounds, prior empirical research, and issues associated with measurement. It also presented the eight hypotheses the study was implemented to test.

At present, competing conceptualizations, measurement approaches, and definitions confound the understanding of both managerial coaching and engagement (Anthony-McMann et al., 2017; Ellinger & Kim, 2014; Hagen & Peterson, 2014; Saks, 2014; Shuck et al., 2017c). The literature in each field points to the need for additional research into antecedents and outcomes of each construct, establishing firmer theoretical underpinnings, and establishing factors that mediate and/or moderate their relationships to other workplace-relevant constructs (Anthony-McMann et al., 2017; Ellinger et al., in press; Kim, 2014; Saks, 2014). As research into managerial coaching and employee engagement mature, evidence for a relationship between the two is growing as scholars continue to posit that supportive, relationship-driven leadership styles such as managerial coaching may contribute to the development of engagement, potentially as a form of reciprocation (Beattie et al., 2014; Ellinger et al., 2012; Ladyshewsky & Taplin, 2017; Saks, 2014; Woo, 2017; Xu & Thomas, 2011).

Perceived organizational support, rooted deeply in Social Exchange (Blau, 1964) and Organizational Support (Eisenberger et al., 1986) theories, may serve as one factor through which managerial coaching influences engagement. As managerial coaching behaviors demonstrate support for employees (Ellinger, 2013), they in turn develop higher levels of POS and associated feelings of obligation toward their supervisor and organization (Eisenberger et al., 1986; Kuo et al., 2014), which are discharged through increased engagement (Caesens & Stinglhamber, 2014; Shuck et al., 2014; Zhong et al.,

2016). Occupational self-efficacy, based on Social Cognitive and Learning theories (Bandura, 1977a, b), provides a second potential mechanism to explain how coaching may influence engagement. As managerial coaches provide guidance through mastery experiences and foster learning on a day-to-day basis (Agarwal et al., 2009; Nanton, 2011), employees may develop increased self-efficacy regarding their ability to find solutions, overcome challenges and focus on tasks in their jobs (Pousa & Mathieu, 2015), which may position them to meet many of Kahn's (1990) conditions for engagement.

Based upon these relationships and their underpinning theories, the study sought to provide support for managerial coaching as a viable workplace intervention for level 2 managers to enhance the engagement of level 1 managers under their charge by fostering their support and development, as represented by POS and OSE. In doing so it introduces a number of HRD concepts as potential tools for SEM leaders to leverage in building leadership capacity and promoting a confident and engaged workforce in support of their respective divisional and institutional missions (Cramer, 2012; Flanigan, 2016; Hempsall, 2014; Hossler et al., 2015; Schultheis, 2014). Further the study addresses the shortcomings articulated in the literature including identifying outcomes of managerial coaching, POS, and OSE, antecedents of engagement, the relationship between coaching and engagement, mediators that facilitate that relationship, and theoretical underpinnings for coaching and engagement (Anthony-McMann et al., 2017; Caesens & Stinglhamber, 2014; Ellinger et al., 2012; Ellinger et al., in press; Hagen, 2012; Saks, 2006; Saks & Gruman, 2014; Shuck et al., 2014). Finally, through the use of well-validated measures for each construct, the study addresses calls within the literature (Saks & Gruman, 2014;

Shuck et al., 2017c) and provides support for future meta-analytical research (Nimon & Astakhova, 2015).

Chapter Three - Design and Method

Introduction

This chapter presents the design and method of the main study that was deployed. The chapter includes the following sections: the purpose of the study, the research hypotheses, overviews of the two pilots conducted in 2015 and 2016 that examined the measures used in the main study as well as pre-tested the research hypotheses, the design of the main study, descriptions of the population and sample, instrumentation and control variables, data collection and analyses procedures, methods to ensure reliability and validity, and limitations of the study. The chapter concludes with a summary.

Purpose of the Study

The purpose of this study was to test a theoretical model informed by Social Exchange (Blau, 1964) and Social Cognitive (Bandura, 1977a) theories to examine the mediating influence of occupational self-efficacy and perceived organizational support on the relationship between perceived managerial coaching behaviors and employee engagement among management-level employees in a higher education strategic enrollment management context.

Utility of Pilot Studies and Summary of the Influence of the Pilot Studies on the Main Study Design

Bryman and Bell (2011) acknowledged that conducting a pilot survey "is always desirable ... before administering a self-completion questionnaire (2011, p. 262)". They indicated that conducting a pilot allows the researcher to assess his/her research design for issues in a number of areas including: the adequacy of instructional text for

respondents, the operationalization of individual questions, how well the questions flow, and the functionality of the overall research instrument (Bryman & Bell, 2011, 2015). To assure these benefits of a pilot study were incorporated into the present study, two pilots were conducted. Pilot 1 was undertaken as part of a structural equation modeling course in 2015 and Pilot 2 study was conducted as part of the proposal development process in 2016. As discussed in Chapter 1, Pilot Study 1 informed Pilot Study 2 by incorporating a shorter version of the SPOS (Shanock & Eisenberger, 2006) measure. Further, based upon study design considerations, a more elaborated survey design was deployed with a larger sample, and included the Attitudes Toward the Color Blue (ATCB) (Miller & Chiodo, 2008) marker variable. Prior to the deployment of Pilot Study 2, the researcher also spoke to an information security professional regarding potential issues with spam filters. Following this conversation, a group of colleagues (n = 47) from a variety of industries were recruited and sent a single item survey to check for potential spam filter interceptions; only two volunteers reported their spam filter having intercepted the survey instrument.

Comprehensive presentations of Pilot Study 1 and Pilot Study 2 appear in Appendices B and C, respectively. Based upon Pilot Study 2, the following modifications were made for the main study design: Hypothesis 8 was added, the final structural model from Pilot 2 was designated to be tested as a second alternative model, the Saks (2006) job and work engagement measures were added to the second survey, the original 8 item short form of the OSES (Schyns & von Collani, 2002) was used instead of the 6 item version (Rigotti et al., 2008), the ATCB measure was retained as an ideal marker variable, and factor loadings for the ATCB from Pilot 2 were used to confirm the sample

size calculations. Due to an unforeseen ceiling issue in the OSE data collected, the plan to test the final structural model from Pilot 2 was not feasible.

Research Hypotheses

H1: L1 managers' perceptions of the coaching behaviors of L2 managers are positively related to their self-reported OSE.

H2: L1 managers' perceptions of the coaching behaviors of L2 managers are positively related to their self-reported POS.

H3: L1 managers' perceptions of the coaching behaviors of L2 managers are positively related to their self-reported engagement.

H4: L1 managers' self-reported OSE are positively related to their self-reported engagement.

H5: L1 managers' self-reported POS are positively related to their self-reported engagement.

H6: The positive relationship between L1 managers' perceptions of the coaching behaviors of L2 managers and their self-reported engagement are partially mediated by their self-reported OSE.

H7: The positive relationship between L1 managers' perceptions of the coaching behaviors of L2 managers and their self-reported engagement are partially mediated by their self-reported POS.

H8: POS will make a statistically significant contribution to the emotional engagement dimension of the JES scale to such a degree that the second order measurement model with a direct path from POS to emotional engagement demonstrates a significantly better model fit than an equivalent model without this path.

Design of the Main Study

The design of the study was a half longitudinal quantitative survey (Cole & Maxwell, 2003) and utilized data collected from managers in strategic enrollment management offices within institutions of higher education located in the United States to test an *a priori* theoretical model based on the research hypotheses delineated earlier in this chapter. The choice to pursue a quantitative design was supported by the desire of the researcher to analyze respondent data for patterns of association between a number of workplace-based perceptions pursuant to *a priori* theory and prior empirical findings, as well as for the desire to produce findings generalizable to the U.S. strategic enrollment management profession (Bryman & Bell, 2011, 2015).

To facilitate access to the desired sample of higher education professionals, the researcher partnered with the American Association of College Registrars and Admissions Officials (AACRAO), which has a membership base inclusive of a cross-sectional majority of U.S. institutions of higher education, as well as professionals from a number of international institutions. This limited partnership allowed for distribution of the survey instrument for the independent variable, managerial coaching behavior, and a limited number of demographic items, from the organization directly to its full registered membership and the simultaneous recruitment of volunteers from among the membership to participate in a subsequent survey administration. As only a portion of the overall survey instrument was collected in the initial distribution through the professional organization, the study was divided into a type of "half-longitudinal design" in which the independent variable was collected at Time 1 (T1), and the two mediators, the primary and alternative measures of the dependent variable, and the marker variable were

collected at Time 2 (T2); collection of demographic variables was split between T1 and T2. While such a design has been noted as inclusive of certain weak points (Cole & Maxwell, 2003), the opportunity to work directly with AACRAO, which afforded an opportunity to extend an invitation to participate in the study to the organization's full current membership through one of AACRAO's own 60-Second Surveys, was deemed significant enough to proceed. Findings and conclusions are intended to be generalized only to the broader U.S. enrollment management community.

Population and Sample

A sample frame is defined as "the list of all units in the population that the sample will be drawn from (Dillman, Christian, & Smyth, 2014, p. 59)". Within the study, the sample frame was comprised of all registered AACRAO members as of the distribution of the March 2017 60-Second Survey, as each of these persons had an equal opportunity to participate. From this sample frame, a sample was drawn consisting of managers within strategic enrollment management (SEM) divisions at institutions of higher education in the United States who were current members of AACRAO. Recruitment of potential respondents was facilitated by a question embedded in the March 2017 AACRAO 60-Second Survey that offered members an opportunity to participate in the study, which included sharing limited personally identifiable data, including their name and email address, and a portion of their responses to the 60-Second Survey with the researcher. Based upon membership numbers in the largest professional organizations representing two of the core areas of modern enrollment management divisions (Hossler & Bontrager, 2014), the AACRAO population was expected to be relatively homogenous as most campuses face similar issues, particularly in the context of shifting

demographics, new sources of competitive pressure, funding levels, and State and Federal regulations (Bruininks et al., 2010; Hossler & Bontrager, 2014; Langston & Scheid, 2014).

According to the organization's most recent demographic information (http://www.aacrao.org/home/about/aacrao-demographics 01/14/2017) AACRAO's membership consists of at least 11,000 individuals representing approximately 2,500 campuses, which are split fairly evenly between private, non-profit (48%) and public (45%), primarily in the 4+ year (undergraduate, graduate, and/or professional) classification group. A majority of members (85%) are noted as reporting multiple areas of responsibility, with records and registration (52%), admissions (31%), and general enrollment management (24%) most prevalent. A significant majority of the membership is female (68%), and while most do not specific their race or ethnicity in their membership data (56%), the largest reported group is White, non-Hispanic (34%). As the membership of AACRAO is highly representative of the overall population of public institutions of higher education in the U.S., surveying the current registered members of the organization was reasonably expected to reflect a cross-section of managers within the target population equivalent to a quota sample (Bryman & Bell, 2011, 2015).

Wolf et al. (2013) offered guidelines on establishing sample sizes for studies employing structural equation modeling based upon factors "including number of indicators and factors, magnitude of factor loadings and path coefficients, and amount of missing data" (p. 913). Each of the four substantive variables was measured based on a single factor, measured by items, or first-order factors in the case of the JES, with factor loadings reported to be at least .65, with some in the .70-.80 range, in the studies they are

cited from. The CBI and OSES have 8 indicators each, the SPOS has 6, and the JES has 18 indicators loading on its three first-order factors, which in turn load to engagement as a second-order factor. Based on these parameters and the recommendations listed in Figure 3, Model B of Wolf et al. (2013, p. 922), the JES, Saks scales, CBI, OSES, and SPOS were estimated to require 130, 120, 50, 50, and 60 respondents, respectively. Factor loadings for the eight items of the ATCB are not listed in the original study (Miller & Chiodo, 2008), and analysis of Pilot 2 data reveal loadings well above the .50 level, but not above the .65 level. Accordingly, as in Pilot 2 its minimum sample size was estimated at 90 respondents based on Figure 3, Model A (Wolf, Harrington, Clark, & Miller, 2013, p. 922), which bases its estimations on factor loadings at the lower .50 level. These estimates brought the desired sample size for the main study to a minimum value of 500 (see Table 3.01). Once data collection was completed, the final necessary sample size was re-calculated using actual factor loadings from the study, resulting in a considerably smaller necessary *n* of 250 (see Table 3.02).

Table 3.01: Initial Sample Size Calculations

Construct	Number of Indicators	Number of Factors	Indicators Per Factor	Avg. Factor Loading Range	Respondents Per Construct
Managerial Coaching (CBI)	8	1	8	0.65	50
Employee Engagement (JES)	18	3	6	0.65	130
Occupational Self-Efficacy (OSES)	8	1	8	0.65	50
Perceived Org. Support (SPOS)	6	1	6	0.65	60
Saks Scales	11	2	5-6	0.65	120
Attitude Toward Color Blue	8	1	8	0.5	90
Total Sample Size	500				

Table 3.02: Final Sample Size Calculations

Construct	Number of Indicators	Number of Factors	Indicators Per Factor	Avg. Factor Loading Range	Respondents Per Construct
Managerial Coaching (CBI)	7	1	8	0.8	30
Employee Engagement (JES)	18	3	6	0.65	130
Perceived Org. Support (SPOS)	6	1	6	0.8	40
Attitude Toward Color Blue	8	1	8	0.65	50
Total Sample Size	250				

Measurement Instrumentation and Control Variables

Six instruments representing the substantive variables were employed to test the components of the theoretical model (Figure 2.00). Additionally, a marker variable was employed to test for common method variance.

The main study deployed the same measurement scales for managerial coaching behavior, perceived organizational support, and employee engagement as were used in Pilot 2 to capture responses related to three of the four substantive variables in the main study. Based upon Pilot Study 2, the 8-item original short form of the OSES was used to assess the fourth substantive variable, OSE. In addition, the Saks (2006) job and organization engagement scales were included in the main study as a backup measure of engagement, but were not ultimately included as part of the analyzed models. Each instrument was deemed to adequately measure its respective construct in multiple prior studies (Anderson, 2013; Ellinger et al., 2012; Ellinger et al., 2007; Kim, 2014; Saks, 2006; Schyns & Sczesny, 2010; Shuck et al., 2014; Shuck, Zigarmi, & Owen, 2015), thus indicating reasonable face validity (Bryman & Bell, 2011, 2015). As with Pilot Study 2,

the main study also utilized the Attitude Toward the Color Blue (ATCB) measure (Miller & Chiodo, 2009) as a latent marker variable (Williams et al., 2010).

- **Coaching Behaviors Inventory** (Ellinger et al., 2003, p. 443-4)**.** The CBI was originally developed in part to address the lack of coaching scales outside the proprietary and athletics realms, and derived its items from "the findings of a prior qualitative critical incident research study that specifically explored the ways in which exemplary managers coach their employees (Ellinger et al., 2003, p. 442)."

  The scale is comprised of eight other-rater items that ask participants questions regarding their perceptions of the managerial coaching behaviors provided to them by their direct supervisor, and uses a 7-point Likert-type scale ranging from 'Almost Never' to 'Almost Always'. Sample items include 'My supervisor uses analogies, scenarios, and examples to help me learn' and 'My supervisor provides me with constructive feedback'. The original study where the scale was developed (Ellinger et al., 2003) reported item loadings ranging from .75 to .88 and a Cronbach's alpha of .94, and alpha values have remained consistent across a number of more recent studies, ranging from .93 to .96, (Ellinger et al., 2011; Kim, 2014; Kim et al., 2013a).

  Since its introduction, studies have reported success using five (Ellinger et al., 2007; Kim, 2014) and seven (Ellinger et al., 2011) item versions of the instrument; the eighth item, which is related to role playing behaviors, is dropped most often (Ellinger et al., 2011). Comparisons of square roots of average variance extracted (AVE) values and factor correlations (Hair et al., 2010) have demonstrated discriminant validity for the CBI from constructs such as formal training (r_{cbi} = .56), job performance (r_{cbi} = .52), behavioral performance (r_{cbi} = .222), results performance

(r_{cbi} = .237), and customer orientation (r_{cbi} = *.273*) (Ellinger at al., 2007; Ellinger et al., 2011; Pousa & Mathieu, 2014a; Pousa & Mathieu, 2015); each of these studies report support for convergent validity based upon AVE values for the CBI above the .5 threshold (Hair et al., 2010). One recent review of coaching scales noted key strengths of the CBI including "a strong theoretical foundation, thorough literature review" while also noting that "the target domain of interest was well-defined" (Hagen & Person, 2014, p. 5). Managerial coaching served as the predictor variable.

- **Occupational Self-Efficacy Scale** (Schyns, & von Collani, 2002, p. 241)**.** The OSES was initially developed as a 20 item instrument with an 8 item short form designed to measure work-related self-efficacy, rather than more generalized self-efficacy (Scyhns & von Collani, 2002). The eight item short form of the OSES used in the main study was initially validated in a study employing three samples of German workers from various industries (*k* = 579) by Schyns, and von Collani (2002). Support for overall construct reliability and validity was reported based on item loadings ranging from .66 to .81, Cronbach's alpha values of .87-.88, and comparisons to measures of job satisfaction, affective commitment, and leader-member exchange, across three sample populations.

  The original study found the OSES to have incremental validity beyond general self-efficacy, with the authors concluding that "[their] occupational self-efficacy scale has some incremental validity beyond general self-efficacy and can account for about 16% of the variance in job satisfaction with the task, in addition to general self-efficacy" (Schyns & von Collani, 2002, p. 233). Subsequent studies (Anderson, 2013; Elias et al., 2013; Schyns & Sczesny, 2010) have provided nomological support for

the construct validity of the short form of the OSES based on its relation to constructs such as general self-efficacy (r_{oses} =.56), managerial coaching (r_{oses} =.422), and leader-member exchange (r_{oses} = -.376). In both the original and short forms of the measure respondents rate each question on a 6-point Likert-type scale ranging from 'not at all true' to 'completely true'. Sample items include 'I feel prepared for most of the demands in my job' and 'Whatever comes my way in my job, I can usually handle it'. OSE served as an intervening criterion variable.

- **Survey of Perceived Organizational Support** (Shanock & Eisenberger, 2006, p. 692)**.** The short form of the SPOS utilizes six high-loading items (.71 to .84) out of the original 36 (Eisenberger et al., 1986), with a reported Cronbach's alpha of .87, to measure employees' perceptions that they are supported by their organization (Shanock & Eisenberger, 2006). Respondents rate each question on a 7-point Likert-type scale ranging from 'Strongly disagree' to 'Strongly agree'. Sample items include 'The organization takes pride in my accomplishments at work' and 'The organization really cares about my well-being'.

  A recent literature review / meta-analysis (k = 170 studies) noted that POS, as measured by various versions of the SPOS derived from the original 36 items, found evidence for discriminant validity of the SPOS as a "distinct but related construct" **(**Ahmed & Nawaz, 2015, p. 869) with affective c**o**mmitment, organizational commitment(r_{spos} =0.67), leader-member exchange, supervisor support (r_{spos} = 0.69), coworker support (r_{spos} = 0.62), job satisfaction (r_{spos} = 0.52), organizational citizenship behavior (r_{spos} = 0.48), employee engagement (r_{spos} = 0.61), and turnover

intentions (r_{spos} = -0.45). Perceived organizational support served as an intervening criterion variable.

- **Job Engagement Scale** (Rich et al., 2010, p. 634)**.** The JES is an 18 item employee engagement scale designed to measure the construct in a manner more closely aligned to the conceptualizations of Kahn (1990) than other scales broadly-deployed in the study of engagement (Rich et al., 2010). The JES is composed of 3 six-item subscales yielding first-order factors of cognitive, emotional, and physical engagement that, in turn, load to a second order factor of employee engagement (Rich et al., 2010, p. 624) in which the authors

  > specified an additional model in which we loaded the three first-order engagement dimensions onto a second-order engagement dimension...the second-order factor loadings for the physical, cognitive, and emotional dimensions were all positive, strong, and statistically significant (.89, .64, and .90, respectively), as were the factor loadings on the individual items...Thus, in keeping with Kahn's theorizing, specifying engagement as a second-order factor was supported.

  Respondents rate each question on a 5-point Likert-type scale ranging from 'Strongly disagree' to 'Strongly agree'. Sample items include 'I exert and lot of energy on my job', 'I am proud of my job', and 'At work, my mind is focused on my job'.

  In the larger sample from the original study (n = 245) the JES demonstrated first-order factor item loadings ranging from .67 to .92, second order factor item loadings of .72 to .90, and an overall Cronbach's alpha of .95 for the combined second order measure (Rich et al., 2010); two more recent studies employing the JES reported alpha values for each first-order scale, and the second order scale, ranging from .90 to

.97 (Shuck et al., 2014; Shuck et al., 2015). A recently published dissertation (n = 220) found support for discriminant validity via comparison of squared correlations and AVE among the constructs measured by the second order factor of the JES (AVE = .64), the SPOS (r_{jes} = .251), and the Attitudes Toward the Color Blue (ATCB) (r_{jes} = -.034) measures (Jones, 2015, p. 58-59). Employee engagement served as the primary criterion variable.

- **Saks scales** (Saks, 2006, p. 617). The Saks scales measure employee perceptions of engagement with respect to their job and organization separately, and represent "a multi-dimensional operationalization of Kahn's (1990) needs-satisfaction conceptualization of engagement" (Anthony-McMann, 2014, p. 42). Saks (2006) developed these measures based on the view that engagement could be better understood through the Social Exchange Theory principle of reciprocity (Blau, 1964; Gouldner, 1960), ultimately concluding that "SET provides a meaningful theoretical basis for understanding and studying employee engagement" (Saks, 2006, p. 616) at the conclusion of his study.

  Five items are used to measure job engagement and six for organization engagement. In the original study job engagement was reported to have factor loadings of.7 or higher and a Cronbach's alpha of .82, while organization engagement as reported to have factor loadings of .75 or higher and a Cronbach's alpha of .90 (Saks, 2006, p. 608). Respondents rate questions for both scales on a 5-point Likert-type scale ranging from 'Strongly disagree' to 'Strongly agree'. Sample items include 'Sometimes I am so into my job that I lose track of time' for job engagement and

'Being a member of this organization is exhilarating for me' for organization engagement.

With respect to discriminant validity, in the original study Saks (2006) noted a significant correlation between the two scales (r = 0.62), but reported the constructs of job and organization engagement as distinct as "the results of a paired t-test indicated a significant difference, t (101) =2.42, p < 0.05" (p. 609). Ellinger et al. (2012) found evidence of discriminant validity via comparison of squared correlations and AVE among the constructs measured with the Saks job (AVE = .71) and organization (AVE = .80) engagement scales, managerial coaching as measured by the CBI (r_{job} = .35, r_{org} = .53), formal training (r_{job} = .25, r_{org} = .41), and service climate (r_{job} = .40, r_{org} = .56). The Ellinger et al. (2012) study also reported Cronbach's alpha (α_{job} = .82, α_{org} = .92) values very close to those from the Saks (2006) study. Job and organization engagement were included to serve as alternative measures of employee engagement in the event the JES was found to lack construct, convergent, or discriminant validity, or if scale score means and standard deviations differed significantly from those published in the literature. As these conditions were not met, job and organization engagement were not utilized within the present study.

- **Attitudes Toward the Color Blue** (Miller & Chiodo, 2008). The eight item ATCB (blue attitude) scale, which was originally developed specifically for use as marker variable, captures respondents attitudes related to the color blue. Respondents rate each question on a 7-point Likert-type scale ranging from 'Strongly disagree' to 'Strongly agree'. Sample items include 'I prefer blue to other colors' and 'I think blue cars are ugly'. Though not reported in the original paper, the ATCB has shown

Cronbach's alpha values ranging from .72 to .90 in studies deploying the measure (Jones, 2015; Simmering, Fuller, Richardson, Ocal, & Atinc, 2015; Wall, 2015).The use of the ATCB as an ideal marker variable (Lindell & Whitney, 2001; Richardson, Simmering, & Sturman, 2009) for use with the comprehensive CFA marker technique (Williams et al., 2010) receives significant support from a recent study by Simmering, Fuller, Richardson, Ocal, and Atinc (2015) who noted that:

> Attitudes are among the most commonly measured variables in management research, and they are also frequently criticized as vulnerable to CMV (Podsakoff et al., 2003). In this regard, the affective and evaluative elements inherent in the blue attitude items might elicit response processes similar to those required in replying to other attitudinal measures, and thus, make this marker similarly susceptible to CMV (Chan, 2009). For example, because items require affective evaluation (e.g., ‘‘I like the color blue’’), people who are predisposed to endorse positively worded items or who are positively affectively disposed might respond in ways that are independent of item content or their actual standing on the items (p. 487-488).

As was the case in Pilot 2, blue attitude was expected to have no relationship to any of the substantive variables (Simmering et al., 2015; Williams et al., 2010), and as the ATCB scale uses a Likert-type response format similar to those deployed by the JES, Saks scales, CBI, and OSES, and identical to that used by the SPOS, it was expected to "elicit comparable response processes and tendencies" (Simmering et al., 2015, p. 3) to those experienced when responding to items used to measure the substantive variables. Two recent dissertations (Jones, 2015; Wall, 2014) have demonstrated the efficacy of

blue attitude in a marker role alongside some of the same substantive variables as the proposed study, including the SPOS (Jones, 2015; Wall 2014) and JES (Jones, 2015); correlations with the SPOS in these studies were noted as 0.251 (Jones, 2015, p. 58) and 0.06 (Wall, p. 88), and with the JES as -0.034 (Jones, 2015, p. 58). The blue attitude measure captured by the ATCB scale was, accordingly, expected to serve as an ideal CFA marker (Simmering et al., 2015, Williams et al., 2010). Further, taking advantage of its equal mix of standard and reverse coded items, ATCB was used as a variable to detect potential respondent inattentiveness and/or straight-lining (Cole, McCormick, & Gonyea, 2012).

Item scores were used as manifest indicators for the latent variable of managerial coaching, occupational self-efficacy, perceived organizational support, job engagement, organization engagement, and blue attitude, as well as the first order factors of the JES. The three first-order factors of the JES were loaded onto the second-order factor of employee engagement, based on the findings of Rich et al. (2010).

To address potential alternate explanations for the relationships between variables in the study, demographic and job characteristic data were also collected. Demographics variables included age, gender, race, ethnicity, and generational cohorts (Beattie et al., 2014), and job characteristics included managerial level, tenure with current organization, and tenure with current direct supervisor (Kim & Kuo, 2015).

Survey Design

The overall survey was deployed in two distinct time periods. The first time period, containing the CBI instrument and four demographic questions related to managerial status, managerial level, and tenure with both organization and supervisor,

was sent directly to the membership of AACRAO through that organization's bimonthly 60-Second Survey in March 2017. According to a memo of understanding (MOU) drafted with AACRAO (See Appendix A), the CBI items were presented ahead of the demographics and items that were added by AACRAO, which included study items related to tenure with the organization and supervisor, managerial level, and AACRAO questions about desire to be matched with, or willingness to serve as, a mentor within AACRAO respectively.

The Ellinger et al. (2003) article was properly cited on the page containing the CBI items and the institution's report to its membership of the survey results. Further, informed consent text was included with the question allowing AACRAO members to volunteer for the second survey as drafted by the researcher, in consultation with The University of Texas at Tyler Institutional Review Board (IRB) Chair, and provided to AACRAO. Beyond the items specified in the MOU, the specific content of the communications sent, the text of any additional items included, and the coding of items to have responses required or not was at the discretion of AACRAO and thus beyond the control of the primary researcher. Accordingly, the design and communication of this portion of the overall survey is not discussed hereafter, except where explicitly noted. Copies of all AACRAO communications related to the 60-Second Survey, and of the survey itself, were retained and included in the appendices of the study.

The second portion of the overall survey (hereafter referred to as survey) was sent by the primary researcher to all AACRAO members who volunteered to continue with the study. To mitigate the traditionally lower response rates experienced by online surveys, attempts were made to boost participation based on recommendations by

Bryman and Bell (2011, 2015), including grouping sets of Likert items on the same screen, provision of a reasonably accurate estimate of completion time, and one or more follow-up messages thanking those who responded and encouraging participation from those who did not respond. Each communication contained a message of thanks for agreeing to participate further, a brief summary of the content and requirements of the survey, contact information from the primary investigator, and a respondent-specific direct link to the survey itself; see Appendix A for text of these communications. Once respondents entered the survey, they were presented with a total of 60 items (including informed consent) organized into six blocks used to facilitate presentation of the sections of the survey in the desired order (www.qualtrics.com).

Block 1 was composed entirely of the informed consent statement, which included information about the study, the researcher, and assurances of the confidentiality of all respondent data. Each participant was asked to indicate his/her willingness to continue participation in the overall study based upon the information provided. Those choosing the 'I agree' option were able to progress forward to block 2, and those choosing the 'I decline' option were taken directly to the end of survey screen, and their responses were considered invalid for inclusion. Block 2 contained 14 items, 8 for the OSES occupational self-efficacy and 6 for the SPOS organizational support scales that served as the intervening / mediating variables. Block 3 contained the 18 items of the JES engagement scale, which served as the criterion / dependent variable, broken into three 6 item sections corresponding to its three subscales. Block 4 included the 11 items of the Saks scales, broken into their 5 and 6 item sections, which served as alternative measures of engagement. Block 5 contained the 8 items of the ATCB scale which served as a

marker variable. Block 6 contained 8 demographic questions including gender, generational cohorts (Arsenault, 2003; Parry & Urwin, 2012), race and ethnicity (Defining Race, n.d.), and employment status (full or part-time). Questions regarding race and ethnicity data used the same standards as AACRAO, which are derived from the U.S. Census Bureau (www.census.gov), and included a 'prefer not to respond' option to align with AACRAO's practices. See Appendix D for a listing of all items from each latent construct and text for each of the demographics question.

As the items included in the survey are related to a needs-satisfaction perspective (Stone & Gueutal, 1984), the consistency motif was considered to be a minimal threat. The priming effect (Posakoff et al., 2003) was considered a potential issue with respect to the CBI in Pilot 2, and accounted for accordingly through the proximal separation of the criterion and predicator variables. In the main study the CBI was delivered in the first survey sent by AACRAO, and was thus be temporally separated from each of the remaining substantive variables, which served to mitigate priming effects (Podsakoff et al., 2003; Podsakoff et al., 2012).

Counterbalancing the order in which the substantive measures are presented (Podsakoff et al., 2003) was again be employed, but to a more significant degree, with Blocks 2 through 4 presented in random order to each respondent. Combined with the temporal separation of the CBI measure, this counterbalancing effect was expected to help mitigate potential priming effects (Podsakoff et al., 2003). Other procedural methods of reducing common methods bias including assurances of strict confidentiality, reminders that there are no wrong answers, (Podsakoff et al., 2003) and the use of a variety of different response options (e.g., number of scale point, scale point labels, and

scale anchors) among the substantive variables (Podsakoff et al., 2012) were also be deployed. Findings by Teclaw, Price, and Osatuke (2012) indicated it may not be strictly necessary in all cases, the demographics section were placed in the final position due to concerns that priming effects (Podsakoff et al., 2003) from the items related to respondents' direct supervisor might be introduced if those items were asked earlier on in the survey.

Buttons for "*Next"* and "*Back"* features were placed at the bottom of each page to allow respondents to move freely among completed responses (Dillman et al., 2014). While access to a *"back"* button introduces the potential for respondents to self-induce a priming effect by navigating between the pages containing different variables, research on web survey navigation buttons by Couper, Baker, and Mechling (2011) indicated this risk should be minimal as actual usage of the *"back"* feature was found to be infrequent to the extent that "an overall mean of 0.65%, or less that one use per hundred pages" was observed in their study, while removal of the option was associated with a significant increase in respondent break-off. Accordingly, as the risk of increased break-off was considered the larger threat, a *"back"* button was made available.

In total, the survey contained 8 pages across the six blocks: one page for the informed consent section in block 1, one for the joint presentation of the OSES and SPOS, one each for the three JES dimensions, one each for the two Saks scales, one for the ATCB scale, and one for the demographic questions in block 6. Page breaks were inserted between each block. Regarding how questions are grouped and presented in web surveys, researchers must choose a format from a continuum of design possibilities ranging from pure scrolling designs that arrange all items on a single page, to pure paging

designs in which all items are presented on unique pages (Dillman et al., 2014; Tourangeau, Conrad, & Couper, 2013). The extreme cases of pure scrolling or paging have noteworthy issues, including increased likelihood that respondents will feel the desire/need to utilize the *"Back"* feature (Dillman et al., 2014) and experience longer completion times (Mavletova & Couper, 2014) in paging designs, and significant amounts of scrolling that poses a significant burden to mobile device in pure scrolling designs or hybrids with large numbers of items per page (Dillman et al., 2014). Dillman, Christian, and Smyth (2014) provided a strong rationale for grouping related items within a survey questionnaire by noting that doing so

> is consistent with normal conversation and makes it easier for respondents to answer because they can use retrieved information to answer all of the questions on a topic before moving to new topic that requires them to recall new information. Switching between topics means that people's answers are less likely to be well thought out, as new topics are more likely to evoke to-of-the-head responses. In addition, constantly changing topics back and forth within a questionnaire...makes it appear that no effort was made to order the questions in a meaningful way (i.e., the questionnaire appears unprofessional and therefore unimportant) (p. 230).

To prevent this effect of grouped items being viewed as connected, Dillman et al. (2014) further recommended that questions that are not intended to be viewed together be separated into separate pages, which is the approach to be taken in the main study.

With respect to respondent break-off rates associated with the number of pages and items per page, multiple studies examining survey designs along the paging-scrolling

continuum with total pages ranging from five to ten, and items per page ranging from four to over 100, reported no statistically significant variances in respondent break-off percentage based on either factor (Maletova & Couper, 2016; Peytchev, Couper, McCabe, & Crawford, 2006; Toepoel, Das, & van Soest, 2009). Based upon these concerns and findings, a hybrid design with a modest number of items per page (6-14), as was successfully employed in Pilot 2, was employed in the main study (Dillman et al., 2014).

Though specifically cautioned against by Dillman et al. (2014), the main study used the matrix formatting option available in Qualtrics for grouping related questions on each page in blocks 2 through 4, as doing so was consistent with the primary researcher's review of prior AACRAO 60 Second Survey instruments and there was a reasonable expectation that the portion of the main study instrument delivered through that channel would be presented to respondents in matrix format. Further, this format presented no known issues in Pilot 2.

Regarding survey completion methods, it was recognized that the population being surveyed may elect to use a mobile device over a desktop or laptop (Stern, Bilgen, & Dillman, 2014), and respondents on mobile devices are likely to experience a higher burden from large amounts of scrolling (Dillman et al., 2014) and more loading errors as the frequency of page transitions increases (Maveltova & Couper, 2016). Accordingly, the hybrid design offered represents an attempt to compromise between the frequency of *'Next'* button appearances and the necessary amount of scrolling within each section while accommodating the included procedural common methods bias remedies and other design elements.

Nonresponse Bias

Bias due to nonresponse error, which occurs when "those who do not respond are different from those who do respond in a way that influences the estimate" (Dillman et al., 2014, p. 3), may lead researchers to make "biased or imprecise estimates and inferences" (Villar, Callegaro, & Yang, 2013, p. 745) based on the data collected, thus negatively impacting the validity of the results. This source of bias was tested for by conducting a comparison of eligible potential respondents who answered only at T1 to respondents in the final T2 sample, and was found not to be present within the study; see Chapter 4, Table 4.05.

Issues such as survey length, confidentiality, trust, access, and convenience are potential barriers to achieving a higher response rates (Dillman et al., 2014, Fan & Yan, 2010; Fowler, 2014), which reduces the likelihood of issues stemming from nonresponse error (Dillman et al., 2014; Shih & Fan, 2009), which can be mitigated through the application of social exchange principles (Blau, 1964; Dillman et al., 2014). According to Dillman et al. (2014), social exchange explained how potential respondents are more likely to participate "if they believe and trust that the rewards...will eventually exceed the costs" (p. 24), which required that survey designed employed multiple social exchange techniques in unison to reduce costs and enhance perceived benefits and trust.

Methods to reduce the perceived costs of participation included making participation convenient and reducing the burden of length, or the amount of time that must be committed (Dillman et al., 2014). To enhance convenience, both portions of the main study were delivered via a web survey to be emailed to all participants, with a direct link embedded in the initial message. Further, the likelihood that many respondents in the

sample population would respond via mobile device (Dillman et al., 2014; Stern et al., 2014) was addressed through the use of survey software that produced both website and mobile-friendly content (www.qualtrics.com). To address the burden of length, which is one of the primary costs of participation (Dillman et al., 2014), the survey instrument avoided the inclusion of any unnecessary items and limited the number of questions per page, with the goal of an estimated completion time of 10-12 minutes or less.

The primary method of increasing the benefits of participation drew heavily on the social exchange principle that people enjoy helping others, which is enhanced when aiding organizations, or members of organizations, they belong to, as well as when they are approached specifically for their aid or advice (Dillman et al., 2014). Accordingly, the communication sent with the initial survey link specifically identified the primary investigator as a fellow AACRAO member requesting each potential respondent's assistance in accomplishing an academic goal through his/her participation in both segments of the survey. A reminder of this was included in the invitation for the survey sent to each volunteer by the primary researcher.

Regarding the timing of the invitation emails, Sauermann and Roach (2012) found no significant differences in response rates based on the day of the week or time of the day when an invitation was received, except in the case of invitations sent to potential respondents with children on Sundays. Dillman et al. (2014) recommended timing messages so they are received early in the morning so they are present when recipients first check their inboxes for the day; both Sauermann and Roach (2012) and Dillman et al., (2014) recommended taking care to account for any known patterns or periods of reduced availability among the target population. Based on these recommendations,

invitation and reminder messages survey were sent early in the morning, with the goal of delivery ahead of a period when respondents who volunteered for the second survey were more likely to be actively monitoring their email accounts; the initial contact was sent on a Monday, the first reminder on the Wednesday of the same week, and a final reminder on Friday of the same week, each at 7:30 AM CST. To further mitigate response rate concerns based upon cyclical processing peaks experienced within enrollment management offices, survey distribution times was aligned with a period of the academic year during which respondents' workloads were expected to facilitate availability to participate.

A significant sponsorship benefit was expected to be present in the main study based both upon the direct involvement of the AACRAO organization in the first portion of the survey as well as the recruitment of participants for the second portion, and assurances within the informed consent statement that the researcher's campus's Institutional Review Board had vetted the study, each of which were expected to serve to enhance respondents' perceptions of the study's trustworthiness and legitimacy (Dillman et al., 2014; Fan & Yan, 2010). Other methods recommended by Dillman et al. (2014) were employed and included an indication of value through noting that only members of the sample population were able to respond within a limited one week window, and a follow-up reminder to nonrespondents after brief three day window (Sanchez-Fernandez, Munoz-Leiva, & Montoro-Rios, 2012). Finally, elements of the survey were setup according to the recommendations of Dillman et al. (2014) to simplify the act of responding, including the usage of succinct, unambiguous wording for each demographic question.

The need for trust was initially addressed by the aforementioned sponsorship effect related to AACRAO within their communications. Within the survey, The University of Texas at Tyler branding was paired with contact information for both the primary researcher and the head of the campus Institutional Review Board, as well as the strict assurances of confidentiality included in the informed consent section. Further, the communications accompanying the email link was carefully formatted to be succinct, professional, included the estimated time needed to complete the survey, and contact information for the primary researcher that was accessible prior to clicking the survey link (Dillman et al., 2014; Fan & Yan, 2010).

Further items intended to enhance survey response rates not specifically related to social exchange theories were also be deployed. According to the recommendations of multiple studies (Dillman et al., 2014; Fan & Yan, 2010), each respondent received personalized communications at all stages, an approach which has been demonstrated to positively influence both initiation and completion rates (Heerwegh & Loosveldt, 2006; Sanchez-Fernandez et al., 2012). While the use of personalized messages negates the prospect of guaranteeing respondent anonymity as a method to address evaluation apprehension (Podsakoff et al., 2003), this may be offset by its effect on the degree to which "it establishes a connection between the surveyor and the respondent...and it draws the respondent out of the group" (Dillman et al., 2014, p. 329). Further, the main study survey was expected to benefit from a certain degree of trust among respondents that a study supported by both AACRAO and the primary researcher's campus IRB committee chair would not result in any violation of their privacy (Heerwegh & Loosveldt, 2006),

which should allow for assurances of confidentiality included in the invitation email and informed consent statement, rather than anonymity, to suffice.

In an effort to further mitigate apprehension concerns related to the survey, all potential respondents were assured that "there are no right or wrong answers and that they should answer questions as honestly as possible" (Podsakoff et al., 2003, 888). In addition to coverage in the informed consent section, each respondent was assured of the total confidentiality of their responses in the text of the personalized email message sent with their survey (Dillman et al., 2014).

Though not recommended by Dillman et al. (2014), the use of mandatory responses was included as the negative impact of missing data due to partial responses (Wolf et al., 2013) in addition to the generally lower response rates associated with web surveys (Fan & Yan, 2010; Sanchez-Fernandez et al., 2012) is undesirable. To mitigate potential negative impacts of mandatory responses, statements were included to reassure respondents that there are no incorrect responses and request that they select the option that most closely matches their perceptions or beliefs. Further, for the demographic questions on race and ethnicity, respondents were offered a 'prefer not to specify' option, which is consistent with AACRAO's practices. No graphical progress indicator were included with the survey, as prior studies have found little to no significant impact on nonresponse rates (Heerwegh & Loosveldt, 2006; Villar et al., 2013) and were specifically cautioned against by Dillman et al. (2014). Inclusion of an instructional manipulation check (IMC) question to identify less diligent respondents who may threaten overall data validity (Oppenheimer, Meyvis, & Davidenko, 2009) was considered, but discarded. Based on the strong recommendations of Dillman et al. (2014)

to employ social exchange principles to enhance response rates, establishing trust between researchers and respondents was considered paramount. Accordingly, the potential backlash scenario in which "diligent participants who come across an IMC may feel insulted to find that they are not trusted by the researchers" (Oppenheimer et al., 2009., p. 871) renders the technique undesirable within the proposed study. In lieu of this technique, the ATCB scale, for which 4 of the 8 items are reverse coded, was again be used as a variable to detect respondents who engaged in straight-lining, indicated by selecting the same response for all items in a given section, as a type of satisficing (Cole et al., 2012a).

Data Collection Procedures

Data used in the study were collected during two distinct phases, as detailed in Table 3.03. Data for the first phase was collected by AACRAO through one of the organization's bimonthly 60-Second Surveys. Data for the second phase was collected by the primary researcher.

Table 3.03: Data Collection Timeline

Communication	Sender	Date	Time Since Last Contact
Phase 1 invitation	AACRAO	3/6/17	-
Phase 1 reminder 1	AACRAO	3/8/17	2 days
Phase 1 reminder 2	AACRAO	3/10/17	2 days
Phase 2 pre-invitation message	Researcher	4/3/17	24 days
Phase 2 invitation	Researcher	4/10/17	7 days
Phase 2 reminder 1	Researcher	4/12/17	2 days
Phase 2 reminder 2	Researcher	4/14/17	2 days
Phase 2 reminder 3	Researcher	4/17/17	3 days
Phase 3 reminder 4	Researcher	4/21/17	4 days

All communications distributed during each phase, except as noted otherwise, were distributed through Qualtrics survey software using its Mailer function (www.qualtrics.com), which allows for personalized email messages to be sent directly from Qualtrics based on pre-defined user lists. The communications sent by AACRAO were sent based on their membership database, and those sent by the researcher were based on the volunteer data provided to the researcher by AACRAO.

The first phase of data collection was facilitated through the researcher's partnership with AACRAO as part of their March 2017 60-Second Survey. Data collected during this phase included the 8 items of the CBI, four demographic questions covering managerial status and level and tenure with organization and direct supervisor, as well as additional potential items to be specified by AACARO. The initial invitation for this phase was sent by AACRAO to its full membership on Monday, 3/6/2017, with anticipated reminders sent on Wednesday, 3/8/17, and on the final day of the survey, Friday 3/10/17. At the conclusion of the 60-Second Survey each respondent was presented with an invitation to volunteer for further participation in the study, which included a brief informed consent statement making clear that if they chose to do so their responses to the CBI items, researcher-provided demographic questions, and personally identifiable data including their name and email address would be provided to the researcher for use in his dissertation and for contacting volunteers with details for the second survey. AACRAO subsequently sent the identifiable data set for all volunteers to the researcher.

Based upon this initial data set, the researcher contacted each volunteer through personalized emails to respondents' AACRAO-associated email accounts containing

unique links to a Qualtrics®-based Web survey (Bryman & Bell, 2011, 2015). This distribution strategy was employed due to its cost-effective nature, speed of administration, and confirmation that volunteers "are likely to be online and to be familiar with the details of using email and the Internet" (Bryman & Bell, 2011, p. 664), as evidenced by their response to the first survey sent by the AACRAO. One week prior to distribution of the survey for the second wave of data collection, on Monday 4/3/17, each volunteer was contacted at their email address provided by AACRAO as a form of "basic 'netiquette'" (Bryman & Bell, 2011, p. 665) to thank them for volunteering, provide an initial copy of the informed consent statement, contact information for the primary researcher and UT Tyler IRB Chair, and inform them of when to expect the email invitation containing their survey link. The following Monday, 4/10/17, the invitation emails for phase 2 of the study, which contained the unique hyperlink to the Web survey (Bryman & Bell, 2011), were distributed. Data collected in this phase included the items associated with the JES, Saks scales, OSES, SPOS, ATCB, and the remaining demographic questions.

Regarding the timing of the survey invitation, the 4/10/17 date represented approximately one full month since the end date of the March 2017 60-Second Survey, which was deemed sufficient to "[allow] previously recalled information to leave short-term memory" (Podsakoff et al., 2012, p. 549) while still allowing for data collection to be completed prior to the traditional end of the spring semester in May. Finishing data collection prior to the end of the semester was considered crucial, as the notion that "EM managers' days are hectic, unpredictable, fluid, and constantly evolving" (Langston & Scheid, 2014, p. 5). This need for completion became especially salient as enrollment

management offices begin their work on grading, commencement, satisfactory academic progress, and other end-of-term processes that are very time intensive and would likely have exerted a strong negative influence on participation rates. Further, this window of time was not considered too long for an engagement study based upon a review of longitudinal studies employing some form of engagement measure, the majority of which employed considerably longer time periods between data collection points; see Appendix F, Table AF1.00.

All participants were required to review an informed consent section at the beginning of the survey instrument, with the option to exit without providing any further personally identifiable information, as required by The University of Texas at Tyler's IRB guidelines. Reminder emails were sent to all respondents who had not yet initiated or opted out of the survey on the mornings of 04/12/17 and 04/14/17. All communications including the survey link which noted that the survey window would end at 11:59PM CST on Sunday, 4/23/17.

Once the survey closed, a final thank you message was sent to all respondents, and all data was downloaded from Qualtrics for analysis. Access to any version of the data sets containing personally identifiable information on respondents was limited strictly to the primary researcher, with the exception of the data collected by AACRAO, which was available to personnel authorized to access research data within that organization according to their own protocols.

Data Analysis Procedures

Prior to analysis, the two sets of collected data were merged into a single document, through SPSS delivered functionality, using respondents' email addresses as a

common variable to match responses from each survey. Once a merged raw data file was created, data was immediately purged for all respondents who provided a negative response to the informed consent question in the second survey or did not initiate the survey (n = 69). Next, all identifiable data other than one email address field was removed. A large set of randomly generated numbers, ranging from 1 to 999 without repetition, was generated to serve as respondent ID values. A block of these numbers equal to the number of respondents was copied over the remaining email addresses, and the column header renamed 'Respondent ID', to create a de-identified copy of this data set, which was saved for use in further analyses. Access to the de-identified data set was strictly limited to the primary researcher and members of the dissertation committee.

Data cleaning operations were then conducted, and an updated copy of the de-identified data set saved once all cleaning operations were completed. Data was removed for any respondents who failed to complete the survey in its entirety (n = 6), per the complete data method (Hair et al., 2010). Respondents from non-U.S. institutions (n = 24) and those who were not managers (n = 28), were eliminated next. Data was then to be removed for any respondents who completed the survey in under 3 minutes. This minimum completion time was based on a frequencies analysis of the 2,935 respondents who completed the Pilot 2 survey, out of which 89% completed within the 3-20 minute window, with the 50th percentile falling at approximately 6 minutes and 21 seconds. However, no respondents who were retained to this point had a completion time under 3 minutes, so none were eliminated based on this criterion. Data was also removed for respondents who were found to be straight lining (Cole et al, 2012a), as indicated by responding in a 'straight line' through the ATCB items, with no respect to the alternative

reverse coding (n = 7). Such response patterns were identified based on a standard deviation of 0.00 among the ATCB items. One respondent with incomplete CBI data from the first survey was eliminated next. Finally, 8 respondents who were identified as part of pairs from the same institutions and primary reporting areas were eliminated to address concerns regarding potentially nested data. From this raw file, the original analysis plan called for two additional files to be generated and retained, one inclusive of all valid respondents and one inclusive of only those who identified as Level 1 managers. However, due to a lower than expected response rate of Level 1 managers (34.9% of respondents), a single file containing all managers was retained for use in the main study and comprised the data set referred to hereafter. Demographics for managers contained in this file were compared to published AACRAO demographics, and assessed to determine how representative the final sample was of the AACRAO population. These comparisons were assessed utilizing effect sizes as recommended by Cohen (1988), which have been employed as generally accepted standards in recent literature related to managerial coaching (Kim et al, 2013a), POS (Kurtessis et al., 2017), and employee engagement (Shuck et al., 2014; Shuck & Reio, 2014)

The data set was initially analyzed in IBM® SPSS® to produce and validate descriptive statistics including means, zero-order correlations, standard errors and deviations, variance, skewness, and kurtosis. The presence of outliers was also checked for, based on the Mahalanobis D^2 measure (Hair et al., 2010). Next, assumptions of scale and subscale reliability, linearity, and multivariate normality were tested. Assumptions of linearity were assessed based on a review of scatter plots to identify any non-linear patterns (Hair et al., 2010). Multivariate normality was assessed based on the C.R. value

of kurtosis (Byrne, 2010), and as the data did not demonstrate multivariate normality, a comparison of bootstrapped and non-bootstrapped standardized regression weights was conducted; no significant difference was found between the two. Multicollinearity and homoscedasticity were not assessed separately, as they "are part of multivariate normality" (Kline, 2016, p. 80).

Following assumptions testing, data were analyzed using IBM SPSS® Amos 24.0.0 to conduct maximum likelihood structural equation modeling following the steps set forth by Kline (2016), beginning with measurement modeling per the two-step approach of Anderson and Gerbing (1988). This was deemed an appropriate technique based on the need to examine, from a multivariate confirmatory standpoint, the relationships among each of the latent constructs in the *a priori* theoretical model (Hair et al., 2010). While such analyses are largely beyond the scope of many statistical techniques, they can be accomplished using SEM in a manner that also accounts for measurement error (Byrne, 2010; Schumacker & Lomax, 2010).

Each of the measurement models, which had been defined *a priori*, were subjected to confirmatory factor analysis (CFA) to verify the observed items from each measurement instrument served as indicators for their respective latent constructs (Hair et al., 2010). This process began with the creation of a single-factor model in which all items from the CBI, the three dimensions of the JES, SPOS, and OSES were modeled on a single factor. Next, based upon guidance from Schumacker and Lomax (2010), initial data fit was assessed using a six-factor correlated measurement model with item scores used as manifest indicators for the latent variables of managerial coaching, occupational self-efficacy, perceived organizational support, physical engagement, cognitive

engagement, and emotional engagement. At this point in the analysis it was noted that a significant ceiling effect was present in the data collected for the OSES scale, resulting in OSE being removed from the study. Accordingly, multiple models were modified and hypotheses 1, 4, and 6 were dropped from the analysis to account for this change. This was followed by specifying a model incorporating the second-order factor of employee engagement, with the three first-order factors of the JES used as manifest indicators of this new factor. Next, the hypothesized measurement model, which included a direct path from POS to emotional engagement as informed by Pilots 1 and 2, was created.

Commonly accepted goodness of fit indices, including CFI (≥ .95), RMSEA (≤ .08), SRMR (≤ .06), AIC, and BIC, were be used to assess model fit following the cutoff value guidelines of Kline (2016) and Hu and Bentler (1999). Standardized residual covariances were examined as an additional indicator of model fit for each measurement model, with those values above |2.58| noted (Kline, 2016). Pattern and structure coefficients were examined to assure indicators loaded most highly to their specified latent variable. Validity was assessed for each model using factor loadings, implied correlations, average variance extracted (AVE), and construct reliability measures (Hair et al., 2010). Modification indices were also reviewed, with changes incorporated only where the need for modification is indicated, based on the pairing of a significant MI value with a large EPC value of at least 0.2 (Whitaker, 2012), and appropriate theoretical (Schumacker & Lomax, 2010). Hypotheses 2, 3, and 5 were assessed based on correlations between the substantive latent variables in the best-fitting second-order measurement model. Hypothesis 8 was assessed based on the comparative fit between the

initial second-order model and the hypothesized second-order model inclusive of a direct path from POS to emotional engagement.

Three structural models were initially specified for testing and comparison in the study: the theoretical partial mediation model, an alternative complete mediation model without a direct path from managerial coaching to employee engagement, and a secondary alternative model with the same relationships specified as Model 8 from Pilot 2 (see appendix C). This analysis plan was modified due to the removal of OSE from the final model, resulting in analysis of a modified theoretical partial mediation model and an alternative complete mediation model. As in the measurement model phase, fit for each structural model was compared based on commonly accepted fit indices and standardized residual covariances to determine which specified model best fit the data. Where necessary, modification indices were reviewed by the Whitaker (2012) guidelines and additional structural models assessed accordingly.

Finally, as multiple mediation was depicted in the original theoretical model, the hypothesized relationships between managerial coaching, POS, OSE, and employee engagement were to be tested using the phantom model approach espoused by Macho and Ledermann (2011) and Perera (2013) in conjunction with the best-fitting structural model. This approach was chosen to allow for the hypotheses specifying the partial mediating effects of OSE (H6) and POS (H7) to be tested based on the unique indirect effects of each construct within the model (Perera, 2013). However, due to the removal of OSE and H6 from the study, this approach was not utilized and H7 was assessed through a review of the indirect effects in the revised single mediator model.

Reliability and Validity

Cronbach's alpha values reported in the literature among the chosen instruments, which range from .85-.95 and thus exceed threshold recommendations of $\geq .8$ (Bryman & Bell, 2011, 2015), indicated that stability and internal reliability of findings based upon data collected from each instrument may be reasonably expected. Similarly robust values were reported in Pilot 2, further supporting this conclusion. As all chosen instruments utilized similar Likert-type response systems, issues of method bias are of particular concern. These concerns were partially mediated through the temporal separation of the primary independent variable ahead of the remaining mediating variables and dependent variable (Podsakoff et al., 2003). Bias due to common method variance was tested via the confirmatory factor analysis (CFA) marker technique of Williams et al. (2010). Concerns related to Type I and II errors attributable to method variances causing inflation or deflation of observed relationships (Podsakoff et al., 2003) were addressed via CFA analysis of the variances and errors within the proposed study (Podsakoff et al., 2012).

All instruments chosen for inclusion were deemed to adequately measure their respective constructs in multiple previous published studies, thus indicating reasonable face validity (Bryman & Bell, 2011). Measures of validity including convergent, discriminant, and predictive, were assessed as part of the analysis approach of Anderson and Gerbing (1988), as recommended by Schumacker and Lomax (2010).

Limitations

As with all research studies, there are limitations associated with this study. First, all responses were requested of individuals in an industry known to be time-strapped,

which may have impacted response rates negatively. Secondly, the findings are not expected to be appropriate for broad generalization beyond the context of enrollment management professionals operating within the United States. Third, the AACRAO-delivered survey had slightly different formatting (e.g., lack of required responses), produced some response sets with missing data, and included AACRAO-generated items regarding the desire to work with, or as, a mentor within the organization. Fourth, the AACRAO response rate to the March 2017 60-Second Survey was significantly lower than expected, leading to a lower than desired number of volunteers and total number of useable responses. Fifth, the second phase of data collection ran partially parallel to the AACRAO annual conference, which necessitated adding a second week of data collection and additional follow-up reminders to the originally planned schedule. Sixth, as the final sample did not include sufficient level 1 managers to complete the analysis, the scope of the study was modified to focus on managers of both levels 1 and 2. Seventh, due to the ceiling effects present in the data collected by the OSES, OSE had to be removed from the study, resulting in three of the eight hypotheses being dropped and significant modifications to the final analysis.

Finally, there was no absolute guarantee against the occurrence of multiple respondents with a shared supervisor participating in the proposed study, which introduced concerns related to independence due to nested data. There was no method available within the scope of the study to determine if this had occurred, as the identity of each respondent's supervisor was not a known factor. It was, however, possible to check for the presence of multiple respondents from the same functional area of any given institution based on email addresses and reported primary areas of responsibility, so this

approach was used as an alternative method of checking for nested data; only one respondent from each functional area of each institution was included in the final analysis.

Summary

This chapter began with a review of the purpose of the study and a brief discussion of the influence of the two pilot studies on the main study design that was deployed; see appendices B and C for details. Next, the research hypotheses were presented, including hypotheses 8 which emerged from Pilot 2. Discussion then focused on the overall design of the study, including details on the collaboration between the primary researcher and the AACRAO organization, the population and sample, measurement instruments, survey design, and steps taken to mitigate nonresponse bias. Data collection and analysis procedures were then discussed, including methods for assessing reliability and validity, detection of common methods variance, and single mediation testing. The chapter concluded with known limitations associated with the study.

Chapter 4 - Findings

Introduction

This chapter presents the results from the analysis of the data collected for this study. The chapter begins with a discussion of the demographic characteristics of the enrollment management professionals who responded to this survey, their more senior direct supervisors, and their home institutions. Next, a review of the assumptions, reliabilities and validities that were tested is presented, including descriptions of how each was tested and evaluated. These analyses are followed by descriptions of how the hypotheses were tested and whether each was/was not supported by the data. The chapter concludes with a summary.

Demographics

A total of 1,095 AACRAO members responded to the March 2017 60-Second Survey, out of which 444 (40.5%) agreed to participate in phase 2. A total of 375 (84.5%) of those sent the phase 2 survey agreed to the informed consent statement, with 6 of those failing to complete the survey in full, leading to their elimination. Three of those contacted for the phase 2 survey (0.7%) declined the informed consent question, and 66 (14.8%) failed to respond at all, leaving a total of 369 (83.1%) respondents who completed phases 1 and 2. Next, in sequence, those identified as being from a non-U.S. institution (n = 24), as non-managers (n = 28), and as straight-lining on the ATCB (n = 7) were removed, further reducing the total number of respondents to 310. One respondent was found to have incomplete CBI data from phase 1 and was eliminated, thus reducing the total number of respondents to 309. Finally, a review for nested data was conducted, with 8 pairs of respondents identified as having a potential supervisor/supervisee

relationship based on their reported home campuses, managerial levels, titles, and primary areas of responsibility. Based on the result of a coin flip, the respondent with the lowest randomly-assigned respondent ID value from each pair was eliminated. Following each of these operations, the final useable sample consisted of 301 respondents.

Respondents hailed from a total of 284 unique institutions located in 47 states and Puerto Rico, with the largest numbers of institutions located in Pennsylvania (9.1%), Texas (7.7%), California (5.9%), New York (5.6%), Illinois (5.2%), and Ohio (5.2%). Institutions were majority public control (54.2%), with undergraduate, graduate and/or professional (66.2%) as the most common academic structure. Institutions sized in the 1,000-2,499 enrollment range were the largest group (21.5%), with just over half (51.8%) of institutions sized below 5,000 and over two-thirds (68.3%) reporting enrollments under 10,000.

The respondents themselves were primarily female, non-Hispanic Caucasian, and members of Generation X. Overall respondents were highly educated, with the majority holding a Master's or higher degree. Most respondents reported being at 'mid-level' positions within their organizations, were classified as Level 2 managers according to this study's criteria, and had a significantly longer tenure with their current organizations than with their current direct more senior supervisor. Based on the proportion of respondents defined as Level 2 managers, a sufficient population of Level 1 managers was not available for analysis. Accordingly, a research decision was made to classify all respondents as Level 1, with respect to their own supervisor/direct report dyads, for the purposes of the analyses conducted within this study. Profession-wise, the majority reported as Records and Registration or generally Enrollment Management. Respondents'

direct supervisors' genders were nearly evenly split between female and male, and their generational cohorts were nearly evenly split between Generation X and Baby Boomers. Detailed demographic information is provided in Tables 4.01-4.04 and Figure 4.00.

Comparison of sample and AACRAO race/ethnicity data required a new field be derived based on how respondents reported their own race and ethnicity in the research survey. All respondents who identified as ethnically Hispanic were matched to that AACRAO category, regardless of any race reported, and respondents reporting either the Asian or Native Hawaiian or Other Pacific Islander race categories in the research survey were combined to meet the minimum number of 5 per category for the purposes of the chi square test.

Based on χ^2 tests, institutional size ($x^2 = 2.733$, $p = .741$, $df = 5$, Cramer's $V = .098$) and campus control ($x^2 = .428$, $p = .807$, $df = 2$, Cramer's $V = .038$) were not statistically or practically significantly different from demographic statistics published by AACRAO (2017 Demographics). However, institutional type ($x^2 = 11.297$, $p = .023$, $df = 4$, Cramer's $V = .199$) was statistically and practically significantly different, with the largest differences in the proportions of lower division only (-5.7%) and undergraduate, graduate and/or professional (+9.6%) categories. Chi square tests of gender distribution ($x^2 = .741$, $p = .389$, $df = 1$, Cramer's $V = .049$) among respondents indicated no statistically or practically significant difference from AACRAO's published demographic data. When race and ethnicity data for respondents who chose to report on their race and/or identify as ethnically Hispanic ($n = 292$) was compared to published AACRAO data for members reporting on the same information, Chi square tests revealed no statistically or practically significant differences ($x^2 = 3.321$, $p = .345$, $df = 3$, Cramer's V

= .106). Based on standards set by Cohen (1988), which have been employed as generally accepted standards in recent literature related to managerial coaching (Kim et al, 2013a), POS (Kurtessis et al., 2017), and employee engagement (Shuck et al., 2014; Shuck & Reio, 2014), effect sizes were small or negligible. As four of the five demographic categories that could be meaningfully compared to published AACRAO data for 2017 demonstrated no statistically or practically significant differences, the sample was considered to be generally representative of the AACRAO population. See Tables 4.00-4.04, and Figure 4.00, for additional information.

Next, data from respondents who completed only the T1 portion of the survey, and whose demographics met inclusion criteria for T2 (n = 58), were compared to the same data elements for those respondents included in the final sample (n = 301). Scale means for the CBI were examined through an independent sample t-test for the T1 group (M = 4.38, SD = 1.56) and the final sample group (M = 4.40, SD = 1.63), indicating there was no statistically or practically significant difference between the two groups' responses to the CBI, and the effect size was very small; t (357) = -0.064, p = .949, d = .009. Demographics for organization and supervisor tenure, education level, management level, level within organization, and campus type, control, and size were assessed via χ^2 tests. Results indicated no statistically significant differences between T1-only respondents and respondents from the final sample, and all effect sizes were small, except for organization tenure, which was medium (V = .372); see Table 4.05. Based upon these results, non-response bias was not a significant concern within the present study.

Table 4.00: $\chi 2$ Tests Comparing Sample and AACRAO Demographics

	Sample %	AACRAO %	$\chi 2$	*p*	*df*	*V*
Ethnicity			3.321	0.345	3	0.106
White, Non-Hispanic	79.1	79.74				
Black/African-American, Non-Hispanic	9.3	9.24				
Hispanic	7	7.3				
American Indian or Alaska Native / Asian or Pacific Islander	1.6	3.72				
Gender			0.741	0.389	1	0.049
Female	66.1	68.42				
Male	33.9	31.58				
Campus Type			11.297	0.023	4	0.199
Lower division only	16.5	22.2				
Undergraduate	12.7	14.5				
Undergraduate, graduate, and/or professional	66.2	56.6				
Graduate and/or professional	3.9	5.8				
Other	0.7	0.9				
Campus Control			0.428	0.807	2	0.038
Public	54.2	56				
Private, not-for-profit	41.9	40				
Private, proprietary	3.9	4				
Campus Size			2.733	0.741	5	0.098
Under 1,000	13.7	15				
1,000-2,499	21.5	18				
2,500-4,999	16.5	17				
5,000-9,999	16.5	18				
10,000-19,999	15.5	15				
20,000+	16.2	17				

Notes: *V* = Cramer's *V;* Sample *N* = 301

Table 4.01: Respondent Demographics

Category	Percentage
Gender	
Male	33.9
Female	66.1
Generation	
Millennial (1981-2000)	10.6
Generation X (1961-1980)	67.8
Baby Boomers (1944-1960)	21.6
Primary Area of Responsibility	
Records and Registration	65.1
Admissions	10
Enrollment Management	18.6
Other	6.3
Ethnicity	
Hispanic or Latino	7.9
Non-Hispanic or Latino	91.7
Prefer not to specify	1.3
Race	
White	84.1
Black or African American	9.3
American Indian or Native Alaskan	0.7
Asian	1.0
Native Hawaiian or Other Pacific Islander	0.3
Prefer not to specify	4.7
Manager Level	
Level 1	34.9
Level 2	65.1
Level Within Institution	
Entry level	0.3
Mid level	67.8
Executive	31.9
Highest Education Level	
Other	0.3
Associate degree	0.7
Bachelor's degree	14.0
Master's degree	62.1
Post-master's certificate	2.7
Professional degree (e.g., J.D., M.D.)	0.7
Doctoral degree	19.6

Table 4.02: Tenure Data

Years	Percentage
Organization	
0-4	37.5
5-9	20.0
10-14	16.6
15-19	10.3
20+	15.6
Supervisor	
Under 1	19.6
1	16.9
2	18.3
3	13.0
4	10.0
5	8.3
6+	14.0

Table 4.03: Supervisor Demographics

Category	Percentage
Supervisor Gender	
Male	50.2
Female	49.8
Supervisor Generation	
Unknown	0.7
Millennial (1981-2000)	3.7
Generation X (1961-1980)	47.2
Baby Boomers (1944-1960)	48.2
Traditionalists (1922-1943)	0.3

Table 4.04: Institutional Characteristics, Unique Campuses

Category	Percentage
Campus Control	
Public	54.2
Private, not-for-profit	41.9
Private, proprietary	3.9
Campus Type	
Lower division only[1]	16.5
Undergraduate	12.7
Undergraduate, graduate and/or professional	66.2
Graduate and/or professional	3.9
Other	0.7
Campus Size	
Under 1,000	13.7
1,000 - 2,499	21.5
2,500 - 4,999	16.5
5,000 - 9,999	16.5
10,000 - 19,999	15.5
20,000+	16.2

N = 284

[1] No baccalaureate or higher degrees granted

Table 4.05: $\chi 2$ Tests for Non-Response Bias

	T1-only	Sample	$\chi 2$	*p*	*df*	*V*
Organization Tenure			49.787	0.078	37	0.372
0-4	10	67				
5-9	16	60				
10-14	7	50				
15-19	10	31				
20+	15	93				
Supervisor Tenure			18.129	0.381	17	0.225
Under 1	15	59				
1	10	51				
2	10	55				
3	4	39				
4	3	30				
5	5	25				
6+	11	42				
Education			7.73	0.259	6	0.147
Other	0	1				
Associate	1	2				
Bachelor's	15	42				
Master's	33	187				
Post-Master's Certificate	1	8				
Professional degree (e.g., J.D., M.D.)	1	2				
Doctoral	7	59				
Level Within Organization			0.33	0.848	2	0.030
Entry	0	1				
Mid	38	204				
Executive	20	96				
Management Level			0.891	0.345	1	0.050
Level 1	24	105				
Level 2	34	196				
Campus Type			5.899	0.207	4	0.128
Lower division only	15	48				
Undergraduate	9	37				
Undergraduate, graduate, and/or professional	30	201				
Graduate and/or professional	4	13				
Other	0	2				
Campus Control			0.395	0.821	2	0.033
Public	34	163				
Private, not-for-profit	22	126				
Private, proprietary	2	12				
Campus Size			2.457	0.783	5	0.083
Under 1,000	8	41				
1,000-2,499	12	61				
2,500-4,999	10	49				
5,000-9,999	11	49				
10,000-19,999	5	49				
20,000+	12	52				

Notes: *V* = Cramer's *V;* T1-only *N* = 58; Sample *N* = 301

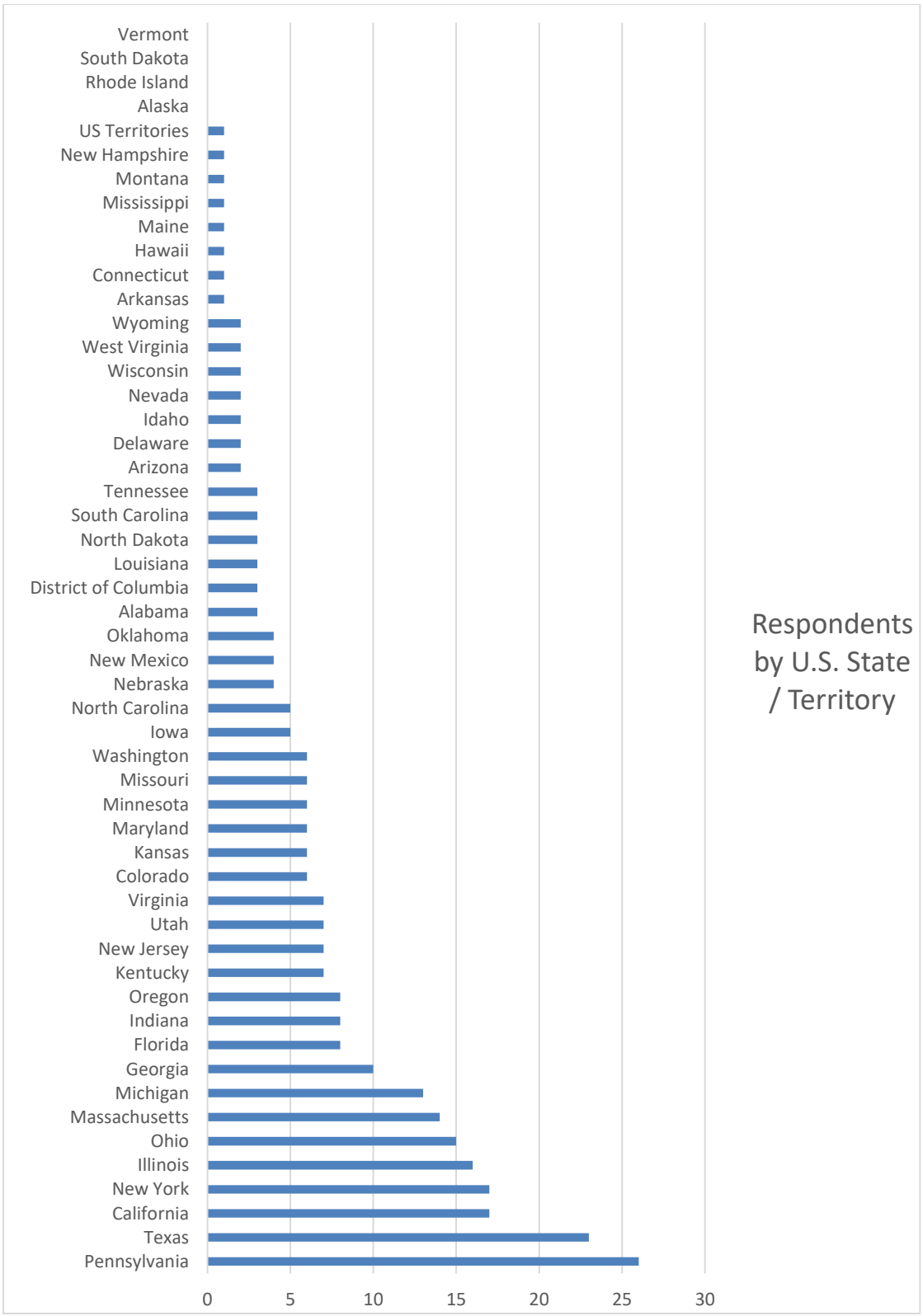

Figure 4.00: Respondents by U.S. State / Territory

Assumptions

Prior to analysis, standard assumptions tests were run in SPSS and AMOS. Tests for skewness and kurtosis revealed that the data was negatively skewed for items associated with all variables, particularly the OSES and JES, with several values above |1.00|, but none exceeding the |2.2| standard put forth by Sposito, Hand, and Skarpness (1983). The data was slightly platykurtic for the some items in the CBI and SPOS, though no items were beyond the Sposito et al. (1983) thresholds. One item in the OSES was severely leptokurtic (OSES 4 = 8.373) and several items in the JES were noted as significantly leptokurtic beyond even the Sposito et al. (1983) thresholds, with noted values ranging from 2.210 to 5.032. Tests for outliers were performed using Mahalanobis D^2 distance, but justification was not found for the removal of any respondents. Data was then tested for multivariate normality, which was assumed to account for multicollinearity and homoscedasticity (Kline, 2016). As the data did not display multivariate normality (Mardia = 276.741, $p < .001$), which is a key assumption of maximum likelihood SEM analyses, bootstrapping with 2,000 resamples was performed. Upon analysis, the bootstrapped estimates did not substantively differ from the non-bootstrapped estimates, therefore point estimates are reported along with 95% bias-corrected confidence intervals.

Measurement Models

Based upon guidance from Schumacker and Lomax (2010), initial data fit was assessed using a six-factor correlated measurement model. Item scores were used as manifest indicators for the latent variable of managerial coaching, occupational self-efficacy, perceived organizational support, physical engagement, cognitive engagement,

and emotional engagement. The three first-order factors of the JES, physical, emotional, and cognitive engagement, were used as manifest indicators of the second-order factor of employee engagement based on the findings of Rich et al. (2010) when estimating the higher-order factor model.

CFA analysis to determine the best-fitting measurement model was conducted beginning with a single factor model and a 6-factor correlated model of all first-order constructs, which includes the three subscales of the JES. The 6-factor model (Model 0) failed to produce a desired CFI value of .95 or greater (Kline, 2016). Fit for Model 0 was found to be unacceptable, as while it's SRMR (.052) and RMSEA (.055) met the commonly-accepted standards, the CFI (.919) did not. Due to the low CFI, the model also failed to meet context-specific guidelines suggested by Hair, Black, Babin, and Anderson (2010) for models with N > 250 and 30 or more observed variables. A review of the covariances and correlations for Model 0 revealed that there was not a significant relationship between Coaching and OSE (r = .017; cov = .009, p = .786) which was not expected. The OSES also failed to meet the minimum AVE threshold of .5 (.495) when standardized regression weights were reviewed; a review of the 6-item version revealed an AVE just above the .5 threshold. Upon inspection of the distribution of responses for the OSES, a significant lack of variance within the scale due to a ceiling effect was noted, with respondents selecting the lowest two values (1 or 2) 0-1.3% of the time, the middle values (3 or 4) 6.3-22.6% of the time, and the highest two values (5 or 6) 76.1 to 93% of the time across the eight questions; the same distribution ranges were noted for the 6-item version. Based upon this lack of variance within the OSES responses, the OSE construct's lack of any statistically significant relationship with Coaching, and the AVE issue, it was

determined that it would not be possible to support hypotheses involving OSES; thus hypotheses 1, 4 and 6 were dropped from the study. Accordingly, a decision was made to drop the OSES construct from the analysis entirely. Also upon review of data from Model 1, it was noted that CBI item 8 loaded significantly lower (.555) than the other 7 items (.737 - .870). Based on this poor loading, and precedent within the published literature (Ellinger et al., 2007; Ellinger et al., 2011; Kim, 2014**)**, the decision was made that this item related to supervisors role-playing with employees would be dropped and the CBI assessed utilizing items 1-7. Following these decisions Model 1A, which no longer included item CBI8 or any items from the OSES, and a revised single factor model with the same items removed were generated.

Model 1A was found to have acceptable fit based on the standards of Hair et al. (2010) with respect to SRMR (.0528), RMSEA (.062), and CFI (.929). Next, modification indices were reviewed, with precedence given to the review of indices for which the modification index (MI) and expected parameter change (EPC) values both indicated a particular relationship should be considered (Whittaker, 2012). This review revealed that items JESP3 and JESP6 had a noteworthy covariance with a strong MI but relatively low EPC (MI = 67.565, EPC = 0.09) for the error terms of items JESP3 and JESP6. While this index did not meet the standards of Whittaker (2012), it was noted that the same items had reciprocal regression weight relationships with strong MI and EPC values (JESP6 to JESP3 MI = 32.895, EPC = .215; JESP3 to JESP6 MI = 29.945, EPC = .283). Taken together, these indices were deemed to indicate a significant relationship between the two items. Based upon these relationships the text for these items was analyzed for thematic similarities, which were found to be strong given that the two

questions differ by only a single word, and the divergent words (exert and devote) are very similar in meaning. Accordingly, it was determined that there was a sufficiently strong thematic overlap between the two questions to justify correlating their error terms, leading to the generation of Model 1B. Fit indices for Model 1B (Table 4.06) were found to be superior to those of Model 1 (SRMR = .0502, RMSEA = .057, CFI = .940), however, the correlation of the error terms for the two JESP items caused the AVE for that scale to fall below the minimum acceptable threshold of .50. Accordingly, Model 1B was rejected and all future modification indices pointing toward such a correlation were disregarded. As no other modification indices warranted generation of further single-factor models, pattern and structure coefficients were reviewed for Model 1A (Table 4.07), and AVE and CR values were found to be within expected parameters (Table 4.08). It was noted, however, that the correlation between Coaching and Cognitive Engagement was not significant (p = .056). Because the study included no hypotheses involving Coaching and the first-order factors of the JES, analysis proceeded with Model 1A accepted as the best-fitting non-higher order measurement model.

Next, the second order factor of Engagement, which is based on the three first order factors of the JES (Rich et al. 2010), was added to Model 1A, resulting in Model 2. Again using the Hair et al. (2010) standards, Model 2 demonstrated acceptable CFI (.921), RMSEA (.065), and SRMR (.0745) fit indices, and included a total of 29 standardized residual covariances above |2.58|. A review of modification indices for Model 2 revealed no noteworthy indices, aside from those between JESP3 and JESP6 with a known negative impact, and revealed a regression weight index between Perceived Organizational Support and Emotional Engagement (MI = 8.362, EPC = .079) that was

significantly lower than anticipated based on Pilots 1 and 2. Following the review of modification indices for Model 2, a path was added from Perceived Organizational Support to Emotional Engagement, per hypothesis 8, leading to the generation of Model 2B. Fit indices for this model were significantly better than for Model 2, particularly with respect to the change to SRMR (.0547) and reduction in the number of standardized residual covariances above |2.58| from 29 to 4. All remaining standardized residual covariances involved an item from the JES, 4 of the 5 were between JES items, and 3 of the 5 involved items specifically from the Physical Engagement subscale of the JES. As a review of modification indices for Model 2B revealed no further items warranting consideration, and a review of pattern and structure coefficients revealed no issues, Model 2B was accepted as the best-fitting higher-order measurement model.

The standardized regression weights (Figure 4.02) generally indicated an acceptable measurement model. All items, except the cross loading between POS and Emotional Engagement (0.411), exceeded .5 minimum threshold and none exceeded the .95 upper threshold (Bagozzi & Yi, 1998). Structural coefficient examination (Graham, Guthrie, & Thompson, 2003) indicated each manifest variable correlated most highly with its respective factor (see Table 4.09). The composite reliability (CR; .771 - .932) and average variance extracted (AVE; .533 - .670) ranges as noted in Table 4.10, respectively, showed evidence of adequate reliability and convergent validity (Hair et al., 2010). Discriminant validity was well supported, as all correlations between factors are lower than the square root of the AVE for individual factors (Hair et al., 2010).

Based on Model 2B, hypotheses 2 and 3 were supported by the positive, statistically significant, correlations between managerial coaching and POS (0.454, $p <$

.001) and employee engagement (0.198, $p < .01$). The correlation between managerial coaching and POS was moderate, and that between managerial coaching and employee engagement was unexpectedly weak based on prior research (Anderson, 2013; Ellinger et al., 2012) and correlations from Pilot 1. The correlation between managerial coaching and employee engagement (.198) was identical to that found in Pilot 2. Hypothesis 5 was also supported by the positive correlations between employee engagement and POS (0.298, $p < .001$). Hypotheses 1, 4, and 6 could not be assessed due to the removal of occupational self-efficacy from the model. Hypothesis 8 was supported by the improvement in model fit when the direct path from POS to emotional engagement was incorporated into the model.

Table 4.06: CFA Fit Indices for Measurement Models

Model	$\chi 2$	*df*	*RMSEA*	*SRMR*	*CFI*	*AIC*	*BIC*	*SRC* > |2.58|
Single Factor	4425.845	434	0.175	0.1775	0.421	4549.845	4779.686	115
Model 1A[1]	911.962	424	0.062	0.0528	0.929	1055.962	1322.874	4
Model 1B[2]	834.637	423	0.057	0.0502	0.940	980.637	1251.256	4
Model 2[3]	970.125	428	0.065	0.0745	0.921	1106.125	1358.208	29
Model 2B[4]	918.434	427	0.062	0.0547	0.929	1056.434	1312.224	5

[1] Model 1A includes correlations between the CBI, SPOS, and the three first order factors of the JES after the removal of the OSES; see Figure 4.01
[2] Model 1B adds an error term correlation between items 3 and 6 from the Physical Engagement sub-scale of the JES to Model 1A
[3] Model 2 incorporates the second order factor of Engagement from the JES; correlations from the CBI and SPOS are now directed to this factor
[4] Model 2B adds a direct path from POS to the Emotional Engagement sub-scale of the JES

Table 4.07: Model 1A Pattern (P) and Structure (S) Coefficients

	Managerial Coaching		Perceived Org. Support		Physical Engagement		Cognitive Engagement		Emotional Engagement	
Construct Variable	P	S	P	S	P	S	P	S	P	S
Coaching										
Item 1	**0.729**	0.729		0.332		0.148		0.087		0.216
Item 2	**0.875**	0.875		0.398		0.177		0.105		0.260
Item 3	**0.861**	0.861		0.392		0.174		0.103		0.255
Item 4	**0.775**	0.775		0.353		0.157		0.093		0.230
Item 5	**0.773**	0.773		0.351		0.156		0.092		0.229
Item 6	**0.829**	0.829		0.377		0.168		0.099		0.246
Item 7	**0.846**	0.846		0.385		0.171		0.101		0.251
POS										
Item 1		0.399	**0.876**	0.876		0.174		0.237		0.515
Item 2		0.409	**0.900**	0.900		0.179		0.243		0.529
Item 3		0.401	**0.880**	0.880		0.175		0.238		0.517
Item 4		0.337	**0.741**	0.741		0.147		0.201		0.436
Item 5		0.333	**0.733**	0.733		0.146		0.198		0.430
Item 6		0.346	**0.760**	0.760		0.151		0.206		0.447
Physical										
Item 1		0.143		0.140	**0.706**	0.706		0.441		0.399
Item 2		0.162		0.159	**0.801**	0.801		0.500		0.452
Item 3		0.144		0.141	**0.709**	0.709		0.443		0.400
Item 4		0.139		0.136	**0.685**	0.685		0.427		0.386
Item 5		0.139		0.137	**0.688**	0.688		0.429		0.388
Item 6		0.138		0.135	**0.682**	0.682		0.425		0.385
Cognitive										
Item 1		0.095		0.215		0.495	**0.793**	0.793		0.447
Item 2		0.101		0.228		0.525	**0.842**	0.842		0.474
Item 3		0.104		0.235		0.541	**0.867**	0.867		0.489
Item 4		0.082		0.186		0.428	**0.686**	0.686		0.387
Item 5		0.103		0.234		0.539	**0.864**	0.864		0.487
Item 6		0.102		0.231		0.532	**0.853**	0.853		0.481
Emotional										
Item 1		0.256		0.506		0.487		0.486	**0.862**	0.862
Item 2		0.251		0.497		0.478		0.477	**0.846**	0.846
Item 3		0.227		0.449		0.432		0.431	**0.765**	0.765
Item 4		0.212		0.420		0.403		0.402	**0.714**	0.714
Item 5		0.234		0.463		0.445		0.444	**0.788**	0.788
Item 6		0.270		0.535		0.514		0.513	**0.911**	0.911

Table 4.08 : Model 1A Implied Correlations, Average Variance Extracted (AVE), and Composite Reliability (CR)

Variable	1	2	3	4	5
1. Managerial Coaching Behaviors	0.814				
2. Perceived Organizational Support	0.455	0.818			
3. Physical Engagement	0.202	0.199	0.713		
4. Cognitive Engagement	0.120	0.271	0.624	0.82	
5. Emotional Engagement	0.297	0.588	0.565	0.563	0.817
CR	0.932	0.923	0.861	0.924	0.923
AVE	0.663	0.669	0.508	0.672	0.667

Note: Square root of AVE along diagonal

Table 4.09: Model 2B Pattern (P) and Structure (S) Coefficients

	Managerial Coaching		Perceived Org. Support		Engagement	
Construct						
Variable	P	S	P	S	P	S
Coaching						
Item 1	**0.729**	0.729		0.331		0.145
Item 2	**0.875**	0.875		0.397		0.174
Item 3	**0.861**	0.861		0.391		0.171
Item 4	**0.775**	0.775		0.352		0.154
Item 5	**0.772**	0.772		0.351		0.153
Item 6	**0.829**	0.829		0.376		0.164
Item 7	**0.846**	0.846		0.384		0.168
POS						
Item 1		0.398	**0.877**	0.877		0.261
Item 2		0.409	**0.899**	0.899		0.268
Item 3		0.400	**0.881**	0.881		0.263
Item 4		0.337	**0.742**	0.742		0.221
Item 5		0.333	**0.732**	0.732		0.218
Item 6		0.345	**0.760**	0.760		0.227
Engagement						
Emotional		0.304	**0.411**	0.587	**0.591**	0.714
Cognitive		0.154		0.231	**0.776**	0.776
Physical		0.160		0.240	**0.804**	0.804

Table 4.10: Model 2B Implied Correlations, Average Variance Extracted (AVE), and Composite Reliability (CR)

Variable	1	2	3
1. Managerial Coaching Behaviors	0.814		
3. Perceived Organizational Support	0.454	0.818	
4. Engagement	0.198	0.298	0.730
CR	0.932	0.923	0.771
AVE	0.663	0.670	0.533

Note: Square root of AVE along diagonal

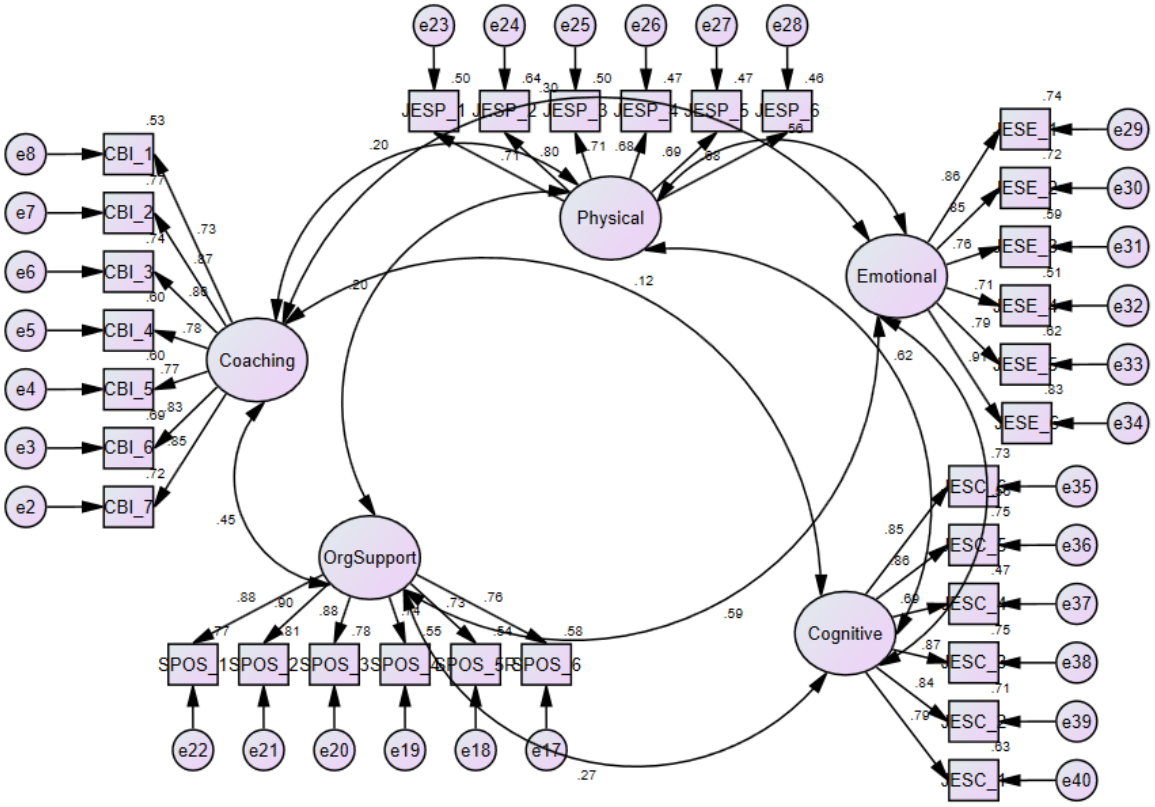

Figure 4.01: Model 1A

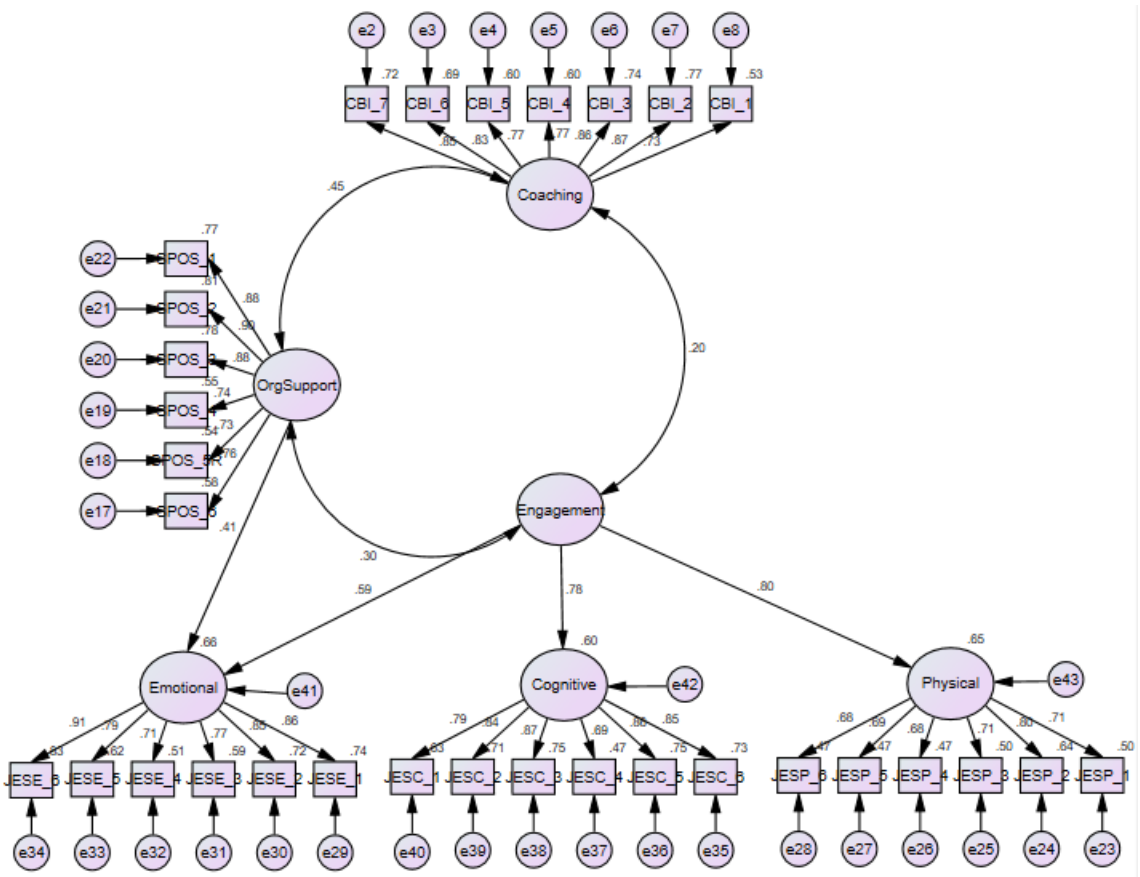

Figure 4.02: Model 2B

Structural Models

Two structural models were examined. Model 1, the modified theoretical model (Figure 4.03), represented managerial coaching behaviors as having a partial indirect effect on employee engagement through POS. Model 2, the alternative model (Figure 4.04), a complete indirect effect. Based on the data in Table 4.11, the alternative complete indirect effect model (Model 2) is not statistically different from the partial indirect effect model (Model 1) at alpha = .001 ($\Delta\chi^2$ [1] = 1.099 p = .294). However, as Model 2 includes one additional degree of freedom, it represents the more parsimonious of the two initially tested models despite Model 1 explaining marginally more variance in engagement. Further, the path between managerial coaching and employee engagement

in Model 1 was not statistically significant (p = 0.299), indicating managerial coaching did not contribute any statistically significant unique variance to engagement above and beyond that accounted for by POS.

A review of standardized residual covariances and modification indices for Model 2 revealed 6 values above |2.58|, the two largest of which (|3.395|, |3.894|) involved item JESP6. The strong modification indices between items JESP3 and JESP6 were once again present, in both Models 1 and 2, but were disregarded due to the previously observed negative impact on the AVE value of the physical engagement subscale when the error terms of these items were correlated. As no further modification indices were found to have significant rationale for consideration, Model 2 was accepted as the best-fitting structural model.

Based upon the acceptance of Model 2, hypothesis 7 could not be fully supported due to the lack of a statistically significant direct path from managerial coaching to employee engagement. However, Model 2 did indicate that managerial coaching had a complete indirect effect on employee engagement through POS (.137, SE = .049, p = .01), which offers partial support for hypothesis 7. See Table 4.12 for bootstrapped direct and indirect effects.

Table 4.11: CFA Fit Indices for Structural Models

Model	χ^2	*df*	*RMSEA*	*SRMR*	*CFI*	*AIC*	*BIC*	# |*SRC*| > 2.58	R^2
Model 1[a]	918.434	427	0.062	0.0547	0.929	1056.434	1312.224	5	0.094
Model 2[b]	919.533	428	0.062	0.0563	0.929	1055.533	1307.617	6	0.091

Note. R^2 = R^2 of Engagement.
[a] Model 1 represents partial mediation of the Coaching/Engagement relationship; see Figure 4.03
[b] Model 2 removes the direct path from Coaching to Engagement; see Figure 4.04

Table 4.12: Bootstrapped Estimate of Direct and Indirect Effects from Model 2

Effect	Point estimate	*SE*	95% *CI* LB	UP
Direct effect of coaching on POS	0.341	0.055	0.246	0.457
Direct effect of POS on engagement	0.099	0.027	0.052	0.159
Indirect effect of coaching on engagement through POS	0.034	0.010	0.017	0.058

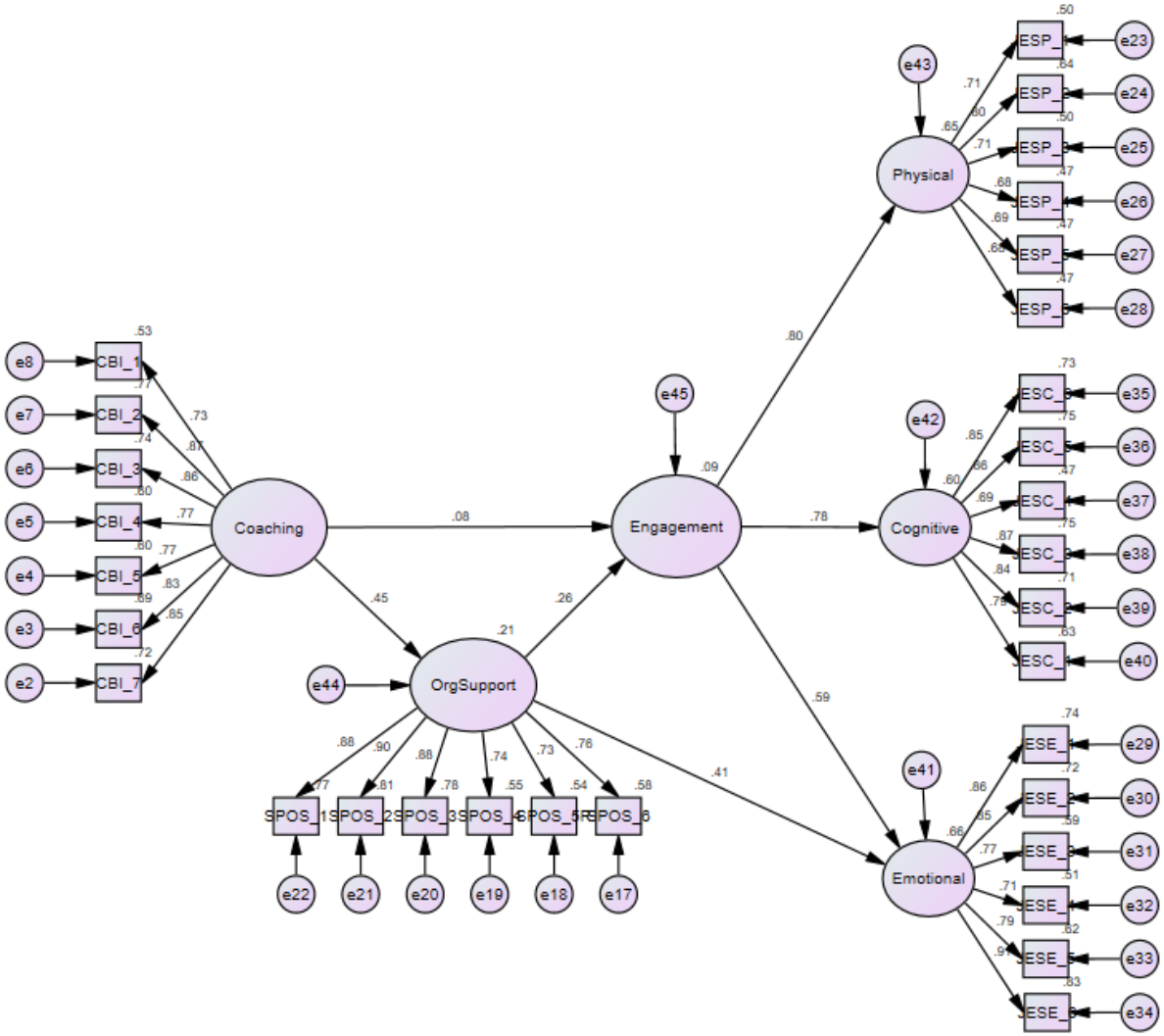

Figure 4.03: Structural Model 1

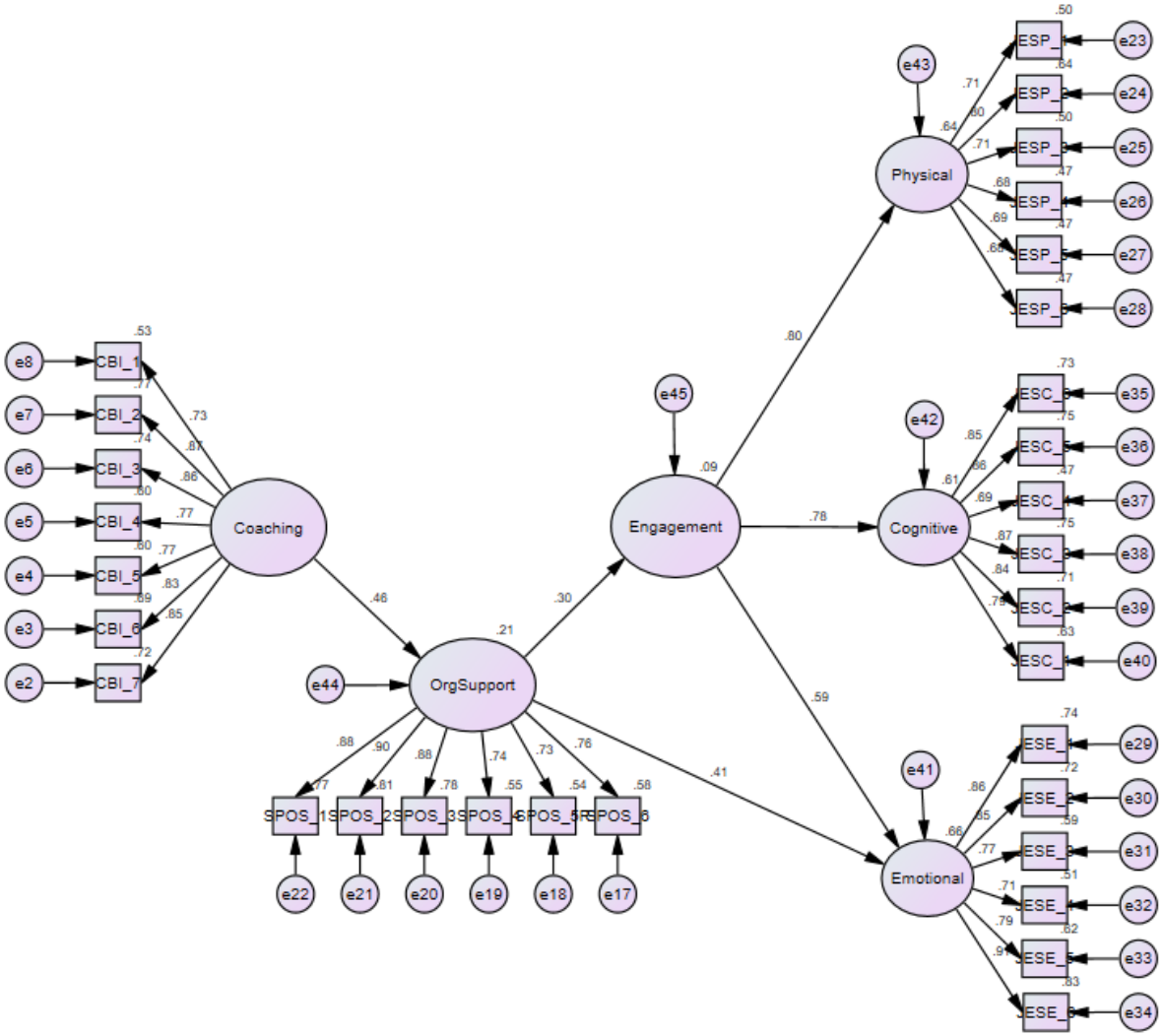

Figure 4.04: Structural Model 2

Common Method Variance

The confirmatory factor analysis (CFA) marker technique of Williams et al. (2010) was employed to assess for any potential bias due to common method variance (CMV) among the correlations analyzed. The Attitudes Toward the Color Blue (ATCB) scale (Miller & Chiodo, 2009), which has shown promise in prior studies (Jones, 2015; Simmering et al., 2015; Wall, 2014) and in Pilot 2, was utilized as the marker variable.

Following the recommendations of Williams et al. (2010) as discussed in Shuck, Nimon, and Zigarmi (2017b), and as deployed in Pilot 2, a series of models were tested to assess the potential influence of CMV. The first model tested was a CFA model inclusive of the latent marker variable based off the correlated first order factor model (Model 1A). This model included 6 substantive factors of managerial coaching, POS, cognitive engagement, emotional engagement, physical engagement, and attitude toward the color blue. In this model the factor loadings from the latent marker variable to the 31 items from the substantive factors were set to 0. The second model tested was a baseline model wherein the unstandardized regression weights and variances for the marker variable were fixed to the values from the CFA model, and the five correlations between the marker variable and substantive latent variables were set to 0. The third model tested was a constrained model (Model-C) in which the 31 factor loadings from the latent marker variable were constrained to be equal. The fourth model tested was an unconstrained model (Model-U) in which the 31 factor loadings from the latent marker variable were freely estimated.

The recommendations of Williams et al. (2010) call for a fifth model, the restricted model (Model-R), wherein the substantive factor covariances from Model-U are set to the values from the baseline model. However, analysis of the first four models (see Table 4.13) revealed no statistically significant differences between Model-C and the baseline model ($\Delta\chi^2 = 1.866$, $\Delta df = 1$, $p = 0.172$) or Model-C and Model-U ($\Delta\chi^2 = 36.788$, $\Delta df = 30$, $p = 0.183$). Based on these findings the presence of bias due to CMV among the relationships between the substantive variables was not indicated. Accordingly, generation of Model-R was not necessary.

Table 4.13: Model Fit Indices and Model Comparisons for CFA Models With Marker Variable

Model	χ^2	*df*	CFI	RMSEA	LR of $\Delta\chi^2$	Model comparison
CFA with marker variable	1357.304	687	0.917	0.057		
Baseline	1362.214	708	0.919	0.055		
Method-C	1360.348	707	0.919	0.056	1.866, $df = 1$, $p = .172$	vs. Baseline
Method-U	1323.560	677	0.920	0.056	36.788, $df = 30$, $p = .183$	vs. Method-C

Summary of the Chapter

This chapter presented the results from the analysis of the data collected from 301 higher education enrollment management professionals who self-reported as managers. Demographic characteristics for the participating managers and their organizations were discussed and compared to AACRAO's published 2017 demographics suggesting that the sample was generally representative of the AACRAO population. Next, key assumptions for multivariate analysis were reviewed. Some issues were, however, noted in the OSES and JES with kurtosis, and multivariate normality was not confirmed. Analysis of bootstrapped results revealed no significant differences, so non-bootstrapped results were reported. Discriminant and convergent validity was supported for the constructs, with the

exception of the OSES, which was removed from the study. Confirmatory factor analysis was performed, and the best-fitting measurement model was determined. Hypotheses were tested using structural equation modeling, with the direct and indirect effects discussed. Finally, common method bias was assessed, and determined not to be present, using the latent marker variable technique.

Chapter 5 – Discussion, Conclusions, and Implications for Theory, Practice, and Future Research

Introduction

This chapter begins with a brief summary of the study. It then discusses the findings of the study and relates the findings to the existing research literature. Conclusions are then presented, along with implications for theory, practice in the higher education enrollment management context, business in general, and for human resource development. Limitations associated with the study are acknowledged, along with recommendations for future research. The chapter concludes with a summary.

Summary of the Study

The purpose of this study was to test a theoretical model informed by Social Exchange (Blau, 1964) and Social Cognitive (Bandura, 1977a) theories to examine the mediating influence of occupational self-efficacy (OSE) and perceived organizational support (POS) on the relationship between perceived managerial coaching behaviors and employee engagement among management-level employees in a higher education strategic enrollment management context. The study's hypotheses predicted a partially mediated relationship between perceived managerial coaching behaviors and employee engagement, with OSE and POS playing a joint mediating role. Further, based on prior literature and findings of the two pilot studies, a direct path was hypothesized between POS and the emotional engagement first-order factor of the job engagement scale (JES). The study was guided by the following research hypotheses:

Hypotheses 1-3 predicted the positive relationships between observed managerial coaching behaviors and respondents' self-reported OSE, POS, and engagement.

H1: L1 managers' perceptions of the coaching behaviors of L2 managers are positively related to their self-reported OSE.

H2: L1 managers' perceptions of the coaching behaviors of L2 managers are positively related to their self-reported POS.

H3: L1 managers' perceptions of the coaching behaviors of L2 managers are positively related to their self-reported engagement.

Hypotheses 4 and 5 predicted that both OSE and POS would be positively related to employee engagement.

H4: L1 managers' self-reported OSE are positively related to their self-reported engagement.

H5: L1 managers' self-reported POS are positively related to their self-reported engagement.

Hypotheses 6 and 7 predicted that respondents self-reported OSE and POS would each partially mediate the relationship between perceived managerial coaching behaviors and self-reported levels of engagement.

H6: The positive relationship between L1 managers' perceptions of the coaching behaviors of L2 managers and their self-reported engagement are partially mediated by their self-reported OSE.

H7: The positive relationship between L1 managers' perceptions of the coaching behaviors of L2 managers and their self-reported engagement are partially mediated by their self-reported POS.

Hypothesis 8 predicted that a positive path would exist between POS and the emotional engagement first-order factor of the JES scale. Specifically, this path was predicted to have a significant impact on the goodness of fit of the measurement model once the second-order factor of employee engagement was incorporated.

H8: POS makes a statistically significant contribution to the emotional engagement dimension of the JES scale to such a degree that the second order measurement model with a direct path from POS to emotional engagement demonstrates a significantly better model fit than an equivalent model without this path.

To address the research hypotheses, a half-longitudinal quantitative survey design was employed, with data captured at two time periods (Cole & Maxwell, 2003). Higher education strategic enrollment management divisions at AACRAO member institutions were chosen as the context for the study, with active AACRAO members as of March 2017 making up the sample frame. This population was selected due to its heavy reliance on managers who serve as subject matter experts in a vast array of enrollment management related knowledge areas, as well as who often assume developmental roles for their team members. These managers must carry out their developmental roles in a change-intensive industry where formal training is rarely available, and informal approaches to facilitating employees' learning often occurs through their day-to-day interactions with managers who serve as managerial coaches.

Respondents were recruited through a partnership with the AACRAO organization in which a portion of the research survey was distributed directly to all active AACRAO members as part of the organization's March 2017 60-Second Survey.

Respondents were given the option to volunteer for further participation in the research study through an opt-in question embedded within the 60-Second Survey. A total of 1,095 AACRAO members responded to the 60-Second Survey, 444 (40.5%) agreed to participate in phase 2, and 369 (83.1%) of that group completed the entire survey. A total of 68 participants were ultimately eliminated, based on the reasons detailed in Chapter 4, resulting in a final sample size of 301. The analysis, as discussed in Chapter 4, employed a number of statistical tests including standard assumptions tests in SPSS and confirmatory factor analysis, maximum likelihood structural equation modeling (Kline, 2016), and the CFA marker technique (Williams et al., 2010) in AMOS.

Discussion of the Findings with the Relevant Literature

This section discusses the results of the hypotheses that were tested within the study, and situates these findings in relation to the existing research literature and theory, which are utilized to interpret the conclusions drawn from the findings. Discussions encompass each of the key relationships tested, a number of unexpected findings, and the 3 hypotheses related to OSE that were removed from the final analysis as discussed in Chapter 4. Although not all of the study's hypotheses could be assessed, the hypotheses that were tested generally offered support for the predictions of the study.

Table 5.00 presents a summary of the results of hypotheses testing.

Table 5.00: Hypotheses and Results

Hypothesis	Results Based Upon Analysis
H1: L1 managers' perceptions of the coaching behaviors of L2 managers are positively related to their self-reported OSE.	Not assessed due to removal of OSES scale from final analysis.
H2: L1 managers' perceptions of the coaching behaviors of L2 managers are positively related to their self-reported POS.	Supported: Indicates perceived managerial coaching behaviors are positively associated with POS. Supports findings of Kuo et al., 2014.
H3: L1 managers' perceptions of the coaching behaviors of L2 managers are positively related to their self-reported engagement.	Supported: Indicates perceived managerial coaching behaviors are positively associated with employee engagement. Supports findings of Ellinger et al., 2012 and Ladyshewsky & Taplin, 2017.
H4: L1 managers' self-reported OSE are positively related to their self-reported engagement.	Not assessed due to removal of OSES scale from final analysis.
H5: L1 managers' self-reported POS are positively related to their self-reported engagement.	Supported: Indicates POS influences employee engagement. Supports findings of Jin & McDonald, 2017, Malenin & Harju, 2016, and Zhong et al., 2016.
H6: The positive relationship between L1 managers' perceptions of the coaching behaviors of L2 managers and their self-reported engagement are partially mediated by their self-reported OSE.	Not assessed due to removal of OSES scale from final analysis.
H7: The positive relationship between L1 managers' perceptions of the coaching behaviors of L2 managers and their self-reported engagement are partially mediated by their self-reported POS.	Partially Supported: Indicates perceived managerial coaching behaviors positively influence employee engagement through their influence on POS. Supports framing these relationships using social exchange and organizational support theories.
H8: POS makes a statistically significant contribution to the emotional engagement dimension of the JES scale to such a degree that the second order measurement model with a direct path from POS to emotional engagement demonstrates a significantly better model fit than an equivalent model without this path.	Supported: Indicates POS primarily influences employee engagement through the emotional aspect of the engagement construct, as represented in the JES scale. Supports prior studies by Shuck et al., 2013 and Shuck et al., 2014.

Managerial Coaching Behaviors and Perceived Organizational Support (POS) – Hypothesis 2

Based upon organizational support theory (Eisenberger et al., 1986), employees attribute anthropomorphic qualities to their organizations, including the ability to express favor or disfavor toward them. Simultaneously, employees hold perceptions that their direct managers serve as agents of, and represent the organization itself, allowing managerial behaviors to serve as a basis upon which employees can judge the attitude of their organizations toward them, which serves as a key determinant of their levels of POS (Eisenberger et al., 1986, Eisenberger et al., 2010, Hayton et al., 2012). Over the course of the last decade researchers have posited that managerial coaching behaviors constitute a form of supportive supervision (Agarwal et al. 2009, Ellinger at al., 2008; Ellinger, 2013; Paustian-Underahl et al., 2013; Woo, 2017). According to this line of reasoning, as the supportive behaviors associated with managerial coaching (Ellinger, 2013) are enacted by their respective managers, employees are able to interpret those behaviors as a positive indication that their organization values and supports them, resulting in the development of higher levels of POS and, ultimately, other positive workplace attitudes and outcomes benefitting from POS (Ahmed et al., 2015; Kurtessis et al., 2017).

Kuo, Chang, and Chang (2014) offered one of the first known studies directly examining the effects of managerial coaching skills on POS. These scholars ultimately concluded that managerial coaching skills significantly enhanced POS, and that it was primarily through its influence on POS that managerial coaching skills impacted employee commitment. Findings of the present study build upon and extend the findings of Kuo et al. (2014) findings. Specifically, this study offers further support for a

significant positive relationship between managers' perceptions of the coaching behaviors of their more senior direct supervisors and their self-reported POS, as well as support for POS to serve as a significant mediator between managers' perceptions of their direct supervisors' coaching behaviors and their own engagement.

Managerial Coaching Behaviors and Employee Engagement – Hypothesis 3

Ellinger et al. (2012) provided the earliest known empirical support for a positive association between perceived managerial coaching behaviors and employee engagement. Layshewsky and Taplin (2017), who tested the relationship using distinctly different approaches to both managerial coaching and engagement than employed by the present study or Ellinger et al. (2012), also found support for a relationship between managerial coaching skills and work engagement. The findings of these studies have been supported by recent literature that, while not directly citing managerial coaching, has positioned coaching and coaching-type behaviors as potential antecedents of employee engagement (Alfes et al., 2013; Beattie et al., 2014; Saks, 2006; Saks & Gruman, 2014). The present study expands this emerging stream of literature by providing additional empirical support for a positive, albeit small, association between observed managerial coaching behaviors and self-reported employee engagement.

Perceived Organizational Support (POS) and Employee Engagement – Hypothesis 5

Prior research has indicated that POS functions as a significant contributing factor to the development of employee engagement (Jin & McDonald, 2017; Malenin & Harju, 2017; Rich et al., 2010; Saks, 2006; Zhong et al., 2016). Based upon the principles of

social exchange and organizational support theories, as employees' POS levels increase so too does their sense of obligation to reciprocate positive behaviors toward their organization and/or direct manager. Employees, in turn, increase their levels of engagement as a means of reciprocation to discharge their feelings of social indebtedness toward the organization and/or direct manager they perceive as having supported them (Blau, 1964; Gouldner, 1960). Further, Kahn's (1990) theory of personal engagement suggests that when employees feel supported and cared for by their organization, and those who represent it, they are able to develop feelings of psychological meaningfulness and safety, two of the key pre-conditions for engagement (Malenin & Harju, 2017; Saks, 2014). The results of the present study indicate that a significant and positive relationship exists between POS and employee engagement, and also offers further support for explaining this relationship through the application of social exchange and organizational support theories.

Mediating Role of Perceived Organizational Support (POS) – Hypothesis 7

The complete mediating effect POS was found to have on the relationship between managerial coaching and employee engagement within the present study speaks to the mechanisms through which those constructs are related, and is in alignment with elements of both Kahn's (1990) original needs-satisfaction conceptualization of engagement and the social exchange principle of reciprocity (Blau, 1964; Gouldner, 1960). As noted by Kahn (1990), employees are able to more fully engage when they find psychological meaningfulness and safety in their work and work environment. Such conditions are often influenced by a manager whose behavior demonstrates support for

them and encourages them to learn and develop, and ultimately contribute meaningfully to the organization without fear of reprisal.

Such perceptions are in alignment with behaviors and attitudes central to supportive supervision in general, and managerial coaching behaviors in particular (Ellinger, 2013). As employees perceive themselves to be recipients of supportive and beneficial behaviors from their managers, whom they perceive as acting as agents of the organization, their levels of POS increase accordingly (Eisenberger et al., 1986). Social exchange theory posits that, simultaneously, employees develop a sense of indebtedness or obligation to both their direct manager and organization (Ellinger, 2013; Kuo et al., 2014; Woo, 2017), which they may seek to discharge through enacting positive behaviors such as increased levels of engagement (Saks, 2006, Shuck et al., 2014).

Thus it appears managerial coaching may exert its influence on employee engagement by fostering employee-supervisor relationships and positive employee perceptions of the workplace environment, such as POS, conducive to the development of psychological and social antecedents of engagement. One recent study (Zhong et al., 2016) offered recommendations that managers seeking to enhance employees' engagement levels would do well to focus on building up POS as a means of achieving their goal, and offers support for adopting a managerial coaching style as a method for doing so, two recommendations that are both supported by the findings of this study. Further, this study builds upon findings by Kuo et al. (2014), who found that POS fully mediated relationships between managerial coaching skills and both affective and normative organizational commitment, by establishing POS as a significant mediator

between managers' perceptions of their more senior manager's coaching behaviors and their own self-reported engagement.

Influence of Perceived Organizational Support (POS) on Emotional Engagement – Hypothesis 8

One recent study (Shuck et al., 2014) posited that the increased levels of positive emotions toward their organization associated with increases in employees' POS may foster development of the emotional aspect of engagement, as represented by the emotional engagement first order factor of the JES, ultimately leading to higher overall levels of employee engagement. The findings of the present study support this perspective, as the path added between POS and the emotional engagement first order factor of the JES not only improved model fit, but was stronger than the path between POS and the second order factor representing overall employee engagement. Based upon the findings of the present study, it appears likely that POS primarily influences engagement through its impact on the emotional dimension of that construct. This builds upon prior literature (Shuck, Shuck, & Reio, 2013; Shuck et al., 2014) in positioning the emotional dimension of employee engagement as particularly salient in models involving other constructs that impact employee perceptions and attitudes.

Occupational Self-Efficacy

The issues encountered with the OSES scale, including the low AVE and ceiling effect, led to all 3 hypotheses incorporating the OSE (H1, H4, and H6) construct being removed from the study. These findings were unexpected, as similar issues were not

reported in previously-published research studies utilizing the OSES scale (Elias et al., 2013, Runhaar & Sanders, 2016 Schyns & Sczesny, 2010). There are, however, multiple potential explanations for the issue encountered in the present study. First, both noted issues of the low *AVE* and ceiling effect became more significant as the managerial level of the samples increased from Pilot Study 1, Pilot Study 2, and the main study. Neither issue was significant in Pilot Study 1where managers comprised only 31% of the sample. However, in Pilot Study 2 where a sample of all managers, nearly evenly split between Levels 1 and 2, was utilized, *AVE* became an issue and items 1 and 5 had to be deleted to achieve an *AVE* just above .5. The mean response for the scale, 5.37/6.00 for all six items and 5.41/6.00 for four items, was also quite high.

In the main study, which had an all-management sample with an unexpectedly high proportion (65%) of Level 2 managers, both issues became even more pronounced. An *AVE* above .5 as achieved only with the deletion of items 7 and 8. The scale mean was extremely high, 5.21/6.00 for the six and eight item versions, which appears to be in large part due to respondents selecting the highest two response options (5 or 6) at a rate of 76.1-93% across the scale items. As a consequence of these issues, the scale had to be removed. Viewed as a whole, this trend suggests that some managers, and in particular those managers at higher levels and with more experience, may innately hold sufficiently high self-perceptions of their occupational self-efficacy such that their honest responses to the questions contained in the OSES were predisposed to generating a ceiling effect. Alternatively, there may be a significant degree of social desirability bias influencing the responses of higher level managers, as rating themselves at the lower end of the scale for

the OSES questions may represent an unacceptable admission that they are ill equipped to take on certain aspects of their roles.

Conclusions and Implications for Theory

Managers in the higher education strategic enrollment management profession are presently faced with the necessity to adapt to a constantly shifting environment, changing demographics, and an uncertain legislative climate (Bruininks et al., 2010; Fatien & Otter, 2015; Hempsall, 2014; Langston & Scheid, 2014), while also being expected to increasingly take on responsibilities for developing their teams (Ellinger et al., 2011, Kim et al., 2013a, Ozduran & Tanova, 2016; Schultheis, 2014). To function in such a demanding environment, managers likewise need developmental support from their own direct higher level managers (Longenecker & Neubert, 2005; Ellinger et al., in press).

The first significant contribution of this study to the scholarly literature lies in the support offered for the existence of a positive association between managers' perceptions of managerial coaching behaviors enacted by their higher level managers and their own self-perceived engagement. Though this relationship did not manifest as a significant direct path during SEM analysis, the correlation found between the two variables indicates that managers' perceptions of their respective senior managers' managerial coaching behaviors are indeed positively associated with their self-reported engagement. Accordingly, the findings from this finding, the study add to a limited but currently emerging stream of research investigating the relationship between these constructs. This finding is of particular significance because this study focused on more senior managers when exploring these relationships, in contrast to some of the existing studies which have

examined the relationship using frontline managers and their respective direct report employees. Thus, the inclusion of management-level employees within the higher education strategic enrollment management context addresses scholars' repeated calls for research on managerial coaching in more diverse employment settings. Further, this study employed aligned definitions, theoretical conceptualizations, and measurement instruments for both managerial coaching behaviors and employee engagement, thus avoiding the muddling noted as problematic within the engagement literature when those elements are mixed-and-matched (Saks, 2017; Shuck et al., 2017c).

Second, this study extends the body of literature exploring the nature of the relationship between managerial coaching behaviors and POS. The strength of the path from managerial coaching behaviors to POS in the structural models indicates that, as managerial coaching behaviors are displayed by higher level managers, managers perceive these behaviors as a demonstration of support from their direct managers, on behalf of their organization. By conceptualizing managerial coaching in light of social exchange theory, the present study's findings offer a perspective on the relationship between managerial coaching and POS utilizing social exchange as a common theoretical framework. It is the position of the present study that within the dyadic relationship between managers and employees, including between junior and senior managers, managerial coaching behaviors represent managers' conferral of positive benefits upon employees. This drives the development of employees' sense of indebtedness to their direct manager, leading in turn to a perceived need to reciprocate in kind so a sense of balance may be restored to the social dynamic. Thus, through the practice of managerial

coaching, managers are able to effectively engage the powerful motivational engine of reciprocity conceptualized within social exchange theory.

The third contribution of the study provides further support for the positive relationship between POS and employee engagement. The present study supports the concept that employees' positive perceptions of support from their manager and/or organization elicit an emotional response, which ultimately manifests through increased engagement as a form of positive reciprocation, thus providing further insight into the mechanism through which the relationship between POS and engagement functions. Further, by framing employee engagement as positive behavior through which employees are able to discharge social debts/imbalances they perceive themselves as owing to their supervisors, the present study offers further support for viewing employee engagement through the lens of social exchange theory.

Building upon the three prior contributions, the present study expands the literature on managerial coaching, perceived organizational support, and employee engagement through the lenses of social exchange and organizational support theories. The present study offers a potential explanation for how managerial coaching behaviors may be employed, through their influence on the development of POS, to encourage employees to demonstrate desirable attitudes and behaviors, such as engagement, that benefit both managers and the organization as a whole. Thus, POS is positioned as a critical mediating factor through which managerial coaching influences engagement, an important workplace outcome.

Further, this study has addressed multiple calls for further research in recent literature, including those for research in diverse industries, managerial coaching's

impact on other work-related variables, variables that mediate relationships between managerial coaching and its outcomes, the impact of senior managers' coaching on lower-level managers, and the relationship between POS and engagement (Ahmed & Nawaz, 2015; Hagen, 2012; Ellinger et al., 2014; Ellinger et al., in press; Kim, 2014; Pousa & Mathieu, 2015).

Lastly, the half-longitudinal survey design employed in this study, while not as potent as a true longitudinal study, offers a more robust approach than the cross-sectional designs more often seen in research on managerial coaching (Cole & Maxwell, 2003). The use of the CFA marker technique (Williams et al., 2010) and the comparison between time-1-only completers and the final sample also offer a more robust assessment of the presence of common method and non-response biases within the study than is typical in the HRD literature, and demonstrates that these common sources of bias were not a significant limitation of the study.

Implications for Practice

This section discusses implications suggested by the study's findings for the professional practice of managers and their staff within the strategic enrollment management (SEM) context, managers charged with the development of other managers in the broader business context, and human resource development practitioners.

The findings of this study suggest that managerial coaching is a meaningful developmental approach for leaders and managers in SEM to adopt as they seek to develop their management-level supervisees. Managerial coaching's positioning as a form of supportive leadership (Ellinger, 2013; Woo, 2017) aligns it well with calls for the

development of the next generation of SEM leaders discussed as part of the mentorship series in the 91st and 92nd volumes of AACRAO's *College & University* publication (Altamirano, 2016; Bender, 2017; Kutchner & Kleschick, 2016; Munson, 2017; Seheult, 2016).

Although managerial coaching differs from mentoring, another developmental approach, in that it exclusively exists within a supervisor-supervisee relationship dynamic, it likewise focuses on a manager providing support, guidance, knowledge, and expertise with the goal of helping direct reports who may be junior managers or who may be frontline employees, to develop their skill sets and knowledge bases, overcome challenges, and meet goals as they grow in their roles (Woo, 2017). By taking such a supportive and developmentally-focused approach to leadership, SEM leaders may be able to build a positive organizational culture (Flanigan, 2016), foster the growth of the next generation of SEM leaders (Cramer, 2012), and equip those emergent leaders for the challenges and changes they must face (Kutchner & Kleschick, 2016).

The findings of the present study regarding the influence of perceived managerial coaching behaviors on POS, and on engagement through POS, position a managerial coaching as a mechanism through which employees, including those holding management-level positions, may feel supported by their organization. As managers assume a managerial coaching approach and enact coaching behaviors they are able to demonstrate support for their employees, leading to the development of POS, which in turn influences engagement (Jin & McDonald, 2017; Malenin & Harju, 2017; Zhong et al., 2016). Research indicates that both POS and engagement are antecedents of a myriad of positive workplace outcomes (Ahmed et al., 2015; Beattie & Crossan, 2015; Jin &

McDonald, 2017; Kim et al., 2016; Kurtessis et al., 2017; Malenin & Harju, 2017; Saks, 2014). Therefore the findings of this study support the concept that, by demonstrating managerial coaching behaviors, managers can effectively position themselves to influence the development of outcomes associated with both POS and engagement, likely resulting in more positive, dedicated members of the organization.

Organizational leaders and managers in higher education institutions, and within the broader business context, may also wish to consider managerial coaching capabilities as a factor when hiring new managers or selecting team members for promotion. Managerial coaching has been noted as an effective approach to demonstrating support from supervisors (Ellinger, 2013), and supportive supervisors have been noted as generally receiving better performance ratings and as better candidates for promotion (Paustian-Underdahl, et al., 2013). Numerous studies have indicated POS to be a strong mediator between supportive managerial behaviors and desirable outcomes (Ahmed & Nawaz, 2015; Jin & McDonald, 2017; Kurtessis et al., 2017; Zhong et al., 2016). Taken together, these perspectives suggest that selecting managerial coaching-inclined senior and junior managers may establish a workplace climate in which employees at all levels feel more supported and engaged, which is often critical in environments where both managers and front-line employees are expected to do more with less and adapt to constant changes, or where retention issues are problematic.

Based upon the same rationales, HRD practitioners should consider incorporating training and development initiatives aimed at encouraging managers to adopt and refine their managerial coaching skills; helping managers cultivate a culture for coaching; and, emphasizing the importance of developing employees' POS as ways to improve desired

workplace outcomes. Such approaches to management and leadership development may result in a more engaged workforce, more favorable employee views of their managers and organization, and more positive workplace behaviors and outcomes.

Limitations of the Study

As previously articulated in Chapter 3, the present study has a number of limitations which must be acknowledged. First, the study is generalizable only to U.S.-based higher education SEM professionals. Second, the unexpected issues encountered with the OSES scale required a significant change to the *a priori* models, which resulted in the study being unable to assess the roles of OSE and social cognitive theory, or to assess the hypothesized multiple mediation effects. Third, the unexpectedly high rate of respondents defined *a priori* as Level 2 managers required a modification to the final analysis plan. Fourth, as the respondents were aware that the primary researcher was also an AACRAO member, it is possible that knowledge could have contributed to either increased social desirability bias among respondents, or non-response due to persons responding to the initial AACRAO-delivered first phase choosing not to volunteer for the researcher-delivered second phase. Fifth, although the half longitudinal design was implemented to overcome some of the weaknesses associated with a cross-sectional survey design, a further limitation is that all variables being studied were not included at each of the two survey administrations.

Recommendations for Future Research

The present study offers one of the first known efforts to conduct HRD research among higher education strategic enrollment management staff, a group that has been historically understudied by HRD scholars. It is the position of the author that researchers should invest more time in studying this group of professionals, and that there are a number of unique factors researchers must be aware of as they do so. First, the availability of professionals in this field to participate in research is likely to be highly impacted by the cyclical nature of peak processing periods in higher education including, but not limited to, the weeks surrounding the start and end of semesters for all SEM populations, drop/withdrawal deadlines for registrar and financial aid, during annual satisfactory academic processing periods for financial aid, recruiting seasons for admissions, and during major State and/or national conferences.

Researchers should be mindful of these factors when planning studies involving SEM professionals, as failure to do so may significantly negatively influence response rates. Partnership or consultation with industry professionals, who are intimately familiar with when these peak periods occur, is highly recommended. Second, SEM professionals are often bombarded with extreme volumes of e-mail communications, as well as frequently-changing priorities, so the use of pre-survey and reminder messages may be essential to securing robust response rates. Third, many higher education campuses have strong firewalls and filters in place, so researchers should take measures to avoid having e-mail surveys fall victim to spam filters. Fourth, many SEM professionals utilize tablets and/or smart phones on a daily basis, so all communications should be designed using mobile-friendly formatting. Finally, many of the professional organizations SEM

professionals hold memberships in have their own research functions and/or association owned or sponsored journals, so the potential for collaborative research and publication in practitioner-oriented literature may be significant.

In addition to the research potential of the higher education context, and the SEM environment within this context, with the caveats noted, there are several directions for research on managerial coaching, POS, OSE, and engagement. Further research on how employee perceptions of the behaviors of managers who adopt managerial coaching roles influence employee engagement offers an opportunity for scholars to delve more deeply into the mechanisms that might influence their interaction would be of particular significance, as it appears likely that there are multiple intervening variables, beyond POS, yet to be identified. Identifying these additional variables may be of particular salience, as they are likely to yield more insight into how practicing managers enacting managerial coaching behaviors may best approach interactions with their direct manager reports and front-line level supervisors in order to achieve desired outcomes.

Despite the issues encountered in the present study, a replication of the full multiple mediation model is warranted as an avenue of future research, and using a sample of non-managers or lower level front-line managers still new to their roles is recommended. The potential of OSE and social cognitive theory to further explain the relationship between managerial coaching and engagement appears to be significant, and there is also potential for OSE to mediate the relationship between POS and employee engagement based on findings of Pilot Study 2 (see Appendix C, Figure AC3.00) and prior studies positing POS as an antecedent of self-efficacy (Bogler & Nir, 2012; Caesens & Stinglehamber, 2014; Karatepe, 2015; Kurtessis et al., 2017; Tansky & Cohen, 2001).

The present study offered support for managerial coaching's effectiveness in the development of POS and engagement among managers who are themselves coached, a perspective that has to date received insufficient attention in the literature. Accordingly, further studies assessing the efficacy of managerial coaching as a leadership development strategy are recommended. Finally, pursuit of any of the aforementioned avenues of research using longitudinal research designs would offer significantly more impactful findings, including true mediation assessments and the potential establishment of causal relationships, thus allowing managers to make better informed decisions regarding the value of managerial coaching as an approach to their management practices.

Summary of the Chapter

This chapter presented a brief summary of the study, including the purpose of the study, the hypotheses tested, and the half-longitudinal research design and analyses. This was followed by a discussion of the findings in relation to existing literature, as well as potential reasons for, and the implications of the unexpected issues encountered with the OSES scale. Conclusions of the study were stated, along with a discussion of how the study supports or extends existing literature, as well as implications for theory. Implications for practice were then proposed for higher education SEM professionals, organizational leaders and managers in general, and HRD professionals. Next, the limitations associated with the study were articulated. Finally, the chapter concluded with the author's insider insights about issues that warrant consideration for scholars interested in conducting research within the higher education SEM context. Lastly, several

recommendations were offered for future research on managerial coaching, POS, OSE, and employee engagement.

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Appendix A: IRB and Permissions Documentation

THE UNIVERSITY OF TEXAS AT TYLER
3900 University Blvd. • Tyler, TX 75799 • 903.565.5774 • FAX: 903.565.5858

Office of Research and Technology Transfer

Institutional Review Board

June 9, 2015

Dear Mr. Carrell,

Your request to conduct the study: *Exploring Mediated Relationships Between Managerial Coaching and Employee Engagement*, *IRB# Sum2015-95,* has been approved by The University of Texas at Tyler Institutional Review Board as a study exempt from further IRB review. This approval includes a waiver of signed, written informed consent. In addition, please ensure that any research assistants are knowledgeable about research ethics and confidentiality, and any co-investigators have completed human protection training within the past three years, and have forwarded their certificates to the IRB office (G. Duke).

Please review the UT Tyler IRB Principal Investigator Responsibilities, and acknowledge your understanding of these responsibilities and the following through return of this email to the IRB Chair within one week after receipt of this approval letter:

- Prompt reporting to the UT Tyler IRB of any proposed changes to this research activity
- **Prompt reporting to the UT Tyler IRB and academic department administration will be done of any unanticipated problems involving risks to subjects or others**
- Suspension or termination of approval may be done if there is evidence of any serious or continuing noncompliance with Federal Regulations or any aberrations in original proposal.
- Any change in proposal procedures must be promptly reported to the IRB prior to implementing any changes except when necessary to eliminate apparent immediate hazards to the subject.

Best of luck in your research, and do not hesitate to contact me if you need any further assistance.

Sincerely,

Gloria Duke, PhD, RN
Chair, UT Tyler IRB

THE UNIVERSITY OF TEXAS AT TYLER
3900 University Blvd. • Tyler, TX 75799 • 903.565.5774 • FAX: 903.565.5858

Office of Research and Technology Transfer

Institutional Review Board

April 26, 2016

Dear Mr. Carrell,

Your request to conduct the study: *The title of the pilot study is "Survey of Student Employment-Related Attitudes and Perceptions."* IRB #SP2016-105 has been approved by The University of Texas at Tyler Institutional Review Board as a study exempt from further IRB review. This approval includes a waiver of signed, written informed consent. In addition, please ensure that any research assistants are knowledgeable about research ethics and confidentiality, and any co-investigators have completed human protection training within the past three years, and have forwarded their certificates to the IRB office (G. Duke).

Please review the UT Tyler IRB Principal Investigator Responsibilities, and acknowledge your understanding of these responsibilities and the following through return of this email to the IRB Chair within one week after receipt of this approval letter:

- Prompt reporting to the UT Tyler IRB of any proposed changes to this research activity
- **Prompt reporting to the UT Tyler IRB and academic department administration will be done of any unanticipated problems involving risks to subjects or others**
- Suspension or termination of approval may be done if there is evidence of any serious or continuing noncompliance with Federal Regulations or any aberrations in original proposal.
- Any change in proposal procedures must be promptly reported to the IRB prior to implementing any changes except when necessary to eliminate apparent immediate hazards to the subject.

Best of luck in your research, and do not hesitate to contact me if you need any further assistance.

Sincerely,

Gloria Duke, PhD, RN
Chair, UT Tyler IRB

From: Sam Carrell <wscarrell@gmail.com>
Sent: Wednesday, September 21, 2016 12:15 PM
To: Gloria Duke
Subject: IRB Modification (#SP2016-105)

Dr. Duke,

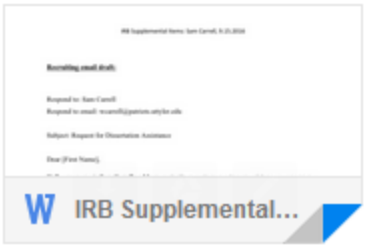
Good afternoon, I hope your Fall semester is going well. Please see attached an IRB modification request for my dissertation pilot - everything is finally re-tooled and ready to go.

...

--
William S Carrell (Sam)

2 Attachments

IRB Modification ...



IRB Supplemental...

Re: IRB Carrell #SP2016-105 Modification Approval

Ph.D. Program x

Gloria Duke Sep 21

to me, Angela

Hello Sam!

You did a great job of completing the form and submitting appropriate materials, and this is always so helpful!

Your request to modify survey format, sample size, recruitment script and consent is approved for protocol #Sp2016-105. I hope your research goes smoothly!

Take care, Gloria

Gloria Duke, PhD, RN
Professor and Associate Dean, CNHS Office of Research
Bart Brooks Professor of Ethics & Leadership
Director, UT Tyler Center for Ethics
Chair, UT Tyler Institutional Review Board
3900 University Blvd
Tyler, TX 75799 Office 903-566-7023 Fax 903-565-5533

I embrace honor and integrity. Therefore, I choose not to lie, cheat, or steal, nor to accept the actions of those who do.
(The UT Tyler Honor Code)

Gmail Sam Carrell <wscarrell@gmail.com>

Permissions for Dissertation

4 messages

Sam Carrell <wscarrell@gmail.com> Mon, Jun 6, 2016 at 12:33 PM
To: permissions@wiley.com
Cc: Andrea Ellinger <AndreaEllinger@uttyler.edu>

Dear Wiley Permissions Team,

I hope this email finds you well. I am a doctoral student in the proposal development stage in the Human Resource Development Ph.D. program at The University of Texas at Tyler studying under the direction of Dr. Andrea D. Ellinger. She is the primary author and developer of the Coaching Behavior Instrument (CBI) that featured within an HRDQ article in 2003 and I am writing to seek permission for use from Wiley in my dissertation research. Dr. Ellinger has granted me permission to use her and her co-authors' instrument and is fully aware of how it will be deployed in my dissertation. I completed a RightsLink document on 4.29.2016 (attached) to secure access to use the Coaching Behaviors Inventory (CBI) scale published in the following article, but believe one aspect of my dissertation merits direct contact beyond the RightsLink program.

> Ellinger, A. D., Ellinger, A. E., & Keller, S. B. (2003). Supervisory coaching behavior, employee satisfaction, and warehouse employee performance: A dyadic perspective in the distribution industry. Human Resource Development Quarterly, 14(4), 435-458.

The data collection plan for my dissertation involves working with a professional association, the American Association of Collegiate Registrars and Admissions Officers (AACRAO), which has expressed an interest in my study and has agreed to distribute the first portion of my survey, which would include questions from the CBI instrument that fall under your copyright, to their active membership as part of one of their monthly internal surveys. Once the survey data is collected, it is AACRAO's practice to publish the results, including the text of the questions asked, for access by their active members on their research website.

Per my AACRAO contact, an Memorandum of Understanding (MOU) must be crafted between their organization and me as the primary student researcher regarding how we will each use the collected data, and I am operating under the assumption that Wiley should also be involved given that the scale was first published in HRDQ. In light of this, and in the interest of full disclosure, I wanted to be certain that I contacted your team to inform you of my intentions in greater detail than what was evident in the automated RightsLink and assure that your team is fully aware of how this copyrighted material will be used/published in relation to my proposed study and that all copyright-related matters are properly addressed.

If you would like to speak directly, I can be reached on my cell line at (903) 285.2621.

Thank you,

William S. Carrell (Sam)

Wiley Permission - 4.29.2016 - Carrell.pdf
313K

Wiley Global Permissions <permissions@wiley.com> Tue, Jun 28, 2016 at 12:44 PM
To: Sam Carrell <wscarrell@gmail.com>

Dear Sam:

Thank you for your email. As long as you've obtained permission through RightsLink, it should be all clear to use as described below.

Sincerely,

Paulette Goldweber

Manager, Copyright & Permissions

Wiley

pgoldweb@wiley.com
+1 201-748-8765

111 River Street

Hoboken, NJ 07030-5774

U.S.
permissions@wiley.com

WILEY

Gmail Sam Carrell <wscarrell@gmail.com>

Southern Management Association Paper

28 messages

Sam Carrell <wscarrell@gmail.com> Tue, Mar 22, 2016 at 1:40 PM
To: bm25@txstate.edu, bc09@txstate.edu

Drs. Chiodo and Miller,

Good afternoon, I hope this email finds each of you well. My name is Sam Carrell, and I am a doctoral candidate in the Human Resources Development Ph.D. program at The University of Texas at Tyler.

I am currently exploring options for an appropriate CFA marker variable to employ in my dissertation following the recommendations of William et al. (2010), and in my searches I have come across several references to the blue attitude marker from your 2008 conference paper presented at that year's Southern Management Association conference. The information I have found regarding that scale looks quite promising, but I have been unable to locate a copy of the paper through our campus library or any other avenue to date. In light of that, I was wondering if it might be possible to request access to a copy of the blue attitude scale and/or the presentation paper directly from you as the authors. I would be quite appreciative if you are able to share those materials, and thank you for your time and consideration either way.

--
Sam Carrell

Brian K. Miller <bkmiller@txstate.edu> Tue, Mar 22, 2016 at 6:28 PM
To: Sam Carrell <wscarrell@gmail.com>
Cc: Beverly Chiodo <beverlychiodo@txstate.edu>

Hi Sam,
I've attached the paper that I wrote with Beverly. A recent paper in ORM analyzed an abbreviated version of our scale in its ability to detect CMV. Beverly and I used eight items. They are:

1. I prefer blue to other colors
2. I think blue cars are ugly
3. I like the color blue
4. I don't think blue is a pretty color
5. I like blue clothes
6. I don't like blue clothes
7. I hope my next car is blue
8. I really don't like the color blue

Items 2, 4, 6, and 8 are reverse scored. We used a 1 to 7 Likert response scale. You should be fine with a five point scale too. Our paper is attached as a Word document formatted using the Academy of Management style but it was presented at the Southern Management Association conference where it won the best paper award in the Research Methods division. I can't find my copy of the ORM paper evaluating various ways of detecting CMV. I think it was published last year by Marcia Simmering and Guclu Attiq. I recommend it.

Regards,
Brian

Brian K. Miller, Ph.D.
Associate Professor of Management

Texas State University
545 McCoy Hall
San Marcos, TX 78666

Tel: 512-245-7179
Fax: 512-245-2850

My faculty page: http://mgt.mccoy.txstate.edu/Departmental-Information/faculty/Miller.html

My statistics training videos: http://www.txstate.edu/trec/iirda/resource/onlinetraining.html

AACRAO

Advancing Global Higher Education

AACRAO and Sam Carrell
2017 Research Memorandum of Understanding

This agreement between the American Association of Collegiate Registrars and Admissions Officers (AACRAO) and Sam Carrell, Associate Registrar at the University of Texas at Tyler, is for the AACRAO March 2017 60-Second Survey content.

Under this agreement, AACRAO agrees to add research questions related to Mr. Carrell's dissertation research on the availability of managerial coaching to the content of the March 2017 60-Second survey.

1. Research Details

(a) Focus. Mr. Carrell seeks to partner with AACRAO to survey the AACRAO membership regarding managerial coaching. The primary purpose of this project is to gather a foundation of data for his dissertation on the same topic and to invite AACRAO members to volunteer for a follow-up survey to complete the overall dissertation.

AACRAO will have primary responsibility for the creation of the 60-Second survey content based on questions provided by Mr. Carrell and additional questions added by AACRAO to meet further needs of the organizations understanding of the professional development needs of its members related to this topic. The survey will contain only closed ended questions.

2. Obligations

(a) AACRAO.

i. Subject matter expertise for additional survey content not provided by Mr. Carrell.
ii. Final survey content approval.
iii. Identification of survey recipients.
iv. Survey hosting on the AACRAO research survey platform.
v. Survey support which entails responding to questions about the survey submitted by recipients and sending at least one survey completion reminder.
vi. Data cleaning as needed and based on contacting respondents for clarification or corrections and other routine methods.
vii. Delivery of anonymized aggregate data to Mr. Carrell.
viii. Delivery of the specific responses to each of the dissertation-relevant question provided by Mr. Carrell, including email address as an identifiable data point, for each respondent who volunteered for further research to Mr. Carrell.
ix. Delivery of list of contacts who volunteered for further research with Mr. Carrell. Items to be included in this list will include first name, last name, and email address only.

b) Mr. Carrell

i. Creation and delivery of basic survey questions to AACRAO for approval and use.
ii. Assuring the security and confidentiality of all data provided by AACRAO.

3. Limitations

i. AACRAO will retain a copy of the original data for possible future research.
ii. All data will be reported by AACRAO and Mr. Carrell in the aggregate.

iii. AACRAO will provide only anonymized data to Mr. Carrell for the overall group of respondents to the 60-Second Survey. AACRAO will provide Mr. Carrell specific, identifiable data exclusively for respondents who volunteer for further research for use in his dissertation research. The data provided to Mr. Carrell will not include data gathered through any additional questions added to the survey by AACRAO.

4. Allowances

i. AACRAO will produce a 60-Second survey report based on the aggregate data collected through the survey. This report will be shared with AACRAO members and available on a public website. This report will be published within three weeks of the closing of the survey.
ii. AACRAO will reference the managerial coaching instrument to Ellinger, Ellinger, & Keller (2003) on the 60-Second Survey and in all subsequent publications.
iii. AACRAO will place the items of the managerial coaching instrument at the beginning of the 60-Second Survey, ahead of all other items, to avoid potential priming effects of other questions.
iv. Mr. Carrell will use the data set to support his dissertation research and may present on the topic at professional conferences and/or use the data in an article.

5. Timeline

Mr. Carrell will provide the final survey content by no later than February 6, 2017. The 60-Second survey shall commence on March 6th and close on March 10th. The cleaned and anonymized data will be delivered to Mr. Carrell no later than March 20th.

Signed and agreed upon by Mr. Sam Carrell and AACRAO on 1/23/17

Signature

Sam Carrell
Associate Registrar
The University of Texas at Tyler

Signature

Michael Reilly
Executive Director
AACRAO

Kilgore, Wendy <wendyk@aacrao.org> | Sam Carrell | Sat 11/11

RE: Naming AACRAO

You forwarded this message on 11/13/2017 7:56 AM.

Phish Alert | Action Items | + Get more apps

Hi Sam

Yes, AACRAO can be named directly.

Wendy

On Nov 10, 2017 12:48 PM, "Sam Carrell" <SCarrell@uttyler.edu> wrote:

> Wendy,
>
> Good afternoon, I hope you've been well lately.
>
> I am composing my final draft of the dissertation currently, and realized that I never got a written response to the question of explicitly naming AACRAO in the published final dissertation, and it wasn't added into the MOU, so I have been working from your verbal confirmation only.
>
> For the sake of having that particular permission clearly documented in my appendices, could I get you to re-confirm that AACRAO may be named directly in the dissertation and/or future articles published based on the dissertation?
>
> Thank you,
>
> **Sam Carrell, M.B.A., ABD**

Appendix B: Pilot Study 1

Overview of and Influence of Pilot Study 1 on Pilot Study 2

The initial pilot, hereafter referred to as Pilot Study 1, was conducted in 2015 to test the following early versions of the hypotheses regarding the relationships among the four primary variables in the proposed study:

H1a-b: Employees' perceptions of their direct supervisors' coaching behaviors will positively influence their self-reported (a) POS and (b) OSE.

H2a-b: Employees' self-reported (a) POS and (b) OSE will positively influence their self-reported engagement.

H3: A complete indirect effect between coaching and engagement will exist based on their shared relationship with POS and OSE.

Sample

Pilot Study 1 utilized a modest sample size of respondents conveniently drawn from the general population. This was done through the use of the Amazon Mechanical Turk (MTurk) website, which was deemed an appropriate platform for Pilot 1 in light of the need to quickly access enough respondents to generate a quality data set while incurring minimal costs (Chambers, Nimon, & Anthony-McMann, 2016). This approach, while not ideal, was in keeping with the recommendations of Bryman and Bell (2011) that pilot surveys "not be carried out on people who might have been members of the sample that would be employed in the full study (p. 263)". This consideration was viewed as particularly important given the limited availability of eligible respondents within the population desired for sampling in the main study. The primary goal of the pilot was to

test the research hypotheses and to establish the general plausibility of the theoretical model based on use of the selected measures.

Respondents were recruited and paid to complete a Human Intelligence Task (HIT) in the form of a web-based survey; participants clicked the link within the HIT to access the survey, which was hosted using Qualtrics survey software. The survey began with a section about The University of Texas at Tyler Institutional Review Board (IRB) that included a guarantee of complete confidentiality and set of filter questions requiring each respondent to indicate current full-time employment status within the United States and at least one year working both for their current organization and their current supervisor in order to proceed to the full survey instrument. Upon completion of the survey, participants were provided a survey completion code, which they entered back into the MTurk HIT screen to authenticate their completion of the survey (Chambers et al., 2016). A total of 239 MTurk users matching each of these mandatory demographic characteristics completed the HIT, resulting in 205 useable responses (85.77%) for analysis. Among the respondents included in the analysis, the majority were male (64%), with the most common age ranges being 25-34 (59%) and 35-44 (18%). Organizational tenure averaged six years or less (72%), with the largest group reporting three years or less (42%). The majority of respondents reported six years or less working for their current supervisor (87%), with the largest group reporting in the 1-3 years range (60%). Just under one third (31%) of respondents identified as currently serving in a managerial capacity.

Measurement Instrumentation

The survey deployed in Pilot Study 1 incorporated four empirically validated instruments along with demographic questions. Questions included in each instrument were measured on Likert scales, with some reverse-coded questions, as dictated by the original article in which each was published. The questions from each instrument were presented separately, and notices were provided to respondents each time the length and anchors of the Likert scales changed. Details of the four validated instruments are as follow:

- **Coaching Behaviors Inventory** (Ellinger et al., 2003, p. 443-4)**.** The CBI is comprised of eight items that ask respondents questions regarding their perceptions on managerial coaching behaviors received by their managers. The measure uses a 7 item Likert-type scale ranging from 'Almost Never' to 'Almost Always'. Sample items included 'My supervisor uses analogies, scenarios, and examples to help me learn' and 'My supervisor provides me with constructive feedback'.
- **Occupational Self-Efficacy Scale** (Rigotti et al., 2008, p. 641)**.** The short form of the OSES deployed in Pilot 1 used six items from the original 20 (Schyns & Collani, 2002, p. 241) to measure employees' own perceived occupation-related self-efficacy. Respondents rate each question on a 6-point Likert-type scale ranging from 'Not at all true' to 'completely true'. Sample items included 'I feel prepared for most of the demands in my job' and 'Whatever comes my way in my job, I can usually handle it'.

- **Survey of Perceived Organizational Support** (Eisenberger et al., 2014, p. 641)**.** The short form of the SPOS deployed Pilot 1 used eight items from the original 36 (Eisenberger et al., 1986, p. 502) to measure employees' perceptions that they are supported by their organization. Respondents rate each question on a 7-point Likert-type scale ranging from 'Strongly disagree' to 'Strongly agree'. Sample items included 'The organization takes pride in my accomplishments at work' and 'The organization really cares about my well-being'.
- **Job Engagement Scale** (Rich et al., 2010, p. 634)**.** The JES is an 18 item measure of employee engagement composed of 3 six-item subscales yielding first-order factors of cognitive, emotional, and physical engagement that, in turn, load to a second order factor of employee engagement, as supported in the original article (Rich et al., 2010, p. 624) in which the authors

  "*specified an additional model in which we loaded the three first-order engagement dimensions onto a second-order engagement dimension...the second-order factor loadings for the physical, cognitive, and emotional dimensions were all positive, strong, and statistically significant (.89, .64, and .90, respectively), as were the factor loadings on the individual items...Thus, in keeping with Kahn's theorizing, specifying engagement as a second-order factor was supported."*

  Respondents rated each question on a 5-point Likert-type scale ranging from 'Strongly disagree' to 'Strongly agree'. Sample items included 'I exert and lot

of energy on my job', 'I am proud of my job', and 'At work, my mind is focused on my job'.

Item scores were used as manifest indicators for the latent variable of managerial coaching, occupational self-efficacy, and perceived organizational support. The three first-order factors of the JES were used as manifest indicators of employee engagement based on the findings of Rich et al. (2010).

Analysis

Prior to analysis via IBM® SPSS® Amos 23.0.0, all response sets were reviewed for completion, validated, and recoded as necessary. The estimation technique used was maximum likelihood, which assumes multivariate normality. As this condition was not met for the raw data (Mardia = 112.306, $p < .001$), bootstrapping was performed. Upon review the bootstrapped and non-bootstrapped standardized regression weights were not substantively different; accordingly, non-bootstrapped estimates are reported. Based upon guidance from Schumacker and Lomax (2010), initial data fit was assessed using a four-factor correlated measurement model. Harman's single-factor test was also employed as a preliminary check for common method variance. The theoretical model (Figure AB1.00) and a partial indirect effect model including a direct path from managerial coaching to engagement were tested.

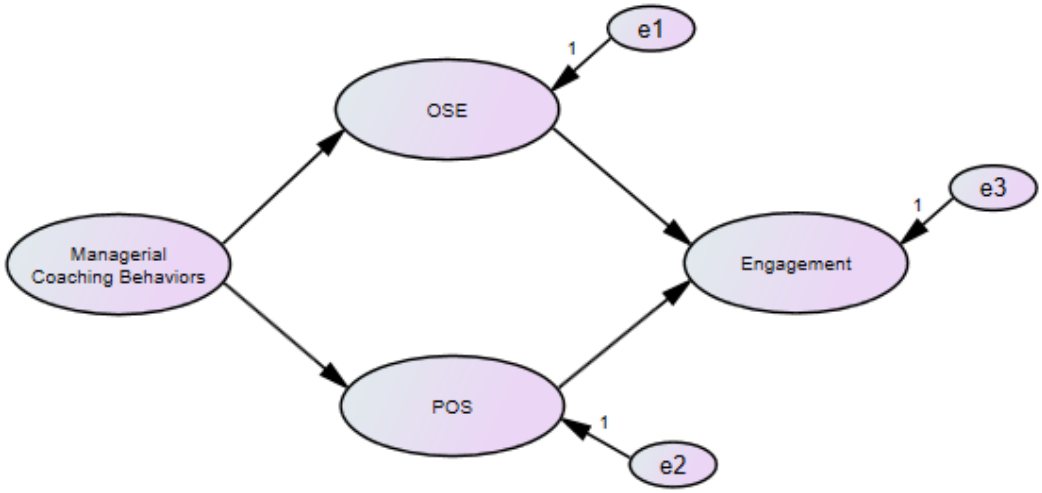


Figure AB1.00: Pilot 1: Theoretical Model

Results

Measurement Model Results

Based on generally accepted common fit indices (Shumacker & Lomax, 2010), the data better fit the four-factor correlation model than the single factor model. Based on the comparative fit index (CFI), standardized root mean square residual (*SRMR*), and root measure square error approximation (RMSEA), neither model reached acceptable fit levels.

Accordingly, modification indices for the four-factor correlation model were reviewed, leading to the generation of Model 3 based on the covariance between error terms for questions CBI 1 and 2 (M.I. = 38.131). Byrne (2010) noted such misspecified error covariance may indicate systematic error, potentially due to thematic similarities between questions. As both items center on the supervisor helping employees see things differently, a correlation was found to be reasonable and added between the error terms

accordingly. Model 3 was accepted based on significant delta chi square ($\Delta\chi^2$= 41.071, $\Delta df = 1, p < .000$) and CFI, and its indices reviewed.

A potential cross loading between POS and Emotional Engagement was noted (M.I. = 51.465). This suggested relationship aligned with recent research in which the emotional dimension of the JES was posited to be associated closely with a specific type of perceived support (Shuck et al., 2014), thus incorporation of a new path was deemed appropriate, leading to the generation of Model 4. Model 4 was accepted based on significant delta chi square ($\Delta\chi^2$= 74.17, $\Delta df = 1, p < .000$) and CFI (0.919), and its indices reviewed.

An additional potential misspecification between the error terms for SPOS items 5 and 7 (M.I. = 23.782) was identified. These items were found to be thematically similar in indicting the employee feels ignored or undervalued by the organization, and both reverse-coded. Accordingly, it was found to be acceptable to add a correlation between these error terms, leading to Model 5. Model 5 was accepted based on significant delta chi square ($\Delta\chi^2$= 30.294, $\Delta df = 1, p < .000$) and CFI (0.927), and its indices reviewed; no cause was found for any additional modifications.

Model 5 was found to have the greatest model fit among the four-factor models, and was significantly stronger than the single-factor model ($\Delta\chi^2$= 1330.058, $\Delta df = 9, p < .000, \Delta CFI = .358$); see Table AB1.00 for measurement model information.

Table AB1.00: Pilot 1: CFA Fit Indices for Measurement Models

Model	$\chi 2$	*df*	*RMSEA*	*SRMR*	*CFI*
4-factor correlated[1]	681.600	269	0.087	0.0835	0.888
Single factor	1866.123	275	0.168	0.1495	0.569
Model 3[2]	640.529	268	0.083	0.083	0.899
Model 4[3]	566.359	267	0.074	0.0597	0.919
Model 5[4]	536.065	266	0.071	0.0584	0.927

[1] Theoretical model; see Figure AB1.00
[2] Model 3 incorporates an error term correlation for E7 and E8
[3] Model 4 adds a direct path from POS to the Emotional Engagement subscale of the JES to Model 3
[4] Model 5 adds an error term correlation for E16 and E18 to Model 4

The standardized regression weights (Figure AB2.00) generally indicated an acceptable measurement model. All but one item, CBI8 (.432), significantly exceeded .5 minimum threshold and none exceeded the .95 upper threshold (Bagozzi & Yi, 1998). Structural coefficient examination (Graham et al., 2003) indicated each manifest variable correlated most highly with its respective factor (see Table AB2.00). The composite reliability (CR; .850 - .946) and average variance extracted (AVE; .541 - .689) ranges as noted in Table AB3.00, respectively, showed evidence of adequate reliability and convergent validity. Discriminant validity was well supported, as all correlations between factors were lower than the square root of the AVE for individual factors.

Table AB2.00: Pilot 1: Measurement Model Pattern (P) and Structure (S) Coefficients

	Managerial Coaching Behaviors		Occupational Self-Efficacy		Perceived Org. Support		Employee Engagement	
Construct Variable	P	S	P	S	P	S	P	S
Coaching								
Item 1	0.598	0.598		0.192		0.379		0.156
Item 2	0.783	0.783		0.252		0.497		0.205
Item 3	0.835	0.835		0.268		0.530		0.218
Item 4	0.856	0.856		0.275		0.543		0.224
Item 5	0.812	0.812		0.261		0.515		0.212
Item 6	0.708	0.708		0.228		0.450		0.185
Item 7	0.832	0.832		0.267		0.528		0.217
Item 8	0.432	0.432		0.139		0.274		0.113
Self-Efficacy								
Item 1		0.219	0.683	0.683		0.252		0.328
Item 2		0.235	0.733	0.733		0.271		0.352
Item 3		0.260	0.808	0.808		0.299		0.388
Item 4		0.201	0.625	0.625		0.231		0.300
Item 5		0.237	0.738	0.738		0.273		0.354
Item 6		0.259	0.807	0.808		0.298		0.387
Perceived Org. Support								
Item 1	0.532		0.310	0.838	0.838		0.259	
Item 2	0.443		0.258	0.698	0.698		0.215	
Item 3	0.489		0.285	0.770	0.770		0.238	
Item 4	0.551		0.321	0.869	0.869		0.268	
Item 5	0.511		0.298	0.805	0.805		0.249	
Item 6	0.566		0.329	0.892	0.892		0.275	
Item 7	0.576		0.336	0.908	0.908		0.280	
Item 8	0.534		0.311	0.841	0.841		0.260	
Employee Engagement								
Cognitive		0.218		0.400		0.257	0.834	0.834
Emotional		0.437		0.430		0.633	0.682	0.682
Physical		0.236		0.432		0.278	0.901	0.901

Table AB3.00: Pilot 1: Measurement Model Implied Correlations, Average Variance Extracted (AVE), and Composite Reliability (CR)

Variable	1	2	3	4
1. Managerial Coaching Behaviors	0.745			
2. Occupational Self-Efficacy	0.321	0.735		
3. Perceived Organizational Support	0.635	0.370	0.830	
4. Employee Engagement	0.261	0.480	0.309	0.744
CR	0.906	0.875	0.946	0.811
AVE	0.555	0.541	0.689	0.599

Note: Square root of AVE along diagonal

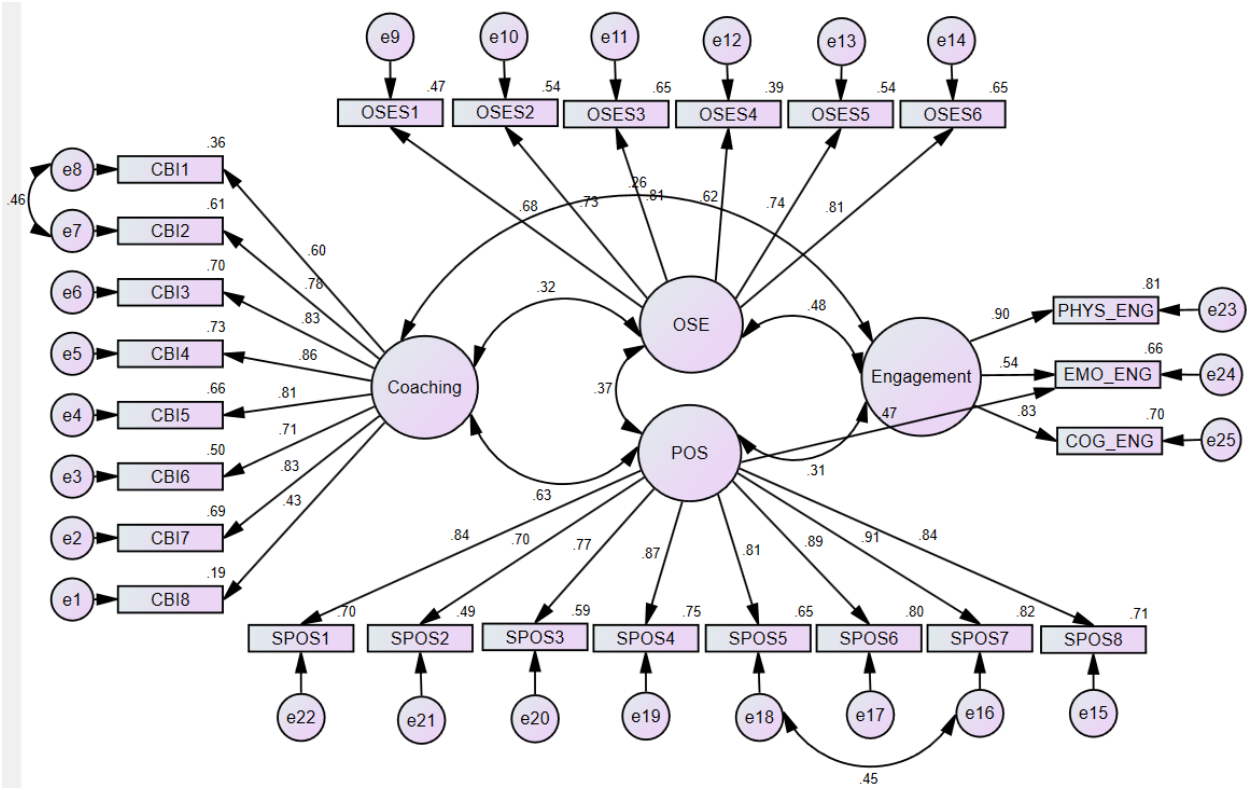


Figure AB2.00: Pilot 1: Measurement Model

Structural Model Results

Based on the data in Table AB4.00, Model 1 was not statistically different from Model 2 at alpha = .001 ($\Delta\chi^2$ [1] = 0.168, p = .682), but, as it included one additional degree of freedom, it represented the more parsimonious of the two tested models despite Model 2 explaining marginally more variance in engagement. A complete indirect effect between coaching and engagement based on POS and OSE was supported by the lack of a statistically significant change when the direct path between coaching and engagement was included. Based on an acceptable RMSEA (.071), high SRMR (.070) and slightly low CFI (.093) model fit appeared to be weak based on generally acceptable levels (Schumacker & Lomax, 2010, p. 76). However, given the theoretical rationale for the relationships involved, the model was accepted. In support of hypotheses 1a-b and 2a-b, POS and OSE were both significantly positively related to coaching (POS =.64, OSE = .34), as well as to engagement when controlling for the other factor (POS = .16, OSE = .43) in the expected directions; the relationship between POS and engagement was significant at $p < .05$, all others were significant at $p < .001$. Hypothesis 3 was supported by the presence of a complete indirect effect (.248, SE = .062, p = .001) noted in Model 1; when a direct relationship between coaching and engagement was tested in Model 2, the path was not statistically significant (p = .690).

Table AB4.00: Pilot 1: CFA Fit Indices for Structural Models

Model	χ^2	*df*	*RMSEA*	*SRMR*	*CFI*	R^2
Model 1[a]	544.310	268	0.071	0.0695	0.0925	0.240
Model 2[b]	544.142	267	0.071	0.0695	0.0925	0.242

Note. $R^2 = R^2$ of Engagement.

[a] Model 1represents partial mediation of the Coaching/Engagement relationship by POS and OSE, with a direct path from POS to Emotional Engagement

[b] Model 2 removes the direct path from Coaching to Engagement from Model 1

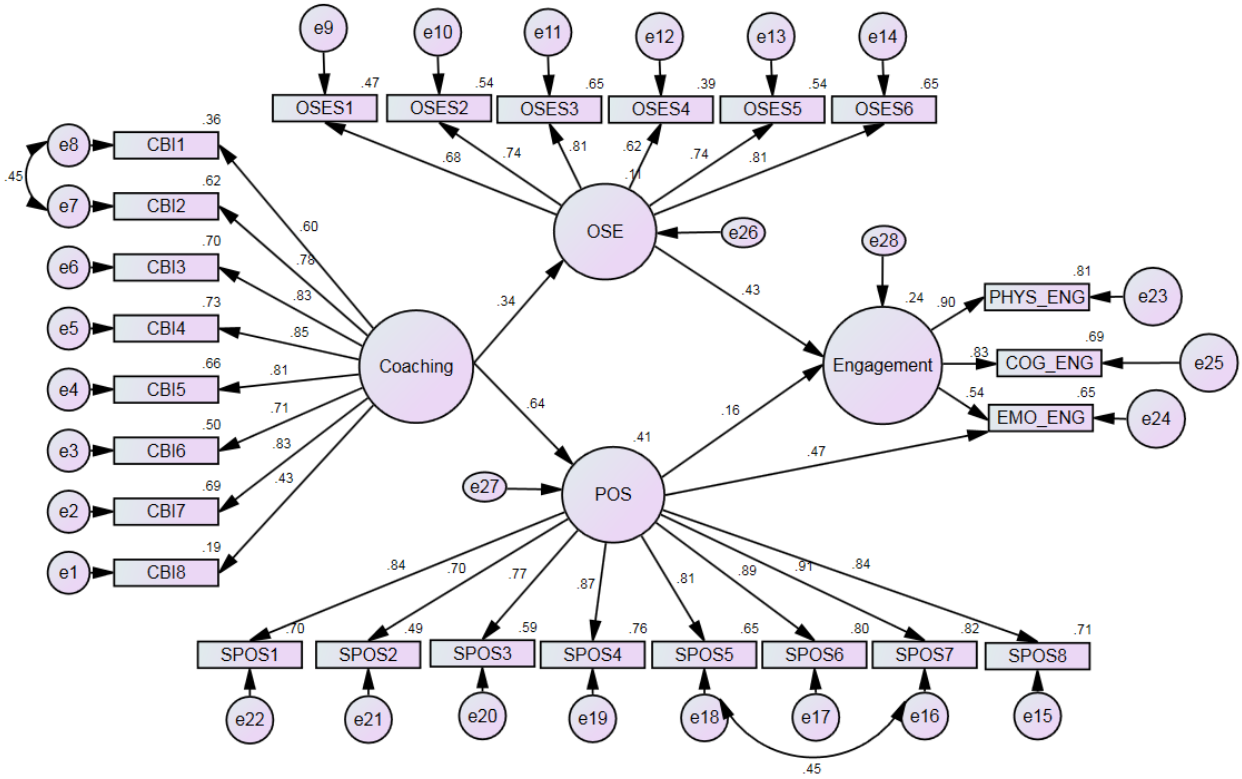


Figure AB3.00: Pilot 1: Structural Model

Discussion

Pilot 1 provided initial support for the existence of a complete indirect effect between managerial coaching behaviors and employee engagement, which had not been previously demonstrated in the literature. The path added during model modification, as shown in Figure AB3.00, between POS and the emotional engagement dimension to account for a significant cross-loading, though not initially expected, aligns with prior research indicating POS may influence employee engagement through its influence on the emotional dimension (Shuck et al., 2014). The strong path between coaching and POS (.64) provides additional support for enhanced POS as strongly related to coaching behaviors. This relationship, which is likely related to coaching being seen as a type of

supportive managerial behavior, indicates support by the organization (Shanock & Eisenberger, 2006). Employees may be expected to reciprocate this perceived support (Shuck et al., 2014). The path between OSE and engagement (.43), and to a lesser extent the path from POS to emotional engagement (.16), support these values' proposed role as antecedents of employee engagement (Shuck & Wollard, 2011) when controlling for one another.

Influence of Pilot Study 1 on Pilot Study 2

Pilot 1 offered initial support for the hypothesized relationships among all study variables, with the noteworthy exception of the direct path expected between managerial coaching and engagement. The strong relationship between managerial coaching and POS emphasized the appropriateness of Social Exchange Theory to underpin the proposed study, and the relationship between OSE and employee engagement indicated a likely underpinning theory and the need for further research to identify what that may be. While the JES instrument performed well in Pilot 1, a more robust approach to modeling its first and second order dimensions was determined to be desirable for Pilot 2. Further, while the findings of Pilot 1 supported the overall suitability of the survey instruments and theoretical model with a general population sample, they also indicated the importance of how theoretical considerations related to the industry environment faced by the higher education professionals to be surveyed in the proposed study may prove central to the performance of the model, particularly with respect to the existence of a more direct relationship between managerial coaching and employee engagement.

Appendix C: Pilot Study 2

Overview of and Influence of Pilot Study 2 on the Main Study

Pilot Study 2 was conducted over a two week period in September and October 2016 to address a number of issues including: deploying a significantly revised and further developed survey instrument using a format aligned with that used by AACRAO; testing the fully developed hypotheses, testing the demographic items desired for the main study; and, engaging a larger sample of respondents with better known characteristics.

Hypotheses tested by Pilot 2 were as follow:

H1: L1 managers' perceptions of the coaching behaviors of L2 managers will be positively related to their self-reported OSE.

H2: L1 managers' perceptions of the coaching behaviors of L2 managers will be positively related to their self-reported POS.

H3: L1 managers' perceptions of the coaching behaviors of L2 managers will be positively related to their self-reported engagement.

H4: L1 managers' self-reported OSE will be positively related to their self-reported engagement.

H5: L1 managers' self-reported POS will be positively related to their self-reported engagement.

H6: The positive relationship between L1 managers' perceptions of the coaching behaviors of L2 managers and

their self-reported engagement will be partially mediated by their self-reported OSE.

H7: The positive relationship between L1 managers' perceptions of the coaching behaviors of L2 managers and their self-reported engagement will be partially mediated by their self-reported POS.

Sample

The survey for Pilot Study 2 utilized a large email list (n = 18,259) of students enrolled for the Fall 2016 semester at three public universities in the East Texas region at the senior undergraduate, second baccalaureate, graduate, and doctoral levels. This data, representing the population for this study, was obtained through requests for student Directory Information submitted pursuant to the Texas Public Information Act (TPIA). As this list included all members of the population who had not restricted access to their data under the provisions of the Family Educational Rights and Privacy Act (FERPA), it represents a census of all student members of the indicated classifications at the source institutions whose information was legally available under the TPIA at the time the lists were provided. As all members of the list were be contacted, issues related to both sampling and coverage error issues were expected to be significantly mitigated (Dillman et al., 2014).

Sample Size

Wolf et al. (2013) offered guidelines on establishing sample sizes for studies employing structural equation modeling based upon factors "including number of indicators and factors, magnitude of factor loadings and path coefficients, and amount of

missing data (p. 913)". Each of the four substantive variables is measured based on a single factor, measured by items, or first-order factors in the case of the JES, with factor loadings reported to be at least .65, with some in the .70-.80 range, in the studies they are cited from. The CBI has 8 indicators, the SPOS and OSES have 6 each, and the JES has 18 indicators loading on its three first-order factors, which in turn load to engagement as a second-order factor. Based on these parameters and the recommendations listed in Figure 3, Model B of Wolf et al. (2013, p. 922), the JES, CBI, OSES, and SPOS are estimated to require 130, 50, 60, and 60 respondents, respectively. As factor loadings for the eight items of the ATCB are not listed in the original study (Miller & Chiodo, 2008), its minimum sample size was estimated using Figure 3, Model A (Wolf et al., 2013, p. 922), which bases its estimations on factor loadings at the lower .50 level; accordingly, the ATCB is estimated to require 90 respondents. These estimates brought the desired sample size for Pilot 2 to a minimum value of 390 (see Table AC1.00), which represents a 2.13% response rate from the 18,259 members of the sample population.

Table AC1.00: Pilot 2: Sample Size

Construct	Number of Indicators	Number of Factors	Indicators Per Factor	Avg. Factor Loading Range	Respondents Per Construct
Managerial Coaching (CBI)	8	1	8	0.65	50
Employee Engagement (JES)	18	3	6	0.65	130
Occupational Self-Efficacy (OSES)	6	1	6	0.65	60
Perceived Org. Support (SPOS)	6	1	6	0.65	60
Attitude Toward Color Blue	8	1	8	0.50	90
Total Sample Size					390

Sample Characteristics

Of the 18,259 potential participants emailed for Pilot 2, a total of 3,379 initiated the survey instrument, for an initial response rate of 18.51%. Of these respondents 2,935 agreed to participate as indicated by their response to the IRB statement, with each such respondent completing all questions in the survey, for an initial completion rate of 16.01%. From this population all respondents indicating unemployment or part-time employment, those who had worked for their current organization or employer for less than one year, those who were identified as straight lining, and those with total response

times of under 3 or above 20 minutes were eliminated. This left a final useable sample size of 497 respondents, each of whom indicated full-time employment in a management-level position and at least one year of tenure with both their current organization and supervisor.

Among these respondents the majority were female (60.2%), members of the Generation X (58.6%) or Millennial (33.2%) generational cohorts, and identified as ethnically non-Hispanic (88.1%) and White (80.9%). The majority reported working for their current organization for six years or less (54.5%) and for their direct supervisor for two years or less (56.1%). Managerial levels were more evenly distributed with just over half of respondents reporting as Level 1 managers and (54.5%) and the rest as Level 2 (45.5%). Regarding respondents' supervisors, the majority were reported as male (56.7%) and as members of the Generation X (56.9%) or Baby Boomer (31.6%) generational cohorts.

Measurement Instrumentation

Pilot Study 2 deployed the same measurement scales as Pilot 1 to capture responses related to each of the four substantive variables being proposed in the main study, with the exception of using a shorter form of the SPOS. Each instrument has been deemed to adequately measure its respective construct in multiple prior studies (Anderson, 2013; Ellinger et al., 2007; Kim, 2014; Schyns & Sczesny, 2010; Shuck et al., 2014; Shuck et al., 2015), thus indicating reasonable face validity (Bryman & Bell, 2011). Pilot 2 also introduced the Attitude Toward the Color Blue (ATCB) measure, which served as a marker variable.

- **Coaching Behaviors Inventory** (Ellinger et al., 2003, p. 443-4)**.** The CBI was originally developed in part to address the lack of coaching scales outside the proprietary and athletics realms, and derived its items from "the findings of a prior qualitative critical incident research study that specifically explored the ways in which exemplary managers coach their employees (Ellinger at al., 2003, p. 442)."

  The scale is comprised of eight other-rater items that ask participants questions regarding their perceptions of the managerial coaching behaviors provided to them by their direct supervisor, and uses a 7-point Likert-type scale ranging from 'Almost Never' to 'Almost Always'. Sample items include 'My supervisor uses analogies, scenarios, and examples to help me learn' and 'My supervisor provides me with constructive feedback'. The original study where the scale was developed (Ellinger et al., 2003) reported item loadings ranging from .75 to .88 and a Cronbach's alpha of .94, and alpha values have remained consistent across a number of more recent studies, ranging from .93 to .96, (Ellinger et al., 2011; Kim, 2014; Kim et al., 2013a).

  Since its introduction, studies have reported success using five (Ellinger et al., 2007; Kim, 2014) and seven (Ellinger et al., 2011) item versions of the instrument; the eighth item, which is related to role playing behaviors, is dropped most often (Ellinger et al., 2011). Comparisons of square roots of average variance extracted (AVE) values and factor correlations (Hair et al., 2010) have demonstrated discriminant validity for the CBI from constructs such as formal training (*rcbi* = .56), job performance (*rcbi* = .52), behavioral performance (*rcbi* = .222), results performance (*rcbi* = .237), and customer orientation (*rcbi = .273*) (Ellinger at al., 2007; Ellinger et al., 2011; Pousa & Mathieu, 2014a; Pousa & Mathieu, 2015); each

of these studies report support for convergent validity based upon AVE values for the CBI above the .5 threshold (Hair et al., 2010). One recent review of coaching scales noted key strengths of the CBI including "a strong theoretical foundation, thorough literature review" while also noting that "the target domain of interest was well-defined (Hagen & Person, 2014, p. 5)." Managerial coaching served as the predictor variable in Pilot 2, and had a Cronbach's alpha value of 0.94.

- **Occupational Self-Efficacy Scale** (Rigotti et al., 2008, p. 641)**.** The OSES was initially developed as a 20 item instrument with an 8 item short form designed to measure work-related self-efficacy, rather than more generalized self-efficacy (Scyhns & von Collani, 2002). The six item short form of the OSES deployed in Pilot 2 was initially validated in a multi-national study (n = 1,535) by Rigotti et al. (2008). Rigotti et al. (2008) reported support for overall construct reliability and validity based on item loadings ranging from .55 to .84, Cronbach's alpha values of .85 to .90, and comparisons to measures of job satisfaction, commitment, performance, and job insecurity, across five sample populations. In both the original and short forms of the measure respondents rate each question on a 6-point Likert-type scale ranging from 'not at all true' to 'completely true'. Sample items include 'I feel prepared for most of the demands in my job' and 'Whatever comes my way in my job, I can usually handle it'.

  The original study found the OSES to have incremental validity beyond general self-efficacy (Scyhns & von Collani, 2002), and subsequent studies (Anderson, 2013; Elias et al., 2013; Schyns & Sczesny, 2010) provide nomological support for the construct validity of the short form of the OSES based on its relation to constructs

such as general self-efficacy (r_{OSES} =.56), managerial coaching (r_{OSES} =.422), and leader-member exchange (r_{OSES} = -.376). OSE served as an intervening criterion variable in Pilot 2, and had a Cronbach's alpha value of 0.84.

- **Survey of Perceived Organizational Support** (Shanock & Eisenberger, 2006, p. 692)**.** The short form of the SPOS deployed in Pilot 2 utilizes six high-loading items (.71 to .84) out of the original 36 (Eisenberger et al., 1986), with a reported Cronbach's alpha of .87, to measure employees' perceptions that they are supported by their organization (Shanock & Eisenberger, 2006). Respondents rate each question on a 7-point Likert-type scale ranging from 'Strongly disagree' to 'Strongly agree'. Sample items include 'The organization takes pride in my accomplishments at work' and 'The organization really cares about my well-being'.

  A recent literature review / meta-analysis (n = 170 studies) noted that POS, as measured by various versions of the SPOS derived from the original 36 items, found evidence for discriminant validity of the SPOS as a "distinct but related construct with" **(**Ahmed & Nawaz, 2015, p. 869) affective c**o**mmitment, organizational commitment [r_{SPOS} =0.67], leader-member exchange, supervisor support [r_{SPOS} = 0.69], coworker support [r_{SPOS} = 0.62], job satisfaction [r_{SPOS} = 0.52], organizational citizenship behavior [r_{SPOS} = 0.48], employee engagement [r_{SPOS} = 0.61], [and] turnover intentions [r_{SPOS} = -0.45]. POS served as an intervening criterion variable in Pilot 2, and had a Cronbach's alpha value of 0.93.

- **Job Engagement Scale** (Rich et al., 2010, p. 634)**.** The JES is a recently-developed 18 item employee engagement scale designed to measure the construct in a manner more closely aligned to the conceptualizations of Kahn (1990) than other scales

broadly-deployed in the study of engagement (Rich et al., 2010). The JES is composed of 3 six-item subscales yielding first-order factors of cognitive, emotional, and physical engagement that, in turn, load to a second order factor of employee engagement (Rich et al., 2010, p. 624) in which the authors

> specified an additional model in which we loaded the three first-order engagement dimensions onto a second-order engagement dimension...the second-order factor loadings for the physical, cognitive, and emotional dimensions were all positive, strong, and statistically significant (.89, .64, and .90, respectively), as were the factor loadings on the individual items...Thus, in keeping with Kahn's theorizing, specifying engagement as a second-order factor was supported (p. 624).

Respondents rate each question on a 5-point Likert-type scale ranging from 'Strongly disagree' to 'Strongly agree'. Sample items include 'I exert and lot of energy on my job', 'I am proud of my job', and 'At work, my mind is focused on my job'.

In the larger sample from the original study (n = 245) the JES demonstrated first-order factor item loadings ranging from .67 to .92, second order factor item loadings of .72 to .90, and an overall Cronbach's alpha of .95 for the combined second order measure (Rich et al., 2010); two more recent studies employing the JES reported alpha values for each first-order scale, and the second order scale, ranging from .90 to .97 (Shuck et al., 2014; Shuck et al., 2015). A recently published dissertation (n = 220) found support for discriminant validity via comparison of squared correlations and AVE among the constructs measured by the second order factor of the JES (AVE = .64), the SPOS (r_{JES} = .251), and the Attitudes Toward the Color Blue (ATCB) (r_{JES} = -.034) measures (Jones, 2015, p. 58-59). Employee engagement served as the

primary criterion variable in Pilot 2. The full JES had a Cronbach's alpha value of 0.96 in Pilot 2, with similarly strong values for its physical (0.95), cognitive (0.95), and emotional (0.94) dimensions..

- **Attitudes Toward the Color Blue** (Miller & Chiodo, 2008). The eight item ATCB (blue attitude) scale, which was originally developed specifically for use as marker variable, captures respondents attitudes related to the color blue. Respondents rate each question on a 7-point Likert-type scale ranging from 'Strongly disagree' to 'Strongly agree'. Sample items include 'I prefer blue to other colors' and 'I think blue cars are ugly'. Though not reported in the original paper, the ATCB has shown Cronbach's alpha values ranging from .72 to .90 in studies deploying the measure (Jones, 2015; Simmering et al., 2015; Wall, 2015). A Cronbach's alpha value of 0.839 was noted in Pilot 2. The use of the ATCB as an ideal marker variable (Lindell & Whitney, 2001; Richardson et al., 2009) for use with the comprehensive CFA marker technique (Williams et al., 2010) receives significant support from a recent study by Simmering et al. (2015) who note that:

    > Attitudes are among the most commonly measured variables in management research, and they are also frequently criticized as vulnerable to CMV (Podsakoff et al., 2003). In this regard, the affective and evaluative elements inherent in the blue attitude items might elicit response processes similar to those required in replying to other attitudinal measures, and thus, make this marker similarly susceptible to CMV (Chan, 2009). For example, because items require affective evaluation (e.g., ‘‘I like the color blue’’), people who are predisposed to endorse positively worded items or who are positively affectively disposed might respond

in ways that are independent of item content or their actual standing on the items (p. 487-488).

Blue attitude is expected to have no theoretical relationship to any of the substantive variables (Simmering et al., 2015; Williams et al., 2010), and as the ATCB scale uses a Likert-type response format similar to those deployed by the JES, CBI, and OSES, and identical to that used by the SPOS, it is expected to "elicit comparable response processes and tendencies (Simmering et al., 2015, p. 3)" to those experienced when responding to items used to measure the substantive variables. Further, two recent dissertations (Jones, 2015; Wall, 2014) have demonstrated the efficacy of blue attitude in a marker role alongside some of the same substantive variables as Pilot 2, including the SPOS (Jones, 2015; Wall 2014) and JES (Jones, 2015); correlations with the SPOS in these studies were noted as 0.251 (Jones, 2015, p. 58) and 0.06 (Wall, p. 88), and with the JES as -0.034 (Jones, 2015, p. 58). The blue attitude measure captured by the ATCB scale was, accordingly, expected to serve as an ideal CFA marker in Pilot 2 (Simmering et al., 2015, Williams et al., 2010). Further, taking advantage of its equal mix of standard and reverse coded items, ATCB was used as a control variable to detect potential respondent inattentiveness and/or straight-lining (Cole et al, 2012a).

Item scores were used as manifest indicators for the latent variable of managerial coaching, occupational self-efficacy, perceived organizational support, and blue attitude, as well as the first order factors of the JES. The three first-order factors of the JES were loaded onto the second-order factor of employee engagement, based on the findings of Rich et al. (2010).

Survey Design - Content and Communication

The survey for Pilot 2 was sent to all potential respondents via the Qualtrics survey software used to create the survey using its Mailer function (www.qualtrics.com), which allows for personalized email messages to be sent directly from Qualtrics based on pre-defined user lists. Each message contained a brief summary of the content and requirements of the survey, contact information from the primary investigator, and a respondent-specific direct link to the survey itself. Once respondents entered the survey, they were presented with a total of 55 items organized into five blocks used to facilitate presentation of the sections of the survey in the desired order (www.qualtrics.com).

Block 1 was composed entirely of the informed consent statement, which included information about the study, the researcher, and assurances of the confidentiality of all respondent data. Each participant was asked to indicate his/her willingness to participate in the study based upon the information provided. Those choosing the 'I agree' option were able to progress forward to block 2, and those choosing the 'I decline' option were taken directly to the end of survey screen, and their responses were considered invalid for inclusion. Block 2 contained the 18 items of the JES engagement scale, which served as the criterion / dependent variable, broken into three 6 item sections corresponding to its three subscales. Block 3 contained 12 items, 6 each for the OSES occupational self-efficacy and SPOS organizational support scales that served as the intervening / mediating variables. Block 4 contained the 8 items of the CBI managerial coaching scale which served as the predictor / independent variable, and the 8 items of the ATCB scale which served as a marker variable. Block 5 contained 11 demographic questions including gender, generational cohorts (Arsenault, 2003; Parry & Urwin, 2012),

race and ethnicity (Defining Race, n.d.), employment status, tenure with organization and supervisor, and managerial status.

As the items included in the survey related to a needs-satisfaction perspective (Stone & Gueutal, 1984), the consistency motif was considered to be a minimal threat. However, the priming effect (Podsakoff et al., 2003) was considered a potential issue with respect to the predictor variable (CBI) requiring respondents to assess the behaviors of their direct supervisor, which was hypothesized to influence the remaining factors by increasing the salience of respondents' perceptions of their supervisors' behaviors (Podsakoff et al., 2003). To address this concern, the CBI measure was presented last among the substantive variables, while the JES, as the criterion variable, was presented first as a way to achieve proximal separation between the predictor and criterion variables (Podsakoff et al., 2003; Podsakoff et al., 2012).

Counterbalancing the order in which the substantive measures were presented (Podsakoff et al., 2003) was employed in a limited fashion via presenting the SPOS and OSES scales, which were grouped in Block 3, in a random order to each respondent, potentially helping mitigate potential priming affects without disrupting the deliberate proximal separation of the JES and CBI measures (Podsakoff et al., 2003). Other procedural methods of reducing common methods bias including assurances of strict confidentiality, reminders that there are no wrong answers, (Podsakoff et al., 2003) and the use of a variety of different response options (e.g, number of scale point, scale point labels, and scale anchors) among the substantive variables (Podsakoff et al., 2012) were also deployed. Buttons for "*Next"* and "*Back"* features were placed at the bottom of each page to allow respondents to move freely among completed responses (Dillman et al.,

2014). Though findings by Teclaw et al. (2012) indicate it may not be strictly necessary in all cases, the demographics section was placed in the final position within Pilot 2 due to concerns that priming effects (Podsakoff et al., 2003) from the items related to organizational tenure and the length of relationship with a direct supervisor may be introduced if those items were asked earlier on in the survey.

The overall survey contained 7 total pages among the five blocks: one page for the informed consent section in block 1, seven pages for the substantive and marker variables in blocks 2-4, and one page for the demographic questions in block 5. Page breaks were inserted between each block, and between each factor within blocks 2 and 4, but not between the OSES and SPOS in block 3. Regarding how questions are grouped and presented in web surveys, researchers must choose a format from a continuum of design possibilities ranging from pure scrolling designs that arrange all items on a single page, to pure paging designs in which all items are presented on unique pages (Dillman et al., 2014; Tourangeau et al., 2013). The extreme cases of pure scrolling or paging have noteworthy issues, including increased likelihood that respondents will feel the desire/need to utilize the *"Back"* feature (Dillman et al., 2014) and experience longer completion times (Mavletova & Couper, 2014) in paging designs, and significant amounts of scrolling that poses a significant burden to mobile device in pure scrolling designs or hybrids with large numbers of items per page (Dillman et al., 2014). Dillman et al. (2014) provide a strong rationale for grouping related items within a survey questionnaire by noting that doing so

> is consistent with normal conversation and makes it easier for respondents to answer because they can use retrieved information to answer all of the questions

> on a topic before moving to new topic that requires them to recall new information. Switching between topics means that people's answers are less likely to be well thought out, as new topics are more likely to evoke to-of-the-head responses. In addition, constantly changing topics back and forth within a questionnaire...makes it appear that no effort was made to order the questions in a meaningful way (i.e., the questionnaire appears unprofessional and therefore unimportant) (p. 230).

To prevent this effect of grouped items being viewed as connected, Dillman et al. (2014) further recommend that questions that are not intended to be viewed together be separated into separate pages, which is the approach taken for Pilot 2.

With respect to respondent break-off rates associated with the number or pages and items per page, multiple studies examining survey designs along the paging-scrolling continuum with total pages ranging from five to ten, and items per page ranging from four to over 100, reported no statistically significant variances in respondent break-off percentage based on either factor (Maletova & Couper, 2016; Peytchev et al., 2006; Toepoel et al., 2009). Based upon these concerns and findings, a hybrid design with a modest number of items per page was considered to be appropriate for Pilot 2 (Dillman et al., 2014).

Though specifically cautioned against by Dillman et. al. (2014), Pilot 2 used the matrix formatting option available in Qualtrics for grouping related questions on each page in blocks 2 through 4, as doing so was consistent with the primary investigator's review of prior AACRAO 60 Second Survey instruments and there was a reasonable

expectation that the portion of the main study instrument delivered through that channel would be presented to respondents in matrix format.

Further, in recognition that the population being surveyed is expected to have a higher predisposition than the general population to use a mobile device over a desktop or laptop (Stern et al., 2014), and respondents on mobile devices are likely to experience a higher burden from large amounts of scrolling (Dillman et al., 2014) and more loading errors as the frequency of page transitions increases (Maveltova & Couper, 2016), the selected hybrid design offered represents an attempt to compromise between the frequency of *'Next'* button appearances and the necessary amount of scrolling within each section while accommodating the included procedural common methods bias remedies and other design elements.

Nonresponse Bias

Bias due to nonresponse error, which occurs when "those who do not respond are different from those who do respond in a way that influences the estimate" (Dillman et al., 2014, p. 3), may lead researchers to make "biased or imprecise estimates and inferences" (Villar et al., 2013, p. 745) based on the data collected, thus negatively impacting the validity of the results. Issues such as survey length, confidentiality, trust, access, and convenience are potential barriers to achieving a higher response rates (Dillman et al., 2014, Fan & Yan, 2010; Fowler, 2014), which reduces the likelihood of issues stemming from nonreponse error (Dillman et al., 2014; Shih & Fan, 2009), which can be mitigated through the application of social exchange principles (Blau, 1964; Dillman et al., 2014). According to Dillman, Christian, and Smyth (2014), social exchange explains how potential respondents are more likely to participate "if they

believe and trust that the rewards...will eventually exceed the costs" (p. 24), which requires that survey designed employ multiple social exchange techniques in unison to reduce costs and enhance perceived benefits and trust.

Methods to reduce the perceived costs of participation include making participation convenient and reducing the burden of length, or the amount of time that must be committed (Dillman et al., 2014). To enhance convenience, the Pilot 2 survey was delivered via a web survey emailed to all participants, which has been deemed appropriate for college student populations (Shih & Fan, 2010), with a direct link embedded in the initial message. Further, the likelihood that many respondents in the sample population would respond via mobile device (Dillman et al., 2014; Stern et al., 2014) was addressed through the use of survey software that produces both website and mobile-friendly content (www.qualtrics.com). To address the burden of length, which is one of the primary costs of participation (Dillman et al., 2014), the survey instrument avoid including any unnecessary items and limited the number of questions per page, with the goal of an estimated completion time of 10-12 minutes or less, as has been shown to be ideal among college students (Fan & Yan, 2010).

The primary method of increasing the benefits of participation drew heavily on the social exchange principle that people enjoy helping others, which is enhanced when aiding organizations, or members of organizations, they belong to, as well as when they are approached specifically for their aid or advice (Dillman et al., 2014). Accordingly, the communication sent with the initial survey link specifically identified the primary investigator as a fellow student who was requesting each potential respondent's assistance in accomplishing an academic goal through his/her participation.

Regarding the timing of the invitation emails, Sauermann and Roach (2012) found no significant differences in response rates based on the day of the week or time of the day when an invitation was received, except in the case of invitations sent to potential respondents with children on Sundays. Dillman et al. (2014) recommend timing messages so they are received early in the morning so they are present when recipients first check their inboxes for the day; both recommend taking care to account for any known patterns or periods of reduced availability among the target population. Based on these recommendations, the invitation and reminder messages for Pilot 2 were sent early in the morning, between the hours of 7 and 8 AM U.S. Central Standard Time, with the goal of delivery ahead of a period when students in the sample may be more likely to be actively monitoring their student email accounts; the initial contact was sent on a Friday, and reminder the following Monday, both at 7:30 AM CST.

A sponsorship benefit was expected to be present in Pilot 2 based both upon the presence of a familiar local campus's name and logo in the survey header, and assurances within the informed consent statement that the researcher's campus's institutional review board had vetted the study, each of which were expected to serve to enhance respondents' perceptions of the study's trustworthiness and legitimacy (Dillman et al., 2014; Fan & Yan, 2010). Other methods recommended by Dillman et al. (2014) to be employed included an indication of value through noting that only members of the sample population were able to respond within a limited two week window, and a follow-up reminder to nonrespondents after brief three day window (Sanchez-Fernandez et al., 2012). Finally, elements of the survey were setup according to the recommendations of Dillman et al. (2014) to simplify the act of responding, including the usage of succinct,

unambiguous wording for each demographic question, and asking only questions specifically related to Pilot 2.

The need for trust was addressed by the aforementioned sponsorship effect related to campus branding embedded in the survey, which was expected to pair with contact information for both the primary researcher and the head of the campus Institutional Review Board, as well as the strict assurances of confidentiality included in the informed consent section. Further, the communications accompanying the email link were carefully formatted to be succinct, professional, the estimated time needed to complete the survey, and contact information for the primary instructor that were accessible prior to clicking the survey link (Dillman et al., 2014; Fan & Yan, 2010).

Further items intended to enhance survey response rates not specifically related to social exchange theories were also deployed. Per recommendations of multiple studies (Dillman et al., 2014; Fan & Yan, 2010), each respondent received personalized communications at all stages, an approach which has been demonstrated to positively influence both initiation and completion rates (Heerwegh & Loosveldt, 2006; Sanchez-Fernandez et al., 2012). In the case of the Heerwegh and Loosveldt (2006) study, these effects were found specifically among a university student sample. While the use of personalized messages negates the prospect of guaranteeing respondent anonymity as a method to address evaluation apprehension (Podsakoff et al., 2003), this may be offset by its effect on the degree to which "it establishes a connection between the surveyor and the respondent...and it draws the respondent out of the group" (Dillman et al., 2014, p. 329). Further, the Pilot 2 survey was expected to benefit from a certain degree of trust among respondents that a locally known university, which the survey bore branding from and

whose IRB committee chair was listed in the informed consent section, would not violate their privacy (Heerwegh & Loosveldt, 2006) that would allow for assurances of confidentiality included in the invitation email and informed consent statement, rather than anonymity, to suffice.

In an effort to further mitigate apprehension concerns, all potential respondents were assured that "there are no right or wrong answers and that they should answer questions as honestly as possible (Podsakoff et al., 2003, 888)." In addition to coverage in the informed consent section, each respondent was assured of the total confidentiality of their responses in the text of the personalized email message inviting them to participate in the survey (Dillman et al., 2014).

While access to a *"back"* button introduced the potential for respondents to self-induce a priming effect by navigating between the pages containing the criterion and predictor variables, research on web survey navigation buttons by Couper et al., (2011) indicated this risk should be minimal as actual usage of the *"back"* feature was found to be infrequent to the extent that "an overall mean of 0.65%, or less that one use per hundred pages" was observed in their study, while removal of the option was associated with a significant increase in respondent break-off. Accordingly, as the risk of increased break-off was considered the larger threat to Pilot 2, a *"back"* button was made available.

Though not recommended by Dillman et al. (2014), the use of mandatory responses was included as the negative impact of missing data due to partial responses (Wolf et al., 2013) in addition to the generally lower response rates associated with web surveys (Fan & Yan, 2010; Sanchez-Fernandez et al., 2012) was undesirable. To mitigate potential negative impacts of mandatory responses, a statement at the reassured

respondents that there are no incorrect responses and requested that they select the option that most closely matches their perceptions or beliefs. No graphical progress indicator was included with the survey, as prior studies have found little to no significant impact on nonresponse rates (Heerwegh & Loosveldt, 2006; Villar et al., 2013) and are specifically cautioned against by Dillman et al. (2014). Inclusion of an instructional manipulation check (IMC) question to identify less diligent respondents who may threaten overall data validity (Oppenheimer et al., 2009) was considered, but decided against. Based on the strong recommendations of Dillman et al. (2014) to employ social exchange principles to enhance response rates, establishing trust between researchers and respondents was considered paramount. Accordingly, the potential backlash scenario in which "diligent participants who come across an IMC may feel insulted to find that they are not trusted by the researchers" (Oppenheimer et al., 2009., p. 871) rendered the technique undesirable within the proposed study. In lieu of this technique, the ATCB scale, for which 4 of the 8 items are reverse coded, was used as a control variable to detect respondents who engaged in straight-lining, indicated by selecting the same response for all items in a given section, as a type of satisficing (Cole et al., 2012a). Respondents whose responses indicated a 'straight line' through the ATCB items, with no respect to the alternative reverse coding, were considered to be straight-lining.

Analysis

All initial analyses were conducted using IBM® SPSS® Amos 24.0.0. The estimation technique used was maximum likelihood, which assumes multivariate normality. As this condition was not met for the raw data (Mardia = 560.447, $p < .001$), bootstrapping was performed. Upon review the bootstrapped and non-bootstrapped

standardized regression weights were not substantively different; accordingly, non-bootstrapped estimates are reported.

Based upon guidance from Schumacker and Lomax (2010), initial data fit was assessed using a six-factor correlated measurement model. Harman's single-factor test was also employed to check for common method variance. Item scores were used as manifest indicators for the latent variable of managerial coaching, occupational self-efficacy, perceived organizational support, physical engagement, cognitive engagement, and emotional engagement when estimating the single-order model. The three first-order factors of the JES, physical, emotional, and cognitive engagement, were used as manifest indicators of the second-order factor of employee engagement based on the findings of Rich et al. (2010) when estimating the higher-order factor model.

During the structural modeling phase the theoretical model wherein perceived managerial coaching behaviors display a partial indirect effect on employee engagement through both OSE and POS, and an alternative model in which perceived managerial coaching behaviors display a complete indirect effect on employee engagement through both OSE and POS, were initially examined. Results of their analysis led to the generation of an additional four alternative models.

Results

Measurement Model Results

Based on strong values for the standardized root mean square residual (*SRMR = 0.044*) and root measure square error approximation (RMSEA = 0.058) the six-factor correlated model, Model 1, was determined to have adequate fit. However, the OSES scale was determined to have unacceptable convergent validity based on an AVE value of

0.473 (Hair et al., 2010), leading to the sequential deletion of items OSES1 (factor loading = 0.61) and OSES5 (factor loading = .63), represented by Models 1a and 1b, respectively, to achieve an acceptable AVE of 0.512 for the scale; this modified the scale's Cronbach's alpha to 0.81. Following these actions, modification indices were reviewed, with precedence given to the review of indices for which the modification index (MI) and expected parameter change (EPC) values both indicated a particular relationship should be considered (Whittaker, 2012). The review of indices for Model 1b revealed significant MI and EPC values between the error terms for items CBI1 and CBI2 (MI = 55.054, EPC = 0.416) as well as CBI 3 and CBI 4 (MI = 43.895, EPC = 0.319). Each of these potential error term correlations involved questions with strong thematic similarities, which aligns with postulation by Byrne (2010) that misspecified error covariance may indicate systematic error, potentially due to thematic similarities between questions. While these thematic similarities were noteworthy, there was neither prior empirical evidence nor an a priori theoretical rationale to support the inclusion of correlations between the error terms for these items, thus no such correlations were incorporated into the model (Landis, Edwards, & Cortina, 2009). One standardized residual covariance greater than |2.58| was noted, between the error terms for items JESE4 and JESP3, but the modification indice for the covariance was weak (MI = 22.236, EPC = 0.046) and there was insufficient thematic relationship between the two questions to warrant the addition of a correlation to the model. Accordingly, based on its fit indices (RMSEA = 0.059, SRMR = 0.0421, CFI = 0.938), Model 1b (Figure AC1.00) was deemed to have acceptable fit.

Next, a model was constructed with all items other than OSES 1 and 5, which were deleted due to the AVE issue, loaded to a single factor. This model was then compared to Model 1b. Based on generally accepted common fit indices (Schumacker & Lomax, 2010), the data better fit Model 1b than the single factor model. Degrees of freedom changed by 15 between the two models with a delta chi-square ($\Delta\chi^2$) of 7,965.931, indicating a better fit for Model 1b ($p < 0.001$).

Next, the second order factor of Engagement, which is based on the three first order factors of the JES (Rich et al. 2010), was added to Model 1b, resulting in Model 2. Review of the output for Model 2 revealed and SRMR value (0.0733) above the desired threshold. Upon review of modification indices for Model 2, a path from POS to Emotional Engagement was suggested (MI = 78.073, EPC = 0.206). A review of the implied correlations from Model 1b (Table AC5.00) showed the correlation between POS and emotional engagement (0.497) to be among the highest in the single factor model, other than those between the three engagement measures. The same path was indicated and assessed in Pilot 1, and is supported by recent findings indicating that the emotional aspect of the JES was associated closely with a specific type of perceived support (Shuck et al., 2014). Accordingly, sufficient rationale was available to support the inclusion of this path.

The resulting Model 2a demonstrated strong fit indices (RMSEA = 0.060, SRMR = 0.0453, CFI = 0.936), and a review of its modification indices suggested no further paths or error term correlations. Three standardized residual covariances greater than |2.58| were noted between items JESP3 and JESE4, CBI5 and JESE5, and CBI5 and JESE6. The modification indices for JESP3 and JESE4 were again noted as weak (MI =

23.034, EPC = 0.047), no modification indices were indicated for the other two item pairings, and thematic similarities did not warrant consideration. Accordingly, Model 2a was accepted as the best-fitting second-order measurement model. See Table AC2.00 for measurement model information.

The standardized regression weights (Figure AC2.00) generally indicate an acceptable measurement model. All items, except the cross loading between POS and Emotional Engagement (0.33), exceeded .5 minimum threshold and none exceeded the .95 upper threshold (Bagozzi & Yi, 1998). Structural coefficient examination (Graham et al., 2003) indicates each manifest variable correlated most highly with its respective factor (see Table AC4.00). The composite reliability (CR; .808 - .938) and average variance extracted (AVE; .513 - .688) ranges as noted in Table AC6.00, respectively, show evidence of adequate reliability and convergent validity. Discriminant validity is well supported, as all correlations between factors are lower than the square root of the AVE for individual factors.

Based on Model 2a, hypotheses 1-3 were supported by the positive correlations between managerial coaching and OSE (0.090), POS (0.602), and employee engagement (0.198). While the correlation between managerial coaching and POS was expectedly strong, the correlations between managerial coaching and both OSE and employee engagement were unexpectedly weak based on prior research (Anderson, 2013; Ellinger et al., 2012) and correlations from Pilot 1. Hypotheses 4 and 5 were also supported by the positive correlations between employee engagement and both OSE (0.279) and POS (0.245).

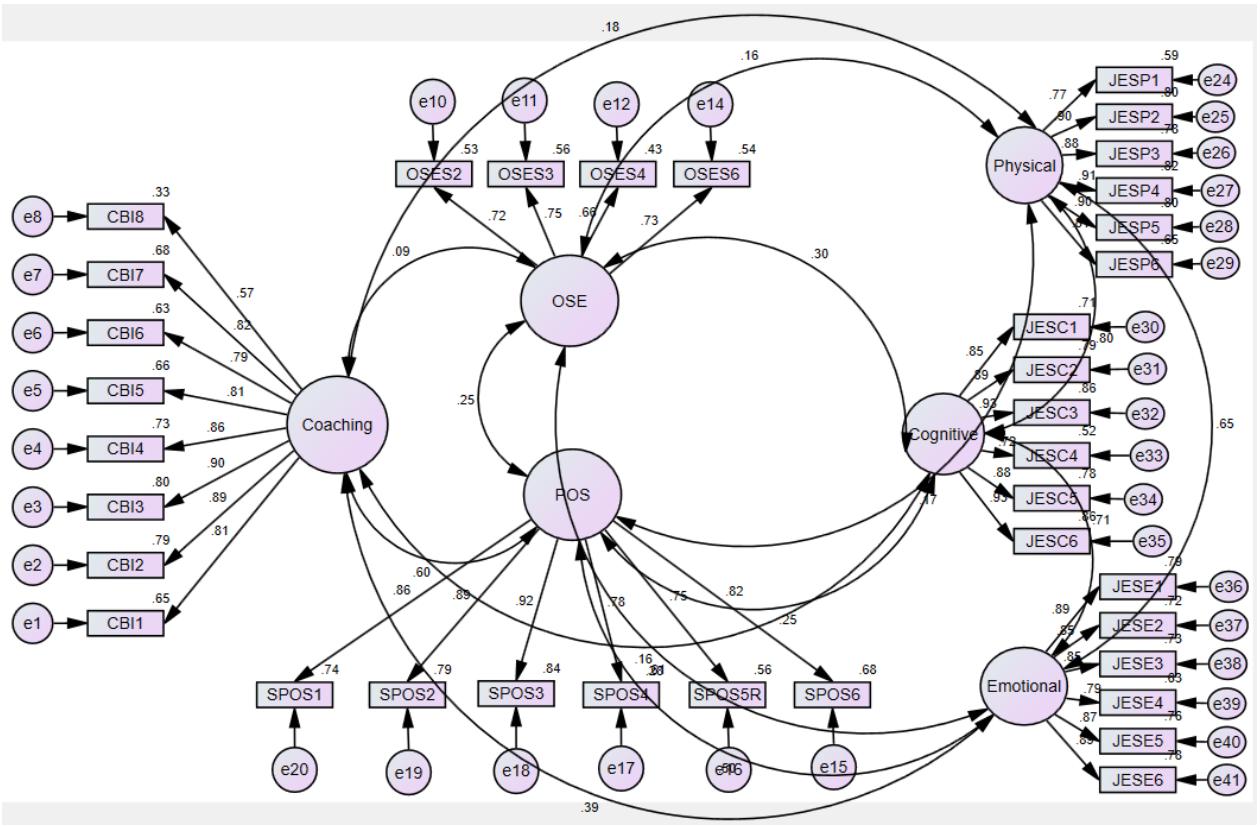


Figure AC1.00: Pilot 2: Model 1b

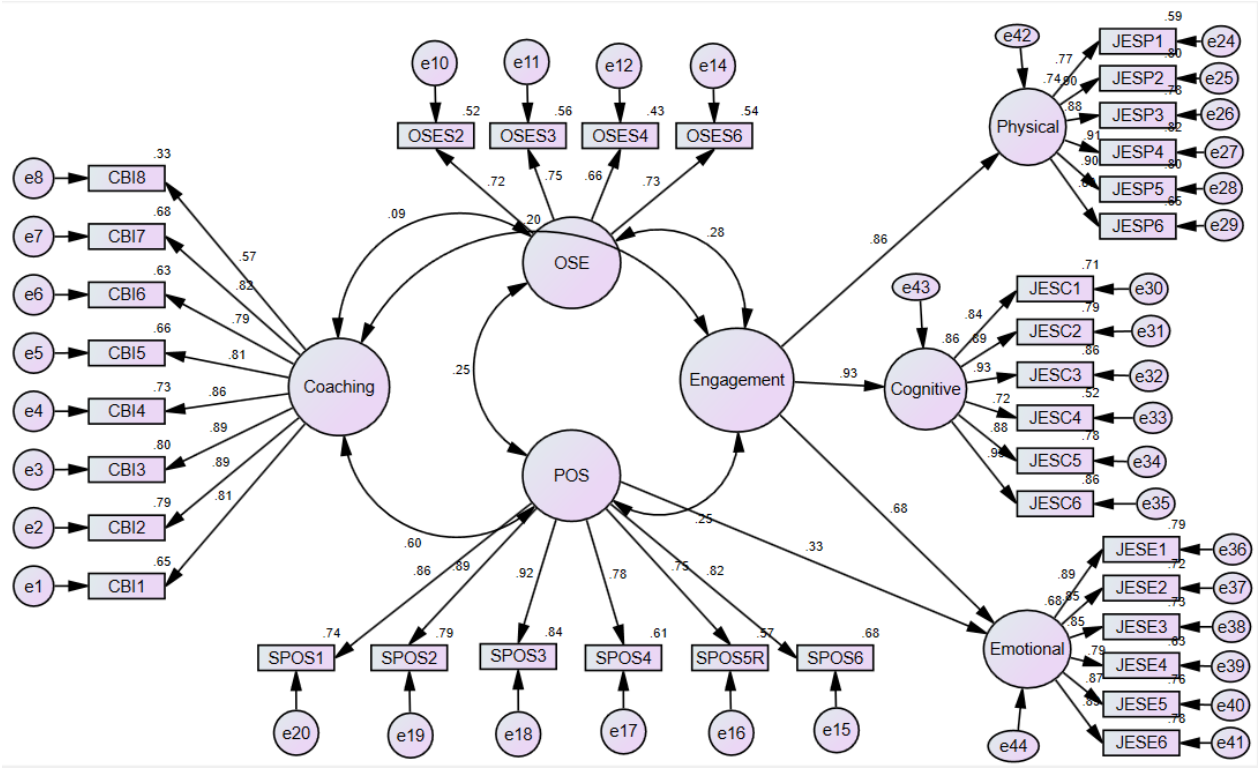


Figure AC2.00: Pilot 2: Model 2a

Table AC2.00: Pilot 2: CFA Fit Indices for Measurement Models

Model	*χ 2*	*df*	*RMSEA*	*SRMR*	*CFI*	*AIC*	*BIC*	*|SRC|> 2.58*
Model 1: 6-factor correlated	1745.612	650	0.058	0.0440	0.935	1972.612	2310.594	4
Model 1a[1]	1671.812	614	0.059	0.0434	0.936	1849.812	2224.376	3
Model 1b[2]	1595.282	579	0.059	0.0421	0.938	1769.282	2135.429	1
Harman's single factor	9561.213	594	0.174	0.1971	0.450	9705.213	10008.232	220
Model 2[3]	1721.8260	585	0.063	0.0733	0.930	1883.826	2224.722	66
Model 2a[4]	1625.0100	584	0.060	0.0453	0.936	1789.010	2134.115	3

[1] Model 1a removed item OSES1 from Model 1
[2] Model 1b removed item OSES1 from Model 1a
[3] Model 2 added the second order factor of Engagement from the JES to Model 1b
[4] Model 2a added a direct path from POS to Emotional Engagement to Model 2

Table AC3.00: Pilot 2: Model 1b: Pattern (P) and Structure (S) Coefficients

	Managerial Coaching		Occupational Self-Efficacy		Perceived Org. Support		Physical Engagement		Cognitive Engagement		Emotional Engagement	
Construct Variable	P	S	P	S	P	S	P	S	P	S	P	S
Coaching												
Item 1	**0.805**	0.805		0.073		0.482		0.146		0.128		0.313
Item 2	**0.887**	0.887		0.080		0.531		0.161		0.141		0.345
Item 3	**0.895**	0.895		0.081		0.536		0.162		0.142		0.348
Item 4	**0.857**	0.857		0.078		0.513		0.155		0.136		0.333
Item 5	**0.810**	0.810		0.073		0.485		0.147		0.129		0.315
Item 6	**0.791**	0.791		0.072		0.474		0.143		0.125		0.307
Item 7	**0.822**	0.822		0.074		0.492		0.149		0.130		0.319
Item 8	**0.575**	0.575		0.052		0.344		0.104		0.091		0.223
Self-Efficacy												
Item 2		0.066	**0.725**	0.725		0.180		0.119		0.217		0.202
Item 3		0.068	**0.747**	0.747		0.185		0.123		0.224		0.209
Item 4		0.059	**0.655**	0.655		0.162		0.108		0.196		0.183
Item 6		0.066	**0.733**	0.733		0.182		0.120		0.219		0.205
Perceived Org. Support												
Item 1		0.515		0.213	**0.860**	0.860		0.142		0.219		0.427
Item 2		0.532		0.220	**0.889**	0.889		0.147		0.226		0.442
Item 3		0.549		0.227	**0.916**	0.916		0.152		0.233		0.456
Item 4		0.468		0.194	**0.782**	0.782		0.129		0.199		0.389
Item 5		0.449		0.186	**0.750**	0.750		0.124		0.191		0.373
Item 6		0.493		0.204	**0.824**	0.824		0.136		0.210		0.410
Physical Engagement												
Item 1		0.140		0.127		0.128	**0.770**	0.770		0.616		0.502
Item 2		0.162		0.147		0.148	**0.895**	0.895		0.716		0.583
Item 3		0.160		0.145		0.146	**0.883**	0.883		0.706		0.576
Item 4		0.164		0.149		0.150	**0.907**	0.907		0.725		0.591
Item 5		0.162		0.147		0.148	**0.896**	0.896		0.717		0.584
Item 6		0.146		0.132		0.133	**0.806**	0.806		0.645		0.525
Cognitive Engagement												
Item 1		0.134		0.253		0.215		0.676	**0.845**	0.845		0.597
Item 2		0.141		0.266		0.226		0.712	**0.890**	0.890		0.628
Item 3		0.147		0.278		0.236		0.743	**0.929**	0.929		0.656
Item 4		0.114		0.216		0.184		0.577	**0.721**	0.721		0.509

Table AC3.00 (Continued)

Construct	Managerial Coaching		Occupational Self-Efficacy		Perceived Org. Support		Physical Engagement		Cognitive Engagement		Emotional Engagement	
Variable	P	S	P	S	P	S	P	S	P	S	P	S
Item 5		0.140		0.264		0.225		0.707	**0.883**	0.883		0.624
Item 6		0.147		0.278		0.236		0.742	**0.928**	0.928		0.655
Emotional Engagement												
Item 1		0.346		0.249		0.443		0.581		0.629	**0.891**	0.891
Item 2		0.329		0.237		0.422		0.553		0.599	**0.848**	0.848
Item 3		0.332		0.238		0.424		0.556		0.603	**0.854**	0.854
Item 4		0.308		0.221		0.394		0.517		0.560	**0.793**	0.793
Item 5		0.338		0.243		0.433		0.568		0.615	**0.871**	0.871
Item 6		0.344		0.247		0.440		0.577		0.625	**0.885**	0.885

Table AC4.00: Pilot 2: Model 2a Pattern (P) and Structure (S) Coefficients

	Managerial Coaching		Occupational Self-Efficacy		Perceived Org. Support		Engagement	
Construct Variable	P	S	P	S	P	S	P	S
Coaching								
Item 1	**0.806**	0.806		0.073		0.485		0.160
Item 2	**0.887**	0.887		0.080		0.534		0.176
Item 3	**0.806**	0.806		0.073		0.485		0.160
Item 4	**0.887**	0.887		0.080		0.534		0.176
Item 5	**0.895**	0.895		0.081		0.538		0.177
Item 6	**0.857**	0.857		0.077		0.516		0.170
Item 7	**0.811**	0.811		0.073		0.488		0.161
Item 8	**0.792**	0.792		0.072		0.476		0.157
Self-Efficacy								
Item 2		0.065	**0.722**	0.722		0.179		0.202
Item 3		0.068	**0.749**	0.749		0.186		0.209
Item 4		0.059	**0.656**	0.656		0.163		0.183
Item 6		0.066	**0.734**	0.734		0.182		0.205
Perceived Org. Support								
Item 1		0.517		0.213	**0.859**	0.859		0.211
Item 2		0.534		0.220	**0.888**	0.888		0.218
Item 3		0.552		0.228	**0.917**	0.917		0.225
Item 4		0.470		0.194	**0.782**	0.782		0.192
Item 5		0.452		0.187	**0.752**	0.752		0.185
Item 6		0.496		0.204	**0.824**	0.824		0.202
Engagement								
Physical		0.171		0.241		0.212	**0.862**	0.862
Cognitive		0.184		0.259		0.227	**0.927**	0.927
Emotional		0.335		0.272	**0.333**	0.500	**0.679**	0.761

Table AC5.00: Pilot 2: Model 1b Implied Correlations, Average Variance Extracted (AVE), and Composite Reliability (CR)

Variable	1	2	3	4	5	6
1. Managerial Coaching Behaviors	0.811					
2. Occupational Self-Efficacy	0.090	0.716				
3. Perceived Organizational Support	0.599	0.248	0.839			
4. Physical Engagement	0.181	0.164	0.166	0.861		
5. Cognitive Engagement	0.159	0.299	0.255	0.800	0.869	
6. Emotional Engagement	0.388	0.279	0.497	0.652	0.706	0.858
CR	0.938	0.807	0.934	0.945	0.948	0.943
AVE	0.657	0.512	0.704	0.741	0.755	0.736

Note: Square root of AVE along diagonal

Table AC6.00: Pilot 2: Model 2a Implied Correlations, Average Variance Extracted (AVE), and Composite Reliability (CR)

Variable	1	2	3	4
1. Managerial Coaching Behaviors	0.811			
2. Occupational Self-Efficacy	0.090	0.716		
3. Perceived Organizational Support	0.602	0.248	0.787	
4. Engagement	0.198	0.279	0.245	0.829
CR	0.938	0.808	0.915	0.867
AVE	0.658	0.513	0.619	0.688

Note: Square root of AVE along diagonal

Structural Model Results

Initially, two structural models were examined. Model 3, the theoretical model (Figure AC3.00), represented managerial coaching behaviors as having a partial indirect effect on employee engagement through POS and OSE. Model 4, the initial alternative model, a complete indirect effect, as was found in Pilot 1. Based on the data in Table AC7.00, the alternative complete indirect effect model (Model 4) is not statistically different from the partial indirect effect model (Model 3) at alpha = .001 ($\Delta\chi^2$ [1] = 2.313, p = .128). However, as Model 4 includes one additional degree of freedom it represents the more parsimonious of the two initially tested models despite Model 3 explaining marginally more variance in engagement. Further, the relationship between managerial coaching and employee engagement in Model 3 was not statistically significant (p = 0.131), indicating managerial coaching did not contribute any unique variance to engagement above and beyond that accounted for by POS and OSE.

A review of standardized residual covariances and modification indices for Model 4 revealed 20 values above |2.58|, 19 of which were between items of the SPOS and OSES and a covariance between the error terms for POS and OSE (MI = 20.613, EPC = 0.136). When paired with the moderate correlation between POS and OSE in the measurement model (r = .248), these covariances indicated model modification to account for the relationship between POS and OSE was warranted. As the same standardized residual covariances were also found in Model 3, it was determined that alternative versions of both Models 3 and 4 should be created.

Accordingly, Models 5 and 6 were created to test both complete and partial indirect effects with a correlation between the error terms for POS and OSE added to each model. Review of fit indices for these models revealed no statistically significant differences when compared to Models 3 or 4. Model 5 demonstrated improvement over Model 4 based on a reduction in standardized residual covariances above |2.58| of 17, an improvement in SRMR to below the desired .05 threshold, and slight improvements in both AIC and BIC. However, the path from managerial coaching to OSE was no longer statistically significant with the correlated error term incorporated, indicating that managerial coaching no longer accounted for any unique variance in OSE beyond that explained by the other constructs in the model once the error term correlation was introduced. For Model 6 the paths from managerial coaching to both OSE and engagement were each statistically insignificant, indicating managerial coaching accounted for no unique variance in either construct beyond that explained by the other constructs in the model. Looking further at the modification indices from Model 4 to determine if there may be a better way to address the standardized residual covariances between SPOS and OSES items, regression weights suggesting potential paths from OSE to POS (MI = 20.341, EPC = 0.392) and POS to OSE (MI = 12.349, EPC = 0.087) were noted. Theoretically, no support was available for a path from OSE to POS. However, literature positing that POS, as measured by the SPOS, may influence the development of various forms of self-efficacy was available (Bogler & Nir, 2012; Caesens & Stinglehamber, 2014; Karatepe, 2015; Kurtessis et al., 2017; Tansky & Cohen, 2001) to support incorporation of such a path.

Accordingly, Model 7 was generated to test a direct path from POS to OSE rather than the error term correlation utilized in Models 5 and 6. Analysis of Model 7 showed reasonable fit indices, but a negative, statistically insignificant path between coaching and OSE, again indicating that managerial coaching was accounting for no unique variance in OSE beyond that explained by other variables in the model. Based on this finding, Model 8 (Figure AC4.00) was generated with the direct path from coaching to OSE removed. Analysis of fit indices (RMSEA = 0.06, SRMR = 0.0483, CFI = 0.936) for Model 8 and a comparison of its standardized regression weights to the implied correlations from Model 2a showed that it had the best overall fit among the structural models. The three remaining standardized residual covariances above |2.58| were the same as in Model 4. Accordingly, Model 8 was accepted as the best fitting structural model.

Model 8 differed significantly from Model 3, the original theoretical model in a number of ways. First, the direct path from managerial coaching to employee engagement was not present. Without a statistically significant direct path between managerial coaching and engagement, the hypothesized partial indirect effects could not be supported. Accordingly, hypotheses 6 and 7 were not supported in Pilot 2. Second, this model suggests that managerial coaching may have a complete indirect effect on employee engagement through POS (.150, SE = .035, p = .01); this partially matches the results from Pilot 1. Third, this model also suggests that managerial coaching may have a complete indirect effect on OSE through POS (.148, SE = .029, p = .01). Fourth, based on the paths among POS, OSE, and employee engagement, Model 8 suggests that POS has a partial indirect effect on employee engagement through OSE (.057, SE = .020, p = .01).

This suggested partial indirect effect is consistent with the findings of Caesens and Stinglehamber (2014) in their study employing POS, general self-efficacy, and work engagement as measured by the UWES.

Table AC7.00: Pilot 2: CFA Fit Indices for Structural Models

Model	χ^2	*df*	*RMSEA*	*SRMR*	*CFI*	*AIC*	*BIC*	*# SRC > |2.58|*	R^2
Model 3[a]	1646.645	585	0.06	0.0517	0.935	1808.645	2149.54	21	0.110
Model 4[b]	1648.958	586	0.06	0.0542	0.935	1808.958	2145.645	20	0.103
Model 5[c]	1627.755	585	0.06	0.049	0.936	1789.755	2130.651	3	0.113
Model 6[d]	1625.01	584	0.06	0.0453	0.936	1789.01	2134.115	3	0.118
Model 7[e]	1627.755	585	0.06	0.049	0.936	1789.755	2130.651	3	0.113
Model 8f	1629.609	586	0.06	0.0483	0.936	1789.609	2126.297	3	0.113

Note. R^2 = R^2 of Engagement.

[a] Model 3 represents the theoretical partial mediation model with a direct path added from POS to Emotional Engagement

[b] Model 4 represents the alternative full mediation model with the direct path from Coaching to Engagement removed

[c] Model 5 adds an error term correlation between POS and OSE to Model 4

[d] Model 6 adds an error term correlation between POS and OSE to Model 3

[e] Model 7 adds a direct path from POS to OSE to Model 4

[f] Model 8 removes the direct path from Coaching to OSE from Model 7

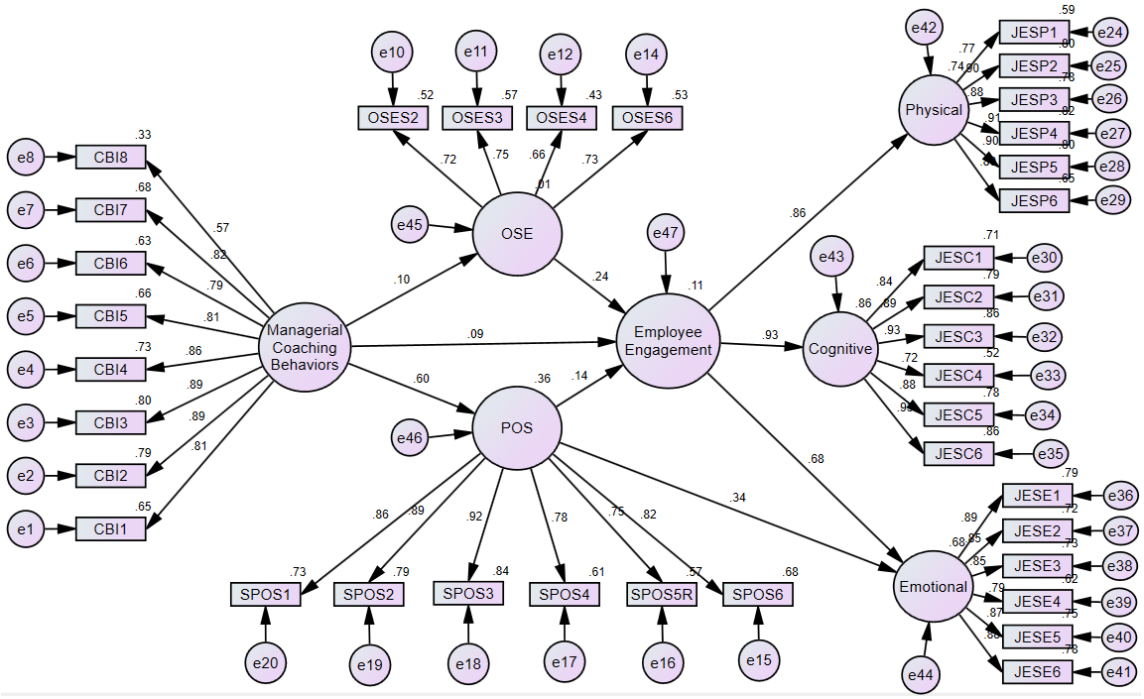


Figure AC3.00: Pilot 2: Model 3 - Theoretical Model

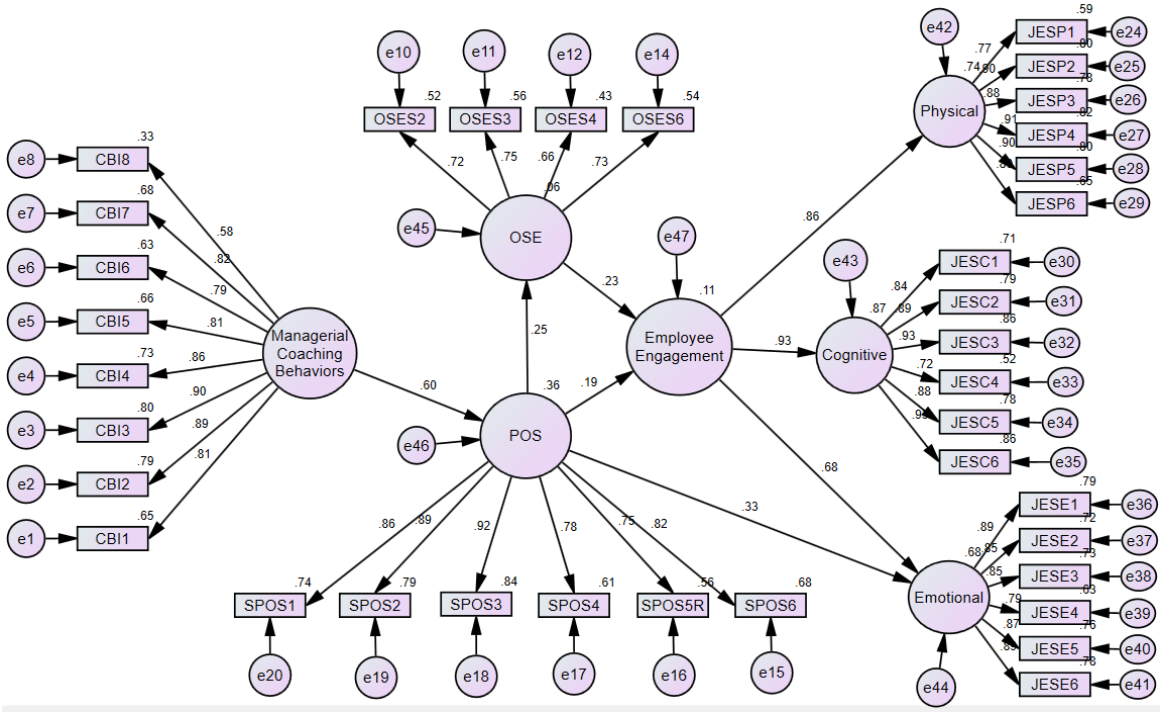


Figure AC4.00: Pilot 2: Model 8

Common Method Variance

The confirmatory factor analysis (CFA) marker technique of Williams et al. (2010) was employed in Pilot 2 to assess for any potential bias due to common method variance (CMV) among the correlations analyzed. The Attitudes Toward the Color Blue (ATCB) scale (Miller & Chiodo, 2009), which has shown promise in prior studies (Jones, 2015; Simmering et al., 2015; Wall, 2014), was utilized as the marker variable.

Following the recommendations of Williams et al. (2010) as discussed in Shuck, Nimon, and Zigarmi (2017b), a series of models were tested to assess the potential influence of CMV. The first model tested was a CFA model inclusive of the latent marker variable. This model included 7 substantive factors of managerial coaching, OSE, POS, cognitive engagement, emotional engagement, physical engagement, and attitude toward the color blue. In this model the factor loadings from the latent marker variable to the 36 items from the substantive factors were set to 0. The second model tested was a baseline model wherein the unstandardized regression weights and variances for the marker variable were fixed to the values from the CFA model, and the six correlations between the marker variable and substantive latent variables were set to 0. The third model tested was a constrained model (Model-C) in which the 36 factor loadings from the latent marker variable were constrained to be equal. The fourth model tested was an unconstrained model (Model-U) in which the 36 factor loadings from the latent marker variable were freely estimated.

The recommendations of Williams et al. (2010) call for a fifth model, the restricted model (Model-R), wherein the substantive factor covariances from Model-U

are set to the values from the baseline model. However, analysis of the first four models (see Table AC8.00) revealed no statistically significant differences between either Model-C and the baseline model ($\Delta\chi^2 = 3.357$, $\Delta df = 1$, $p = 0.067$) or Model-C and Model-U ($\Delta\chi^2 = 40.31$, $\Delta df = 35$, $p = 0.247$). Based on these findings the presence of bias due to CMV among the relationships between the substantive variables in Pilot 2 was not indicated. Accordingly, generation of Model-R was not necessary.

Table AC8.00: Pilot 2: Model Fit Indices and Model Comparisons for CFA Models With Marker Variable

Model	χ^2	*df*	CFI	RMSEA	LR of $\Delta\chi^2$	Model comparison
CFA with marker variable	2277.847	881	0.922	0.057		
Baseline	2281.526	903	0.923	0.055		
Method-C	2278.169	902	0.924	0.055	3.357, *df* = 1, *p* = .067	vs. Baseline
Method-U	2237.86	867	0.924	0.056	40.31, *df* = 35, *p* = .247	vs. Method-C

Discussion

While hypotheses 1-5 were supported, Pilot 2 produced notably lower correlations between the substantive variables, with the exception of that between managerial coaching and POS, than Pilot 1. The relationships between managerial coaching and both OSE and employee engagement were significantly lower than expected based not only on Pilot 1, but also in light of existing literature and theory (Bandura, 1977, Blau, 1964; Ellinger et al., 2012; Schyns & Von Collani, 2002). While failing to offer support for hypotheses 6 and 7, Model 8 did produce a number of interesting findings, particularly with respect to the lack of significant structural paths between managerial coaching and both OSE and engagement, again contrary to expectations based in literature and theory.

A closer review of the data from Pilot 2 reveals two factors that may, in part, explain why hypotheses 6 and 7 failed, and why the correlations supporting hypotheses 1

and 3 were lower than expected. First, the need to delete two items from the OSES to achieve an acceptable AVE has not been previously noted in literature employing the OSES (Elias et al., 2013; Rigotti et al., 2008) or in Pilot 1. This issue with the instrument may partially account for the unexpected findings related to OSE, and an in-depth exploration of what characteristic(s) of the Pilot 2 respondents may have contributed to the issue is beyond the scope of the present study. Second, scale means were quite high for both the JES (4.45 on a 5.00 scale) and OSES (5.41 on a 6.00 scale) in Pilot 2. This indicates that bias due to social desirability, which has been noted as a potential source of numerous issues (Podsakoff et al., 2003), may have been present in Pilot 2. Podsakoff, MacKenzie, and Podsakoff (2012) posit that "the more that measurement conditions threaten a respondent's self-esteem...the more likely the respondent is to be motivated to respond in a socially desirable manner (p. 561)", which may have applied in Pilot 2. For example, it is possible that negative responses to items from the OSES and JES scales such as "I feel prepared for most demands in my job" (OSES item 6) and "I try my hardest to perform well on my job" (JES physical engagement item 4) may have been seen as socially undesirable, leading respondents to answer more positively.

Influence of Pilot Study 2 on the Main Study Design

While there is theoretical rationale for the relationships indicated by Model 8, there is significantly more theoretical and literature support for the original theoretical model. Given this, and the two issues discussed regarding the OSES and JES measures in Pilot 2, the theoretical model and existing hypotheses were not altered as a result of Pilot 2. However, Pilot 2 did influence the main study in several ways. First, inclusion of a direct path from POS to the first-order emotional dimension of the JES was supported in

Pilot 1 and replicated in Pilot 2. Based on this replication and literature supporting the relationship (Shuck et al., 2014), this path is expected to appear in the main study at the point that the second-order factor of employee engagement is added to the measurement model. Second, Model 8 was designated to be tested as a second alternative structural model to the theoretical model (Model 3), in addition to the less complex model without a direct path from managerial coaching to employee engagement (Model 4).

Third, an additional employee engagement measure was included in the second survey within the main study. As noted recently in the literature on employee engagement (Anthony-McMann et al., 2017), different employee engagement scales may react differently to the same variables, and research that allows for the comparison of multiple measures of engagement is needed to further the collective understanding of the construct. Accordingly, the Saks (2006) measure that provides two separate, first-order measures of job and organization engagement has been selected for inclusion. This measure is theoretically rooted in the work of Kahn (1990), though not as strictly so as the JES, and each of its factors has demonstrated a significant relationship to managerial coaching as measured by the CBI instrument in the Ellinger et al. (2012) study.

Fourth, the original 8-item short form of the OSES (Schyns & von Collani, 20002) was used instead of the 6-item version used in Pilot 2. This version of the OSES includes all items used in the version deployed in Pilot 2. In the three studies within the Schyns and von Collani (2002) article, this original short form of the OSES showed strong Cronbach's alpha (.87-.88) and was found to have incremental validity beyond generalized self-efficacy. More recent studies have reported Cronbach's alpha values ranging from .78 (Schyns & Sczesny, 2010) to .92 (Elias et al., 2013)

Finally, Pilot 2 has amply demonstrated that the ATCB measure functions as an ideal latent marker variable when modeled alongside the substantive variables to be included in the main study. Accordingly, this measure was retained for the main study. Further, Pilot 2 established a set of item loading for the ATCB measure, which allowed for a more precise sample size calculation going forward.

Appendix D - Measurement Scale and Demographics Questions

AACRAO Portion

Coaching Behaviors Inventory: 7-item scale "Almost Never" through "Almost Always"; only anchors labeled

1. My supervisor uses analogies, scenarios, and examples to help me learn.
2. My supervisor encourages me to broaden my perspectives by helping me to see the big picture.
3. My supervisor provides me with constructive feedback.
4. My supervisor solicits feedback from me to ensure that his/her interactions are helpful to me.
5. My supervisor provides me with resources so I can perform my job more effectively.
6. To help me think through issues, my supervisor asks questions, rather than provide solutions.
7. My supervisor sets expectations with me and communicates the importance of those expectations to the broader goals of the organization.
8. To help me see different perspectives, my supervisor role-plays with me.

Demographics

1. How long, in years, have you been employed at your current organization? Please answer 0 if less than one full year.
    - Open response
2. How long, in years, have you worked for your current direct supervisor? Please answer 0 if less than one full year.
    - Open Response
3. Are you a manager?
    - Yes
    - No
4. In your duties as a manager, do you supervise other managers?
    - No - I do not directly supervise any employees who are also managers
    - Yes - At least one employee who I directly supervise is also a manager

Researcher Portion

Survey of Perceived Organizational Support - 7-point Likert scale "1 = Strongly Disagree; 7 = Strongly Agree"

1. My organization values my contribution to its well-being.
2. My organization strongly considers my goals and values.
3. My organization really cares about my well-being.
4. My organization is willing to help me when I need a special favor.
5. My organization shows very little concern for me. (R)
6. My organization takes pride in my accomplishments at work.

Occupational Self-Efficacy Scale - 6-point scale "Not at all true" through "completely true"

1. I can remain calm when facing difficulties in my job because I can rely on my abilities.
2. When I am confronted with a problem in my job, I can usually find several solutions.
3. Whatever comes my way in my job, I can usually handle it.
4. My past experiences in my job have prepared me well for my occupational future.
5. I meet the goals that I set for myself in my job.
6. I feel prepared for most of the demands in my job.

Job Engagement Scale - 5-point scale "Strongly Disagree; Disagree; Neither Agree Nor Disagree; Agree; Strongly Agree"

Physical engagement

1. I work with intensity on my job.
2. I exert my full effort to my job.
3. I devote a lot of energy to my job.
4. I try my hardest to perform well on my job.
5. I strive as hard as I can to complete my job.
6. I exert a lot of energy on my job.

Emotional engagement

1. I am enthusiastic in my job.
2. I feel energetic at my job.

3. I am interested in my job.
4. I am proud of my job.
5. I feel positive about my job.
6. I am excited about my job.

Cognitive engagement

1. At work, my mind is focused on my job.
2. At work, I pay a lot of attention to my job.
3. At work, I focus a great deal of attention on my job.
4. At work, I am absorbed by my job.
5. At work, I concentrate on my job.
6. At work, I devote a lot of attention to my job.

Saks Scales - 5-point scale "Strongly Disagree; Disagree; Neither Agree Nor Disagree; Agree; Strongly Agree"

Job engagement

1. I really "throw" myself into my job.
2. Sometimes I am so into my job that I lose track of time.
3. This job is all consuming; I am totally into it.
4. My mind often wanders and I think of other things when doing my job (R).
5. I am highly engaged in this job.

Organization engagement

1. Being a member of this organization is very captivating.
2. One of the most exciting things for me is getting involved with things happening in this organization.
3. I am really not into the "goings-on" in this organization (R).
4. Being a member of this organization make me come "alive."
5. Being a member of this organization is exhilarating for me.
6. I am highly engaged in this organization.

Attitudes toward the color blue - 7-point Likert scale "1 = Strongly Disagree; 7 = Strongly Agree"

1. I prefer blue to other colors

2. I think blue cars are ugly (R)
3. I like the color blue
4. I don't think blue is a pretty color (R)
5. I like blue clothes
6. I don't like blue clothes (R)
7. I hope my next car is blue
8. I really don't like the color blue (R)

Demographics

1. What is your gender?
    - Feale
    - Male
2. What generation are you a member of?
    - Millenials (1981 - 2000)
    - Generation X (1961 - 1980)
    - Baby Boomers (1944 - 1960)
    - Traditionalists (1922 - 1943)
3. What is your current direct supervisor's gender?
    - Female
    - Male
4. What generation is your direct supervisor a member of? Please guess if not sure.
    - Millenials (1981 - 2000)
    - Generation X (1961 - 1980)
    - Baby Boomers (1944 - 1960)
    - Traditionalists (1922 - 1943)
5. What is your current employment status?
    - Full-time
    - Part-time
6. What is your primary area of responsibility?
    - Records and Registration
    - Admissions
    - Financial Aid
    - Enrollment Management
    - Other
7. Do you identify as ethnically Hispanic or Latino?
    - Yes
    - No
    - Prefer not to specify
8. What is your race?
    - White

- Black or African American
- American Indian or Alaska Native
- Asian
- Native Hawaiian or Other Pacific Island
- Prefer not to specify

Appendix E - Communications for Proposed Study

Pre-survey Message

Dear [FirstName],

Hello, my name is Sam Carrell, and I am the AACRAO member whose dissertation you have volunteered to assist with per the March 2017 60-Second Survey. Before going any further, I would like to extend my thanks for volunteering your time and sharing your perspectives to aid in my research.

The survey invitation, which will include your own personalized link, will be sent out next week on Monday, 04/10/2017, at 7:30AM CST. The email address for this message will be Scarrell@qualtrics-research.com.

The study has been approved by the UT Tyler Internal Review Board, and a preview of some of the informed consent text associated with the survey is provided below for your convenience.

> Please review the following list to help assure you are fully informed about the nature of the survey and what is being requested of you as a participant:
>
> About the researcher and study:
>
> - The principle researcher is a doctoral student at UT Tyler, and this survey is related his dissertation.
> - The study proposal has been approved by the UT Tyler Institutional Review Board.
> - Your name and email address were obtained from AACRAO per your decision to volunteer for participation in this dissertation.
> - Only aggregated summary data from this study will be included in published results; names and other personal information will never be published.
>
> What to expect as a participant:
>
> - Participation is completely voluntary; once you begin the survey you may exit at any time without consequence.
> - All information you provide will remain confidential.
> - The survey is expected to require between 10 and 12 minutes of your time.
> - If you exit the survey, you may return to complete it any time before it expires using the link in your invitation email.
> - The survey will require an answer to each question. There are no right or wrong answers, so please select the response options that best reflect your perceptions, opinions, or beliefs.

If you need to ask questions about this study, please contact the principle researcher, Sam Carrell, at wcarrell@patriots.uttyler.edu. If you have any questions about your rights as a research participant, please contact Dr. Gloria Duke, Chair of the UT Tyler Institutional Review Board, at Gduke@uttyler.edu or 903-566-7023.

Many Thanks,
Sam Carrell
Doctoral Candidate
UT Tyler Department of Human Resource Development

Survey Invitation

Dear [FirstName],

Good morning, I hope this message finds you well. Thank you again for agreeing to participate in my doctoral dissertation, which considers how management practices might enhance employees' work environment.

The study, titled *Survey of Work Environment Perceptions*, has been approved by the UT Tyler Internal Review Board.

Participation involves completing a confidential, voluntary, online survey which should take only 10 to 12 minutes. The survey will remain active from 7:30AM CST today, Monday, 4/10/17 through 11:59PM CST on Sunday, 4/23/17.

To participate, simply click your personalized access link below, which will log you in automatically:

[Qualtrics hyperlink]

Or copy and paste the URL below into your internet browser:
[Qualtrics full text link]

Many Thanks,
Sam Carrell
Doctoral Candidate
UT Tyler Department of Human Resource Development

Follow the link to opt out of future emails:
[Opt Out Link]

Reminder Message

Dear [First Name]

Good morning, I hope this message finds you well. A few days ago I reached out via email to request your assistance with my doctoral dissertation, which considers how management practices might enhance employees' work environment.

I am following up today to provide a link to make accessing the survey as convenient as possible for you. Completing the survey should take no more than 10-12 minutes of your time. As a reminder, the survey will close at 11:59PM CST on Sunday, 4/23/17.

Simply click the link below to begin:

[Qualtrics hyperlink]

Or copy and paste the URL below into your internet browser:
[Qualtrics full text link]

Your assistance as a voluntary participant is very important, and I am grateful for your consideration of this request.

Sincerely,

Sam Carrell
UT Tyler Doctoral Candidate
The College of Business and Technology
Department of Human Resource Development

Appendix F – Supplemental Tables

Table AF1.00: Longitudinal Studies of Employee Engagement

Study	Collection Interval
Culbertson,Mills, & Fullagar (2012)	Daily over 2 weeks
Vogelgesang, Leroy, & Avolio, (2013)	3 weeks
Bickerton, Miner, Dowson, & Griffin (2014)	9 months
Angelo & Chambel (2015)	1 year
Presbitero (2017)	1 year
Rayton & Yalabik (2014)	1 year
van der Meer, Leijten, Heuvel, Ybema, de Wind, Burdorf, & Geuskens, (2016)	1 year
de Lange, De Witte, & Notelaers, (2008)	1 year 4 months
Biggs, Brough, & Barbour (2014)	1-1.5 years
de Waal & Pienaar (2013)	7-21 months
Makikangas, Feldt, Kinnunen, & Tolvanen (2012)	2 years
Mauno, Kinnunen, & Ruokolainen (2007)	2 years
Shimazu, Schaufeli, Kamiyama, & Kawakami, (2015)	2 years
Thorp, Baqai, Witters, Harter, Agrawal, Kanitkar, & Pappas (2012)	2 years

Note: Studies listed above utilize various measures of engagement

Table AF2.00: Cronbach's Alphas for Instruments from Main Study

Scale	Items	α
Coaching Behaviors Inventory	7	0.931
Occupational Self-Efficacy Scale	6	0.861
Survey of Perceived Organizational Support	6	0.923
Job Engagement Scale	18	0.929
Saks Job Engagement	5	0.76
Saks Organization Engagement	6	0.897
Attitudes Toward the Color Blue	8	0.838